

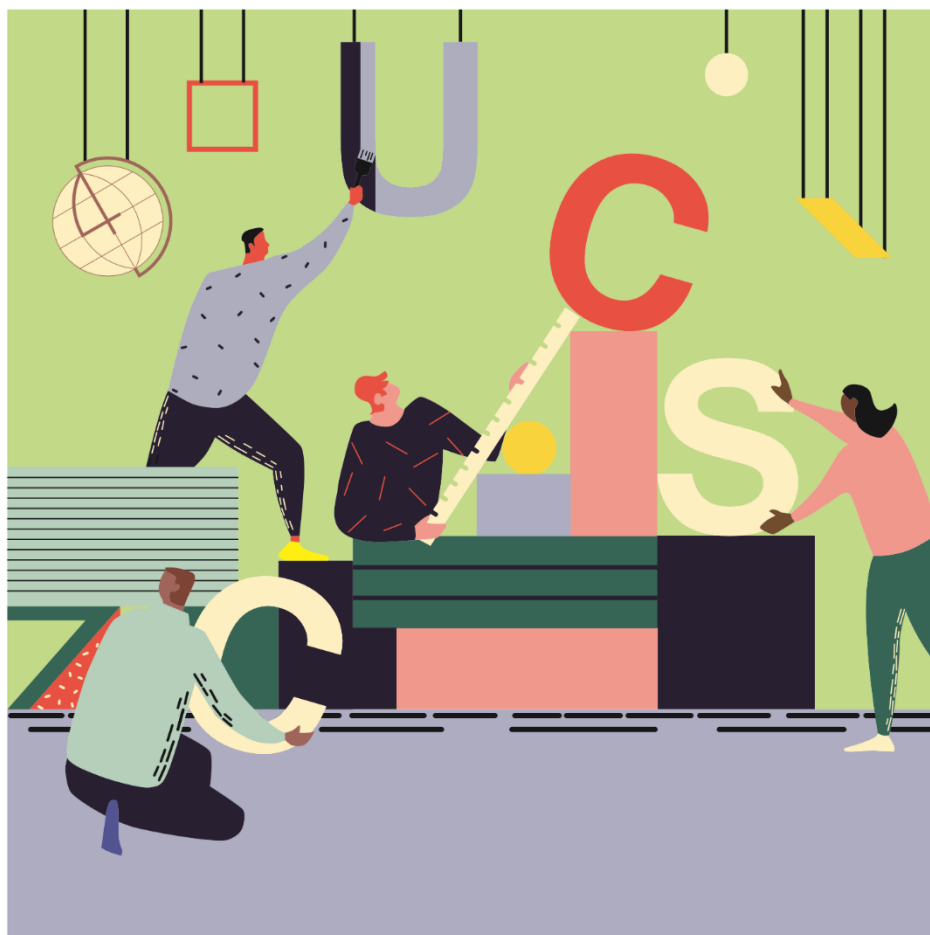


UNIVERSITY
OF TRENTO



CENTRO PER LA
COOPERAZIONE
INTERNAZIONALE

 **CUCS**
TRENTO 2019
VI CONFERENCE



CITIZENSHIP AND COMMON GOODS

University and international cooperation for safety,
environment and sustainable development

Book of abstracts Trento 19-21 September

CUCS 2019

The **University of Trento** and the International Cooperation Centre are honoured to welcome you all to the **6th CUCS conference**. **CUCS** is the University Coordination for Development Cooperation, a network of more than 30 Italian universities.

The CUCS Conferences, conceived by the academic community, address students, civil society organisations, scholars, representatives of national and local authorities, as well as any other person engaged on development cooperation, active citizenship, sustainability, human rights, and much more. All actors of international cooperation are invited to take part in the conference to improve and share their competences on development cooperation practices, methodologies, processes and policies, enable networking, exchanges of experiences as well as developing innovation and proposals for policy makers.

Plenary sessions, parallel sessions and workshops, a poster session, a round table and side-events will offer participants the opportunity to share views, experiment and establish partnerships on development cooperation.

In the last ten years development cooperation has inevitably and profoundly changed: new agendas, new actors, new approaches but also new goals. The debate at national level on the actors operating in the context of international cooperation in Italy and abroad has also changed. The CUCS congress is an opportunity to reflect on these changes and to share, at the national level, what challenges await us and how we can equip ourselves to better face them. Within international and national scenarios, not always easy to interpret and adapt to.

An interconnected and complex world poses continuous challenges, also in terms of protecting and promoting common goods and exercising citizenship. The theme of this year's conference is inspired by the continuous evolution and expansion of the concept and practice of development cooperation, starting by focusing on **citizenship**, in its local and global meaning, and the management of **common goods**, long-standing issues that the current and future global dynamics continuously pose as critical issues and opportunities for a sustainable development.

Citizenship intended as a network of relationships between local actors, institutional subjects, profit and non-profit organizations and the world of research, a challenge for integration and inclusion, according to the priorities of empowerment and ownership at local level, keys to combine security and sustainability.

Common goods intended as natural and cultural resources, a complex environment to be protected and valued, following a logic of balance of powers that allows to address and overcome disparities and to manage conflicts and inequalities, which are also crucial for sustainability in the struggle against poverty and in the use of resources.

During the three-day conference in Trento, we wish universities, together with all the actors of development cooperation, will intend to strengthen dialogue and discussion in a perspective of co-design and sharing of knowledge in order to promote and implement actions and policies starting from the three pillars of the universities' mission: research, training, knowledge-sharing, contributing to "strengthen the means of implementation and renew the global partnership for sustainable development".

Thursday, September 19th

14.00 - 15.00

Plenary session: *Opening Ceremony and Welcoming Speeches*

Giuseppe Sciortino,
Prorector for policies encouraging talent attraction and research
enhancement, University of Trento



Giuseppe Sciortino is full professor at the Department of Sociology and social research. He received a PhD in sociology and social policy at the Università di Bologna. His main research interests are migration studies, cultural sociology and social theory. He is the director of SMMS, the migration research center at the Department of Sociology of the Università di Trento and the past chair of the Research committee 16 'Sociological Theory' of the International Sociological Association.

Alessandro Andreatta,
Mayor of Trento

Alessandro Andreatta is mayor of Trento since 2009. In 1995 he was elected city councillor of Trento. In 1998 he was appointed municipal councillor for town planning, private construction and toponymy. On 8th May 2005 he became deputy mayor.



Mario Raffaelli,
President of the International Cooperation Centre (CCI) in Trento and
President of Amref Health Africa Italia



Mario Raffaelli has many years of experience in peace-keeping processes around the world as a representative of the Italian Government. He was elected to the Italian Parliament (1979-1994), during which he was also Undersecretary of State for Foreign Affairs in charge of Africa and International Organisations (1983-1989). He was a parliamentary observer in Nicaragua elections and chaired the Peace Conference for Nagorno-Karabach. He is famous for his role as Chief Mediator in the Mozambican peace process and his long engagement in Somalia as Special Representative of the Italian Government (2003-2008). He was recently appointed as Expert for Peace Initiatives for the Horn of Africa.

15.00 - 16.30

Plenary session: *Cooperation and Development: Viewpoints from International Institutions*

Claudio Tomasi,
UNDP Turkey Country Director

Claudio Tomasi has recently been appointed as UNDP Turkey Country Director. Before his current assignment, he was UNDP Deputy Resident Representative in Cuba (2012-2016), in Nicaragua (2008-12), and in the Dominican Republic (2003-2007). With UNDP, he also worked in Panama as Assistant Resident Representative (2002) and in India as Governance Programme Officer (2001). He graduated in Sociology and Social Planning at the University of Sociology in Trento (Italy) and holds a Master's degree in Development Studies from SOAS (School of Oriental and African Studies), University of London (UK).



Franco Conzato,
DEVCO, Deputy Head of Unit 'Evaluation and Results',
European Commission



Franco Conzato is Senior Expert at European Commission. He worked in Somalia, Ghana and Ethiopia as Economist, focusing on education, health and general budget support programmes. Between 2004 and 2009 he was Representative of the European Union for the DAC (OECD Development Assistance Committee). Starting from 2011, he is Deputy Head of Unit 'Evaluation and Results' of European Commission's Directorate-General for International Cooperation and Development (DG DEVCO). He is currently working on methodologies to measure the impact of development cooperation programmes.

Friday, September 20th

9.00-10.00

Plenary session: *Research Freedom and Innovation: the Global South point of view*

Jama Musse Jama,
President of the Somali Studies International Association

Jama Musse Jama is an ethnomathematician with a PhD in African Studies specialising in Computational Linguistics of African Languages. He has authored and edited several books. He is known for his research on traditional African games and their potential for use within formal education. A cultural activist, historical researcher and a preserver of Somali oral histories, Dr. Jama is the founder of Hargeysa Cultural Centre and the influential Hargeysa International Book Fair and in 2018 he was the host of the 13th International Congress of Somali Studies International Association in Hargeysa. He is now the formal President of the Somali Studies International Association.



Liviu Matei,
Provost of Central European University and
Professor of Higher Education Policy



Liviu Matei is Provost of Central European University (CEU) of Budapest and a professor in the Department of Public Policy. He holds a PhD in Sociology from the University of Bucharest. His professional career includes work as a consultant for UNESCO, the Council of Europe, EU Commission, OSCE, European University Association, on issues concerning higher education and civil society.

He served as Director General for International Relations, Romanian Ministry of Education and Program of Assistance to Underprivileged Rom Communities in Transylvania. He is a member of the International Higher Education Support Program's board and serves on the editorial board of the Journal of the European Higher Education Area.

18.00-19.00

Plenary session: *A bridge between Academia and Third Sector. To the memory of Paolo Dieci*

Gianni Vaggi,
University of Pavia

Gianni Vaggi is Professor of Development Economics at the University of Pavia, Italy where he is also the Director of the European School of Advanced Studies in Cooperation and Development. He has published a large number of articles as well as two books: The Economics of Francois Quesnay and From the Debt Crisis to Sustainable Development.



Maura C. Viezzoli,
President of CISP



Maura C. Viezzoli is President of CISP (International Committee for the Development of Peoples), a non-governmental organization founded in 1983. Expert of international cooperation, she has been among the initiators of the Master in Cooperation and Development of the University of Pavia and the Cooperation and Development Network (CDN), where she is Project Management Area didactic coordinator. She has experience as consultant for several monitoring and assessment projects of Ministry of Foreign Affairs. She is member of the Risk Assessment Advisory Committee for development cooperation of MAECI. She served as Director of the Forum Valutazione Journal from 1990 to 2002.

Saturday, September 21th

9.00-10.15

Plenary session: *Wrap up of Parallel Sessions and Introduction to the Round Table*

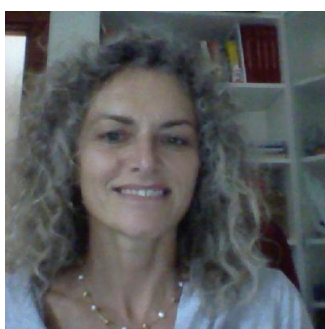
Mauro Marsili

**Head of Unit, Directorate for International Cooperation,
Italian Ministry of Foreign Affairs**

Mauro Marsili started his professional career in 1985 at the Directorate General for Employment and Social Affairs of Farnesina. In 1993 he served as First Secretary at Buenos Aires (Argentina), where he was subsequently confirmed as Councillor. In 1995 he worked as Assistant Chief of the Crisis Management Unit of the Directorate General for Employment and Social Affairs of Farnesina. In 1998 he started to serve the Directorate General of Development Cooperation. From 2001 to 2004, he served as First Trade Adviser at Brasilia (Brasil), after which he reported to the Directorate General for Cultural Promotion and Cooperation. Named as Minister Plenipotentiary in 2008, in 2010 he has been First Class Consul General of San Paolo (Brasil).



**Paola Berbeglia,
Board Member CONCORD**



Paola Berbeglia is an anthropologist with a PhD in Experimental Pedagogy, an expert in intercultural processes and an activist promoting a popular and civic Europe. She is currently scientific coordinator and consultant of the Lazio Region Labour Department for regional programmes financed by the AMIF Fund, which aims at improving the social and professional inclusion of migrants, especially women and youth. After working on Development Education in CONCORD for many years, Paola was elected to the Board in June 2018 with a mandate from CONCORD Italia (Italian National Platform).

Gian Battista Parigi,
University of Pavia

Gian Battista Parigi is a professor in paediatric surgery and director of the Specialization School of Paediatric Surgery of the University of Pavia. He has a long professional and academic experience in several countries around the globe. He is also the President of the International Center for Cooperation to Development of the University of Pavia and the Coordinator of the Center for International Cooperation of "S.Matteo" Research Hospital in Pavia. He is Editor-in-Chief of the Italian Textbook of Paediatric Surgery, he is also part of the editorial staffs of "The Mediterranean Journal of Surgery and Medicine" and of the "Journal of Pediatric Gastroenterology and Nutrition".



10.45-12.30

Plenary session-Round Table: *An Italian Agenda for Global Development.
What are the Priorities?*

**Luca Maestripietri,
Director of the Italian Agency for Development Cooperation (AICS)**



Luca Maestripietri is Director of the Italian Agency for Development Cooperation (AICS). His last role was vice director of the Development office at the Ministry of Foreign Affairs and International Cooperation. In the same Directorate-General, since 2012, he held several technical and leadership positions in the Italian diplomacy including: Consul General in Paris (2008), first counselor at the Permanent Representation to the United Nations in New York (2004), head of the Legal Department of the Directorate General for Personnel at the Ministry of Foreign Affairs (2001), and first secretary at the Italian Embassy in Lisbon (1996) and in Ljubljana (1992).

**Diego Vecchiato,
Director of International Relations, Veneto Region**

Diego Vecchiato was professor of Monitoring human rights and electoral observation at the University of Padova until 2014. Since 2016 he is director of the International Relations, Communication and SISTAR Directorate of the Veneto Region with the task of coordinating the implementation of regional policies in several fields (international institutional relations; relations with Italian and foreign diplomatic networks; development and management of regional cooperation programmes and projects, promotion of human rights and fundamental freedoms). Since 2017 he is also deputy director of the Programming and Strategic Development Area of the Veneto Region.



Silvia Stilli,
Association of Italian NGOs (AOI)



Silvia Stilli is spokesperson of AOI, the largest civil society platform in Italy, and director of ARCS (formerly ARCI CULTURA E SVILUPPO), a civil society organisation that promotes active citizenship and participatory democracy. Well known for her active commitment in the peace movements of the 1980s, she has 20 years of experience in volunteer work, humanitarian aid and international cooperation. Silvia is particularly active on issues related to migrants and refugees. She is a member of the National Council of Development Cooperation (CNCS) and of the National Council of Third Sector (CNTS).

Annalisa Bisson,
Coordinator of Confindustria International Activities

Annalisa Bisson graduated in Comparative International Relations at the University of Venice "Ca' Foscari". She started her working experience in Confindustria in 1991 at the Industrial Union of Treviso dealing with the sectors of international activity, associative marketing and special projects. Since 2009, she has been working for Confindustria in Rome in the International Business Division, in which she coordinates promotional activities and follows the relations with the Italian and foreign Diplomatic Network.



Emanuela Colombo,
Full Professor of Politecnico di Milano – Department of Energy



Emanuela Colombo has achieved both a PhD in Energetic and a Nuclear Engineering MSc at Politecnico di Milano (Italy) where she is currently Full Professor. Over the last decade she has been developing a strong interest in the interrelations between Energy, Environment and Sustainable Development, access to energy in developing countries and advanced exergy methodologies for performance and impact evaluation of energy systems are other topics of high interest. In 2012 she has been named adjunct professor at the Nelson Mandela African Institute of Science and Technology in Arusha (Tanzania).

Corrado Diamantini, University of Trento

Corrado Diamantini is teaching fellow at the Department of Civil, Environmental and Mechanical Engineering (DICAM) of the University of Trento, where he held the positions of Full Professor of Town and Regional Planning, Head of the School in Environmental Engineering and Deputy Director of the School on local development. He is also the Vice President of the Consortium of Associations with Mozambique, an NGO that - among other things - supports the Administration of the District of Caia in relation to both rural and urban development. He has a multi-decades long experience of research, land and urban planning and design in Africa.



Guido Zolezzi, University of Trento



Guido Zolezzi is professor of hydraulics at the Department of Civil, Environmental and Mechanical Engineering of the University of Trento. He leads the UNESCO Chair in Engineering for Human and Sustainable Development. He works together with other scientists and with local and national government Agencies in a knowtransfer perspective, particularly in relation to water, river and sediment management, drawing from basic research on river dynamics. He is working on innovating technical higher education through the integration of the global dimension in engineering curricula from the perspective of international cooperation for development.

Paolo Collini Rector of University of Trento

Paolo Collini has been full Professor at the University of Trento since 2009 and he teaches Business Economics at the Department of Economics and Management. He has been a member of the Steering Committee of the Forum for Competitiveness of the Presidency of the Veneto Region (Italy, 2007-2008) and since 2000 a member of the Scientific and Technical Committee of the CUOA - Business School, of which he has been the President since 2014. He has been a member of the Editorial Board of the Trento Festival of Economics since 2008. He is Rector of the University of Trento since 2015.



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ORAL

PROFIT AND NO-PROFIT COOPERATION: A CHANGE FOR DEVELOPMENT COOPERATION

Piattaforma 125: a network of relationships between non-profit and profit actors for sustainable local development between Trentino and the Balkan Europe

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Associazione Trentino con i Balcani Onlus (ATB) is an Italian organization working in the Balkans since 1999 in the field of decentralized in-community cooperation. It boasts a long-lasting experience of relations and cooperation in the region, working mainly in Serbia and Kosovo, but also in Albania, Montenegro and Bosnia-Herzegovina. Those relations started in the 1990s, during the former Yugoslavian conflicts, and they continued in the effort of rebuilding the social fabric and dialogue, and of promoting a sustainable local development. The economic, social and political developments of those territories have required an evolution in the methods and approaches: from supporting humanitarian actions to an articulate program that promotes the creation and the strengthening of territorial partnerships and of local development relations, in compliance with the Italian 125/2014 Law on Development Cooperation. Answering the need to include the profit sector in international cooperation arisen by the 125/2014 law, ATB created Platform 125. Platform 125 (P125) is a network encompassing more than 20 private companies, non-profit actors, research and institutional entities, operating in Trentino. Platform 125 members are interested in working with the Balkans in concrete sustainable development projects. P125 aims at supporting the path to European integration, undertaken by the Countries of the area, and at fostering an inclusive and respectful growth in line with the objectives of the 2030 Agenda for Sustainable Development, through an economic cooperation driven by the principles of ethics, reciprocity and know-how transfer. The primary objective of P125 is to work with the main actors of the Western Balkan Countries in the realization of common projects in the field of: infrastructures, public works, civil and environmental engineering, environmental issues (in terms of protection, enhancement, study and dissemination), and technologies for sustainable agriculture. The Platform, thanks to a tailored and integrated offer, provides the knowledge and operational experience built in Trentino in over 40 years of territorial autonomy. The strength of the Platform stems from the plurality of skills that it incorporates. P125 can rely on a pool of well-established local and national companies, with a total turnover that exceeds €105'000'000.00 and 600 employees. Research institutes also take part of Platform 125. The Platform is supported by local authorities, thus ensuring an institutional framework and the systemic movement of the Platform.

Piattaforma 125 is the way ATB devised to include private companies in international cooperation, during CUCS2019, ATB in the form of his director and P125 in the form of one of the entrepreneurs that joined it first, wish to discuss with the public their experience and results in the matter and to imagine or discover together other ways of including the private sector in cooperation, fostering relationship between different actors and stakeholders that were before considered incompatible.

Keywords: Environment, Sustainability, Partnership and Projects, Profit in international cooperation, Law 125/2014, Network, Sustainable development

Profit non-profit partnerships: key factor for sustainable territorial development models

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The present work aims at offering some elements for a deeper understanding of the role of the profit non-profit collaboration, as key factor for an effective multilevel (multi-sector, multi-actor, multi-scale) governance approach to sustainable development.

The paper draws on the nearly fifty-year experience in international development cooperation of the AVSI Foundation and, particularly, on its more than ten-year practice of collaboration with micro, small, medium and large enterprises in many countries and sectors, in different types of business and cooperation modalities. AVSI approach with private profit actors aims at creating shared value, through a strategy able to combine economic profitability with social and environmental development as a way to achieve sustainable development. Creating shared value is made possible through different types of cooperation and is key to a business's profitability and competitiveness, and to leverage the unique resources and expertise of the company to create economic value by creating social and environmental value.

Moreover, the involvement of the public sector in the profit non-profit relations brings significant advantages to the three actors. From the business point of view the participation of the public sector allows to give greater importance and scale to the private profit action, making it more stable in the long term. With this respect, the public sector regulatory function is very relevant. As for the non-profit sector, the inclusion of the public actor allows a greater integration of resources and the activation of further actors, even from the non-profit sector itself. Finally, this involvement is particularly precious also for the policy maker, as it helps to focus on the main needs of a territorial system, to design the most appropriate policies to meet these needs and to implement the necessary actions in an accurate way. Indeed, when the irreplaceable function of profit non-profit partnerships is recognized, it is the entire policy cycle that can be appropriately developed within the framework of a multilevel governance approach.

In this context, the ability that such public-private partnerships can develop also to attract and pool financial resources becomes particularly relevant for all the three actors. The construction of common project portfolios is today called upon to respond to a profound need for a renewal of services, credit access methods, financial flexibility and organizational simplicity. The development of joint projects, in this sense, could represent not only a final result but also an intermediate result, because the construction of common projects substantiates precisely that fundamental assumption for the functioning of all types of scale reaching which is cohesion and common design culture of the participating actors. The recent evolution of financial instruments towards this direction is extremely significant. Examples considered in this work refer both to the European (EC-DEVCO) and the Italian (Cassa Depositi Prestiti) panorama.

In this way, the pursuit of development projects becomes factor for the construction of a territorial system, consolidating both the value of citizenship, in its local and global meanings, and the adequate management of the commons, in their broadest definition.

Keywords: Common goods, Citizenship, Sustainability, Partnership and Projects, Territorial development, Multilevel governance, Shared value, Public-private partnership, Financial instruments.

The Africa Innovation Leaders Programme: from development aid to private sector engagement

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Capacity Building as a bridge connecting cooperation and aid to entrepreneurship development and innovation.

The 'Emerging African Innovation Leaders - G7 exchange & empowerment program for enabling innovation within the next production revolution' (www.africanlead.net) jointly managed by the Politecnico di Milano and Politecnico di Torino was launched in April 2018 thanks to support from the Italian Agency for Development Cooperation (AICS) which has thus implemented the political will emerged at the Taormina summit, during the Italian presidency of the G7. The partner countries of this project are Ethiopia, Kenya, Mozambique, Niger, Nigeria and Tunisia, during the first phases of the project 6 country studies were prepared to understand the current state of the national ecosystems linked to the exploitation of research and innovation.

The program started the training of a first generation of 21 African Leaders selected from 450 candidates examined by the scientific committee of the project. The Leaders joined a 5-week training course at the Business School of the Politecnico di Milano with a mixed staff from the two universities and met a number of diverse business realities. The empowerment program mixed up a mechanism for blended learning including teaching hours, exposure teaching hours, exposure (including visits and discussions with more than 20 agribusiness, textile and metal mechanics industries) and guided online training course (Massive Open On-line Courses - MOOC) in which the leaders played the role of trainers themselves. The Leaders, supported by dedicated mentors, identified 6 innovation projects addressing central issues for local socio-economic and industrial development and categorized into the cluster of technology referring to the Green and Digital dimensions.

More in details they are:

Green-tech

- Kenya - Enhancement of maize production through digitalization.
- Niger - Promoting small scale digital irrigation system to boost agricultural production in Niger.
- Ethiopia - Solar energy for smart village in Ethiopia.

Digital-tech

- Mozambique - Smart ecosystem for technology and knowledge growth in manufacturing.
- Tunisia - Hub of the Next Production Revolution.
- Nigeria - Next Production Revolution Competence Center.

The experience and legacy gained through the proposed innovation projects represent the key result of the ongoing project. However, if we increase the effectiveness of the whole exercise, this

arrival point will need to be seen as a starting point for further steps focused on entrepreneurial and industrial development of innovative ideas jointly involving African and Italian private players.

Indeed the “cooperation and development” through own resources was able to respond effectively to a political will boosting the start of the process:

- AICS and MAECI have financed a high-level empowerment program to strengthen skills,
- Politecnico di Milano and Politecnico di Torino have created a high-quality program capable of envisage a restitution phase that goes beyond classroom hours and foresees a specific commitment of the leaders, adequately supported and assisted, on projects of national interest
- the Leaders, thanks to a rigorous selection process that allowed their identification, were able to formulate, together with their qualified mentors, a set of innovation projects to meet the integrated needs of sustainable growth and development.
- An international advisory board supported the project, the leaders and mentors set the pilot projects in an international context of reference both for cooperation and innovation policies as well as for environmental policies.

The legacy of the project over time could therefore be measured on two distinct but complementary

lines that fully respond to the opportunities included in the L.125 of August 2014, offering an exercise to explore synergies already identified but not yet fully exploited

1) on the side of COOPERATION and DEVELOPMENT aid by public funding (Ministry of Foreign Affairs and International Cooperation, Italian Agency of Cooperation), the project could envisage, in synergy with the government’s priorities, an extension of the training project on innovation issues in other African countries, strengthening the selection action, formation and aggregation of Leaders on the continent and in the countries that represent a priority for Italy.

2) on the side of ECONOMIC DEVELOPMENT (Italian Ministry of Economic Development, Institute for Foreign Commerce...) the program could complete its evolution toward an opportunity for entrepreneurial development for Italian and African companies that, by working in synergy with the leaders, will be able to further enhance their competitiveness in some key sectors like technologies for manufacturing, for energy and for the agri-food supply chain.

In this evolutionary context for cooperation and development the competences and specificities of the universities, as actors of cooperation, may be seen as a sort of “scientific diplomacy” that allow them to be able to open dialogue and synergies with all the other potential actors to co-design methods and tools for innovative solutions that can be really considered tailored “for” the partner countries and designed “with” local actor. The topic of transversal partnerships, recognized by everyone as crucial, still deserves some further methodological reflection at system level also to identify implementation path and financial tools. We hope CUCS 2019 will contribute to it.

Keywords:

SUSTAINABLE PARTNERSHIP FOR DEVELOPMENT: IMPROVING QUALITY OF MATERNAL CARE IN WOLISSO, ETHIOPIA

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Doctors with Africa CUAMM

Government authorities, private companies, civil society organizations and research institutions all have different goals, tasks and responsibilities, but they can benefit from working together.

Goal 17 of the UN Sustainable Development Goals (SDGs) states that a successful sustainable development agenda entails partnerships between governments, the private sector and civil society. According to SDG17, inclusive partnerships built upon principles and values, a shared vision and shared people-centered solutions, are needed at the global, regional, national and local level. These partnerships entail complementary roles, where a multi-stakeholder approach is needed in order to mobilize and share knowledge, expertise, technology and financial resources.

Partnership between profit and non-profit organizations is thus key for achieving better results in development cooperation. Within this context, Doctors with Africa CUAMM is cooperating with Merck for Mothers and MSD Italy to tackle maternal and neonatal mortality in Africa.

Since 2017, Doctors with Africa CUAMM, MSD Italy and Merck for Mothers have confirmed their partnership to **improve access to health care services for mothers and children in Ethiopia**.

In Africa, women and adolescent girls face great obstacles when seeking access health services due to distance, lack of transportation and cultural factors. The resulting **lack of healthcare is one of the main causes of high mortality among girls and women** of reproductive age. In Ethiopia, maternal and neonatal mortality rates remain high, being 353/100,000 live births and 41/1,000 live births respectively.

With the support of **MSD Italy and Merck for mothers**, CUAMM is implementing a **3-year project** in the area of **St. Luke Hospital of Wolisso**, in Oromia region, **Ethiopia**. The aim of the project is to introduce innovative approaches to **reduce maternal and neonatal mortality**, while increasing the quality of health services and at the same time addressing key bottlenecks in accessing health services (distance, lack of transportation and cultural factors). Overall, beneficiaries of the intervention will be more than 42,500 adolescent girls and young women as well as the entire community living in the catchment area of Wolisso Hospital of about 250,000 people.

More specifically, the intervention aims to:

- Perform 10,200 antenatal visits
- Conduct 222,600 pediatric consultations
- Assist about 4,000 deliveries
- Create a referral system for pregnant women from the community to the hospital
- Strengthen data gathering and foster operational research

Furthermore, with a long-term development approach, in order to increase the quality of services, the partners involved are **supporting the Nursing and Midwifery school of Wolisso Hospital**, with an output of about 25 new midwives graduating every year.

Doctors with Africa CUAMM firmly believes in the importance of creating strategic partnership and seeking integration within the local system in a complex and changing environment to achieve better results in guaranteeing the right to health for all, especially the most vulnerable populations. Indeed, Doctors with Africa CUAMM is supporting a local institution (Wolisso Hospital) through a differentiated support coming from private foundations, the Italian Cooperation and the local government. The experience of Wolisso is a concrete example of how different stakeholders with different roles and a shared vision can work together to tackle global challenges, contributing to *SDG3 Good Health and Wellbeing*, *SDG10 Reduced Inequalities* and *SDG17 Partnerships for the Goals*.

Keywords: Sustainability, Partnership and Projects, Partnership, Inequalities, Maternal Health.

IdroTK project: an example of profit and non-profit in international cooperation for sustainable development

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Associazione Trentino con i Balcani (ATB) has been working in the Balkans for almost 20 years, its first focus was rebuilding the social fabric and dialogue after the '90s conflicts. Among the association's main focuses there are now environmental sustainability, sustainable development and promoting healthy lifestyles. Not only the main concerns of the association have changed through the years, also the methods and approaches have, the economic, social and political developments of those territories have required it. The association has gone from supporting humanitarian actions to an articulate program that promotes the creation and the strengthening of territorial partnerships and of local development relations, in compliance with the Italian 125/2014 Law on Development Cooperation.

The project "IdroTK: Trentino-Kosovo cooperation for sustainable development" is an example of how Trentino con i Balcani aims to foster sustainable development through the cooperation of both non-profit and profit actors from both Italy and Balkan countries. The project aims to: propose an appropriate quantitative approach to determine ecological flows in running waters in Kosovo; to share knowledge on e-flows and sustainable water management with local experts and stakeholders and to study, propose and implement technical solutions to increase the environmental and economic efficiency of existing water infrastructures (water supply systems, irrigation intake structures, etc...) also through the realization of a pilot micro-hydropower system in an aqueduct that will increase energy and environmental efficiency. This project is carrying out its aims thanks to the collaboration of a network of public and private, profit and non-profit partners. As for the public sector, this project is financed by the Autonomous Province of Trento and is carried out in partnership with the Municipality of Peja (Kosovo), the Kosovo Environmental Protection Agency (KEPA) (which corresponds to the Italian ISPRA), the Regional Water Company Hidrodrini (which manages the water supply systems and sewage of Peja region) and with the support of the Agency for purification (ADEP) of the Autonomous Province of Trento. As for the institutions deputized to education the University of Trento, the University of Pristina and the University of Peja are involved in the project. Lastly, different private companies, both Italian and Kosovar, are involved in IdroTK: TERA engineering s.r.l., Elettro Aldrighetti, Carlo Pellegrini and Gentex-1 SH.P.K. The plurality of actors and stakeholders involved in this project make a clear example of how profit companies can be involved in a cooperation project lead by a non-profit organization. The companies do not have to renounce to profit, on the contrary they can find markets and opportunities thanks to the network and knowledge developed by non-profit organizations through years of work and collaboration in that country. On the other hand, the organizations get to involve companies in different project in an ethical way that benefits not only the companies but also the country and its population, working for environmental, social and economic sustainable development.

During CUCS2019 ATB aims to present IdroTK project experience as a concrete example of the application of the law 125/2014 and to discuss with the other speakers the opportunities and challenges that the cooperation between profit and non-profit poses.

Along with the project manager of IdroTK one of the main profit partners, Tera Group, will participate to present its experience from the entrepreneur point of view.

Keywords: Environment, Sustainability, Partnership and Projects, Profit and non-profit in international cooperation, Law 125/2014, sustainable development

CAN WE LEARN INTERNATIONAL COOPERATION? INTERNATIONAL COOPERATION TRAINING IN THE THIRD MILLENNIUM

Beyond deconstruction. A geological approach to the teaching of international cooperation

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In the last fifty years critical development studies have been crucial in addressing ambiguities and incoherencies of mainstream development theories. Slowly but significantly, criticisms coming from scholars and development practitioners have contributed to the deconstruction of hegemonic theories, leading to their revision and transformation.

Through shakes and adjustments, international cooperation has survived post-development era; actors, practices, standards and goals of international cooperation have changed but, even in periods of anti-globalization discourses, xenophobia and closure, the policy of providing various kinds of international aid hasn't been discussed and the need of educating new generations of international cooperation professionals and scholars hasn't lowered.

Concerning the teaching of international cooperation at the academic level, the acknowledgment of transformations, changes, doubts and hesitations linked to the conception of development has been a slow and uncompleted process. The teaching of international cooperation is still perceived as mainly providing the students with the right technical tools and the correct recipes, while dismissing complexities and critical analysis as paralyzing or misleading. A positivist view of international cooperation tools and techniques prevails, even in social science departments whose members should be more aware of dangers and illusions of social engineering and ideas such as modernization or progress. Despite the proliferation of discourses on South-South cooperation and knowledge decolonization, the international cooperation practitioner is still represented as man, expat and white, while little attention is devoted to the adaptation of global techniques and tools at the local level, often made by national practitioners and scholars.

On the one hand, the multidisciplinary dimension of development interventions is considered in the academic curricula creation, on the other hand the academic analysis of development processes still prioritizes certain perspectives, such as the socio-economic ones, while addressing other perspectives as additional (environment, art and culture etc.). In addition to that, social, political or economic change is still represented as a linear and governable process, that can be achieved by a set of relatively short projects. The unit of time that is used to assess development issues is still the one of single projects' duration, without taking into account other space and time dimensions.

The relation between international cooperation and development theories is not duly managed: too often, they are treated as two different sectors. In general, the teaching of international cooperation is represented as a never-ending struggle between theory and practice, ideas on world transformation and everyday fieldwork. Another dialectic relation is built upon the difference between academic studies and professionalisation: the result is often that universities are perceived

to be always backwards, running after a fast-changing market and an inscrutable third sector. This paper aims at addressing the issue of teaching international cooperation in the era of post-development. It advocates for a geological approach, that is an approach that looks at international cooperation as a multilayer and a stratified set of theories and practices, that are superposed and intermingled. This stratification is porous and continuously changes, and it is characterized by cycles, fractures, emersion, surfacing, collapsing. To properly analyze this stratification is important to make use of historicization and to consider localities and specificities as well as the different forces, tensions and movements that lay behind interaction, conflicts and contacts. Historicization must concern development theories as well as international cooperation itself, both as a set of policies and as a job. An equipped practitioner is, firstly, a geologist and a paleontologist, meaning a person that is able to understand the current composition of the soil and to interpret past stratification in order to build a solid base for the future.

Keywords:

L'EMPOWERMENT DI COMUNITÀ come approccio metodologico nei progetti di cooperazione internazionale allo sviluppo

R. Manrique

ACCRI

Le competenze richieste per il successo dei progetti in termini di sostenibilità e partecipazione locale sono cambiate drasticamente negli ultimi anni. C'è un crescente interesse per lo sviluppo delle *soft skills*, ovvero delle competenze trasversali necessarie alla gestione dei progetti.

La maggior parte delle ONG oggi si aspetta che queste figure dimostrino e si distinguano in molte abilità *soft*, come il lavoro di squadra e lo sviluppo di gruppo, piuttosto che limitarsi alle conoscenze ottenute nella laurea. Ma come e quando queste fondamentali competenze trasversali sono acquisite: durante gli studi universitari? In periodi di esperienza lavorativa, servizio civile universale, volontariato nei PVS?

La gestione del progetto consente alle organizzazioni di integrare, pianificare e controllare sforzi intensivi e unici nel loro genere al fine di migliorare l'impatto degli *outcomes* (obiettivi specifici) all'interno di un contesto e di una comunità. I principali effetti a medio termine dell'intervento, esplicitati all'interno del *logical framework* (quadro logico) dovrebbero concentrarsi sui cambiamenti comportamentali e istituzionali nell'area d'intervento.

Con questo scopo l'ACCRI ha indirizzato i suoi sforzi, nell'area di formazione al volontariato, alla conoscenza di metodi e tecniche per lo sviluppo di comunità, i quali comprendono temi quali: l'organizzazione di comunità, l'empowerment, l'analisi dei bisogni, il *problem setting*, il *problem solving*, il lavoro di rete, le dinamiche di gruppo e la conduzione di riunioni; ciò consente di accrescere la conoscenza e le abilità necessarie al fine di lavorare con le comunità locali e nei progetti di sviluppo.

Sulla base delle nostre esperienze abbiamo constatato che i volontari, formati con le tecniche di *empowerment* sopra descritte, una volta inseriti nei progetti hanno l'opportunità di migliorare le loro competenze come **facilitatori di processi di sviluppo**; ciò consente di attivare l'interazione tra i diversi stakeholders coinvolti nella gestione delle attività e rafforza la partecipazione dei beneficiari, influenzando positivamente la sostenibilità delle iniziative. Come esempio vi proponiamo l'esperienza dei nostri volontari in Bolivia attraverso un video di 4 min.

Keywords: Soft skills, community empowerment, facilitator.

Developing research skills through innovative didactic methods: the case of “Social Pedagogy of Human Development and International Cooperation” teaching

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The paper introduces the didactic experience realized, from the academic year 2015/2016, within the teaching “Social Pedagogy of Human Development and International Cooperation”, in the interclass Master of Science LM-57/85 in Adult Education, Lifelong learning and Pedagogical Sciences of Florence University. 2015 was a bridge year, at international level, firstly because during the United Nations Summit on Sustainable Development the 2030 Agenda, containing the 17 Sustainable Development Goals (SDGs), was adopted; but also because for the first time, a European year was dedicated to development and to United Europe international cooperation policy. At the same time, in Italy, work has been done for the redefinition of the international cooperation system and its governance architecture, renewed thanks to the new institutional framework which was the result of the law n. 125/2014, and allowed the birth of the Italian Agency for development Cooperation (AICS), operational since January 2016. The didactic proposal implemented during the last four years, built within this national and international strategic-political framework, has faced in a specific way the topic of human and sustainable development aiming at problematizing most of all the capability, governance, partnership and sustainability concepts, in order to have a development holistic vision, attentive to the economic, social and environmental dimensions. The pedagogical perspective has been, and keeps on being – through an eco-systemic approach to education and learning processes – the hallmark and the lens making explicit and visible the educational dimension underlying and transversal to the development actions. During the several academic years basic subjects linked to human development in national and international domain (limits and potentials, capabilities approach, international strategies and SDGs, development as educational process, relationship between education and international cooperation, education policies for development, local development and integrated education system, university and development cooperation, ICT and ONG 2.0) and transversal and differentiated topics in each academic year (material and immaterial cultural heritage, third sector development and social innovation, relationship between migratory phenomena and development processes) were dealt with. Through an innovative didactic, which focuses on the students’ commitment and protagonism, they were realized: case studies and analyses of good practices in national and international field, trainings and team works, seminars and posters presentations, workshops and expert witnesses, field research activities. During the courses, the students could freely develop compositions on the above-mentioned topics and deepen the following themes in particular: education-job relationship (youth unemployment, school-job alternation, dropout, employability); local development (material and immaterial resources, sustainable tourism, entrepreneurship, recycling); migration (social and job inclusion, unaccompanied foreign minors, skills certification, intercultural education in school contexts, art as inclusion tool); vulnerable contexts and categories (prison education, homeless phenomenon). The use of specific teaching, learning and research methodologies – supported by ICT and by e-learning didactic – allowed the deliberate explication of a cognitive meta-level enabling the development of vocational educational skills as well as skills of analysis, planning and assessment of an education activity. The course has also included evaluation educational activities at the end of each unit realized, useful to monitor the work and the achieving of the goals, declined according to the Dublin descriptors, ongoing. The learning skill and the ability to build autonomous research paths seems to be the added value of this didactic experience: the ability to combine learning processes, research activities, labor market and social topics. The international openness represents another relevant education aspect which

has given to students and PhD students the chance to take part to mobility and to research experiences on the field (in Brazil and in Ivory Coast), implemented within scientific and cultural cooperation agreements with foreign universities. The paper proposes a teaching and research experience which, over the years, has seen the students as privileged actors at the middle of an innovative practice in the didactic field, on the issues of sustainability education and more generally on the issue of Human Development.

We believe that this work may represent a meaningful contribution on the topic of cooperation and human development in pedagogical area courses. Furthermore, the proposed model allows to positively combine the dimensions of:

- research: through innovative didactic practices aiming at the development of professionals and methodological skills in educational area and international contexts;
- internationalization: with the realization of mobility and research experiences for degree or doctoral theses;
- third mission: thanks to the connection with the labor market (in this case in the field of international cooperation) for the development of traineeships and vocational experiences;
- university social responsibility meant as attention and care for the emerging social matters and for the socio-economic transformations unceasingly taking place in the global society, involving places and people.

Keywords: Sustainable Development Goals, Human Development, innovative didactic, research skills, internationalization, third mission, University Social Responsibility.

TALETE – The international development cooperation as an opportunity to strengthen competencies and better face the labour market

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The strong interdependence inherent to the global context demands an increasing number of professionals who are able to positively interact with the complexity that characterizes our times. Additionally, the labour market seeks workers who can couple specific technical knowledge with an open minded attitude towards international dynamics, and soft skills required to enter complex work positions. The University of Trento and the International Cooperation Centre try to face the contemporary labour market challenges with the programme Talete, a professionally qualifying training parallel to the Master Degree with a specific reference to the tradition of the Honours Programmes (24 ECTS). The main programme hypothesis is that international development cooperation is an opportunity to strengthen student's disciplinary profile developing soft skills and widening student's gaze to global interdependence. The programme aims first at strengthening the student's profile as for instance engineer and sociologist and in the meantime at training at opening to a new professional field, the international development cooperation, for those who wish to build their career in this sector.

Our contribute to the conference will present how TALETE prepares students to face labour market through international development cooperation. The programme lies on two important pillars, underlining the centrality of "experience":

1. the master thesis abroad within an international development cooperation project in partnership with an NGO, private companies or international or research institutions (at least 3 months). The hypothesis is that a three-months experience in a developing country allows students to enhance both technical (competencies connected to their field of studies) and soft skills (competencies such as problem solving and project management, intercultural competency, teamwork, conflict transformation, leadership, communication).
2. post-degree internship at NGO, private companies or international or research institutions with the goal to experience a work environment but also to widen the student's network and career opportunities.

The programme takes into account soft skills and the contemporary models of competency-based HRM. The training activities are gathered in the following different paths:

- "Internationalize the student's professional profile": courses on global context, international developing cooperation and its tools (project management, participatory methodologies etc.)
- "Experience Talete": three workshops on motivations and expectations, emotional management skills.
- "Soft skills": three workshops on Intercultural competency, teamwork and methodological skills
- "Competency-based HRM": individual coaching on competency development and simulation of recruitment interviews, investigating soft skills.

Beyond the contents presented in Talete, the method used for the training is important for Talete course as in educational processes in general. In the case of Talete, experiential pedagogy is adopted, which works on the capitalization of experiences through a transformative approach.

The programme started in academic year 2016/17 and 5 students of the first Talete edition have completed the whole programme and they have been easily employed in organizations and at the University.

Based on the experience developed so far, the presentation will briefly present Talete programme and will go in depth into the hypothesis (and preliminary outcome) about the competences on which the training activities and international experiences work upon. In particular, at present it is possible to confirm hypothesis on the training activities and on the outcomes of the international experience for the master thesis research. In terms of employability, since only 5 students of the first edition have completed the whole programme no relevant data is available.

Keywords:

Teaching Young People, the Task of Social Change: A comparative Discussion of Social Development. Initiatives of In-school Youth and Community-based Youth Group

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“Determination, energy and courage appear spontaneously when we care deeply about something. We take risks that are unimaginable in any other context.” -Margaret Wheatley

Students and young people represent multiple voices and inexhaustible creativity for possibilities of change. This work is located within the context of enduring state neglect and deprivation in rural and urban communities in the Philippines. These times also reveal resurgent autocratic governance and compromised democratic processes. Social transformation workers are caught in a ‘moment of truth’: to unmask and grapple with elusive natures of power imbalances. Young people are a potent force to assist and enable, live and fight alongside communities.

This paper discusses the training of two groups of young people towards social development work with rural and urban poor communities. One group is made up of college students taking up Human Ecology degree program while the second group is a community-based youth organization. The authors are educators in both formal and non-formal settings. This study reflects on the pedagogy and content of teaching social change to achieve equality, social justice, and human rights, to the youth.

Similarities and differences in learning methods and content for in-school and community-based youth group are observed. Educators face the challenge of situating pedagogy informed by what Jakubowski and Burman (2004) refer to as a careful balance of teaching important content and approaches while maintaining adaptability; that teachers constantly observe student’s learning and re-design learning endeavors based on these assessments. Important content include: historical and social factors contributing to the state of communities; discussions on power, cognizant of the changes we want to see in relationships, individuals, process, systems, conditions, and reconfiguration of power; how people participate in change; acquiring responsibilities; ability to respond proactively, expressing unity with the interests and aspirations of communities; addressing individualistic tendencies and apathy; and youth leadership.

This discussion hopes to stimulate reflection among educators of young people towards sustainable development and community engagement.

Keywords: social change, youth education, community engagement.

La interdisciplinarietà in un master di cooperazione: giusto bilanciamento e continuo adeguamento

G. Cancelliere

Master in Gestione delle Risorse Idriche nella Cooperazione Internazionale, Dipartimento di Scienze dell'Ambiente e della Terra, Università di Milano Bicocca

Partito nel 2003 il master in Gestione delle Risorse Idriche nella Cooperazione Internazionale è arrivato alla 11a edizione. L'idea è nata da una esigenza nel mondo delle ONG di avere una formazione qualificata che toccasse uno degli argomenti più richiesti: il settore WASH. La presenza fissa nel Comitato di Coordinamento di 4 ONG e di operatori nel settore della cooperazione ha permesso l'interazione costante tra mondo della formazione e loro beneficiari con un continuo interscambio di esigenze, adeguamenti, sbocchi professionali e allineamenti con il mercato del lavoro. Nel tempo la figura dell'operatore tecnico si è sempre più trasformata verso una componente più gestionale capace di scegliere la tecnologia appropriata e le consulenze necessarie alla sua attuazione. Essendo un master tecnico che riguarda le risorse idriche nella loro completezza, lo sforzo si è concentrato sulla scelta e il livello di dettaglio tecnico delle materie da trattare, e su che rapporto tenere tra teoria e pratica, considerando che il 25% dei crediti didattici veniva indirizzato allo stage pratico presso ONG o Organizzazioni Internazionali.

La forte esigenza delle ONG era di ricevere operatori preparati nel settore e consapevoli del contesto dove andavano operare, e nello specifico quindi professionisti focalizzati sul rispetto di culture diverse, sistemi economici poveri, situazioni di emergenza umanitaria e pronti a tempi e modalità di lavoro differenti. Nell'ambito di questo quadro generale, in collaborazione con antropologi dell'Università Milano Bicocca, sociologi ed esperti internazionali di situazioni di crisi umanitarie, lo sforzo si è diretto sulla modalità di come insegnare la componente più tecnica tenendo conto di dare adeguato spazio a tutta la catena gestionale del progetto (analisi dei bisogni, dialogo con beneficiari e istituzioni, sostenibilità socio-economica).

Un grande contributo a re-indirizzare il master nella didattica e nel rapporto teoria-pratica è venuto dagli stessi studenti, dalle loro esperienze di stage e lavorative, diventando quindi loro stessi un punto di riferimento determinante nella rimodulazione dei vari corsi. Con il loro supporto si è analizzato a fondo quanto veniva realmente utilizzato da quanto appreso nel corso della didattica e di cosa si aveva ulteriore bisogno per affrontare le difficoltà sul campo. Negli anni si sono quindi cambiati i curricula dei corsi, inserendo anche due esperienze residenziali (3 giorni) presso la CRI Italia per quanto riguarda la componente acqua in emergenza e presso l'Associazione di Promozione Sociale Rastel di Trento (3 giorni) per le attività di campo relative a utilizzo sostenibile delle risorse idriche in agricoltura. Inoltre il master è stato arricchito di insegnamenti su pratiche di adattamento ai cambiamenti climatici e su concetti di mitigazione in allineamento con l'agenda SDGs 2030. Nel corso del master si è sempre prestata grande attenzione all'esecuzione degli stage, consolidando il fattore di continuità che ha caratterizzato il master: la maggioranza degli studenti ha eseguito lo stage come inserimento ad un lavoro successivo grazie alla collaborazione in fase di elaborazione dei termini di riferimento tra ONG e docenti del master nell'identificare non solo esperienze idonee al candidato ma anche opportunità di continuazione post-stage. Ne è risultato un alto tasso di occupazione per gli studenti nel settore della cooperazione internazionale nei due-tre anni post master.

Per rafforzare l'interdisciplinarietà, il master si è avvalso anche di docenti dell'Università di Agraria di Milano per affrontare l'uso delle risorse idriche nel settore della cooperazione (suoli, domanda idrica e tecniche a risparmio idrico). Negli anni è nata anche una ottima sinergia tra il master e la cattedra UNESCO di Trento in Ingegneria per lo Sviluppo Umano e Sostenibile, utile a scambiare esperienze e a captare un dialogo tra diversi studenti, provenienti da background vari, per

arrivare a dare un approccio interdisciplinare omogeneo e prepararli ad affrontare differenti realtà.

Nel 2016 il master è quindi passato all'insegnamento in lingua inglese "Water resources management in international development aid" aprendo quindi la possibilità di frequenza a studenti stranieri. Questo cambio ha portato un ulteriore valore aggiunto nell'incontro tra studenti provenienti da paesi africani che portavano le loro storie di vita ed esigenze nel dibattito all'interno del master. Il gruppo si è quindi rafforzato e molti concetti riportati ad un livello più vicino al mondo in cui operare, con esperienze interculturali, integrate anche dal gran numero di studenti del master che provenivano da esperienze pregresse di cooperazione. La stessa componente variegata di provenienza didattica (il master è di primo livello aperto a tutte le discipline) deve essere letta come un punto di forza alla interdisciplinarietà, dove gli stessi studenti si sostengono nell'affrontare le difficoltà dell'apprendimento e dove gli stessi docenti sono spinti ad impostare le loro lezioni abbracciando e interagendo con tematiche diverse. La base del master è nel suo titolo stesso che parla di gestione delle risorse, intendendo con questo un vario panorama di azioni sociali, tecniche e manageriali che interagiscono e si complementano in maniera variegata in relazione al contesto in cui sono inserite.

Keywords: WASH, Humanitarian and Development Aid.

LA STRATEGIA AICS PER L'ALTA FORMAZIONE

M. Focacci

AICS

Le borse di studio per il conseguimento di un titolo di laurea di secondo livello o di dottorato da conseguire in Italia costituiscono uno strumento estremamente efficace non solo in termini di trasferimento delle conoscenze ma anche di esperienza diretta di un sistema formativo da poter replicare nei paesi di origine dei borsisti. L'investimento che viene fatto non è da considerarsi solo sul singolo beneficiario ma è da ritenersi funzionale all'innalzamento generale del livello accademico dei paesi di provenienza. La nuova Agenzia Italiana per la Cooperazione allo Sviluppo ha quindi deciso di utilizzare questo strumento, già presente a livello MAECI, in un'ottica di innovazione attraverso l'elaborazione del programma pilota "Il Partenariato della Conoscenza". Il carattere di novità consiste nella modalità di erogazione delle borse (95 borse di cui 64 MSc e 31 PhD), non più a "pioggia" ma attraverso la costituzione preventiva di quattro piattaforme tematiche corrispondenti alle aree di maggior investimento dell'Agenzia: "Sviluppo rurale e gestione del territorio", "Sanità e W.A.S.H.", "Energia sostenibile, Ambiente ed innovazione industriale" e "Patrimonio Culturale e Turismo sostenibile". Le piattaforme hanno raccolto, attorno a quattro università capofila, un totale di 23 atenei che, in termini di grandezza, costituiscono il 56% delle università statali italiane. La funzione delle piattaforme è quella di creare un luogo di dialogo e riflessione intorno alle sfide poste dagli Obiettivi di Sviluppo Sostenibile, nonché il nodo di congiunzione tra saperi accademici e conoscenze operative. Il valore dell'iniziativa risiede quindi nella formazione di un partenariato stabile e strutturato tra la Cooperazione ed il mondo universitario che possa portare ad uno scambio di conoscenze e all'elaborazione di strategie comuni. Nell'ottica di una collaborazione con altri interventi della Cooperazione, alle piattaforme si aggiungono inoltre iniziative di *capacity building*, al fine di costituire dei veri e propri *hubs* di alta formazione capaci rispondere in maniera flessibile alle esigenze formative dei paesi partner. Le piattaforme sono infine luogo di *networking* e confronto attraverso la creazione ed animazione di una rete di *alumni* con la quale potranno essere coltivati e sviluppati contatti con e tra gli ex borsisti.

Keywords: .

I bisogni formativi delle associazioni di cooperazione internazionale: esperienza dal coordinamento trentino FArete

S. Zangrado

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FArete is an association of second level, made up of several Trentino organisations of international cooperation and solidarity. FArete stems from **an inclusive and participatory path**, encouraged by a group of persons that felt the need of getting together, questioning, analysing and **generating synergies**. FArete responds to a collective logic: thinking, planning and acting beyond the boundaries of single organizations. The **goal** is to actively contribute to the creation of strategic vision and policies, which can guide the Trentino international cooperation and volunteering system. The reasons behind the participation of FArete at the **6th conference of the CUCS network** is twofold: to present this new reality and its various souls, and to bring to light in a systematic way the activities and interventions carried on by Trentino organizations of international development cooperation throughout the entire world.

Keywords: Organizzazioni della società civile, Coordinamento degli attori e degli interventi di cooperazione.

EXPLORING THE WATER-ECOSYSTEMS-FOOD (WEF) NEXUS UNDER THE LENS OF THE COMMONS: FROM WATER AS A COMMON GOOD, TO RIGHT TO FOOD

The challenge of guiding communities towards environmentally sustainable behaviours: Socio-Hydrological Modelling combined with Sustainability Index Approach.

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As pressure on limited freshwater resources has increased in response to population and economic growth, the need to improve our understanding of the interactions between water resources systems and different water uses and to properly analyse these interactions by modelling tools, has grown as well. In many regions of the world, in fact, people's common way of thinking on water consumption is oriented towards unsustainability, contributing to degradation of the environment and to the detriment of the water resources.

This is also the case of the Alcantara River Basin System (Sicily, Italy), which supplies water to many cities along the north-eastern coast of Sicily island, as well as to the agricultural districts and industrial areas. The ability of the river basin to meet water demand is vulnerable to natural (climatic) and human-induced (infrastructural) shocks, which could cause significant distress to people and the economy.

In this work, we present a simple, a socio-hydrological model of the Alcantara River Basin System able to simulate the complex dynamics and feedbacks that might arise from natural and human-induced shocks to the system. The aim of the work is to use the socio-hydrological model as a "screening tool" to frame water resource issues in a broad way and provide guidance to the community to change their behaviour towards more sustainable water resource management, including the resilience to withstand future shocks to the system. In combination with the above-mentioned socio-hydrological model, a Sustainability Index is applied in order to make model's results easy to be interpreted by a large audience.

The results of this study, coming from scenario analyses at different time scales, combined with sensitivity analyses of the socio-hydrological parameters of the model, show how the community's way of thinking on environmental issues and water resource management, their capacity to remember water crisis and, in particular their way of reacting to shocks, can affect the system in ways that can produce unexpected results. For example, a rapid decision-making strategy (e.g., countermeasures programmed in advance with respect to a water crisis) could be satisfying in a short term but can also be counter-productive over the long term.

On the other hand, results show that a do-nothing decision during a water crisis, could highly damage the environment.

Keywords: Socio-Hydrology Environment Sustainability Sustainability Index

Boa Ma Nhã, Maputo! Exploring the Water-Energy-Food nexus for a sustainable territorial development in a fragmented and fragile metropolitan area in the Global South.

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The paper presents some early findings of the research project “Boa_Ma_Nhã, Maputo!” (Politecnico di Milano in partnership with the Eduardo Mondlane University and AICS Italy) focused on the Boane, Moamba, and Namaacha districts, located at the outskirts of Maputo (the capital of Mozambique) and crossed by the Maputo Corridor (Maputo, Johannesburg, Durban).

More than 3,000,000 inhabitants live in this area, representing more than 13% of the Mozambican population and over 40% of the urban population of the country. The lack of information regarding existing inter-scalar patterns makes it an “unknown Metropolis”, fragmented in terms of administrative boundaries and governance and characterized by a high level of informality of flows and systems. The rural-urban balance is transforming due to migrations and progressive urbanization, land grabbing, deforestation, climate change, socio-economic and political instability, making peripheral districts of the fast-growing Maputo metropolitan system fragile territories in need to be framed in a synergic inter-scalar vision for a sustainable and integrated territorial development.

The scarcity and inconsistency of the available statistical data, the lack of cartographies, and the lack of investigations of economic-related transformations rise a challenge in terms of methodologies and tools to be developed in support of local actors to face this crucial task while coping with present urgent issues.

The research project embraces this challenge by proposing a multidisciplinary approach to tackle the development of the growing peri-urban environment of the City of Maputo in an integrated way, overcoming the traditional sectorial approach and considering the interdependencies between issues such as migrations and demographical transition, food and water security, climate change and natural hazard, local economic patterns (formal and informal), land tenure and cultural diversity, mobility and infrastructure.

More specifically the research aims to:

- produce integrated territorial scenarios and recommendations for the sustainable development of the area under study, to be made available to local administrations;
- test an integrated and repeatable multidisciplinary methodological approach in line with the complexity of metropolitan challenges in similar contexts;
- check the methodological approach through a locally relevant pilot project integrating agriculture, education and women empowerment;
- investigate methodologies to check economic, environmental and social impact through quantitative assessments.

Particular attention is devoted to the Water-Energy-Food Nexus, considering the potential evolution of the agriculture sector, backbone economy of the area, considering the whole food cycle and its multiple environmental, economic, social, cultural implications, with particular reference to the UN Sustainable Development Goals (SDGs) and the UN-Habitat framework for urban-rural linkages.

Keywords: global south; fragile territories; sustainable development; Mozambique; Maputo; water energy food nexus; urban-rural linkage; interdisciplinary methods

Irrigation scheduling of drought-resistant quinoa in the Sahel: the case of Burkina Faso

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The African continent, as a whole, is one of the world's most vulnerable regions to climate change due to its low adaptive capacity (Niang et al., 2014). In particular, the Sahel region, gathering countries within the southernmost part of the Sahara Desert, is considered a hotspot to climate change, with unprecedented climates expected to happen (Mora et al., 2013). In regard to precipitation, trends over West Africa show an inter-annual variability increase of up to 40 % by the end of the century (Yabi and Afouda, 2012; Niang et al., 2014). While regional climate models for Burkina Faso estimate a significant rainfall decline for the period 2021-2050 (Ibrahim et al., 2014). Changes in the onset/offset of the rainy season have also been observed, particularly with a delay in the onset, thereby shortening the growing season for rainfed crops (Biasutti and Sobel, 2009). These changes in climatic trends have affected agricultural productivity that must adapt to satisfy increasing food demand.

Agricultural adaptation has become crucial in hot-spot regions of climate change, often matching with those having highest undernourishment rates and greatest population growth, i.e. Sahel. Traditional water harvesting practices (zai, half-moons and stone bunds, among others) have been widely used in Burkina Faso to cope with the high rainfall variability (Barbier et al., 2009; Sawadogo et al., 2010). Nevertheless, these techniques remain insufficient for coping with changing climatic threats. In addition, the country's percentage of area cultivated with irrigation is as low as 0.9 %, with most of the area based on surface irrigation systems (FAO, 2011). Additionally, the lack of governance, and the proliferation of uncontrolled pumping, particularly from small reservoirs and groundwater, have widely augmented the pressure on water resources (de Fraiture, 2014). For this reason, appropriate water management is vital for stabilizing crop yields, besides satisfying increasing water needs.

Among scientists, quinoa (*Chenopodium quinoa* Willd.) is considered a climate resilient and superfood crop, while being promoted in regions vulnerable to climate change. It is a highly nutritional and gluten free crop, having a balanced composition of essential amino-acids sometimes scarce in legumes and cereals (Repo-Carrasco et al., 2003); as well as for been rich in Ca, Fe, and Mg, with high content of vitamins A, B2 and E (Adolf et al., 2013). As a C3 crop, quinoa's crop water productivity (CWP), expressed in kg of biomass produced per m³ of water applied, is generally low, lying between 0.3-0.6 kg m⁻³ in the Bolivian Altiplano while exceeding 1 kg m⁻³ in Morocco and Italy (Geerts et al., 2009, Hirich et al., 2014a, Riccardi et al., 2014). Indeed, quinoa's transpiration rate is similar to that of reference evapotranspiration, hence having low water requirements, around 400 mm (Steduto et al., 2012). Moreover, quinoa is well-known for its resilience to abiotic stresses being drought-tolerant, halophyte, pH versatile, and resistant to thermic variability. Regarding drought-tolerant characteristics, rapid stomata closure, restricting shoot growth and accelerated leaf senescence makes quinoa highly adaptable to drought stress conditions (Azurita-Silva et al., 2015). In addition, it's capable of maintaining its turgidity with very low water potentials, while optimizing water use through minimum leaf gas exchange (Jensen et al., 2000; Jacobsen et al., 2003). It can also increase its assimilation efficiency by improving the ratio of photosynthetic rate over transpiration up to 2 (Vacher, 1998; Geerts et al., 2008).

The main objective of this study has been to calibrate and validate Aquacrop for different irrigation schedules of quinoa during the dry season in the Sahel. As quinoa is now being introduced within this region, there is an imperative need for understanding quinoa's water needs, timing and frequency of the irrigation within this region. The overall hypothesis of the project is that improved irrigation scheduling is crucial for saving farmers expenses, improving yields and preserving water resources. This research also seeks to estimate to what extent yield losses can be assumed by farmers' deficit irrigation schedules.

Keywords: Water management; Deficit irrigation; Climate resilient crops; Burkina Faso

Can traditional knowledge be a sustainable and resilient solution for water management and food security? A case study in Moroccan oases.

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In Morocco, oases cover 48,000 ha and are populated by more than 1.7 million inhabitants over a total area of 115,563 km², with an average density of 15 inhabitants per km². They are spread all over the Southern Atlas territory covering vast part of the bottom valley of many areas such as the Draa, Ziz, Gheris, Guir, Toudgha and Figuig valleys. The palm groves of southern Morocco constitute one of the most important oasis zone with a great wealth of plant genetic resources. As such, they are integrated into the Moroccan Southern Oasis Biosphere Reserve (RBOSM) recognized by UNESCO in 2000. The economic activity in these oases is essentially centered on agriculture.

The survival of these oases is conditioned by capability of collecting water. From a technical point of view, this can be done in different ways, either by diverting water from rivers or wadi, as it is done in the oasis of Draa and Ziz, or by collecting the groundwater. The mobilization of groundwater resources is either done by means of modern pumping systems or by means of traditional systems as khattaras (or qanats), which are underground galleries draining the groundwater located upstream the oasis.

Khattaras irrigation systems are traditionally an axle of these oasis environments and an important feature of the anthropogenic landscape. They allow the water circulate inside the oases along the lines of man made irrigation canals the water being collected and brought to the soil surface to feed the palm grove without stress for the groundwater table.

The equitable distribution of water is based on the principle of the water clock (or clepsydra) in some Tamazight regions called "Tanast," which allows to determine the duration of irrigation of each family, depending on the water rights that it was obtained during the construction of the khattara or according to the importance of their plantations. The person in charge of the "Tanast" must guarantee the fairness of the water sharing with precision.

Nowadays in Morocco the spread of legal and illegal, great-depth groundwater pumping stations is putting the sustainability of palm groves irrigation systems at risk. Motor pumps with large flows rate and prevalence are used in the new cultivated areas, and always more often in old ones. High flow rate withdrawn by means of pumping station is stressing the groundwater table which feeds the sources of khattaras, thus showing a loss of flow rate and sometimes drying up of the channels, because of the continuous loss of aquifer productivity. These dynamics are common in many arid and semiarid areas. In many cases the area subjected to such a great stress of the groundwater table dramatically lost their capability of being food productive and faced depopulation and, consequently, land abandonment and soil desertification.

Considering that the sustainability of traditional systems largely depends on the way in which they are managed, in the case of Morocco the management of irrigation is left mainly to local association which may consider the reintegration of khattaras and the abandoned wells in the development plans because today they are recognized as an economic, ecological and sustainable response to water needs.

This solution might be a proper solution capable to preserve the groundwater resources and the aquifer productivity if integrated with policies aiming at counteracting or mitigating individual overexploitation of groundwater resources.

Keywords: Tradition Irrigation Systems, Water Management, Social Dynamics, Groundwater Protection

Wastewater management in Senegal and particularly in Dakar

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In developing countries, the question of sanitation is an important problem and particular attention must be paid to this by the public authorities. In Senegal, much effort has been made, but the situation remains worrying, especially in rural areas, where the level of access of populations to an adequate sanitation system remains very low. Sanitation plays a central role in sustainable development. As a result, greater access to good sanitation systems effectively contributes to the fight against poverty (ANSD, 2014). In 2015, Senegal did not reach the 77% target set by the Millennium Development Goals (MDGs) for improved sanitation coverage, which was 37% at the national level (ANSD, 2014).

Wastewater management is expensive and suffers from collective action problems but resulting benefits can generate positive improvements for the population and future generations. In addition, the real benefits will become evident only when everyone (or a sufficient number of actors) complies with the rules to protect water resources from pollution.

Wastewater management in major cities and even secondary cities is one of the major challenges in urban management programs for municipalities in Africa and other developing countries.

The individual sanitation developed in the economically weak countries generally only takes care of the black waters coming from toilets and possibly the bath water. Laundry and kitchen waters are experiencing another type of management that also has negative consequences for the environment (nuisances and pollution).

In Dakar, some sewage systems are oriented towards the Atlantic Ocean. Thus all wastewater is drained into the sea. The main canals such as the Canal Hann, Fann, Canal IV, all discharge untreated wastewater at the bays of Dakar, Hann, Soumbédioune (N'diaye, 2007). These untreated wastewaters have today contributed to the pollution of Hann Bay, which is in a very advanced state of degradation, making it urgently necessary to clean up this bay by Senegal's public sanitation stakeholders.

But nevertheless, in Senegal, the treatment of domestic wastewater has been done for more than three decades and the first functional treatment plant is that of Saly, in the tourist area, which started in 1982 with a flow of 1020 m³ / day. 75% of the inhabitants of the Dakar region use autonomous sanitation systems. Sludge discharged daily is estimated at 1500 m³/day. (http://www.pseau.org/outils/ouvrages/onas_boues_mag_n_4_2014.pdf)

Gaye and Niang (2010) estimates that wastewater production in the Senegalese capital is around 67 million cubic meters (m³) per year, and only a small amount is treated in wastewater treatment plants. During 2010, the nine wastewater treatment plants in Senegal (Cambéréne, SHS, Niayes of Pikine, Thies, Saly, Rufisque, Kaolack, Louga and Saint-Louis) received 14,742,912 m³ of wastewater, of which 24% are rejected without any treatment, 74% is rejected after the primary treatment, and 338,574 m³ of treated wastewater to the tertiary level for reuse (Souaré 2011).

Regarding the reuse of wastewater in agriculture, in the Dakar region over the last twenty years, urban wastewater, by their increasing volumes, has presented itself as a rather interesting alternative that can fill the gap in water from farms (Akpo, 2006). In the Grande Niaye of Pikine in Dakar, wastewater is treated and reused in market gardening. However, a serious health problem arises; wastewater treatment plants in these areas receive quantities of wastewater that exceed their treatment capacity and therefore wastewater is treated but is a danger to consumers of agricultural products grown with these waters.

References

1. Akpo, Y. 2006 : Evaluation de la pollution des eaux usées domestiques collectées et traitées à la station d'épuration de Cambéréne (Dakar). Mémoire de diplôme d'études approfondies de productions animales. Université de Dakar, Sénégal.
2. Gaye, M. et Niang, S. 2002 Epuration extensive des eaux usées pour leur réutilisation dans l'agriculture urbaine : des technologies appropriées en zone sahélienne pour la lutte contre la pauvreté. Enda tiers- monde, Dakar 2002.
3. N'diaye, A, S. 2007 Evaluation d'un projet d'assainissement de Yoff : cas des eaux usées de Tonghor. Mémoire de fin d'étude Pour l'obtention du diplôme d'ingénieur des travaux en aménagement du territoire et gestion urbaine. Ecole Nationale d'Economie Appliquée, Sénégal. Sénégal ®, MEF, ANSD, SRSD de Dakar. ANSD (Agence National de la Statistique et de la Démographie) 2014 Situation économique et social Ed 2014. Eau et Assainissement. Site web: www.ansd.sn.
4. Sénégal ®, MEF, ANSD, SRSD de Dakar. ANSD (Agence National de la Statistique et de la Démographie)
5. 2014 Situation économique et social Ed 2014. Eau et Assainissement. Site web : www.ansd.sn.
6. Souaré, M, M, Sambe, L, M'baye, M et Balde, D. 2011 Rapport du Sénégal sur l'utilisation des eaux usées en l'agriculture.

Water-Environment-Food Nexus during Climate Change era, which perspectives for small producers? A case study from Huallaga Valley (Perù)

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Agro-industry is highly challenged by climate change worldwide. Variations of weather variables not only directly affect the crops, they also alter the whole hydrological cycle, and so the water availability. Adaptation and mitigation strategies are currently being sought and tested to strengthen food security, coping with extreme weather events and ensuring water sources. Amongst all, small farmers in emerging countries are at high risk. This work focuses on a case study on small Peruvian producers of Moquicho, known as baby banana, suffering crop losses due to extreme weather events and located in the Huallaga valley, which is prone to flood events and lateral river mobility. The Huallaga river springs in the eastern slopes of the Peruvian Andes, then it flows through an alluvial plain with unconfined conditions, i.e. without any constraints, until it reaches the Amazon river in northern Perù. Local communities have lived along its course for centuries complying with its flow regimes and dynamics and exploiting the deposition of fertile sediments left by floods for cropping basic foods and fulfilling their needs.

The tropical rainforest climate of the region (Köppen climate classification) approximately consists in an alternation of a wet season and a dry season (3452.80 mm/year annual cumulated rainfall), maximum temperature (30.5°C annual average) and minimum temperature, (18.7°C annual average) and a high relative humidity (85-100%). This prevented crops from water scarcity and frosts and allowed local communities to develop a flourishing agro-system with basic techniques.

Since 2000, Huallaga valley has become the location and the subject of many development cooperation projects carried out by different NGOs, USAID in first line. They all aim to eradicate the production of coca plantations (*Erythroxylum coca*), which had been widely spread by the will of the drug traffickers due to the excellent yield of the specie to the tropical environment, and to help local producers to develop new markets for fresh fruit exportation.

Mandacarù ONLUS, a member of Italian Fairtrade network, started working in Huallaga valley in 2013 together with local banana producers to implement an export market for this product. In few years, it started to weave the network of small organic producers of Moquicho, whose number of associates keep increasing. Recently, the occurrence of wind gusts and torrential precipitation seems to become more frequent threatening the entire food cycle production, and so the subsistence of the local communities. Gusts, for example, are extraordinarily devastating for farmers because of their violence, able to lodge the banana stems. The weakly and short root structure of banana (barely 25 cm) cannot support the epigeal part of the plant, indeed. Furthermore, producers claim that dry seasons lengthening and their few sporadic but abundant rainfall events jeopardize their harvest. Moreover, Huallaga is a wandering river and is prone to planform variations and sudden avulsions of its main course and tributaries. These modifications entail a huge erosion of a large part of the cultivated areas along the river, which are the most fertile, greatly reducing the small properties of farmers. The relevance of this problem is magnified by the lack of data availability and an effective land use regulation, endangering also the inhabitants livelihoods. To face such recent threats, Mandacarù ONLUS started a 3-years project about climate change/environmental adaptation strategies with local and international partners: UNAS¹ in Tingo Maria, DICAM² in Trento, and FEM³.

Alto Huallaga project intends to deepen the Water-Ecosystem-Food Nexus within the Huallaga valley throughout the following activities:

- Hydro-Morphological Study: the erodible river corridor will be assessed through a satellite imageries analysis, a series of maps useful for local authorities will be realized for helping in land-use planning. Therefore, the main river dynamics will be inspected to address the trigger conditions;
- Weather and Climate Study: thanks to the installation of three weather stations, it will be possible to understand the wind origin mechanisms and to calibrate a high-resolution model to predict extreme weather events, such as wind and intense rainfall events;
- Agro-Adaptation strategies: sustainable barriers against gusts will be realized according to the weather study, a pilot-project for an irrigation system and organic manuring practices will be implemented to guarantee a good and extended yield.

The involvement of local and international partners, from academia, private research centre, and Fairtrade companies, makes Alto Huallaga an interesting example of decentralised international cooperation. This intervention will introduce the structure of project and will show first scientific results.

Keywords: Fairtrade, Climate Change Adaptation Strategies, Erodible Corridor, Hydro-Morphological Study, Huallaga River

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CIVIC TECH BETWEEN THEORY AND PRACTICE

CIVIC TECH, from SCHOOL to PRACTITIONERS

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Civic Tech is at the core of XXI public debate in economics, technology and politics and it is gaining interest worldwide thanks to actors coming from different backgrounds: from the World Bank, whose report Digital Dividends polarized the discussion of the 2016 Davos World Economic Forum, to grassroots movements trying to reshape democratic processes in the developing countries, to start-ups.

But what does Civic Tech exactly mean? Why do we put together people and technology? What is the concrete role of the Public-Private sectors? What are the key drivers to generate value and impact? The answer is not straightforward since the phenomenon comprehends several models, policies and technologies as open government, open/big data, makers, blockchain, smart city, user experience and interaction, open innovation, sharing economy, social innovation and impact finance.

Civic Technologies are gaining momentum as they mirror and magnify the issues that affect everyday life. Whatever we think they are, we need to build a new consciousness for Civic Technologies to maximize their impact, balancing innovation and inclusion, growth and progress.

The Civic Tech School experience

Having in mind this context the Civic Tech School was designed and organized by TOP-IX, FBK and Rena Association (plus the support by different partners and stakeholders) in order to create awareness, a common language as well as to share strategies and best practices and test collaborative methods. The Civic Tech School is in fact **a training program** for policy makers, civic entrepreneurs, designers, politicians, civil servants who want to **understand the Civic Tech phenomenon** and, more important, to learn how to use it.

The school investigated the cultural background, it analyzed leading examples and explained how to use new tools. Each day was divided in three steps: **1) theory, 2) case study 3) workshop**. Students had the chance to discover new techniques, analyze real examples (with their founders) and apply what they have learned, following the lean approach.

As a result, participants learnt new skills and, more importantly, they met new people, peers to collaborate with or civic tech professionals who can help their projects.

Until today, three editions of Civic Tech School have been organized:

- Turin 2016 - 40 teachers; 50 participants
- Naples 2016 - 35 teachers; 35 participants

- Turin 2017 - 28 teachers; 48 participants

Beyond the school: enabling a “trusted” evidence-based policy making

The Civic Tech School was a key milestone in creating awareness, brainstorming on best practices, collecting feedback, building a community and understanding needs and potential of this market. Thanks to the School, it is now clear that there is large room for scaling up the initiative in different cities or to develop additional formats (i.e. CIVIC TECH LAB - boosting the creation of cross-competencies working group to meet specific needs and challenges by Public Administrations and local governments). Furthermore, our experience raises questions and insights on the suitability of standardized approaches and the relevance of the local dimension in the development of projects.

At the same time there is a huge need for concrete actions and projects on a wide scale in order to move from theory to practice and to validate the main assumptions behind Civic Tech “movement”. Particularly the “Public” cannot be apart from the “organic” intersection between the offline and online world and needs to fill in the speed gap, which requires to combine effectively science, technology, culture and social engagement.

As a direct consequence, TOP-IX Consortium proposes a **framework** aimed at blending policy makers, scientists, private companies and citizens in order to adopt a scientific approach and to foster total engagement. The main pillars in this approach are:

- Designing and adopting a holistic and hands-on approach
- Reducing centralization and unbalanced “data and power” concentration
- Focusing on robustness, resilience and evolution instead of optimization
- Activating continuous training (at different level: tech, executive, manager; and for different targets: tech people, regulators, policy makers)
- Launching value-driven, multi-stakeholders (public entities, community of data scientists and engineers, startups, corporates), permanent challenge-based projects
- Designing and boosting citizens/people participation and involvement in the different phases: (1) data generation and acquisition, (2) policy definition, (3) results communication 4) impact evaluation 5) correction adoption
- Fostering “scalability and replicability” by design

One of the key assets is the “**trust**” component that was added to the “classic” evidence-based policy making approach. The goal is to maximize the chance of obtaining consent and acceptance or, in the worst case, at least some “constructive” criticisms by citizens.

This is a key factor nowadays, when people are used to disintermediation thanks to digital and online services and where negative reactions are amplified by the Web.

The conference participation and the talk will be the chance to validate this approach and look for real opportunities to put in practice the above framework in a real environment.

Keywords: Citizenship, Education and Trainings, Research and Innovation, Partnership and Projects, Civic tech, Civic technologies, Training, Education, Engagement, Project development, Social impact.

Civic technologies and collaborative governance: The case of Neighbourhood's Labs in Bologna

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In contemporary democracies, citizens are ever more sceptic and harbour a strong sense of mistrust about politics, politicians and public institutions. In Italy, in 2016, 11% of citizens affirm that they do not trust the Italian Parliament and 6% of them states that all political parties are corrupt (Diamanti, 2016). Nevertheless, while citizens distance themselves from politics and experience new forms of individualization, contemporary democracies are witnessing an increase in people's participation in public life, through practices of collaborative governance (Arena, 1997), care of urban commons (Foster and Iaione, 2015) and the use of new media and technology (Coleman and Blumler, 2009). European cities are becoming laboratories where to experiment new practices of citizens engagement and participation, mixing online and offline tools (European Commission, 2011). In Bologna, since 2017, the Office for Civic Imagination of the Urban Innovation Foundation launched the initiative Neighbourhood's Labs promoted in the framework of the Urban Innovation Plan. Laboratories are spaces dedicated to civic collaboration and aim at linking public resources to citizen's needs. The purpose of the initiative is to establish stable processes for the engagement of citizens in the transformation of proximity areas and in the municipal policy making cycle. Specifically, citizens are engaged in co-design processes in order to decide how to spend Participatory budgeting resources for the transformation of public space, how to use public buildings or identify the priorities of neighbourhoods' agendas in the different fields - such as culture and welfare- to address the design of public bids and municipal projects. Collaborative governance needs to be supported by methods and technologies that will increase its accountability, effectiveness, and accessibility. In the framework of the Labs, citizens engagement and co-design activities are supported by a wide range of tools and activities. The Office for Civic Imagination is organized in order to guarantee the presence of a community organizer in every district of the city, having the objective to meet communities, inform citizens on the opportunities offered by the Labs, listen to citizens' needs and visions. Citizens can participate to the Laboratories by attending meetings and suggesting ideas, proposing concrete projects and co-designing urban actions with the support of municipal officials, voting for a project in their neighbourhood. Neighbourhood's Labs mix traditional and digital engagement tools, creating a complex participatory ecosystem. Besides community activities in the neighborhood, Labs are supported by social media and digital storytelling and the municipal ICT platform Iperbole. Iperbole is a civic network created in 1995 by the Municipality of Bologna. It was created to offer free access to the Internet and an e-mail address for Bologna's citizens. In 2014 Iperbole has been redesigned, including three new sections: besides the institutional web site and a section dedicated to the delivery of municipal online services, Iperbole hosted a digital civic place called Comunità (today renamed Partecipa). This section allows every citizen, association, enterprise or informal groups of Bologna to have a public profile, a blog and to describe their own projects; to get informed on others citizens' projects, collaborate and decide to manage together urban commons, activating Collaboration Agreements with the Administration; to have an access to services and information on administrative deadlines; to interact with the Municipality also participating in consultations, tenders and announcements (Bartoletti & Faccioli, 2016).

Since 2017 Partecipa hosts the digital participation tools of Neighbourhood's Labs. In particular, it facilitates the process and the different phases of the Participatory budgeting initiative allowing citizens to send their proposals online, to publish their projects and to sponsor them with the entire citizenship and to make people vote for projects dedicated to the entire city. Since 2018, digital consultation tools were designed in order to integrate the information collected in the meeting of the Laboratories with data representing different publics. It is important to stress that technology supports citizens' participation without replacing traditional forms of interaction. As an example, the staff of the Office for Civic Imagination created assisted voting point during the entire voting phase to reduce as much as possible the impact of the digital divide. In May 2019, more than 7.000 people attended Neighbourhood's Labs events, 30.932 people voted for Participatory budgeting projects and 49.750 citizens have a digital identity on Iperbole; they are now informed on the meetings and opportunities given by Neighbourhood's Labs and access to more and different public participation spaces. The possibility to create an integrated digital habitat for Neighbourhood's Labs inside Iperbole constitutes a fundamental milestone for the city and its social capital since it can offer infrastructures, technology and crucial support for an initiative that is ever more central and strategic for the Municipality and for a community of practice that grows and increases its impact and inclusiveness.

Bibliography

Arena, G. (1997). Introduzione all'amministrazione condivisa. Studi parlamentari e di politica costituzionale, 30(117- 118), 29-65.

Bartoletti, R., & Faccioli, F. (2016). Public Engagement, Local Policies, and Citizens' Participation: An Italian Case Study of Civic Collaboration. Social Media+ Society, 2(3), 2056305116662187.

Coleman, S., & Blumler, J. G. (2009). The Internet and democratic citizenship: Theory, practice and policy. Cambridge University Press.

Diamanti, I., et al. (2016). Rapporto Gli Italiani e lo Stato, Demos & Pi, dicembre 2016

European Commission (2011), Cities of tomorrow. Challenges, visions, ways forward, Brussels, October 2011

Foster, S., & Iaione, C. (2015). The city as a common.

Keywords: Common goods, Citizenship, Research and Innovation, Partnership and Projects, Urban commons, collaborative governance, community engagement, proximity, civic tech.

Civic tech and participation: a winning combination?

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The Democratic Society

Technology is a significantly large and difficult term to define in the context of democracy. From everyday online services to disinformation, algorithmic decision-making to civic tech, through to the use of sensors in ‘smart cities’, technology criss-crosses our lives in innumerable ways.

Each brush with technology has both positive and negative implications for our democratic principles and processes, accordingly, producing both opportunities and challenges. While it is crucial that important stakeholders, such as civil society, enable many of these opportunities, we must be especially mindful of the challenges, and of the potential threats to privacy and individuals that increasingly digitised surroundings, government, and private sector pose through both the present, or potential future, use of data.

There has been much talk in recent months about the civic tech movement sweeping across Europe. Civic tech can be referred to as any technology that is used to directly improve or influence governance, politics, or socio-political issues. It encapsulates a wide range of tools, including, but not limited to, petition sites (to support advocacy), citizen portals (to improve government efficiency and service delivery), and civic engagement platforms (to enable deliberative and participatory engagement).

Coming out of non-governmental initiatives and funding, civic tech can respond to, and positively influence, system needs that the status quo resists. Civic tech projects that improve the status quo can be thought of as ‘reformist’¹, whereas those that shift power relations from the few to the many are classified as ‘transformist’. Gamification - the use of game elements in non-game contexts to enhance User Experience (UX) and User Engagement (UE) - can also be thought of as belonging to these categories.

Civic projects can take the form of tools such as FixMyStreet² and WhatDoTheyKnow³ - projects that make it easier for citizens to directly use existing rights with their local authority, with some civic tech tools becoming directly embedded in government systems. These include Delib’s Dialogue platform⁴, and others created by Citizens Foundation⁵, which are increasingly being used to support consultation and engagement activities around Europe.

Views on civic tech range from techno-utopian (‘technology will save democracy’) through to despair (‘this technology doesn’t add value’), but neither view is fully accurate. There is nonetheless justification for some scepticism - digital participation may backfire if not implemented well or decision-makers don’t act upon what is heard. This can be seen in cases such as change.org⁶. Although immensely popular when first launched in 2007, the online petition website is becoming synonymous with desktop activism given its, sometimes conflicting, multiplicity of causes and hard-to-discern impact. This is contrast to another online petition advocacy website Avaaz, which has been acknowledged as having been the driving force in mobilising Europeans to vote by setting up a team of ‘elves’ to tackle ‘trolls’ spreading disinformation related to the recent European elections⁷.

¹ See: <http://thegoodlobby.eu/gamification-crowdsourcing-and-civic-tech-2/>

² See: <https://www.fixmystreet.com/>

³ See: <https://www.whatdotheyknow.com/>

It should be noted, however, that translating participation into results does not apply only to digital engagement. It also applies to the ever-increasing number of offline participatory and deliberative activities taking place. Research has found that there are still many instances where participation processes pertaining to the built environment, for example, are merely a cosmetic exercise that entails a cursory nod to those who participate or involves the public only towards the end after agendas have been set⁸. On the other hand, embracing more inclusive participatory processes has been proven to enhance transparency, community consensus, cost-effectiveness, shared ownership, and greater long-term success. Inclusiveness and shared ownership are also what we experimented with during our hyperlocal project in Messina, which ran from September 2018 to May 2019 - the key impacts of which will be shared during the CUCS 2019 conference.

However, there are several - yet unknown - externalities that should be considered: Are there potential negative impacts in creating an ever-larger number of civic tech sites that do not have a specific route into the decision-making process? Do these sites risk creating more cynicism with respect to existing democratic process, or will the growing number of opportunities create enough pressure for these to change? From what we have seen to date, in many instances, these tools are not sufficient to drive change (especially against government systems which have an inertia to change), and risk reaching only a small number of already engaged citizens, thereby amplifying those voices that are already heard.

All in all, there is little doubt that technology has the power and the potential to lower barriers to civic participation, improve government accountability, and boost innovation. That said, we need to ensure that the benefits of virtual engagement also manifest themselves in physical spaces. Failure to do so could lead to increased public disillusionment with democracy and an overall fragmented society.

Keywords: Citizenship, Research and Innovation, Civic tech, Smart city, Democracy, Digital participation, Digital engagement, Decision-making, Accountability, Innovation.

⁴ See: <https://www.delib.net/dialogue>

⁵ See: <https://citizens.is/>

⁶ See: <https://www.change.org/>

⁷ See: https://secure.avaaz.org/campaign/en/eu_elections_reportback_may_2019/

⁸ See: <https://eu-smartcities.eu/news/research-agrees-citizen-engagement-improves-success-building-cities>

Citizen science: Democracy in the Air in Kosovo

R. Salaj

Ong 2.0, Science for Change Movement

Can citizens have a role and impact on the environmental data collect? Why is that important, especially in countries where democracy is fragile? What is the relationship between new digital technologies, citizen science, active citizenship, and change? These are some of the questions that the speech will try to tackle.

The speech will provide a provocative reflection on the theme of grassroots citizen science investigations of air pollution in Kosovo through the case study of Science for Change Movement. The speech will explore how active citizenship and a wise use of technologies can protect 'common goods' and hold responsible the decision-makers through citizen science, mass mobilisations and data transparency.

The speech relates to the theme of the conference in various levels, but two are most notable. Firstly, the problem of air pollution (and climate change) is a 'problem of commons' and therefore it requires a transnational collaboration in order to prevent further escalation. And, secondly, the Science for Change Movement provides an interesting example of 'countercultural' nature of citizen science, most visibly through an emphasis on participatory experimentation and the principles of environmental sustainability and social justice, and its impact in democratising the air. Ultimately, the session will draw a connection with recent youth revolts around the world against climate change as the new politics of consciousness.

Keywords: Citizenship, Environment, Partnership and Projects, Citizen science, ICT for social good

Civic Tech and Education in post democracy

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The pervasive diffusion of digital technologies coupled with social changes and economic uncertainty puts incredible pressure on institutions and civil society. The epistemological switch from the well-established XX century grid model to the complexity of XXI century networks is questioning the value and the efficiency of established social systems. In many ways we are observing big and unpredictable changes while missing a clear strategy to leverage the power of digital technologies and to mitigate their treats. Issues vary from country to country, from vastly unequal access to material and cultural resources, to the growing costs of digitalization or stalling social mobility, but technology - designed, used and implemented effectively - is providing an increasingly sophisticated set of tools to help us address them.

We can see inspiring examples of digital technologies leading to social impact in many fields from public to private sectors and one of the most interesting arenas are the education systems (Backer and Tricarico, 2019). Schools and universities are at the forefront of social changes since they daily work with young humans that are going to be citizens of the future. Thus, it is interesting to focus on how technology is used in classrooms, how it is perceived by students and teachers in order to foresee not merely new ways of using artefacts but also new meanings for technology in society.

This paper investigates how civic technologies have been and are implemented in schools and if/how they are producing social impact by analysing a large-scale case study: the Riconessioni project - www.riconessioni.it

Riconessioni is a multi-layered innovation program held by Compagnia di San Paolo and developed by Fondazione per la Scuola in the north west of Italy. The project is designed to overcome physical and cultural barriers that prevent schools from innovating and it works on two layers: firstly, innovating the spaces and times devoted to learning and developing new professional competences in schools, secondly, introducing a new approach to technological management for schools designed to enable individualized and interactive pedagogical models. More interestingly the project is trying to introduce a new method to promote innovation, inclusivity and creativity through digital technologies in schools, flowing a clear statement: innovation and inclusivity need to stay together in order to achieve real social impact.

The main research questions are: how can we successfully adapt technologies to social contexts as diverse as schools are, leveraging their pros and limiting their cons? How technologies can foster social inclusion inside and outside schools? How NGO, schools and social innovators can work together to promote digital social innovation?

Keywords: Citizenship, Education and training, Civic tech, EdTech, Social innovation, Education.

Map4youth: a participatory mapping for the abandoned areas of Padova

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Two main factors globally affect climate change: fossil fuels and land use changes. Urban ecosystems are one of the environments that are mostly involved by these factors. Over the last few years, one of the main challenges for urban cities and settlements is the re-use and regeneration of underused or abandoned buildings and areas. These sites could become an opportunity window for sustainable development of urban ecosystems.

There are several causes for urban abandonment: the de-industrialization process; the global economic crisis; mismanagements in urban planning; the loss of the original function (for instance what happened with military areas); the degradation of buildings; the construction of infrastructures that bypass an area. The regeneration of such sites could lead to positive effects. One of the most important consequence is the limitation of the phenomenon of soil sealing: reusing existing sites would avoid the construction of new buildings and the covering of natural or semi-natural areas with impervious materials. Others positive effects could be the recovery of historical and architectural valuable buildings, the remediation and redevelopment of brownfield sites, the enhancement of environmental benefits and the improvement of the social conditions of local communities.

One of the main challenges faced by policymakers should be how to stimulate a discussion about these places, how to involve citizens and how to find solutions to the problems of abandoned sites. Nevertheless, municipalities usually are not fully aware of the location and the extension of these abandoned or underused sites in their cities. However, planners and policymakers need to know the extent of the phenomenon before creating policies and legislation for the redevelopment and making large monetary investments. Thus, it is very important to locate, identify and provide information about such sites.

The general aim of the project Map4youth is to involve university students and citizens in mapping underused and abandoned buildings, complexes and areas within the municipality of Padova and to propose new solutions for the re-use and redevelopment of these sites. Map4youth is a project supported by the Italian Agenzia Nazionale per i Giovani and the Erasmus+ Program of the EU, Key Action 3 (KA3). The project has a duration of one year (from August 2018 to August 2019). The approach used by Map4youth is known as Participatory GIS (PGIS). PGIS brings GIS technologies to support public participation for a variety of applications by the inclusion and the empowerment of non-expert population. In this way citizens who generate spatial information have the control, the comprehension and use of sensitive spatial data. In this project, students and citizens living and experiencing the city of Padua participate to the mapping process: their contribution in terms of everyday geographic knowledge has been fundamental.

The project Map4youth is developed by using an online and free platform, named Geocitizen, where citizens and students could autonomously point out and map the sites. Moreover, they could directly propose an idea of re-use and regeneration of sites, and they also could vote the smartest and worthiest proposal. Users could map using their smartphone or their laptop without the need of a specific formation.

The first part of Map4youth was fundamental to disseminate the project. Three actions were identified to promote and to spread the platform Geocitizen: 1) workshops and meetings with university students; 2) advertising using social network (Facebook and Instagram); 3) events addressed to citizens in general. By this way they became familiar with the phenomenon of the abandonment, they had the opportunity to know the project and they learnt how to map using the online platform.

At present the results show that: 1) the total buildings and areas mapped are 56; 2) about 160 people, with different background and ages, are involved in the mapping; 3) there are several interesting proposals to reuse sites; 4) ONG have shown their interest for the project.

Map4youth is a good chance to involve young people and citizens about the phenomenon of the abandonment and the rethinking of their community and city. Moreover, the final results and the sites more voted in the platform will be presented to the policymakers of the city of Padua. It will become an opportunity to encourage a discussion about this fundamental issue and to understand the aspirations and ideas of students and citizens about the sustainable development of their city.

Keywords: Common goods, Environment, Sustainability, Education and training, Abandoned areas, Urban regeneration, Participatory GIS (PGIS)

DEFENDING ACADEMIC FREEDOM AND FREEDOM OF EXPRESSION. THE ROLE OF UNIVERSITIES AND INTERNATIONAL ORGANIZATIONS

Putting principles into action: how Universities can promote academic freedom. The SAR Italy experience

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Scholars at Risk (SAR) is an international network of universities, founded in 1999 by academics and human rights defenders interested in promoting the principle of academic freedom and protecting academics whose lives are threatened. SAR carries out three types of activity - protection of threatened scholars; advocacy for higher education values; and research and education on themes of human rights and academic freedom - through a transnational network of over 400 universities, organised in national clusters.

SAR Italy is the most recently established cluster. Constituted in February 2019, it brings together 15 universities and research institutions with different experiences in hosting and promoting academic values, and is currently developing approaches, practices and policies in offering protection and assistance to at-risk academics, and supporting their integration within the broader academic community during this time. Moreover, it works on strengthening international collaboration with other national sections, through international encounters, exchanges of good practices and the engagement of students in activities aimed at raising their awareness of the role and relevance of all university stakeholders in promoting the fundamental principles of higher education.

This presentation will focus on the Italian experience in the context of the broader international network, and on the challenges and opportunities of developing adequate frameworks for 'glocal' cooperation in this area.

Keywords: Academic freedom, university networks

The World Academy of Sciences: Building Global Partnerships to Support Researchers and Students Displaced by War

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For more than 35 years, The World Academy of Sciences (TWAS) has worked with many partners – including the government of Italy – to build science and engineering capacity in the developing world. The core belief is quite simple: When low-income countries can develop strength in research and technology, they are better able to address their own challenges in food production, health, energy and other areas, and to advocate for their own interests in international engagements.

In 2016, TWAS began to receive scattered but troubling reports from its community of elite scholars and promising young scientists: Wars and conflicts in Syria, Iraq, Afghanistan and Yemen were forcing researchers to suspend their work and to flee their home countries. Some were ending up in neighbouring nations such as Jordan, Lebanon and Turkey, where they were sometimes stuck in refugee camps. In other cases the scholars made it to Europe or North America. They wanted to continue their work, but they struggled to find positions.

For TWAS, this was an unprecedented situation. Our education and grants programmes are designed to prevent brain drain. Now the Academy was confronted with the need to support scientists who had already fled from their labs and classrooms.

Within the Academy, leadership and staff focused on a set of questions: What is the nature of this migration? How big is it? What are the needs of these war-displaced scientists? And, most important, what should the Academy's role be, as a scientific and diplomatic organisation, in supporting them?

In subsequent months, we have organised a major international workshop, produced a detailed report and documentary film that has shown all over the world. We have provided fellowships and awarded prizes to a handful of displaced scientists, and have worked to link other individual researchers with support agencies and universities in Europe, North America and Asia.

In the process, we have developed important networks – doing new work with longtime partners, and joining in related initiatives with new partners in many countries. As a result, TWAS has emerged as a hub in a loose but vital international coalition of academic organisations, scientific bodies and agencies that support at-risk scholars.

Today, TWAS has a number of emerging activities to support scientists displaced by war and conflict. Thanks to new funding from the Islamic Development Bank, we are setting aside a small number of new fellowships for displaced scientists, and we will create slots for early-career displaced scientists in the TWAS Young Affiliates programme.

In particular, there are two partnership networks of central importance:

* In Italy, TWAS is among a group of 10 high-level scientific institutions and universities in Trieste and the Friuli Venezia Giulia region that have formally agreed to seek ways to support displaced scientists and science students in our region; and

* TWAS is one of three core partners in Science International, along with the InterAcademy Partnership and the International Science Council. Science International is an ongoing effort to convene the world's scientific expertise in the interests of developing policy ideas and engaging policymakers on issues of high importance to the global research community. Along with a number of partners – including agencies that support at-risk scientists, other scientific bodies and potential funding agencies – Science International is currently in a process to develop detailed policy and programmes to support war-displaced scientists globally.

Keywords: Migration; Science Diplomacy; South-North Cooperation

The experience of the joint initiatives aimed at supporting refugee and asylum seekers scientists and students in Friuli Venezia Giulia

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Trieste, Italy, and the surrounding region of Friuli Venezia Giulia (FVG) comprise a capital of European science and science diplomacy, home to a number of national and international scientific organizations, research centres and universities. Many of them have a focus on developing countries and North-South cooperation, and beginning in about 2016, they began to hear reports of scientists and advanced students who were fleeing war in countries such as Syria, Yemen, Iraq and Afghanistan. In September 2018, the leaders of ten high-level scientific institutions operating in the region signed a Memorandum of Understanding (MoU) that contained an ambitious goal: "[to] offer opportunities to affected scientists to enrich their professional skills, to foster their human and professional development and integration, and encourage their reintegration in their country of origin once conditions allow."

That agreement had its roots in a pioneering conference in March 2017 organised by The World Academy of Sciences in cooperation with the Italian National Institute for Oceanography and Applied Geophysics (OGS) and The Euro-Mediterranean University (EMUNI, Slovenia). Soon after, a top-level group of regional science leaders met at the Abdus Salam International Centre for Theoretical Physics to commission a cooperative effort. That began a year of study and planning, culminating in the MoU signing ceremony.

One of the main aims of the MoU is to promote and develop opportunities and common initiatives to identify and advance professional and scientific skills of war-displaced scientists, engineers and others in science-based professions. The MoU institutions would do this primarily by finding fellowships and other temporary posts for researchers and students displaced from countries in conflict.

Within this framework, they also would also seek to build partnerships with existing international institutions that at-risk scientists - Scholars at Risk, the Institute of International Education-Scholar Rescue Fund, the Humboldt Foundation in Germany, the European Commission's Science4Refugees initiative, and others.

Some initial steps, which could be part of an integrated intervention process, have already been identified:

- 1) mapping and identification of skills among displaced scientists and students in the FVG region;
- 2) creation and dissemination of a multilingual web page and other communication tools dedicated to the initiative, where will be collated all events and opportunities available from FVG's scientific institutions;
- 3) advertising availability of research and training positions specifically grouped according to required skills, within the network of the scientific institutions of FVG; and
- 4) inclusion in study and research programs, such as the Conference of Italian University Rectors (CRUI) and other international scholarship programmes; and
- 5) exploring possible re-entry opportunities, exploiting existing networks, contacts and transnational resources that connect FVG to the countries of origin and to the diaspora communities.

The Trieste-FVG initiative represents one of Europe's most ambitious efforts to meet its responsibilities to support war-displaced scientists and students.

However, the effort also is encountering challenges. There is little concrete information on the number and skills of displaced science professionals and students in the region; while tens of thousands of migrants have entered Europe through Italy in recent years, a great many of them

move on to Germany, France, the UK and Sweden. In addition, the Trieste-FVG group lacks dedicated staff and resources for the effort. Scholarships and fellowships in Italy are relatively rare, and the demand for such support in Europe and North America far exceeds the supply. And in the past 12-18 months, the political climate in the region and in much of Italy has turned wary of accepting and supporting migrants; this increases the complexity of advancing scientific programmes and raising awareness among policymakers and the public.

To have a maximum beneficial impact, the MoU partners will have to navigate these challenges in the months and years ahead. That will likely place a premium on building broader, stronger networks in Italy and beyond.

The organizations that up to now have signed the agreement are: the University of Trieste; the Italian School for Advanced Studies (SISSA); the University of Udine; the International Centre for Genetic Engineering and Biotechnology (ICGEB); the InterAcademy Partnership (IAP); the Trieste International Foundation for Progress and Freedom of Sciences (FIT); the National Institute for Astrophysics (INAF); the National Institute of Oceanography and Experimental Geophysics (OGS); the Abdus Salam International Centre for Theoretical Physics, (ICTP); and The World Academy of Sciences (TWAS).

Keywords: Scientist refugee, Friuli Venezia Giulia, development, partnerships

International Advocacy for Academic Freedom: The Role of Students' International Cooperation

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University of Trento

In this presentation we explore the role of students' international advocacy in promoting cooperation between universities for the fostering of academic freedom. In doing so, we engage with the activities carried by Scholars at Risk (SAR), an international network of universities and research institutes whose aim is to promote the protection of the academic freedom principle and the defence of researchers and students at risks. This presentation is part of the Panel named: "Defending academic freedom and freedom of expression. The role of universities and international organisations". In fact, the goal of this talk is to illustrate some of the actions taken by the students of Trento University promoting academic freedom.

Academic freedom and right to knowledge are the backbone of each university community that wishes to be successfully involved in international cooperation and global development. The University of Trento inaugurated its first advocacy seminar series in Spring 2019. The seminar had unfolded in these following parts: the choice of a case study of violation of academic freedom, which was made by the students; background researches on the case; advocacy activities within the city of Trento in and off-campus. This experience was an opportunity for students to personally acknowledge the importance of academic freedom and to better understand the role of it as a necessity that leads to international cooperation.

This year, the students have decided to focus on the Amaya Coppers case study, this was chosen from three different options provided by SAR. Amaya is a Belgian-Nicaraguan medicine student and an activist. In fact, she is one of the leaders of "Movimiento 19 Abril", a social movement organized by students, which strive for democratic reforms in Nicaragua. Moreover, the groups protest against the austerity reforms imposed by the actual president, Daniel Ortega, it also calls for its resignation. Amaya was arrested in September 2019 because of her activism, and accused of kidnapping, terrorism and illegal possession of weapons. Later, she was moved to "La Esperanza" a feminine prison outside Managua, where she has been secluded ever since.

In March 2019, the President Ortega publicly promised to release within 90 days about 800 political prisoners incarcerated in Nicaragua. By doing it, the President hoped to re-open the discussions with the opposition. In the days we are writing this, May 2019, Amaya is still detained, so the case is still open. The presentation will so be structured: in the first part the students will briefly introduce the concept of academic freedom and will provide examples of its violation. In the second part, the students will present the selected case-study, finally they will describe the advocacy activities directly organized by them, such as recollection of signatures and brochures creation.

The students will reflect on the fruitfulness and challenges related to international advocacy, and on how to implement future international cooperation between students' communities towards the defending of academic freedom and freedom of expression.

Keywords: Advocacy, Academic freedom, Student cooperation, SAR, Amaya

The Need for Cooperation between Journalists' and Media Organisations, Universities and International Organisations to Promote Freedom of Expression and Combat Fake News

E. Sagaga

IFJ Head of Human Rights and Safety (former chief spokesperson at the International Criminal Court and former BBC Journalist).

Introduction:

The International Federation of Journalists (IFJ) is the world's largest organisation of media professionals, representing over 600.000 members from 187 unions and associations in more than 140 countries worldwide. The IFJ promotes collective action to defend human rights, democracy and media pluralism through freedom of political and cultural expression.

Freedom of expression and press freedom

Freedom of expression is often defined as a 'meta right', the implementation of which determines that of all other human rights. Press freedom is a corollary of the freedom of expression and finds its justification in the need to inform the public about issues of general interest in their society. Press freedom is underpinned by key principles of professional journalism as adopted by the IFJ, including the commitment to the truth, impartiality and the sense of responsibility. The IFJ publication *'To Tell You the Truth; The Ethical Journalism Initiative'* is a reference for journalists in professional reporting.

The relevance of freedom of expression in an academic context

Freedom of expression involves expression which is both free but also subject to critique and dissent. These values are best nurtured in an academic environment offered by seats of learning such as universities. In the current context of flourishing fake news, these values are crucial in establishing facts and debunk falsehoods through research and informed debates.

The role of universities and international organisations in supporting the mandate of the IFJ

- International organisations: The IFJ has an ECOSOC status within the United Nations' system and has an associate status with UNESCO, through which we engage a wide range of UN agencies (UN Security Council, General Assembly, Human Rights Council) for the implementation of legal instruments dedicated to the protection of journalists.

The IFJ has also partnerships with other regional inter-governmental organisations (Council of Europe, African Union) as well as humanitarian organisations (the International Committee of the Red Cross) focusing on our joint training and emergency initiatives for the safety of journalists.

Universities: In an ever changing world where journalism has to constantly adapt to new means of production, delivery and consumption of news information, universities offer the best platform to chart these changes and equip aspiring journalists with skills to navigate them. In particular, with respect to journalists' safety, universities give students enough time, without the job pressure and deadlines, to master safety skills which they will need to use when they enter the profession later

on. To this end, the IFJ has partnered with UNESCO and universities in the Arab World to produce a course on safety of journalists to be taught in schools and faculties of journalism. It also promotes closer cooperation between journalists', media organisations and universities to provide to students workplace experience in newsroom and at its global secretariat in Brussels.

Freedom of Expression in Turkey: Problems and Exit Strategies in Academia and beyond

F. Mat

OBC Transeuropa

The authoritarian turn of the Turkish government in recent years has heavily affected freedom of expression in Turkey. This paper aims at describing the situation of this fundamental right in the academia, with a reference to other areas where freedom of expression was severely impacted by the political climate, media freedom in particular.

The paper will provide insights into the conditions faced by academics, who are subjected to systematic pressure, including judicial and economic. The paper focuses in particular on the case of the so-called “Academics for Peace”(AfP), who are charged with terrorism propaganda, just like many other journalists and human rights activists who showed a critical stance towards the government’s deeds. Despite the ongoing pressure, the “Academics for Peace” have continued to perform their activities, developing innovative exit strategies which, in many cases, benefited from the support of international networks.

In order to illustrate these exit strategies the paper will focus on the case of “the “solidarity academies”, launched by the AfP, which can be defined as “alternative education initiatives” carried out in different parts of the country since 2016. The paper will show how these “academies” are an outcome of the “solidarity nets”, created both within the country and abroad, to provide academics in restraints support, including financial and legal.

To complete the picture the paper will show that other exit strategies have also been developed by media professionals in Turkey and in Germany – the latter promoted by expats and migrants from Turkey.

Finally, the paper will highlight the importance of international solidarity actions in supporting the above-mentioned initiatives. Further suggestions on the potential role of universities, international organisations and civil society associations in developing a mutual collaboration will be provided.

Keywords: Turkey, Freedom of expression, Academic freedom, Academics for Peace International solidarity

Universities' Involvement in the Protection of Human Rights Defenders: How to Acknowledge and Support their Struggle?

I. Quadranti

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Although the primary responsibility for the protection of human rights lies on states, individuals, groups and organs of society, all play important parts in furthering the cause of human rights. However, this aim is not feasible without acknowledging and supporting the role of human rights defenders (HRDs), those who promote and protect in a peaceful manner universally recognized human rights and fundamental rights of freedom at national and international levels, or, as it has been said, those who

«generan estrategias para cambiar el mundo» [Todd Hwoland, Representative at United Nations Office High Commissioner Human Rights].

Academic institutions have a long history in supporting civil society organisations (CSPs) and human rights activism in various way, among them collaborative research responding to the needs of civil society, actions fostering peaceful activism and awareness raising in human rights, human rights centres and law clinics for social justice, protective fellowships/scholarships for individuals to support their resilience in the native restrictive contexts and to access educational opportunities relevant to their work. «An effective protection of the dignity, physical and psychological integrity, liberty and security of human rights defenders is a prerequisite for the realization of the right to defend human rights» [OSCE, [Guidelines on the Protection of Human Rights Defenders](#), 2014, 2].

The involvement in the protection of human right defenders can be embedded in the universities' internal advocacy for the social wellness. This knowledge and experience exchange is not unidirectional. Human rights defenders themselves can bring their own skills and experiences to the rescue of their host community.

Good practices regarding the universities' involvement for the protection of HRDs and the partnership with the civil society for this aim and human rights activism in general emphasise the added value that universities can bring for a proactive approach, the importance of mapping experiences and applying a gender perspective when approaching the issue of human rights defenders. It is recognized at the same time the relevance of ensuring an holistic approach and psychosocial support mechanisms during the temporary relocation of HRDs at risk. The measures that involve national, regional and international organizations for swift assistance and protection to human rights defenders in danger in third countries, such as emergency visas and facilitation of temporary shelter, have been considered the extrema ratio and not become a substitute for the overall objective to bring about an environment where human rights defenders can operate freely [see the [European Union Guidelines on Human Rights Defenders](#) and the [EU Human Rights Defenders Relocation Platform](#), an inventory of existing programs of temporary relocation promoted by the European Commission].

The Universities themselves can face repression through a variety of legal, economic and administrative means, and academics can be victims of threats.

The annual report SAR Free to Think 2018 provides documentary evidence that attacks carried out by both state and non-state actors on scholars on higher education communities around the world occur with alarming frequency using a range of methods with the common motivation to control or silence higher education institutions and their personnel. The monitoring project collects data in about 47 countries concerning scholars and students killed, arrested, or subjected to other coercive

force in connection with their expressive activity. Nonetheless, as the same report states, inevitably a large number of cases is not included.

This report aims to witness about one of these still not well known attacks on higher education: the case of human rights violations and incidents occurred in Popayan-Colombia in the framework of the protests realized by University of Cauca (UniCauca) students, from October to December 2018. Back in 2009, the Special Rapporteur of the situation of human rights defenders following her [visit to Colombia](#) included students and youth activists in the categories of defenders who suffered a situation of persistent insecurity and a systematic stigmatization by Government officials and non-State actors.

Even though the Peace Agreement between the Government of Colombia and FARC-EP has «a well-developed human rights based approach», the national landscape highlights an alarming increase in the number of threats and attacks against HRDs above all in rural area, where there continue to be the major disparities in the enjoyment of economic, social and cultural rights [[Situation of Human rights in Colombia](#). Report of the OHCHR for the period from 1 January 2018 to 31 December 2018]. The demonstrations of the last year took place in the framework of the national strike of the Colombian public higher education students, to protest against the decision of the national government to reduce the budget for the public higher education. Also the current UN Special Rapporteur on the situation of human rights defenders, Michel Forst, in his November 2018 end of mission to Colombia [final statement](#), expressed concerns about the situation of students engaged in the national strike. Wounded and arrested students during the demonstration were needed to persuade the Government to open negotiations and to afford a wider participation in the public policy-making related to the high education. At least for now, it does not seem that the agreement has been implemented by the national authorities. For these reasons, the situation has been considered an attack to the higher education.

Keywords: Human Rights, Human Rights Defenders, Freedom of Expression and Academic Freedom, University and Civil Society Partnership

ACCESS TO WATER IN THE GLOBAL SOUTH: ACTORS, INTERESTS, PROBLEMS AND THE ROLE OF INTERNATIONAL LAW

Rural Water Supply Management: a focus on COWSO strategy implementation, private sector participation, monitoring systems and performance of water schemes in Iringa Region – Tanzania

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The study “Rural Water Supply Management: a focus on COWSO strategy implementation, private sector participation, monitoring systems and performance of water schemes in Iringa Region – Tanzania” is part of a broader research path designed within the Uni.Coo project of the University of Turin (UniTo), which aims at linking the academia with NGOs active in international cooperation by allowing students to carry out research activities, which support the projects of the partner NGOs. In particular, this study is a follow-up of a research conducted in 2015 by previous Uni.Coo students about the situation of rural water supply management in Dodoma Region, with which a comparison was carried out.

The study is the result of a partnership between UniTo, the international NGO Lay Volunteers International Association (L.V.I.A.) and the University of Dodoma (UDOM). The purpose of the research is to support L.V.I.A. in the implementation of the AID 10918/LVIA/TZA MAISHANI - Maji na Lishe project, led by L.V.I.A. and co-funded by AICS, by providing an overview of the situation of rural water supply in Iringa Region, where the NGO is implementing new activities.

The research is based on the data collected from the two different administrative levels that are concretely responsible for the implementation of the rural water supply policy: it involved a sample of 22 water schemes (each of them covering one or more villages) and the five District Water Departments of the Region.

The data collection aimed, on one hand, at investigating the conditions of the schemes in terms of functionality, sustainability and communication with other administrative authorities (district and regional level) and the local user community (village/scheme level); on the other hand, at understanding the implementation status of the national water policy for rural areas, the role of private sector, the monitoring and supervision plans and techniques and the possibility to establish forms of cooperation among management entities. Moreover, at both levels, the main challenges faced and strategies adopted in water supply management were investigated.

As for the national policy and legislative framework, it empowers local communities by decentralizing the management of water facilities to improve the access to clean and safe water under the targets set by SDG 6. According to the 2009 Water Supply and Sanitation Act, the Community Owned Water Supply Organizations (COWSOs) are the entities responsible for operation, maintenance and supervision of water schemes and for revenue collection. They also have to dialogue with higher administrative levels, in particular with the District, by sending periodic reports about technical and financial conditions of the schemes. These CBOs are the only entities entitled to own all the water supply related assets, they are scheme-based and their management boards are elected by the user communities.

The COWSOs can be set up in different legal forms (Consumer Associations, Trusts, Cooperative Societies, NGOs, Companies or other forms approved by the competent Minister). The COWSO establishment and registration processes are supported by the District offices and their steps are indicated in specific national guidelines; nevertheless, the actual practices observed can slightly differ and depend on local contingencies. Finally, COWSOs may delegate part of their operational functions to private service providers, under an agreement setting the respective duties and responsibilities; though, the regulatory framework for public-private partnerships in rural water service provision is very vague and the actual presence of private operators in Iringa region is extremely limited.

During the field activities, many management entities showed to face the same challenges, such as an insufficient training in technical, managerial and accountancy matters, a discontinuous ability to find and afford spare parts and a difficulty to perform an effective revenue collection.

Apart from analysing the critical aspects of community management of rural water supply, this study investigated a possible way to tackle many of them through an association among management entities. This model is based on the Water Service Facility Trust, active in the north of Tanzania, that proved to be effective and overall successful. The idea behind this form of cooperation is to cluster the demand of services (e.g. procurement of spare parts, technical and administrative consultancy, support in monitoring activities, training of staff) in order to achieve efficiency through economies of scale and scope.

Finally, attention has been given to the development of the legislative framework regulating rural water supply sector. In February 2019 the new Water Supply and Sanitation Act was adopted, which, besides a redistribution of competences between the institutions involved, establishes the Rural Water Supply and Sanitation Agency (RUWASA). The aim of this new institutional set-up seems to be the realisation of a sort of decentralised centralisation in which supervision, coordination and strategic planning lie with the centre whereas day-to-day operation and service provision are concretely carried out by local water management entities.

Keywords: Rural water supply Tanzania, Iringa region, Community based organizations, Water access

Diritto all'acqua nel Sahara Occidentale

G. Venditti, Tempora Onlus; Luigi Prosser

Tempora Onlus

Anche se il diritto all'acqua è ormai entrato nella Dichiarazione Universale dei Diritti Umani, oltre un miliardo di persone nel mondo non hanno ancora accesso ad una fornitura d'acqua potabile. Infatti, solo il 2.5% dell'acqua sul pianeta è utile ai fini delle attività umane e di questa più della metà è presente sotto forma di ghiaccio. Inoltre, nonostante il ciclo idrogeologico sia virtualmente infinito, l'acqua si configura come un bene finito, ragion per cui urge lavorare con metodi innovativi per favorire la diffusione dell'acqua anche in zone particolarmente critiche per via delle dalle condizioni climatiche. Tempora Onlus, riconosciuta come "Portatore d'acqua" dal Forum Mondiale dell'acqua, si è impegnata a perseguire tale obiettivo concentrandosi con vari progetti sulla zona del Sahara Occidentale. La situazione di questa regione è infatti particolarmente critica, specie per quanto riguarda la Repubblica Democratica Araba dei Sahrawi - nata nel 1976 e confinante con Marocco, Mauritania e Algeria - che governa all'incirca 20% del territorio ed è solo parzialmente riconosciuta a livello internazionale. Inoltre, dal 1990 si attende la convocazione di un referendum programmato che, basandosi sul diritto di Autodeterminazione, possa liberare il resto del Sahara Occidentale dal controllo marocchino. L'emergenza acqua è qui un problema concreto, soprattutto per le popolazioni indigene, costrette in buona parte a vivere in campi profughi, in quanto la poca acqua presente è completamente salata. Tempora Onlus, attraverso studi preliminari ed analisi geologiche e biochimiche sulla qualità dell'acqua, è stata in grado di promuovere interventi efficaci che si sono concretizzati nella progettazione e costruzione di sistemi di filtraggio dell'acqua che sfruttano tecnologie all'avanguardia. In particolare, ci si è avvalsi di sistemi basati sui principi dell'osmosi inversa e della nanofiltrazione. In dettaglio, l'osmosi inversa può essere utilizzata sia per la desalinizzazione sia per la rimozione di tracce di fosfati, calcio, metalli pesanti e materiali radioattivi e, in generale, di buona parte delle molecole inquinanti. In questo processo vengono usate membrane composite di sottili pellicole semipermeabili, generalmente in poliammide, che impediscono il passaggio del soluto e permettendo quindi di ricavare un solvente puro. Un principio simile viene attivato anche nella nanofiltrazione, che consiste in un processo legato alla pressione realizzato attraverso l'uso di membrane in grado di causare una separazione in base alla dimensione delle molecole.

Infine, l'impegno di Tempora non si è solo limitato alla progettazione e costruzione degli impianti che, servendosi dell'energia solare, non hanno prodotto alcun impatto ambientale, ma si è anche esteso alla formazione di tecnici Saharawi, fornendo assistenza tecnica e formazione sul campo.

Keywords: Acqua, Sahara, Nanofiltrazione, Osmosi inversa

WaSH in schools in Brazil

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The supply of drinking water, the management of wastewater (defined as the supply of structures and services designated for the elimination of human urine and faeces) and hygiene, are the key points of the Sustainable Development Goal n.6 (SDG 6). These three aspects are internationally resumed with the acronym WASH: water, sanitation and hygiene [1]. Schools equipped with good sanitary infrastructures and with a monitored supply of safe water, promote a better learning, protect the students from diseases like diarrhoea and contribute to development [2].

This study evaluated the level of the WASH services in 10 public primary schools in the municipality of Anapolis (Brazil), involving a total of 3626 students and 215 professors. Anapolis is a Brazilian municipality of the State of Goiás located in the Center-West region of the country, the city is 50 km from the capital Goiania and 140 km from the Federal Capital Brasilia.

The WASH evaluation was done through a questionnaire that was developed following the recommendations of the World Health Organization (WHO) and the Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP).

Subsequently the water was collected for the microbiological analysis that was performed by the microbiology laboratory of the State University of Goiás using the criteria of the "Practical Manual of Water Analysis of the National Health Foundation" (FUNASA).

Of the 10 schools taken into account, 9 were located in urban areas and 1 in a rural area. Urban schools use the public water system as a source of supply. The water is treated with chlorine by the company Saneago and in schools, water is stored in tanks with a capacity of 5000 L. The rural school instead, uses water coming from a protected artesian well.

Students of the 10 schools drink water from the drinking fountains equipped with a ceramic filter with charcoal activated for potabilization. At the time schools were visited, it resulted that all the filter elements had not been substituted after their expiry date.

The microbiological analysis revealed the presence of faecal coliforms (*E. coli* and *Salmonella*) in 50% of the examined schools. The highest faecal contamination was found in the rural school (>2400 ufc/100 mL of water), where the only water treatment was done by the ceramic filters on the drinking fountains.

Regarding sanitation it emerged that 40% of the schools use an off-site sewage system, that is, sewage is collected and treated by the Saneago company, and that 60% of the schools dispose the wastewater in septic tanks that are cleaned every 6 months.

UNICEF and OMS defined that schools must have at least one toilette for each 25 female students and one urinal for each 50 male students. Based on these parameters, all of the 10 schools revealed an insufficient number of toilettes and regarding the accessibility, 30% of the schools didn't have bathrooms suitable for mobility-impaired children.

All schools were equipped with handwashing structures, but in only one case, soap was available in the restrooms. Hygiene education is taught sporadically, there is not a planned moment for handwashing before meals and the importance of washing hands is not emphasized. In 90% of schools there is no menstrual hygiene program dedicated to girls.

the WASH services for drinking water were evaluated as advanced in 50% of the schools in Anapolis because they were able to supply water from improved sources, in sufficient quantity, available and accessible to all when necessary and free from microbiologic contamination. In the other 50% of the schools examined, the services were considered basic due to water contamination by faecal coliforms.

Regarding sanitation, 70% of the schools revealed a service that was considered as limited, because improved sanitary facilities exist, separated per gender, but sometimes they didn't work properly, or they aren't accessible for disable children. The level of hygiene service was considered limited in nine schools of ten because there were handwashing structures, but soap was not provided. The research showed that the coordinators of the schools are not aware of the importance of good management of the WASH services, in this sense, it will be necessary to hold a training course for them. In addition, soap dispensers will be installed in the bathrooms and a hygiene education program will be implemented in the schools of Anápolis.

References

- [1] UNICEF (2016). Core questions and indicators for monitoring WASH in Schools in the Sustainable Development Goals. UNICEF and World Health Organization, New York.
- [2] BARTRAM, J., BROCKLEHURST, C., FISHER, M. B., LUYENDIJK, R., HOSSAIN, R., WARDLAW, T., GORDON, B. (2014). Global Monitoring of Water Supply and Sanitation: History, Methods and Future Challenges. International Journal of Public Health and Environmental Research, v. 11, p. 8137-8165.

Keywords: SDG6, Wash in schools, water quality

WATER FOR ALL: availability, quality and participation

R. Manrique

ACCRI

Water scarcity is the main threat to the fight against poverty, to the reduction of hunger and malnutrition, and to sustainable development. According to the UN, our planet has enough water to achieve by 2030 the sustainable development goal of "clean water and sanitation for all" but, due to poor infrastructure or economic mismanagement, every year millions of people, most of them children, die from diseases due to insufficient water supply, inadequate sanitation and hygiene levels.

16% of global child mortality is caused by diarrhoea due to lack of clean water (UNICEF, 2015). More than 2.1 billion people do not have access to safe or easily available water at home (WHO and UNICEF, 2017). There are situations where water use exceeds its regeneration (UN data), or where people have to travel several kilometres a day to find sources of water available to all to improve their water supply. Rural communities suffer from the lack of management of this resource. ACCRI has been working for several years to support water supply in small rural communities in Africa and South America.

In Embu, Kenya, rainwater harvesting is supported through community organization. The beneficiary families belong to 20 organized groups from the different villages of Mbeere South, and through table banking they collect the money needed to buy the tanks to collect water. Self-sufficiency is a survival factor for families living in geographical areas with periodic drought in the absence of basic services to ensure access to drinking water. This would allow the population to have water in their homes, avoiding long journeys to the main collection points. Rainwater harvesting is also necessary to improve food security and combat hunger and malnutrition, which remains at critical levels in rural areas. Improved water management and sustainable agricultural practices are therefore needed.

In Comarapa, Bolivia, support is given to the construction of a water network to provide drinking water to communities in the San Isidro basin. A serious health problem for residents is the agrochemicals used in agriculture that flow into the river, as well as human and animal defecations. Poorly treated river water is the source of many common diseases, particularly intestinal diseases, which lead to high diarrhoea rates, especially among children. The project in this case supports the participation of 17 communities along the river in a "technical table" to which adhere the different bodies involved in the management of water resources. In this way, the representatives of the community sit at the same table with the main public and private bodies that carry out the activities of the project (the Gobernación, the Municipality and the Cooperative of Servicios Públicos Pulquina Ltda.) and promotes participatory management.

The process of community involvement is essential to ensure the appropriation and sustainability of the infrastructure installed. The experience developed in several projects has shown us that local management and community organization of beneficiaries are strategic for the sustainability of interventions. Challenges in the management of water resources are related not only to climate change but also to governance: local water legislation, the absence of a national body coordinating the implementation of different water supply systems, the proper management of water collection (storage, treatment), and consequently climate change mitigation strategies. In addition, there is a lack of funding that not only prevents proper management but also limits the innovation of water collection technologies adapted to the geographical and socio-cultural context.

For example, rainwater harvesting is still far from being exploited to its full potential, as unresolved challenges prevent its large-scale adoption.

Keywords: SDGs; sustainable development goals; water supply; role of local citizens.

Guaranteeing the right to water in disaster settings: bridging the gap between theory and practice

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Empirical evidence demonstrates that the frequency and destructive potential of natural and technological disasters is increasing. Data collected by the Centre for Research on the Epidemiology of Disasters (CRED) at Leuven University reveals that between 2000 and 2018, 3.206 disasters occurred, killing almost half a million people, injuring almost 1.8 million and leaving nearly 11 million homeless. Over 1.5 billion people were affected, and the material damage caused exceeded 1.5 trillion USD. Although the number of catastrophic events has decreased slightly in the last few years, the overall trend is of a clear surge in their incidence, and in the level of economic damage they cause.

While all human rights may potentially be affected by a disastrous event, the effect is more direct on the rights to life, adequate food, health and medical services, safe drinking water, adequate housing, clothing and sanitation and on the right to be free from discrimination. These rights encapsulate the basic needs of disaster victims, which States have a legal obligation to meet. Of these, the right to water is of specific importance as it relates to immediate needs of the affected population, being water essential to human life

Although the relevance of the right to water in disaster scenarios is undisputed, it involves a spectrum of State obligations that are not always straightforward and may differ considerably according to the specific circumstances. The legal duties involved can range from immediate commitments related to the urgent needs for human survival, to more complex problems of access to safe and adequate water. However, the concrete minimum requirements entailed by the right to water in disaster settings are not easily identified, and resource constraints and time pressure can put severe strain on the capacity of relief actors to provide water to the affected population. Relevant questions that remain partially unanswered include: to what extent can exceptional circumstances justify the total or partial non-compliance by States with their ordinary obligations to fulfill socio-economic rights, and notably the right to water? What is, in times of disaster, the real import of State obligations to secure a sufficient amount of adequate water to the affected communities? What is the role of humanitarian standards (and notably the Sphere Standards and IASC Guidelines) in determining the actual content of the right to water in disaster settings? And, lastly, what is the relationship between this right and the human right to life, which is particularly at risk in disaster settings?

This study addresses these issues by providing an insight on the implementation of the right to water in disaster scenarios. First, the relationship between human rights and disasters is examined and the obligations imposed on State parties by the International Covenant of Economic Social and Cultural Rights (ICESCR), which safeguards the right to water, are identified. Next, the extent to which States can compress the enjoyment of such right in the wake of a major disaster - when the resources available to the State may be insufficient to fully uphold its legal obligations - is assessed.

Then the right to water will be “operationalized” in the context of disasters, in particular to identify the concrete legal duties in terms of adequacy of water that States must comply with in order to absolve their human rights obligations. Such obligations are then matched to actual humanitarian standards, to pin-point measurable benchmarks that should be considered when carrying out human rights-based relief activities. The assumption is that these standards should generally

correspond with the State's core obligations to secure the right to water under human rights law. Lastly, a concrete example of violations of the right to water that entailed the loss of life of disaster victims will be reviewed. The objective is to underline the interwoven nature of human rights and to highlight that the obligation to secure minimum quantities of adequate water may be essential to the enjoyment of other important human rights.

Keywords: International human rights law; right to water; natural and human-made disasters; minimum core obligations; humanitarian standards

Water and Armed Conflicts: The Geneva List on the Protection of Water Infrastructure

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Armed conflicts affect access to safe water in several ways: destruction of and damage to water facilities, attacks against power plants providing energy to water supply networks, and the collapse of water treatment plants and sewage systems are some of the examples. It takes months to repair and restore essential service infrastructure once it has been damaged. In the meantime, civilians are displaced, agricultural activities are brought to a halt, and epidemics can spread. The protection of water infrastructure in armed conflicts is governed by an elaborate set of rules, although these are contained in different branches of law, in particular international humanitarian law, international human rights law, international environmental law and international water law. Although a solid legal framework on water infrastructure exists, its implementation needs to be strengthened. This presentation will focus on the Geneva List of Principles on the Protection of Water Infrastructure, prepared by the Geneva Water Hub, hosted at the University of Geneva, with other partners. This list of principles, in an extensive but non-exhaustive manner, systematizes the law applicable to the protection of water infrastructure and sets forth practices relating to this protection before, during and after armed conflicts.

Keywords: Water, International Humanitarian Law, Armed Conflicts

DISABILITY MAINSTREAMING: A SUCCESSFUL KEY TO LEAVE NO ONE BEHIND

Only Through Community, transforming exclusion to protagonism.

A story from Kenya

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According to the United Nations, disability mainstreaming involves incorporating the concerns, interests and needs of people with disabilities in development programmes. It is ensuring that projects and policies are designed and implemented with consideration of the people with disabilities and their issues. The 17 sustainable development goals by the United Nations strongly advocate for inclusion of all people irrespective of disability among others. Importantly the SDG 10 recommends emphasis on social, economic and political inclusion of persons with disabilities. However, in Kenya for instance, disabilities are still related to bad omen, failure to meet cultural requirements e.g. dowry payment to in-laws, curse from God and ancestors etc. The myths result to discrimination and segregation of people with disabilities which become a barrier that hinder people with disabilities from enjoying equal opportunities and services as non-disabled people. People with disabilities are last to receive information, less employed, miss out on opportunities and are secluded from social-economic and political processes.

The talk aims at highlighting how the perception of disability has changed in parts of Laikipia, Nyandarua and Baringo counties of Kenya, how it has been possible to move from hiding people with disabilities to recognizing them as people active and participating in the social, economic and political life of their communities. Specifically, we will share about Saint Martin CSA, an organization operating in Nyahururu, on the highlands in the north of Kenya. Founded in 1998 to meet the needs of different groups of vulnerable people who did not have sufficient support, it offers concrete support on the most vulnerable people within the communities.

Every year more than three thousand vulnerable people benefit from it including people with disabilities. Saint Martin promotes solidarity within the local communities by involving and training able people who in turn take care of the needy directly and free of charge. Currently more than a thousand volunteers dedicate their time and personal resources to their communities.

The organization's approach is guided by the motto "Only through Community" and is based on believing in the potentiality of everyone in the community. The able people in their diversity find a shared aim: to mobilize support for and from each other and to recognize that vulnerability is an opportunity for transformation.

Continuous courses of training and spirituality, acts of solidarity and actions involving whole community help to make blossom the awareness that people are a resource which has triggered mutual change, change even on perspectives about disabilities. These encounters and relationships are the founding elements of Saint Martin CSA.

The story of Grace Wanjiru Ndegwa and her journey from seclusion to openness will help us to materialize what was said.

Keywords: Disability, inclusion, community, mobilization, disclosure, training, development, education.

Food security in Niger, an opportunity for disability mainstreaming: the experience of CBM Italia

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CBM Italia Onlus

In Niger the food insecurity (15,7%) is a chronic problem. Zinder is the second most affected region in the country for food insecurity and global acute malnutrition (GAM 14,8%) and the 56% of population do not access to safe water. The main causes are: scarce and irregular agriculture production (low productivity, weeds/ agricultural pests; rainfed agriculture prone to climate change; poor farming techniques, water, fodder); limited income to satisfy basic needs (scarce sources of income; scarce agricultural marketing); exclusion of Persons with Disabilities by the communities (stigma, scarce access to agricultural activities and production, and from national and regional policies and strategies (poor skills of government personnel on disability rights and crisis plans, Persons with Disabilities not aware of their rights).

As such, CBM Italia identified 3 departments of the Zinder Region based on the needs and according to different criteria: presence of fertile lands, irrigation and access to water, number of persons with disabilities living in the area and their nutritional status.

The 3 years project “Cultiver la resilience: sustainable and inclusive agriculture in Niger” is implemented by CBM Italia and its partners and co-funded by the Italian Agency for Cooperation & Development (AICS). The project officially started in April 2017, and it is aimed at including Persons with Disabilities, especially women, in agricultural activities improving access to services and promoting a more inclusive society. The program foresees a strong focus on disability mainstreaming by fostering the inclusion of Persons with disabilities in national and regional development plans in the sectors of Food Security and Resilience. In fact, due to discrimination, persons with disabilities have very limited access to education, jobs and health services. They are also excluded from communities and their specific needs are rarely considered in development actions.

In 2018/2019 130 persons with disabilities and their families have been supported through the creation of domestic gardens and provision of agricultural kits, the creation of 60 boreholes for irrigation and 60 latrines.

Disability Mainstreaming is about building disability into existing agendas, frameworks and processes, not adding on separate disability activities. At local and regional level an important component of the project is the involvement and sensitization of local authorities and Civil Society Organizations on Disability Mainstreaming and social inclusion of Persons with Disabilities in the sector of Food Security and Resilience. In the 3 target departments in 2018/2019 project staff organized 3 awareness workshops on disability inclusion and social inclusion of Persons with Disabilities in the sector of Food Security. Workshop participants were local leaders, municipal and regional leaders, representatives of Civil Society Organizations and of the Civil Protection. During the workshop participants analyzed and discussed the rights of Persons with Disabilities and the impact of the food insecurity crises on their lives, the importance of inclusion of Persons with Disabilities in the humanitarian actions as ensured by the article 11 of the United Nations Convention on the Rights of Persons with Disabilities (UN CRPD). At the end of the workshops local authorities decided to include a representative from the National Organization of Persons with Disabilities in

Niger (FNPH) in the regional commission for the protection, management of food crises (DNP-GCA) and Zinder became the first region of the country to include Persons with Disabilities in the commission.

Thanks to the workshop local authorities gained substantive understanding of disability as a global development and human rights issue and the action demonstrates the importance to engage with disabled people's organizations (DPOs) on country-level disability inclusion strategies, advocacy towards partner governments, capacity building, and the design of programs.

Keywords: Resilience

The voice of Girl Child Network: disability mainstreaming for an inclusive education for all in the slums of Nairobi

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In Nairobi, 60% of the population resides in slums, in poverty and chronic conditions of vulnerability, with high population density and unregulated settlements, without properties, often affected by floods, expropriations, evictions and in poor water - sanitation conditions.

Strong is the stigma and social discrimination against adults and especially children with disabilities. Situation is worsened by the lack of quality educational services, poverty and economic barriers which all make it unaffordable and inaccessible for persons with disabilities the care and the rehabilitation services. The vicious circle of poverty and disability directly affects education, in particular increases psychosocial problems associated to poverty, exclusion and early school leaving. In the educational system life skills are neglected and families live with resignation the state of insecurity. Schools have problems with availability of drinking water, with a low level of hygiene and poor accessibility for children with disabilities.

In this context, the work of **Girl Child Network (GCN)** falls into place. GCN is a **Kenyan NGO founded in 1998 with the aim of ensuring rights of children, through partnerships with more than 300 organizations focusing on health and education projects.**

In 2016, GCN and CBM Italia have partnered for the realization of the **No One Out** project (implemented by a consortium of NGOs and co-funded by the **Italian Agency for Development Cooperation - AICS**), which seeks to promote health, social and economic **inclusion of vulnerable young population in five slums in the eastern outskirts of Nairobi**, working together to ensure an inclusive education for children with disabilities in 16 schools situated in slums.

The GCN Director of Programs Mr. Dennis Mutiso will present some key elements that ensure a successful disability mainstreaming, such as the work conducted in collaboration with **EARCs – Education Assessment Resources Centres (Government of Kenya)**, such sensitization and training of teachers, and the work with the communities to eliminate **stigma and misconceptions around disability.**

Lastly, GCN targeting the children with disabilities and their communities combines a bottom-up approach to the achievement disability mainstreaming, working at the same time in close relationship with institutional actors in order to influence policy change.

Keywords: .

YOUNG PERSONS with DISABILITIES and ACCESS to DECENT JOB in MOZAMBIQUE: INSIGHTS from an EMANCIPATORY RESEARCH EXPERIENCE

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The WHO World Report on Disability (2011) indicates that Persons with disabilities (PwDs) account for 15% of world population. The existing body of knowledge on disability in developing countries clearly shows a linkage between disability and poverty and, more in general, between disability and multidimensional deprivation (Mitra, Posarac and Vick, 2013). Mozambique is not an exception (Eide et al., 2009) with young persons with disabilities (YwDs) as one of the most marginalized groups in the society particularly concerning access to decent job. Consequently, PwDs are a group explicitly targeted by international development cooperation policies. In general, disability is directly addressed by the Sustainable Development Goals (SDGs)¹ as the inclusion of PwDs in development processes is considered a fundamental part of development itself (Grech, 2016).

The Italian Ministry of Foreign Affairs with the support of the Italian Network on Disability and Development (RIDS)² developed a specific Action Plan through the participation of scholars, disabled people organizations (DPOs) and non-governmental organizations (NGOs). The Action Plan and the relative guidelines were based on a twin track approach that is on the simultaneous investment in disability specific development projects and in the mainstreaming of disability in all the development cooperation activities (MAECI, 2013). The achievement of these objectives starts from inclusive planning of development initiatives and it depends on the availability of exhaustive information and data about the needs of persons with disabilities as well as about environmental factors (i.e. barriers and facilitators). It is worth to underline that, coherently with the SDGs framework, information gathering is a strategic area for the Italian development cooperation to develop policies. In particular, SDG 17 highlights the need of disaggregated data and information to monitor the inclusiveness and the sustainability of development processes in an effective and transparent way. There are different methods to gather information and data (Kanbur and Shaffer, 2007). Emancipatory research (ER) is considered one of the most innovative and inclusive approach to collect information on marginalized groups. The main point of ER is to let the members of marginalized groups to get the full control on the knowledge production process about themselves. In other words, the members of marginalized group (e.g. PwDs) become researchers while the professional researcher become the facilitator of the research process.

In the Mozambican context, the NGO AIFO, in cooperation other NGOs (namely ISCOS and TdHIT) with ARCO-Action Research for Co-Development, implemented a set of activities framed in the projects "*PIN - Percorsi partecipativi per l'inclusione economica dei giovani con disabilità in Mozambico*" - AID11460 - funded by the Italian Development Cooperation Agency.

Among the other activities, AIFO promoted an emancipatory researches involving young persons with disabilities and members of DPOs to foster empowerment at the individual level, to strengthen

¹ There are 5 SDGs explicitly referred to disability (namely SDG 4, 8, 10, 11 and 17) while "disability" and persons with disabilities are mentioned 11 times in the SDGs

² RIDS is an innovative network formed by 2 NGOs (Educaid and AIFO) and 2 DPOs (DPI-Italia and FISH) with the main objectives of including the knowledge and the skills of relevant DPOs in development cooperation activities and of including PwDs in development projects (both as beneficiaries and as experts), granting them accessibility to the interventions

local DPOs and to increase the knowledge of the barriers preventing Mozambican YwDs to have access to decent job and to vocational training.

Three groups of young disabled Mozambicans researchers has been trained by ARCO staff in Maputo, Beira and Pemba to implement a data collection that entailed:

- 1) A structured questionnaire administered to 300 entrepreneurs
- 2) Interviews with the staff of vocational training centers
- 3) Focus group discussions with young persons with disabilities

Therefore, the aim of this paper is twofold. The first objective is to introduce ER as a methodology based on an emancipatory and participatory process able to produce high quality information on disability that are useful for the elaboration of policies and the planning of international cooperation activities. The second, but not least relevant aim is to analyze the deprivation of YwDs in Mozambique in terms of access decent job.

All the activities included in the projects have been implemented by AIFO, ISCOS and TdH-IT with the cooperation of Local DPOs who part of FAMOD are (the Mozambican DPOs Forum), and the Italian Network on Disability and Development. The ER was coordinated by the researchers from ARCO (Action Research for Co-Development) who facilitated the process and contributed to data analysis.

Keywords: Mozambique, Disability, Emancipatory Research

Ricerca antropologica per lo sviluppo sostenibile: studiare il cambiamento dei comportamenti conseguenti a interventi per la prevenzione del tracoma nella regione Amhara

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Lo studio dei cambiamenti comportamentali in seguito a corsi di formazione o ad attività formative diffuse è un campo sul quale si sono cimentate diverse discipline psicologia, sociologia, psicologia sociale etc. Più complicata è però la valutazione sugli effetti di una formazione diffusa che si è svolta nel corso di diversi anni e in paesi nei quali il modo di produzione predominante è la pastorizia unita all'agricoltura di altipiano e dove l'alfabetizzazione è limitata al livello elementare. In questo campo le metodologie dell'antropologia sono particolarmente utili perché permettono di approfondire tramite interviste aperte e in profondità le motivazioni di determinati comportamenti e la resistenza al cambiamento e di osservare le dinamiche sociali che sottostanno ai comportamenti e le basi materiali che impediscono i mutamenti. Il paper presenta una ricerca antropologica svolta nel corso di un progetto dedicato a debellare il tracoma nella regione Amhara dell'Etiopia svolto dall'Università di Urbino in partnership con il CBM Italia Onlus. Le metodologie usate in forma combinata tra focus groups, interviste aperte, interviste a testimoni significativi istituzionali e comunitari in varie aree quali sanità, fornitura di acqua e formazione. Tramite le osservazioni qualitative realizzate in campo antropologico è possibile individuare quali sono gli aspetti sui quali è ancora necessario porre enfasi nella progettazione.

Keywords: Anthropological research, Sanitation, Public health.

Disability Mainstreaming and International Cooperation: the contribute of University Education

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The changes that have taken place in the last years at global and local level are stimulating a strong self-criticism in the international cooperation system, in particular on the dimensions of its legal basis and methodologies, implemented procedures, players involved and professional skills required.

At the legal basis level, the emanation of the United Nation Convention on the Rights of Persons with Disabilities - UNCRPD (2006), has established an emancipatory process of persons with disabilities (PWDs), based on respect of human rights. The Convention, in its article 32, states the right of PWDs to be involved in the cooperation process through sharing experiences among various players and contexts, building courses of research and accessing technical and scientific know-how.

On the same emancipatory way, the UN 2030 Agenda (2015) underlines the importance of making a commitment at global level on the promotion and protection of human rights by including all minorities, who are usually victims of discriminatory approaches. The 2030 agenda pays a specific attention to the target of PWDs by pursuing the objective of a sustainable development, which can be possible only if it is based on experiences of active citizenship in a framework of social responsibility and respect of individual and group differences.

The progress made in the legislative and political field, anyway, has not provided an adequate response to actual dynamics, as international data on poverty are still reporting a strong inequity between rich and poor people, with a particular impoverishment of PWDs (WHO 2011; UN 2018). Those inequities are usually including not only lack of access to basic financial supplies for surviving, but also welfare services such as health and education, which are crucial for a better quality of life (Schalock & Verdugo Alonso 2002). It is a poverty with multidimensional characteristics which affects mostly those groups living in vulnerable conditions because of the social context they are living in (Griffo, 2018).

The distance between political acts and practical actions affects even the international cooperation field: in fact, if legislative frameworks and interpretative models are fostering perspectives and principles aimed to the emancipation of PWDs on one hand (Oliver 1992; ICF 2001, UN 2016), on the other hand, the competences necessary for the development of a disability mainstreaming approach for an innovative and qualifying perspective in the development of cooperation interventions are not sufficiently strengthened yet.

The Italian Cooperation has decided to take this challenge by adopting an Action Plan and specific Guidelines (2011 and 2017) according to the UNCRPD and usefull for a new approach to cooperation of the various players involved. In order to achieve this objective, the role of training agencies is considered strategic and for this reason it requires a redesigning of educational courses for training new professionals in the cooperation field. Those new courses should be based on three main aspects:

- The involvement of PWDs in the co-governance of trainings based on the social approach principles on disability and founded on human rights, by taking into consideration their competences;
- The alliance between different players involved in the cooperation field;
- The implementation of an interdisciplinary approach which can integrate and contaminate the various fields of interest.

In Italy, thanks in particular to the Italian Network disability and Development (RIDS), some first experiences are gradually spreading on this way, even if there are remaining scopes for improvement. An example is provided by the Master on “International Cooperation and Inclusive education: New Professional Challenges” of the Department of Education Sciences of Bologna University. Specifically the Introduction Module has been edited by the coordinator professor with the EducAid NGO in cooperation with the Italian Network Disability and Development, with the participation of the AIFO NGO and the research institute ARCO-PIN from University of Florence. The mentioned actors are cooperating since some years in order to give more tangibility to the disability mainstreaming approach in the various contexts of the international cooperation field. Even other Italian universities (Pavia and Padova), although different contexts and approaches, have taken into consideration this kind of intervention, characterized by some specific and essential thematic areas: the principles of the UNCRPD; the participation of DPOs at all aspects of design and realization of the interventions; the emancipatory approach of the interventions, such as empowerment and peer counselling, considered main strategies of action. Pursuing training of international cooperation professionals in the context of disability mainstreaming, requires, as already mentioned, the overcoming of disciplinary limitations and delegation of disability to humanistic and sociomedical sectors. This capacity building approach represents, moreover, an enthusiastic challenge for the development of an idea for universal citizenship where participation of PWDs is considered essential, even in the international and local cooperation contexts where international cooperation professionals should cooperate with PWDs having competencies in this field.

Keywords: .

GCE: EDUCATION, CITIZENSHIP AND... GOOD GOVERNANCE!

Quale ruolo per le autorità locali nella promozione dell'ECG?

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The world has evolved into a globalized system characterized by high levels of interconnectedness but also dominated by great poverty, inequalities and transnational challenges such as migration, climate change, rising nationalism, xenophobia and racism, radicalization and violent extremism. In this context, the last two decades have witnessed a resurgence of interest in a global notion of citizenship (Dower, 2003). Global citizenship has become a popular term in academia (Goren & Yemini, 2017), but also a buzzword in a variety of sectors, including private companies, educational institutions, international organizations, governments and non-governmental organizations (NGOs). Indeed, a quick search on Google of the term global citizenship clearly illustrates how it is “subject to a wide range of interpretations in the diverse contexts in which it is appropriated and promoted” (Oxley & Morris, 2013: 301-302), and “reflects different ideologies and ideas of what is and ought to be desired of citizens” (Pashby, 2016: 70).

Despite being contested and characterised by a “polarity of opinion” (Oxley & Morris 2013: 303), global citizenship is widely used in education to stress the need for a new citizenship education with a global orientation (Pashby, 2011). Global citizenship and particularly its “associated construct”, Global Citizenship Education (GCE), have “taken on the status of a ‘global’ or ‘travelling’ educational policy” (Oxley & Morris, 2013: 301-302). Tarozzi and Torres (2016) identify the United Nations Global Education First Initiative (GEFI) as the “start of a new global sensitivity” (2016: 6). Mannion et. al. (2011) talk about a “curricular global turn” characterising the educational policies of many countries. GCE, together with Education for Sustainable Development, is recognised in the Sustainable Development Goals (SDGs) as one of the educational priorities of the 21st century. Across Europe, in particular, the embedment of GCE in the education systems at all levels continues to be a priority for decision makers and practitioners that, through the Global Education Network Europe (GENE) and the North South Centre of the Council of Europe, are working to expand GCE and improve its quality.

In many European countries, the language and practice of GCE has undoubtedly entered educational policies. Yet, there is also the risk that GCE is reduced to a buzzword that masks a great variety of perspectives and practices. GCE is in fact a complex concept that “emerges from a nexus of interrelated discursive fields, each of them contested as well as marked by particular histories, challenges, and possibilities” (Pashby, 2016: 69). The words global, citizenship, and education represent narratives that, although apparently neutral, natural and unquestionable, are in reality contested discursive fields. Seeing GCE as a “nexus of interrelated discursive fields” (Pashby, 2016: 69), therefore, means recognising how language, and in this case the words global, citizenship, and education, do not just describe reality, but rather “construct (different) realities” (Andreotti, 2010: 240). As the ideas behind theoretical conceptualizations, policy initiatives or educational programming are never a neutral endeavour, different agendas and theoretical frameworks construct different meanings to the words *global*, *citizenship* and *education* and this implies different curricula and education practices (Andreotti & De Souza, 2012).

This paper critically presents three different pedagogical frameworks that construct GCE in terms of the qualification, the socialization and the subjectification function of education (Biesta, 2009). It highlights the active role that local authorities can play in promoting GCE. It stresses that local authorities need to make explicit the perspectives and agendas that inform their understanding of GCE and presents different ways to do that, in particular through the development of local GCE policies and the signing of agreements with different local stakeholders (NGOs, universities, etc.)

Lezioni apprese da una selezione di buone pratiche territoriali di ECG mappate attraverso il progetto Nuove Narrazioni per la Cooperazione

I. Giunta

Università della Calabria

Il nostro contributo illustra i risultati del progetto *Nuove Narrazioni per la Cooperazione*, sostenuto dall'Agenzia Italiana per la Cooperazione allo Sviluppo, mettendo in rilievo pratiche basate sul connubio fra socialità e sostenibilità che mentre comportano nuovi modi di definire e interpretare le migrazioni, sono diventate un punto di riferimento importante per costruire forme di governance e modelli di cooperazione innovativi, capaci di valorizzare le risorse materiali e immateriali attivabili a livello locale. In questo contesto, la comparazione fra diverse buone pratiche di co-sviluppo e lotta all'esclusione sociale, verrà affrontata per svolgere una discussione più generale sui diversi fattori che accentuano la rilevanza delle iniziative analizzate nell'ottica di Agenda 2030 e della prospettiva dell'ECG, ma anche per indicare gli ostacoli che possono svalutare l'alto potenziale innovativo e inibire la replicabilità delle soluzioni che queste nuove griglie metodologiche tentano di proporre e implementare.

Il coordinamento Marche Solidali come esperienza di ECG nel rapporto tra ente regionale e società civile

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La Regione Marche nel corso della sua decennale esperienza nel settore dell'Educazione alla Cittadinanza Globale ha reso permanente sul territorio regionale il Coordinamento delle organizzazioni di cooperazione e solidarietà internazionale delle Marche – Marche Solidali, con il duplice obiettivo di tenere alta l'attenzione sui temi della cooperazione e solidarietà internazionale, delle migrazioni, del co-sviluppo e dell'ECG e di favorire il dinamismo della società civile al fine di incentivarne l'operato.

Per garantire l'accesso ai diritti e ai beni comuni in ugual maniera per tutti i cittadini e in ogni Paese, in accordo con l'Agenda 2030, è necessario ripartire dalle comunità locali, dalle reti territoriali e sociali, in relazione al mondo interdependente del nuovo millennio. Inoltre la modifica di percezioni, identità e comportamenti in una visione di appartenenza e responsabilità planetaria, in linea con la vision del target 4.7, comporta la definizione di un approccio concertato e condiviso tra tutti gli attori sociali con una responsabilità educativa.

Essendo il lavoro di concertazione e di rete parte fondamentale del processo, la definizione sempre più chiara e condivisa a livello nazionale delle finalità e delle modalità di supporto di un Coordinamento regionale garantisce la possibilità di stimolare la continua collaborazione tra ente locale e società civile nell'implementazione di percorsi intersettoriali e multistakeholder.

La strategia italiana per l'ECG: uno strumento per dare organicità ad approcci ed esperienze di ECG

S. Haass Spithover

In linea con le finalità definite dalla Legge 125/2014, **all'Educazione alla Cittadinanza Globale (ECG)** è riconosciuto un **ruolo primario** nella creazione di società eque, sostenibili e pacifiche che siano luoghi di incontro, dialogo e condivisione. Il carattere trasversale dell'ECG rispetto a molteplici temi rende necessario **promuovere delle politiche coerenti**, una **collaborazione tra le istituzioni e una partnership inclusiva** di tutti gli attori riconoscendo nella loro **diversa natura un valore aggiunto**. L'AICS è impegnata nel tradurre questi elementi in un agire comune all'interno di una cornice di obiettivi condivisi, in un'ottica di riduzione della frammentazione degli interventi e di **rafforzamento dell'efficacia** degli stessi, per il raggiungimento degli obiettivi di sviluppo sostenibile.

La prospettiva europea come spazio di confronto e approfondimento per lo sviluppo dell'ECG in Italia

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L'intervento presenta caratteristiche delle principali iniziative internazionali ed europee in merito alla educazione alla cittadinanza globale (ECG) e le opportunità di collaborazione e dialogo per il contest italiano. L'ECG è ambito riconosciuto di impegno educativo a livello internazionale da parte di istituzioni e reti multilaterali. L'UNESCO la caratterizza secondo tre caratteristiche principali: (i) "rispetto per la diversità", (ii) "solidarietà", e (iii) "idea condivisa di umanità". In questo ambito l'ECG è riferita soprattutto all'Agenda 2030, al suo Framework for Action ed, in particolare, al target 4.7 degli obiettivi di sviluppo sostenibile. Il Consiglio d'Europa ha promosso attività in questo ambito attraverso il Centro Nord-Sud e ha sviluppato un quadro concettuale che specifica venti aree di competenza relative alla promozione della cultura democratica. Questo modello è il frutto di un'analisi condotta su oltre cento definizioni precedenti ed ha portato ad identificare tre ambiti principali di valori: dignità umana e diritti umani; diversità culturale; democrazia, giustizia, equità, eguaglianza e stato di diritto. "Global Learning" è una delle due linee di azione promosse dalla Commissione Europea attraverso il programma Development education and awareness raising (DEAR) che ha come priorità informare i cittadini dell'UE sui temi dello sviluppo, incoraggiare il sostegno dell'opinione pubblica in merito alle azioni di contrasto alla povertà; fornire ai cittadini strumenti per coinvolgersi in modo critico sui temi di rilievo globale, incoraggiare nuove idee e trasformazione degli atteggiamenti. In ambito europeo sono attive reti di enti locali che promuovono la cooperazione decentralizzata, Plataforma, e organizzazioni non governative Concord e Bridge 47. Su questi temi è attiva anche l'European Association for the Education of Adults (EAEA) che ha pubblicato nel 2018 un background paper su "Adult Education and Sustainability", con posizioni critiche rispetto alle azioni dell'OECD che riguardano l'identificazione di best practices e di valutazione standardizzata tramite i programmi PISA e PIAAC. Nel merito, EAEA considera rilevanti i recenti lavori di King and Palmer e Langthaler che vedono emergere una "global governance of education", una tendenza a delegare ad organizzazioni multilaterali I processi decisionali in merito alle politiche educative.

Di particolare rilievo per lo sviluppo delle iniziative istituzionali nazionali è il lavoro di coordinamento promosso da Global Education Network Europe (GENE) che coinvolge le agenzie ministeriali nazionali per la cooperazione internazionale e per l'educazione globale. In ambito GENE, il termine "Global Education" è stato utilizzato negli ultimi anni a partire da quanto definite nel 2002 con la Dichiarazione di Maastricht: "Global Education si propone di aprire gli occhi e le menti delle persone alle realtà del mondo, risvegliando la capacità di impegnarsi per un mondo più giusto, equo e di diritti umani per tutti. Global Education comprende l'educazione allo sviluppo, ai diritti umani, alla sostenibilità, alla pace e alla prevenzione dei conflitti". In particolare, attraverso tavole rotonde e processi di peer-review, GENE facilita il confronto e il mutuo sostegno fra agenzie governative nazionali in ambito europeo. Ulteriori iniziative di GENE sono rivolte al mondo della ricerca con il sostegno alla rete Angel e alle organizzazioni della società civile e del mondo dell'educazione con l'organizzazione a cadenza annuale dei Global Education Award, dedicati all'innovazione e a nuove idee progettuali. La documentazione prodotta da GENE in questo ambito permette un confronto sugli orientamenti di attori chiavi in ambito ECG.

La prospettiva della società civile organizzata a livello italiano ed europeo per l'advocacy e lo sviluppo dell'ECG

P. Berbeglia

CONCORD Europe

L'intervento prevede di fornire un panorama sull'attuale stato di attuazione dell'educazione alla cittadinanza globale a livello internazionale, europeo e nazionale, fornendo indicazioni sugli attuali temi di dibattito e sui livelli di raggiungimento del target 4.7.

La riflessione verterà inoltre su quanto l'ECG possa costituire un argine a nazionalismi e sovranismi e in che modo la strategia italiana di educazione alla cittadinanza globale possa rispondere a questo scopo .

THE SHARED RESPONSIBILITY OF LOCAL STAKEHOLDERS IN THE GOVERNANCE OF RESOURCES

The role of indigenous peoples in the evolution and implementation of international biodiversity law

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This paper aims to examine the role of indigenous peoples in the context of the international legal regime on the protection of biodiversity. The participation of indigenous peoples in the governance of the Convention on Biological Diversity (CBD) is intended in this contribution as one of the multiple examples of how the management and protection of natural resources at the international level can be influenced by local actors. This paper argues that indigenous peoples are shaping global biodiversity law via two main mechanisms, namely their participation in the institutional governance of the CBD and their role in the implementation of the CBD-related provisions concerning access to genetic resources, benefit-sharing, and the creation of protected areas.

Representatives of indigenous peoples have been invited to participate in the Working group on Article

8(j), in the Working group elaborating the Nagoya Protocol and in the meetings of the CBD COP. This participation, in most cases as observers, has contributed to shape the agenda of the main steering body of the CBD, i.e. the COP, which has inter alia the role to promote the evolution of the legal framework of the Convention. Most recently, indigenous representatives have been included also in the Compliance Committee created to evaluate the compliance of State Parties with the Nagoya Protocol on access and benefit-sharing.

Furthermore, the implementation of some provisions of the Nagoya Protocol requires the involvement of indigenous peoples in multifarious fashions, such as through the elaboration of community protocols by indigenous peoples, the procedures to obtain the free prior and informed consent of indigenous peoples, the stipulation of mutually agreed terms (MATs) with indigenous peoples, and the participation of indigenous peoples in the governance of protected areas.

In light of these developments, the main conclusion is that, although not formally considered as subjects able to create legal obligations for States, indigenous peoples have acquired an important place in the protection of biodiversity at the global level, which in turn has important repercussions on the debate about the importance of local actors in the governance of global commons.

Keywords: Indigenous people, biodiversity, conservation, participation

Public participation in China and in the EU: the case of environmental impact assessment

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Public participation in the environmental decision-making process is a critical component of the legal mechanisms for environmental protection. This process becomes crucial during times of legal and political reforms when ways to address environmental issues are being re-evaluated and attitudes towards public involvement reconsidered. In a complex area such as environmental protection, which concerns all the sectors of the society, citizens' right to timely and reliable information needs to be safeguarded and the environmental rights of the public need to be protected, including legal protection in court.

Open and participatory environmental decision-making allows an informed citizenry to contribute to the efforts of a transparent and accountable government in producing higher quality decisions concerning the environment. Including citizens' voices in decision-making promotes governmental accountability and increases the likelihood that decisions will take into account the concerns of those directly affected by them. Promoting public participation fosters transparency and utilizes a wide base of opinions to strengthen the decisions ultimately made and instill public trust in institutions. Additionally, public participation is more likely to generate public support for the eventual outcomes of the decision-making process, which will resolve or at least mitigate conflict among competing interests. Citizens have an intimate understanding of today's environmental threats and violations of applicable laws and can offer this knowledge to broaden government consideration and heighten awareness of these local issues.

One of the first procedures expressly including public participation was the environmental impact assessment (EIA) procedure, which has become a widely applicable tool for environmental decision-making in the world, ensuring consideration of environmental concerns within planning, before decisions are taken. Public involvement levels in EIA have varied greatly through the years and around the world. While some countries have moved forward a lot in this sense, some of the newly emerged democracies have introduced EIA systems just recently and public participation is still in an embryonic stage. Even in those countries such as some of the EU countries, with a relatively long history of EIA legislation and participatory environmental decision-making culture, practice nonetheless reveals obstacles and deficiencies hindering an effective open process. Based on the belief that without adequate and meaningful public participation, the EIA process lacks the necessary social component that makes it a truly effective sustainable development tool, this presentation offers a comparative overview of the EU and Chinese legal frameworks and practices, by highlighting the strengths and weaknesses of these two different legal systems.

Keywords: Impact Assessment, public participation

Indigenous Peoples & Climate Governance: Proposals and Mobilization

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Indigenous Peoples are among the most active actors in environmental debates. They have repeatedly claimed a fair management of land and their related rights, especially vis-à-vis potential local and global damages that derived from imbalanced environmental and development policies. However, their claims, contributions and proposals in the international environmental arenas have generally received little attention. This holds particularly true in the design of international climate change law and governance. For instance, more than 250 indigenous delegates actively participated in the Paris negotiations, but their requests were essentially ignored.

While the “Rio Declaration on Environment and Development” of the homonymous conference of 1992, and the following “Agenda 21” (at least) included Indigenous Peoples and recognized their role in environmental management and development thanks to the holistic, traditional, but also scientific knowledge of their lands, natural resources and the environment, the climate change international documents have never included or mentioned Indigenous Peoples and their rights until very recently. Indeed, the preamble of the Paris Agreement has finally referred to Indigenous Peoples by acknowledging that “climate change is a common concern of humankind, [and] Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, [...]” (Paris Agreement, Preamble, para. 11). Most importantly, its article 7 affirms that the Indigenous knowledge may serve as basis and guidance for adaptation action. Prior to this, the Fifth Assessment Report of 2014 of the Intergovernmental Panel on Climate Change (IPCC) had listed Indigenous traditional knowledge as one of the “adaptation prospects”. Nevertheless, Indigenous Peoples, if they were duly heard and considered, would have many other relevant proposals to put forward.

As recently demonstrated,¹ land tenure systems of indigenous peoples may constitute a mitigation action *per se*. Furthermore, in various parts of the world, Indigenous Peoples have advanced innovative strategies of climate change adaptation. For instance, they have applied their traditional knowledge to secure the fixing of soil surface nutrients against water runoffs in Africa.²

Against this background, this paper thus looks at the proposals put forward by Indigenous Peoples at the Paris’ and other climate negotiations, and their way of participating and contributing despite the fact they have been often denied to entry the official negotiation tables.

Keywords: Indigenous people, Climate Change, Climate Governance

“All eyes on Amazon”. Thinking a new model of governance for the region through local practices and international solidarity

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The Amazon is a geographical space where we can find some of the essential contradictions of our time: this huge territory, tremendously rich in natural resources, considered the “lung” of the planet and crossed by the longest river in the world, suffers from wild deforestation, predatory mining and chaotic urbanization. The boundaries of the nation-states that contain it do not take into account the course of its rivers, the habitat of its human communities, and the continuity of the natural life of its forest. The Amazon falls victim of a poor governance and is devoid of a collective and coherent management of its resources, which could be fully recognized and protected as global commons. Moreover, it is the site of recurrent violations of human rights, whose first victims are its poorest and most humble inhabitants.

However, in spite of concentrating so many dangers, both for its inhabitants and for the ecological balance of the planet, the Amazon is also a territory rich with experiences that, through the language of the common good, try to connect local knowledge and global collective consciousness. On the one hand, these experiences point to the potential of the Amazon to be an aggregating pole in which humanity finds and discusses the possibilities of a new relation with the biosphere and a new relation between peoples, one that would be based on the principles of dignity and solidarity. On the other hand, they point to the possibility for the region of being a space where new mechanisms of a responsible, effective and legitimate governance are invented, mechanisms to be applied in other spaces and contexts. This twofold characteristic of “laboratory” and “school” of the Amazon region can become the antidote with which to tackle the challenges and threats it concentrates and which are global by definition. It is with such a perspective, at the same time “globalist” and rooted in the “local”, which is where we can truly exercise our citizenship, that we can try to offer answers to the questions about how to build another possible world (according to the slogan of the World Social Forum). A world of social justice, sustainability, equality though social and cultural diversity, and solidarity from the local to the global.

The reflection proposed here intends to offer a contribution on how to think the Amazon from a global perspective whilst thinking the world from perspectives found in the Amazon. The project named “Todos os Olhos na Amazônia” (All Eyes on Amazon) is used as an illustrative example. Created by local, national (Brazilian) and international organizations (from indigenous associations of the territory to Greenpeace), this project has been articulated in the search to guarantee the protection of three Brazilian Amazon territories widely threatened by predatory development projects or by illegal exploitation. The purpose of the initiative is to stimulate the creation of networks as a strategy to support the struggle of indigenous peoples and traditional communities for the conservation of the forest and their traditional territories. The aim of presenting this example is to show there is a need for coherent thinking about new modes of governance which stem from concrete experiences that reinforce the role of local actors while favoring international alliances with a shared vision of the common good.

Keywords: Amazon region, climate change, indigenous communities, international solidarity

Civil society and international guidance instruments for tenure security: a case study from Gujarat, India

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Equitable access to natural resources, and particularly land, has increasingly been recognized as instrumental for the realization of many international goals, such as food security, sustainable development, and the realization of human rights. While natural resource management is a matter that falls primarily within the boundaries of state sovereignty, extensive research has shown that state actors and institutions in many contexts fail to ensure equitable access to natural resources under state law.

In the attempt of influencing states' behavior towards the realization of these objectives, many soft law instruments have recently been developed by several international organizations, addressing natural resources governance and clarifying the role of human rights frameworks with regard to access to land. Among the most relevant instruments, are the Food and Agriculture Organization of the United Nations (FAO) Committee on World Food Security Voluntary Guidelines on the Governance of Tenure of Land, Fisheries and Forests (VGGTs), and the recently adopted United Nations (UN) Declaration on peasants' rights and other people working in rural areas.

Using a case-study from western India, this paper presents insight into how international instruments can represent a tool for recognizing local communities' interests with regard to natural resource management. Specifically, the research attempts to explain the role that soft law instruments play in the process of making local communities' interests more visible and legitimate vis à vis state action on land governance.

To reach this objective, the paper examines a project carried out by FAO in Gujarat, India in 2018. Since 2016 FAO has partnered with an Indian organization, the Self-Employed Women Association (SEWA), to achieve a range of common development objectives focused on strengthening producer organizations, smallholder land tenure security, and rural women's self-empowerment. The joint FAO-SEWA work of this research focuses on improving women's land rights through research, sensitization, capacity development, and policy change related to the VGGTs.

This collaborative work around the VGGTs, which in addition to FAO and SEWA also included the involvement of other civil society organizations and academic partners, unveiled a limited awareness by SEWA members on the legal framework that governs security of tenure, and little understanding of the human rights relevance of security of tenure. In addition, it was found that while state governments are the ultimate decision-makers on land governance issues at the local level, they often ignore institutionalized procedures of consultation meant to protect the rights and interests of local communities, and women in particular, vis à vis access to natural resources and land. Furthermore, this research acknowledges the constraints on UN technical agencies to be able to hold governments accountable when these institutionalized procedures of community consultation are ignored by state actors.

The paper's core conclusions are that soft law instruments can play a distinctive and complementary

role to international obligations and national laws, by providing a framework that can be used to inform communities of their rights, and in-turn giving them an additional negotiating instrument that has international legitimacy. As a top-down instrument, soft law can be used to bring emerging international standards to the ground and build civil society and communities' capacity and awareness on their rights. Soft law can work as a bottom-up tool, too, as it can be used to bridge

community interests with international obligations and add legitimacy to claims for gender equality and secure and equitable access to land and natural resources.

In the Indian context, soft law can be used also as a tool for opposing efforts to undermine laws that have been adopted, but not fully implemented, that support communities' participation and consultation (for example, the 2013 Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act). In addition, the paper concludes that there is a gap in both international law and the reach of UN agencies' activities: local and state governments (in contrast to national governments) are oftentimes the more relevant decision-makers; they are often responsible for the implementation of international law and standards, and have the exclusive authority on a number of matters that have direct impact on community livelihoods. To effectively translate international law objectives to the ground, a greater focus should be put on strengthening the role and accountability of local governments to engage with civil society toward the effective implementation of soft law frameworks related to land governance. This paper thus argues that state or local governments have a responsibility to respect international standards in general, and the VGGTs in particular. Based on these preliminary findings, this research proposes that the most effective way to engage local and state governments on VGGT implementation is through a partnership-approach of international institutions (FAO), academia, and civil society, to collaboratively implement the VGGTs, within the broader context of the UN Declaration on Peasant Rights, in order to improve equitable access to natural resources in adherence with international human rights standards.

Keywords: Land, soft law, local community, food security, participation, natural resources, India

Local Participation in the governance of natural resources

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Benefit-sharing and the stewardship of natural resources: a bottom-up view from five local communities

The concept of fair and equitable benefit sharing appears in many different areas of global environmental governance. The purpose of benefit-sharing is to ensure that those responsible for the stewardship of natural resources share in the benefits they produce. Local communities and indigenous peoples in particular have been identified as important stewards of natural resources and the environment, and as key recipients of benefit-sharing.

The presentation will share insights and information from a five year project on fair and equitable benefit-sharing. It will focus on a bottom-up approach to understanding what benefit-sharing means in the context of local communities. Five case studies focusing on different communities discussing benefit-sharing and related issues will be presented, with the aim of highlighting common issues for local communities.

The local case studies focus on different parts of the world and communities dealing with very different questions around benefit-sharing. The cases are Ikaria, in Greece, focusing on traditional pastoralists and issues around access to land; Bushbuckridge in South Africa, where traditional health practitioners are discussing ways to access medicinal plants often within protected areas; Salinas Grandes in Argentina, where communities are opposed to extensive lithium mining on salt flats; in Bwabwata National Park, Namibia with Khwe communities involved in wildlife management; and finally in Bario, Malaysia, where the Kelabit community are engaged in an agricultural deal to boost local rice production. By comparing these five different cases, a number of common issues emerge. These form the basis of a discussion about where locally relevant issues for benefit-sharing are discussed, or where they could potentially be raised, at the international level, with a particular emphasis on the Convention on Biological Diversity.

Keywords: Benefit-sharing, indigenous peoples, local communities, global environmental governance, Convention on Biological Diversity

LOCAL FOOD NETWORK: POLICIES AND PRACTICES OF INTERNATIONAL COOPERATION

International Cooperation and Urban Food Systems: The Case of Urban Agriculture in Ouagadougou

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The population of Ouagadougou has been growing at a very high pace for several decades. The demographic and spatial growth of the city is accompanied by a consumption of agricultural space, which causes difficulties for the inhabitants in the supplying of food products, whose demand is growing. Faced with this scenario, public policies struggle to find the ideal option between different, sometimes opposite needs. At the same time the local population – first informally, then in an increasingly institutionalized way, with the support of international cooperation – has developed urban and peri-urban horticultural activities, in particular around the artificial basins close to the capital. The paper analyses more specifically the case of the local food system that emerged around the Loumbila dam.

The Loumbila reservoir was created during the colonial period for supplying the capital with water. In order to make the most of the productive and commercial potentials created by the increasing consumption of horticultural products, local farmers have organized themselves into village groups, with the dual aim of rationalizing investments and establishing themselves as recognizable subjects with respect to the NGOs interested in supporting agriculture initiatives in the area.

In a first phase, the “traditional” approach of NGOs was still evident, and interventions were all aimed at supporting subsistence agriculture based on the cultivation of millet and sorghum. Later, the strategy evolved, and the projects were mainly aimed at increasing production and support marketing activities. In the last years, the projects have become progressively more concerned with environmental issues and the topic of agroecology has gradually emerged.

The development of a sustainable local food network in Loumbila is strongly influenced by socio-economic issues. Firstly, because urban food demand prevalently comes from the low-income population, to which the high-quality food is often economically out of reach. Such dynamic makes it more difficult to introduce agroecological practices and diversify production by promoting the spread of *cultivars* which are less productive, but have greater environmental or cultural value. Secondly because the development of urban food networks needs consistent agri-food policies that protect local agriculture from cheaper imported products.

The case of Ouagadougou, therefore, shows very clearly the potential of the interaction between local communities and international cooperation, but at the same time highlights the need to include these initiatives within national and international strategies.

Keywords: Urban Food Policies, Local Food Networks

Food systems analysis for sustainable resources management. The ECOPAS project in Dakar metropolitan area

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The importance of thinking and planning food systems at the urban scale has been widely explored by scholars in the last two decades (Pothukuchi and Kaufman, 2000; Morgan, 2009 and 2013). Urban population is weak in front of potential shocks of food flows, because it largely depends from imported food, coming from producing regions.

The 2014 UN Habitat report about the State of African cities stressed the importance of understanding and planning food security and local food resilience in urban areas that grows more rapidly than everywhere else in the world. The proportion of population living in urban areas in Africa was estimated to have increased from 32% in 1990 to 39% in 2010, and is expected to be around 50% by 2030. In such urbanizing context, where a big share of urban population lives in informal settlements, where basic services are not always guaranteed, the understanding and the governance of food systems present peculiar challenges, that only recently started to be explored by the scientific and political debate (Smit, 2016; Bini et al., 2017; Battersby and Watson, 2018).

This contribution presents the theoretical and methodological discussion and the first results of the research activities carried out in the framework of the project ECOPAS (Harmonisation des dynamiques périurbaines pour une Ecologie Participative des Communes Sam Notaire, Ndiareme Limamoulaye, Wakhinane Nimzatt et Yeumbeul Nord), funded by the European Union and carried out in the northern sector of the Dakar metropolitan area (Senegal) by the Italian NGO CISV, in partnership with other Italian and Senegalese NGOs (IPSIA, HydroAid, Sunugal and FONGS) and in collaboration with the universities of Turin and Dakar Cheick Anta Diop and with the City of Milan.

The aim of the project is to support sustainable micro-businesses in the Dakar outskirts and to stimulate the creation of participatory governance tools for the management of local natural and territorial resources. One of the key activities identified to achieve these aims is the creation of an Atlas of local resources, whose core topic is the participatory analysis of the local food system and of the foodscape of the project area. The aim of this contribution is to discuss the methods that have been developed and applied for the realization of the Atlas and to present the first results of the research, analysing them with the lens of the sustainable transition of urban food systems, with a specific reference to the debate about sub-Saharan African cities.

References

- Battersby, J., & Watson, V. (Eds.). (2018). *Urban Food Systems Governance and Poverty in African Cities*. Routledge.
- Morgan K. (2009), "Feeding the city: the challenge of urban food planning", *International Planning Studies*, 14, 4: 341-348.
- Morgan K. (2013), "The rise of urban food planning", *International Planning Studies*, 18, 1: 1-4.
- Pothukuchi, K., & Kaufman, J. L. (2000). The food system: A stranger to the planning field. *Journal of the American planning association*, 66(2), 113-124.
- UN-Habitat (2014), *The State of African Cities. Re-imagining sustainable urban transitions*.
- Smit, W. (2016). Urban governance and urban food systems in Africa: Examining the linkages. *Cities*, 58, 80-86.

Keywords: food systems.

Collective rights and decentralised co-production of food between trends towards the privatisation of natural resources and the territorial reconquest of common goods: analysis of Italian cases and policies for the socio-ecological reconversion of food systems

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In a global context, characterised by hoarding and financializing *commons*, some forms of active resistance from territories and social actors exist, often in areas considered marginal and far from the centres of decision-making.

Social movements, associations and food producers are the bearers of such practices, and in some circumstances are listened to and supported by public institutions geographically close to them, and thereby giving rise to innovative and far-sighted experiments. In our country, for example, commoning projects abound and take on new forms, many of them focusing on natural common goods and renewable resources of agricultural interest. In Italy, there are many local administrations that are confronted with civic customs: ownership and management structures that are alien (in that they are collective and localized) to modern concepts of law, and yet still in force (at least *de jure*, if not *de facto*). Independently of this situation, often times new policy-making projects emerge, centred on the theme of "landscape communities" - social aggregations whose actors are mobilised in an effort to (re)construct the structural contexts of everyday life. The civic commitment of localized communities - even if not permanent - takes shape through the perpetration of customs of specific locations and land assets. The component of socialization and the importance of *res publica* appear to be crucial for consciously tackling the ongoing unresolved criticalities. In this way, appropriate contexts for the agro-ecological transition are created, with important changes in the lifestyles and consumption patterns of citizens. Reference is made to projects that aim to provide solutions to issues concerning crises around environment (climate justice), settlement (metropolitan congestion and rural depopulation), economy (generalized employment crisis), and institutions (manifesting the insufficiency of representative democracy in addressing the demands of the social pact and consequent delegitimization of the ruling classes). Behind the scenes, recurring questions abound due to the failure to adopt bioregionalism as a strategic principle of territorial organization. Despite the participatory enhancement of landscapes and agro-forestry resources, there is consistent and growing concern for agricultural parks (rural, urban or peri-urban) with examples of committed citizens running short supply chains (territorial markets, purchasing groups and other models of solidarity Alternative Food Network), despite the structural limitations such as rules and regulations of agricultural, commercial, urban or administrative nature that prevent their expansion, visibility and solid establishment.

In particular, we will examine some emblematic rural or rural-urban realities, starting from a case of revitalization of civic uses in Oniferi-UN. Here, the municipal policy of managing the collective state property has entailed, in addition to protecting the environmental heritage of municipal property, the payment of a small fee for local farmers. Residential farms thus benefit from lower production and marketing costs for livestock and milk compared to those adopting "private" grazing solutions. We will also explore recent achievements in the field of public policies encouraging short supply chains, in particular by means of specific tender specifications for public canteens. The analysis will look at a medium-small centre in the former Medio Campidano Province (VS), where a local permaculture association has created, with public agreement, an orchard and forest in a hydrogeological sensitive area, as an interesting example for the promotion of alternative agricultural systems to conventional monocultures. We will then focus on Castel del Giudice, a Molise municipality on the border of Abruzzo, which recently launched its first "Food Plan", a concrete tool to reorganize the local food system and coordinate every step (from cultivation to post-

consumption) of the supply chains, creating, according to the Mayor, a replicable model in line with the objectives of Agenda 2030 for sustainable development. Finally, we will address realities of the "wandering" Italian pastoralism: shepherds with and without large swaths of land who suffer from land speculation, remaining invisible to trade organizations and citizens at large, despite the ecosystem services they continue to generate, particularly in inland and mountainous areas.

- Three issues will be addressed:
- the socially and ecologically sustainable use of public agro-ecosystems
- food policies for access to healthy diets for citizens
- cases of regulatory simplification in small-scale companies for production and direct sales

The ethical principle of the right and duty to the regenerative and decentralised use of natural resources, essential to life in many settled communities, is slowly gaining ground. In order for the frameworks of food sovereignty, of the right to food and of the transition to healthy food systems integrated in culture, knowledge and regional economies to materialize, it is necessary to work along two lines: a common European "food policy", and a contextualized reinterpretation of the same in the territories of Mediterranean Europe.

Keywords: .

Food education and global citizenship: the project “We, food, our Planet”

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Barilla Center for Food & Nutrition

Global citizenship is a broad term supported by three key pillars: global awareness, social responsibility and civic engagement (Schattle, 2009, Stoner et al., 2014). In a world increasingly interconnected, educating young people to global citizenship is becoming a priority, because new generations need to understand political, economic, social and cultural connections among local, national and global issues in order to make more informed choices. In this context, the food system is a good example for teaching global citizenship. In fact, the way we eat is a common thread for our health and the one of Planet. Healthy and sustainable diets are the base to support effective progress in health, agriculture, inequality, poverty and sustainable development or, ultimately, in the delivery of the Sustainable Development Goals (SDGs) of the United Nations. Education can be considered as both a target itself (SDG 4) and a means for obtaining all the SDGs and creating sustainable development. Hence, teaching global citizenship values, attitudes and behaviours supporting sustainable development in the food system is part of the solution.

“We, food, our Planet” is an educational project designed to educate global citizenship and provide incentives for innovative ways of teaching food sustainability and the SDGs. The project has been developed by the BCFN Foundation in 2017 and it is part of a Memorandum of Understanding with the Italian Ministry for Education. It aims at providing teachers and students (from primary school to university) with a better understanding of the environmental, economic, social and cultural dynamics of the food systems and their impacts on the Agenda 2030. Broadly speaking, the project aims to help people make better-informed food choices for their own health and the one of the Planet. More specifically, “We, food, our Planet” consists of a set of modules, dedicated to different food-related themes (e.g., environment, health, culture, food security). Each module provides science-based information, examples and exercises to be transferred in the school context. All training materials are available in two languages (Italian and English) and have a strong scientific base and are regularly updated to keep pace with a rapidly evolving reality.

Among the provided digital tools, the MOOC (Massive Online Open Course) “Sustainable Food Systems: a Mediterranean Perspective”, developed with the United Nations Sustainable Development Solutions Network Mediterranean, has been included to reinforce the current educational offering by extending the target also to university students. That MOOC explores sustainability and food systems in the Mediterranean with both theoretical and experiential approaches, but it also constitutes an opportunity for educating those who want to find out more about the new professions, which are in increasing demand in the agri-food industry. Moreover, it can be used by teachers as both a learning tool for themselves and as a teaching tool (suggested target started from 13 years old).

As far as the methodology is concerned, “We, food, our Planet” mainly relays on long-distance learning to train and inform teachers. In fact, in the contest of the 2030 Agenda, teachers play the role of healthy and sustainable lifestyle models for the young children and adolescents in their care. By intervening timely, their education can stimulate active global citizens who are engaged in the world, knowledgeable about its diversity and passionate about change.

The project has an international and multicultural feature and underpins a holistic and comprehensive approach to teaching and learning. It is based on Open Education, promoted by UNESCO and the European Commission, which provides schoolteachers with training by leveraging on new pedagogical tools such as e-Learning and Massive Online Open Courses that can be used as such as educational tools to be deployed in class. That is in line with the European Digital Competence Framework for Organisations.

“We, food, our Planet” has been launched in Italy in May 2018. Since then, 2934 Italian teachers joined the program, equivalent to 2362 schools and nearly 20000 students. Teachers are equally distributed among primary, middle and high schools. In April 2019 an acceptance survey was launched. A random sample of 657 teachers completed the web survey. In general, feedback from teachers was very positive and suggested a broad range of further topics and methodologies to be implemented. These results, including suggestions for improvements, provide evidence for a virtuous loop being started and remark that effective educational resources should be interactive products rather than top-down ones.

Schattle, H., 2009. Global citizenship in theory and practice. In: Lewin, R. (Ed.), *The handbook of practice and research in study abroad: higher education and the quest for global citizenship*. Routledge, London, pp. 3-18.

Stoner, L., Perry, L., Wadsworth, D., Stoner, K. R., & Tarrant, M. A. (2014). Global citizenship is key to securing global health: The role of higher education. *Preventive medicine*, 64, 126-128.

Keywords: Education, food, SDGs, global citizenship.

Deconstructing the discourse of inclusive agricultural growth from the perspective of alternative local food networks

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The paper critically analyses the 2030 Agenda—the global development agenda—approved by the United Nations General Assembly in September 2015 and its impact on international cooperation agendas and local policies.

The global agenda establishes 17 Sustainable Development Goals (SDGs), based on the recognition of structurally unequal conditions, and proposes an extremely ambitious program to define a “universal” development horizon in just 15 years, involving all the countries of the world, not exclusively those of the South. Achieving the goals proposed would require a rethinking of the (model of) development.

However, such a reformulation is not consistently developed in the Agenda, while a series of thorny issues appear, not only in terms of the ambiguity of indicators and deadlines to be met, but also in the absence of action against unequal power relations (Denk 2016), even as the dominance of the “market episteme” is fundamentally maintained (Weber 2017).

With these antecedents, this paper focuses on initiatives targeting local food systems and family farming (SDG 2) in the so called “inclusive economic growth” approach (SDG 8) within the official narrative of sustainable development. It aims to analyse the orientations of policies and practices towards economic development and agro-food systems that guide initiatives implemented by domestic institutions and actors of the international cooperation system, specifically in Ecuador.

The objective is to analyze official agendas and programs, revealing and deconstructing their episteme through the lens of food sovereignty (Holt-Giménez 2009; Patel 2009; Bernstein 2014; Edelman 2014; McMichael 2015b) and solidarity economy (Coraggio 2001, 2013; De Souza y Rodríguez 2011; Mance 2016): two social innovation paradigms supported by social movements and based on the promotion of alternative local food networks.

Is the “inclusive economic growth” model able to respond to the necessities of a transformation of the agro-food system towards food regimes based on local food networks (Ploeg 2009, 2014, 2018)? Or, rather, does this approach respond to a corporative food regime (Friedmann 1988; Friedmann & McMichael 1989; McMichael 2015a) which, in the countryside, concentrates profits and power in the agro-industry, thus reproducing, even more aggressively, the mechanisms of submission of the peasantry?

For example, inclusive businesses in agriculture could work as a frontier for expropriation of control of lands and productive cycles, “risk transfer” and financialization, as “contract farming” did traditionally (Moore 2011; McMichael 2013; Elder & Dauvergne 2015). In these cases, paradoxically, through policies declaimed as inclusive, “agro-extractivism” and mechanisms of dispossession are being institutionalized.

As this example shows, the study of the global agendas on development and, specially, on agricultural and food questions and how these influence the policies and practices of international cooperation, in their heterogeneity in terms of forms, actors and modalities, is both current and relevant.

Keywords: International Cooperation, Food sovereignty, Solidarity Economy, inclusive economic growth, Agenda 2030, Ecuador.

FAO's work on the urban food agenda: the experience of food systems planning in Lima and in other small cities in Peru

C. Marocchino

FAO

FAO has recently launched the Framework for the Urban Food Agenda that serves as a corporate strategy for responding to demands for a multi-sectoral, multi-stakeholder and multi-level approach to food insecurity and malnutrition across the rural-urban continuum. As a result of an inclusive consultative process the framework articulates guiding principles, purposes and targeted outcomes compatible with the objectives of the 2030 Agenda. These provide the basis for seven comprehensive areas of support through which FAO, with partners, can assist governments to: i) Enable improved policy environments at local and national level; ii) Execute actions according to context-specific realities, inter alia, shorter supply chains, inclusive public food procurement, innovative agro-food business, healthier food and green environments, and optimized supply chains and sustainable bioeconomy; and iii) Expand good practices through the exchange of information and trans-local cooperation, and form a basis for an independent global forum that promote participation of different government levels. Based on the Urban Food Agenda Framework, FAO, in collaboration with Partners, is supporting various cities in mainstreaming food systems in local policy. The experience of food systems planning in Lima will be shared based on the following integrated approach: i) the development of the Rapid Urban Food Systems Appraisal tool- RUFSA- aimed at identifying hotspots and creating holistic evidence for prioritizing food systems intervention; (ii) the establishment of the multi-stakeholders food systems platform that acts as a Food Liaison Advisory Group (FLAG) for informing municipal decision making on food related issues and facilitate effective and inclusive food system planning, problem solving and decision making; and (iii) the development of the food strategy that links the food systems analysis to governance. The city of Lima signed the Milan Urban Food Policy Pact (MUFPP) in May 2018 and received the second monetary prize for the category "Challenging Environment" within the MUFPP Award 2018. The monetary prize has been used for transferring the good practice from Lima to small cities and towns in Peru. Various Peruvian cities, including Lima, are currently on the process of establishing the National City-food network aiming at influencing national policies.

Keywords: Participatory food systems planning, Food Governance, Food Network.

PRACTICES FOR ENGAGING STUDENTS IN INTERNATIONAL DEVELOPMENT COOPERATION

YOUNG GRADUATES AND UNIVERSITY STUDENTS EXPERIENCING WORK IN DEVELOPMENT COOPERATION: ANALYSIS OF GOOD PRACTICES - EU AID VOLUNTEERS PROGRAMME

M.C. Lesi

WeWorld GVC

EU Aid Volunteers (European international volunteer programme for humanitarian missions abroad) is a European initiative promoted by ECHO - European Civil Protection and Humanitarian Aid Operations of the European Commission that offers to EU citizens aged 18 or over, as well as those resident in Europe for a lengthy period, the opportunity to be involved in paid foreign voluntary work in humanitarian aid projects in Africa, Latin America, Middle East and Asia.

Volunteers have the chance to learn about and work in several sectors and on several topics, such as: risk management in emergencies, women rights promotion, climate change disaster risk reduction, administration and communications.

Since 2016, WeWorld-GVC has actively participated to the initiative, it deployed around 100 volunteers in different countries (including Bolivia, Perù, Nicaragua, Guatemala, Burkina Faso, Burundi, Mozambique, Tunisia, Lebanon, Palestine, Cambodia and Thailand) and projects and implemented capacity building activities for extra-EU organizations. EU Aid Volunteers projects are structured to select and train volunteers and to send them to the non-European countries where WeWorld-GVC and its partners carry out the field activities of humanitarian aid, resilience, disaster risk management and disaster risk reduction.

The programme targets both senior and junior participants. Especially, junior positions are relevant opportunities for university students and young graduates interested in gaining a professional experience in the field, related to their studies and background.

As a matter of fact, humanitarian disasters have dramatically increased the pressure on the humanitarian organisations and more qualified people are needed. However, it is not always easy to enter the humanitarian field or to find qualified candidates with the appropriate background, capacities and skills. EU Aid Volunteers give young generations as well a chance to show their solidarity by collaborating in humanitarian projects worldwide. This might be the first step to be part of the humanitarian community, gaining an entry-level position with on the job training and hand on experience on humanitarian aid projects and activities.

To this regard, cooperation between WeWorld-GVC and universities can add value to the process as a framework for long term cooperation can be created and generate a privileged channel to boost participation of students and young graduates into the programme. WeWorld-GVC is experiencing and implementing this kind of interaction with the academic community, which can turn into a win-win situation:

- more motivated and qualified candidates are exposed to the programme's opportunities;
- university students can increase their employability opportunity and enrich their personal curriculum;

- two main civil society actors with a fundamental role in sustainable development - NGOs and universities- can establish a long-term link to facilitate the matching between demand and offer of candidates with a strong motivation and sound education which can add value to humanitarian aid initiatives.

Keywords: Student engagement

FIELD WORK PROGRAMME: INTERNATIONAL STUDENT MOBILITY IN DEVELOPMENT COOPERATION

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«Countering the growing polarization of our societies and distrust of democratic institutions calls on everyone – including higher education staff and students – to engage more actively with the communities around them and promote social inclusion and mobility» (COM 2017-247 *Communication from Commission on a renewed EU agenda for higher education*).

As already stated in the session proposal on *Practices for engaging students in international development cooperation activities*, in the framework of the higher education learning offer, there is a stronger need to provide students with opportunities to develop or strengthen soft and transversal skills. These can be, among others: intercultural sensitivity, multilingualism, the ability to adapt to different contexts and environments, sense of initiative and entrepreneurship, problem solving and more active participation in society.

Both HEIs' strategies and international stakeholders' recommendations (e.g. 2030 UN Agenda for Sustainable Development; EU Agenda for the Modernization of Higher Education; European Strategy for Higher Education in the World) advance toward this direction. The main aim is to strengthen the link between the study programmes and the world where young graduates will have to live. A commitment is recommended to increase the **relevance of education with respect to the needs of the world of work**. Besides, a focus is requested on **education for sustainability**, acknowledging that society is globally interconnected: «Breaking down barriers between higher education and the rest of society can help students develop their social and civic competences. Some institutions are developing their profile as 'civic universities' by integrating local, regional and societal issues into curricula, involving the local community in teaching and research projects» (COM 2017-247).

As a result of these trends, **innovation of study programmes** also brings the learning experience out of the usual academic environments. Students can enter into contact with the world of work and society. HEIs are adopting different approaches to reach a common goal: **educating citizens capable of responding to global challenges**.

The Field Work Programme:

As suggested by EU Institutions: «Higher education should also allow students to acquire skills and experiences through activities based around real-world problems, include work-based learning and, where possible, offer international mobility.» (COM 2017-247). To this regard, the University of Bologna recently launched a new initiative for international student mobility in the global South: *Field Work Programme - International student mobility in development cooperation*. With the support of NGOs working in the field, the programme offers practical learning opportunities in developing countries to students such as internships, training and research for dissertation, in any subject area relevant for development cooperation.

The general objective of this international student mobility programme is to create a new learning context to support students to acquire the skills necessary for their future, with a special focus on the **capacities that are required to be resilient, to live in a constantly changing society** which is more and more cross- and intercultural. Mobility activities are designed in collaboration with the NGOs willing to host the students and are approved by the academic coordinator of the students' study programme. To ensure high-quality mobility activities with maximum impact on students, the activity has to be compatible with the students' degree-related learning and personal development needs. Students have the chance to agree with the NGOs an experience that meets both their expectations and the NGOs' real needs within a certain project or initiative in a given country.

Besides, the academic supervisor makes sure that the planned activities meet the learning outcomes of the students' study programme, in order for **ECTS credits to be awarded to students** and formally included in their study plan.

A total of 19 MA level students were selected during the first pilot call for applications of the Field Work programme and a total of 13 NGOs or any other development cooperation actor were identified as host organisations. The 80% of destinations are located in Africa and Middle East, the other are in the Western Balkans, Latin America and Asia.

Conclusions:

The majority of the mobility experiences are ongoing when this abstract is drafted. Even though more definite conclusions can be drawn once the first round of student mobility experiences are concluded, some strengths and opportunities for further growth can be already identified:

- Many study programmes in a variety of disciplines can already integrate such experiences as formal learning activities, thanks to the possibility to award credits for elective courses, internship and research for dissertation. The supervision of the academic level remains key to guarantee the quality and relevance of the learning experience.
- The Field Work programme lead to the creation of a channel for collaboration between higher education institutions and development cooperation professional actors (especially NGOs) for the identification of student mobility experiences hosted by NGOs. It is a matter of fact that international development cooperation is a vast and always evolving sector in need of human resources as young graduates in several disciplines. The development of such programmes and long-term interaction between HEIs and NGOs can contribute to increasing employability opportunities for young generations in this field.
- The Field Work programme might become part of the university's internationalisation policy as far as global interaction is concerned. In the long term, this can become a multi-dimension tool to foster university cooperation with civil society actors such as NGOs and local authorities in a broader sense.

Keywords: .

UNIVERSITY ON THE FRONT LINE: HOW NGOs AND ACADEMIES CAN WORK TOGETHER FOR A BETTER EDUCATION ON GLOBAL HEALTH

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Medici con l’Africa Cuamm

Context

International health cooperation is seldom included in the official curricula of the faculty of Medicine, although it can represent a concrete opportunity for professional and human empowerment, in addition to a job possibility for future clinicians.

Students often report the lack of practical experience during the academic path; on the other side NGOs can be interested in engaging young students in international and global health issues and make them become interested in health cooperation.

For the above-mentioned reasons the meeting point between medicine students and health cooperation NGOs could be fertile.

Cuamm as “university on the front line”

Doctors with Africa Cuamm, based in Padova and working in 8 sub-Saharan countries, since 2006 has been implementing different educational offers addressed to young people: students, residents, young researchers.

Currently there are three main on-going projects:

- **WOLISSO PROJECT:** an educational proposal addressed to Medical Students (enrolled in the 5th or 6th year of Medicine curriculum) that gives them a first professional experience in Tanzania or Ethiopia: the student, led by a Cuamm coordinator, will spend 1 month in Africa observing the work in rural hospitals. Wolisso Project has been implemented since 2006: 323 students have been involved from all over Italy (until August 2019). A recent monitoring research (Parise, 2008) states that 95% of them are satisfied and would repeat the experience with Cuamm. Furthermore, the 75% of them declare that the experience in Africa made him/her more motivated and resolute in carrying on his/her studies, once back. Eventually, the 20% of the students have already had other experiences in Low and Middle Income Countries after participating in the project (working with Cuamm and other international health organizations)
- **JUNIOR PROJECT OFFICER - JPO:** an educational proposal addressed to medical residents (branches: infectious diseases, maternal and child health, public health, surgery). Residents can spend 6/12 months of their academic curriculum in Africa, working with Cuamm and supervised by a specialist of the same branch. The African period is fully recognized by the Italian University. The project was born in 2002 and 203 residents have left with Cuamm (until August 2019)
- **OPERATIONAL RESEARCH:** as NGO, Cuamm carries out implementation research projects in Africa, aimed at implementing evidence-based results and improving the medical work. Residents who take part in the JPO program and young researchers are involved in Cuamm’s research. It is a unique opportunity to improve skills in that area, very useful but infrequent for clinicians. Results of operational research are published in international peer-review journals and often students are among the authors. In 2018, 10 out of the 23 main authors of the research are residents in medicine or under 35.

Thanks to the multiple ways of collaboration, the relationship between Cuamm and Italian universities is very fruitful, and we can consider Cuamm as a “university on the front line” that often contributes to that lack of an institutional path.

Lessons learned:

- University and NGOs can be collaborative partners in a common educational path aimed at the human and professional empowerment of youngsters
- Former exposure to cooperation reveals an impact on students’ approach to health as professionals
- Experiences in the field can bring to students some skills that are not part of the traditional curriculum (i.e. data analysis, operational research) but that can become an ability for their future job.

Keywords: Study programs, internship, global challenges, international development cooperation.

University and international cooperation for development: the students' perspective

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University of Genoa

Introduction

Italian Universities have been long engaged to share their expertise and knowledge for improving European commitment towards low-income countries. Some of them are deeply involved into research projects or best practices diffusion activities, while others actively work on the educational framework in order to improve its own academic offer. This is the case of the University of Genoa, which launched in 2015 an Interschool program named "University-wide Program on International cooperation for development". The program has few counterparts in Europe since it is addressed to students from every School of the University, to whom it provides around 50 hours of teaching contents from different academic fields, together with seminars and events. The peculiar element of the program is the strong project management background that combines both theoretical and practical approaches. These elements are fundamental for the learning experience of the students, as they represent an essential skill for those aiming to develop a professional career in the international cooperation field.

During the program, students have the chance to apply what they have learnt by preparing a project proposal of intervention in low-income countries, together with qualified NGOs or Associations. This activity enhances their educational background and encourages university-no profit partnerships. Every year, the University of Genoa opens a call for proposal and rewards with a grant the four best projects, so that the proponents can turn their project into action on the field. The grants are intended to cover the travel costs and stay expenses, while the support of the Italian and local partners guarantees to grantees the possibility to live an effective and safe experience. From the University of Genoa's point of view, these grants are a way to improve the connection with all the subjects active in international cooperation for development and to get students involved into important field projects with a strong academic background.

This paper focuses on the student's point of view about the abovementioned program and their experience in developing and implementing their own cooperation project thanks to the grant they received.

Methods

The study was conducted with a qualitative method using content analysis approach. The design is appropriate for this study because it allows the participants to describe their experiences focusing on factors that may affect the quality of the program.

The analysis was performed through semi-structured interview on the purposive sample of the 16 students who received the grant in the four editions of the program.

Results

16 students participated to the study (9 females, 7 males): four enrolled at the Medicine and Surgery degree course, six at Engineer degree programs, and the other ones attending courses in the social and humanities area. The target countries of the projects were mainly in Central and Eastern Africa. The participants had different education backgrounds, chose diverse thematic areas, applied a wide set of methodologies and techniques in their projects and cooperated with very different partners. The heterogeneous socio-cultural background of the sample students allowed the researchers to analyze the program multidisciplinary contents and structure from a complex point of view, those of future professionals from different areas, with peculiar projects and expectations for their personal and professional life.

After analyzing the existing situation in the chosen African location, the students verified the real feasibility of the proposed project and made, when necessary, the appropriate modifications and/or integrations. From the analysis of the students' reports delivered at the end of the experience, a strong degree of satisfaction emerged in relation to both the knowledge acquired thanks to the cooperation course, and the skills obtained during the field experience.

Even the associations that collaborated with the students in the drafting of the project and that accompanied them in the chosen country, defined the experience as very constructive, especially for having virtuously linked study/research activities typical of the academy with real situations, typical of the world of work in cooperation.

The outcomes of the study confirm that the course represents a good learning opportunity to introduce students to international cooperation for the development. In particular, its multidisciplinary structure is consistent with both the heterogeneous students' background and the cross-disciplinary skills and competences that are now required to engage in this field of activity. The teaching strategy adopted helped the students to overcome their preconceptions about international cooperation and call them to action by giving the chance of actually getting involved into a project. The grantees all gave positive feedback on their experience, that in several cases motivated them to continue their commitment in the field.

Keywords: Students; University of Genoa; International cooperation; Multidisciplinary course

Medical work camp: an innovative education tool for university cooperation

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Università Campus Bio Medico di Roma

University cooperation achieves one of the specific aims of the Campus Bio Medico University: the promotion, in all those who make it up, of a "spirit of solidarity that manifests itself in work, by knowing how to put one's professional prestige to the service of the common good". (see Art. 4, Charter of the aims of the Campus Bio-Medico University).

As a result of the cooperation activity carried out from 2000 onwards, the university has set up a network of partners in developing countries. A permanent collaboration is developed with them, by professional training for local personnel, work camps, master's degree thesis for students and capacity building projects.

Nowadays UCBM's partners in developing countries are around 10: from Dem. Rep. of Congo to Tanzania, Peru, Kenya and Madagascar...

A model of university cooperation, developed by UCBM over the years, and which fulfills an effective synergy between an university pedagogical tool and, at the same time, a real benefit for local population, in the logic of a "solidarity of intelligence", is the "medical work camp".

The protagonists of the medical work camps are teams composed of teachers, medical doctors and students of the CBM and partners of local universities and health institutions.

The medical work camps, of an average duration of 15 days, are carried out in host facilities made available by local partners.

The benchmark is that of the Anglo-Saxon university "summer course", but contextualized in the more operational and immersive dimension of the beneficiary countries' reality.

The students participate, before departure, in a program of training meetings that concerns the different dimensions of the scenario in which they will be called to operate: cultural, social, professional and motivational.

The main activity of the work camp's planning is the implementation of epidemiological research protocols. They are carried out as a component of health campaigns and screenings in favor of the local population, especially children in the school context, with medical and diagnostic examinations and free supply of medicines and food supplements.

A specific area of intervention is represented by nutritional screening and educational sessions managed by teachers and students of the degree course in nutrition sciences.

The "on the field" work is realized putting into play professional skills, in a properly university way such as biomedical research, intended and implemented with a specific "socially oriented" attention; that is to say, oriented towards alleviating the real burden of disease that people undergo.

These activities have been conceived, in a didactic and formative perspective, to make possible the participation also to students of the first years of university; that should be difficult, otherwise, to involve in university cooperation initiatives. They are still unprepared for a clinical assistance, but can be easily trained on the methods of research in epidemiology. In fact, these methods consist of relatively simple and repetitive procedures, but which require strong dedication and accuracy. The direct experience of contact with a reality of poverty, social inequalities and disease make these work camps an opportunity for integral training: human and professional, with a great and profound impact.

Objectives and expected results of the medical work camp, as a formative model for university cooperation, can therefore be identified on different levels:

For participants:

- Acquisition of an experience of human-relational immersion and interaction with the “real world” of a PVS;
- Assimilation of a culture of solidarity, common good and global citizenship;
- Acquisition of theoretical and practical knowledges, achieved in the field, on dynamics and intervention strategies of Global Health;
- Acquisition of practical experience of the principles and methods of biomedical research, carried out
 - “in the field”;
- Acquisition of the ethical and social awareness of medical intervention and university mission in a socially oriented way.
- For local beneficiaries:
 - Acquisition, for local partners, of biomedical research skills through an “on the job” training method;
 - Access to screenings on nutritional status and related pathologies, at an early stage of onset, and possibility of access to the treatments for the local population.

A further result of the medical work camp, in a specifically university key, is the production of scientific publications, that reliably represent the epidemiological relevance of the population's health problems.

Nowadays 22 publications have been produced, mainly in international indexed reviews, as the result of research work carried out during the medical work camps.

A professional video (<https://www.youtube.com/watch?v=XSgFbRgmpLY>) was produced in order to illustrate, through the direct witnesses of the participants, recorded on the field, the model of medical work camp. A photographic catalogue on work camps was issued and also proposed in the form of traveling exhibition.

Keywords: Students; University of Genoa; International cooperation; Multidisciplinary course

“EDUCATION CORRIDORS” FOR STUDENTS FROM SYRIA: THE EXPERIENCE OF THE UNIVERSITA’ DEL PIEMONTE ORIENTALE

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Resolution 2015/2977 of the European Parliament (adopted on Nov 26th, 2015) “calls on the Commission and the Member States to establish ‘education corridors’ to ensure that students from countries in conflict, in particular Syria, Iraq and Eritrea, are accepted in universities” (1). The Syrian war, or Syrian crisis as it is referred to in the official language of the country, started in March 2011 and has not yet come to an end. With more than 500,000 deaths and half of the 20 million population internally displaced or migrating outside of the country, the Syrian war is considered as the second deadliest of the 21st century (1). The war has had devastating effects on higher education, leading to loss of professional skills and compromising the future of Syria, that has now been downgraded to a low-income country by the World Bank. Although higher education has long been considered as a public good, more recently it has also been viewed as a common good for the governance of educational systems that take into account new models based on principles of cooperation and solidarity. In the field of higher education, such principles of cooperation and solidarity should be applied with particular emphasis in countries affected by poverty and war, both highly present in today’s Syria.

Aim of the project

The aim of the project is to develop “education corridors” for Syrian students in our University, in order to comply to resolution 2015/2977 of the European Parliament and to contribute to the education and training of young students who may in the future share their skills with their community and contribute to resilience of their country.

Methodology

The “education corridor” of the Università del Piemonte Orientale (UPO) has stemmed from a partnership with the Mar Musa Community, dedicated to dialogue among the various ethnic groups of Syria, and, at a later step, with the Jesuit Refugee Service (JRS) taking care of Syrian refugees in Lebanon and in the Kurdistan Region of Iraq. In addition, an informal network of institutional and individual stakeholders, within and outside Italy, have engaged in sustaining the project at UPO and providing support in multiple fashions. A strength of the project is that students do not need to take the refugee status and maintain the Syrian citizenship, that in the future will allow them to return to Syria and be active part of cooperation in their country.

Results

The UPO “education corridor” for students from Syria has started in academic year 2017-18. In the pilot phase of the project, the Syrian partners have facilitated a direct contact through UPO and the prospective students in order to assess their motivation, skills and field of interest. Since the start of the project, seven students have been enrolled, integrated and fully supported at UPO. Three students are enrolled in a Master Degree in Medical Biotechnologies (taught in English), three students have been enrolled in a Bachelor Degree in Biological Sciences (taught in Italian), and one student is enrolled in the Degree of Medicine and Surgery (taught in Italian). Because of the multi-campus nature of UPO, three students are based in Vercelli and four in Novara. Students have been

lodged in university residences, and integrated in local families and communities. UPO and a body of

volunteers is providing teaching options of the Italian language through social media (“WhatsApp”), that, as of to date, start while students are still in Syria. During the first year of their studies, all students have been offered the possibility of a dedicated didactical tutorship, that has been particularly fruitful for students following courses taught in Italian. Monitoring of the students’ progress and mastering of the problems encountered (administrative, logistical and didactical) have been performed on a regular basis by UPO teaching and administrative staff. All students have regularly passed the planned exams at a highly satisfactory pace, and the first graduation of a student from the “education corridor” project is expected in July 2019.

Conclusions

Despite the limited number of students that the project has enrolled until now, this model of “education corridor” is promising and documents that welcoming, integrating and supporting students from Syria in biomedical courses is feasible and rewarding for all the actors involved in the project, that is centered on the global needs of the students. These positive results prompt the expansion of “educational corridors” to other educational fields at UPO and may provide a fruitful experience to be shared with other academic institutions. The interaction of multiple actors in an institutional and informal network for the project confirms that universities might be a “prompter” for fostering international cooperation.

References

1. http://www.europarl.europa.eu/doceo/document/TA-8-2015-0418_GA.html?redirect
2. <https://www.britannica.com/list/8-deadliest-wars-of-the-21st-century>
3. <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519>

Keywords: Educational corridors; Syria; Higher education

TEACHING EXPERIENCES FOR COOPERATION: POLYTECHNIC UNIVERSITY OF BARI AND WESTERN BALKANS

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The inter-university cooperation, addressed both to research and teaching, offers a very important opportunity to develop and to improve the relationships, geographically motivated and historically consolidated, between Puglia and the Balkan area, not by chance strongly present in the regional development strategies (Interreg...).

The Polytechnic of Bari took on the border countries of the Adriatic basin as favored partner for intercultural exchanges and it aspires to enhance itself as one of the reference poles in the field of engineering and architecture for the Balkan HEIs. On the other hand, the latter are particularly opened to internationalization processes, offering themselves actively as partners in mobility and research projects (International Credit Mobility, Capacity Building...), and they are increasingly geared to training, professional and scientific models of EU, with programs in compliance with the Bologna process and study courses in English.

In particular, for more than a decade, the CdLM in Architecture is engaged in a dialogue on the themes of knowledge and enhancement of the architectural and landscape heritage, of the sustainable development, of the urban and environmental regeneration with several Balkan universities, above all developed through researches and plans carried out into the field of degree laboratories. The Department of Civil Engineering and Architecture (DICAR) develops periodically initiatives and cultural events for the knowledge, recovery and enhancement of the Albania and Puglia heritage (conferences, seminars, exhibitions, workshops) and it takes part in initiatives cyclically proposed by foreign partners (IFAU-Polytechnic University of Tirana, ICAUD and BBCCCE-Epoka University, TAW-Polis University, Adriapol Forum, FLUID-Design Forum University of Montenegro).

The Erasmus Plus KA107 program for the mobility with non-EU partner countries, to which the Polytechnic participates since 2015 with projects funded constantly for the Balkan area (Albania, Bosnia, Kosovo, Montenegro, Serbia), allows to develop the incoming and outgoing mobility for teachers, researchers, students, undergraduates, PhD students, administrative staff, to carry out curricular teaching activities, seminars, workshops, development of degree thesis, co-tutoring of doctoral thesis, internships, archaeological missions, training. The recent inclusion of non-university partners into the Erasmus Program allows to undergraduates and PhD students to perform outgoing traineeship activities for institutions and local authorities (some of which are already partners into the innovative industrial PhD program: e.g. Municipality of Tirana, National Territorial Planning Agency of Albania (AKPT), to promote internship experiences under the degree laboratories. Teaching in and out mobility allows to compare paths, contents and teaching methods and to strengthen partnerships, involving also non-academic organizations.

Some of the activities of recent years, such as the Pol_IBA|Italo-Balkan Architecture Workshop, 2016 and 2018 editions, involved several universities from the Balkan countries in order to strengthen the network of relationships between them, exchanging views on the topics of re-use of abandoned industrial plants.

The all-round action in the field of development cooperation, through a synergy between research, teaching, third mission, public engagement, produces positive effects on several levels.

The direct effects on the institutions consist in the consolidation of existing links and in the creation of new academic connections, in the updating of the didactics, in the consolidation of the principles of the Bologna Process and ECTS system, in the improvement of the integration and alignment of the study programs, respecting the specificity of each institution anyway.

At regional and national level, through these exchanges, the territories benefit from collaboration in the fields of architecture (resilience in the transformation of urban and territorial contexts, sustainable settlement/living models, regeneration of degraded/disused sites, environmental reclamation, heritage protection, sustainable tourism, updating of construction techniques, strategies for vulnerability analysis and seismic protection of architectural heritage). In line with the development policies of the Adriatic region, this constant exchange activity can improve the links necessary to implement the Programs that the Puglia Region promotes constantly, and in which currently the PoliBa is involved in partnership with institutions and Balkans institutions.

The impact on the participants (teachers, researchers and students) consists in the human enrichment determined by the knowledge of different socio-cultural realities, in the increase of personal and professional skills and in the adaptation to different socio-economic contexts, in addition to acquisitions in terms of strengthening and transfer of knowledge, skills and competences.

The incoming students can acquire skills recognized by the international labour market; for the outgoing students there is the possibility to know lively socio-cultural realities and to experience with plans for sustainable development and the enhancement of very complex territories. The mobility of teaching staff offers important professional experiences and contributes to the creation of curricula, programs and guidelines, improving the ability to develop and provide teaching and learning in accordance with international standards.

Keywords: Cultural heritage, Balkan region

INNOVATION FOR DEVELOPMENT: BEING GLOBAL INNOVATORS

Enterprise and community towards an integral ecology between start-up, high education and green jobs for the future of the planet

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In September 2015, the UN adopted the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable.

Climate change, water management and the protection of biodiversity alongside the changes of organizations generated by globalization, internationalization and digitalization require reflection on the role of workers and citizens.

In the particular context of the circular economy it is necessary to consider the new organizational paradigms and the strong growth of the green professions, between human development, governance and innovation.

Pedagogy considers work as a lifelong learning context and can offer new interpretations of organizational changes in which people build knowledge and identities capable of supporting this change.

The circular economy aims to develop sustainable and accountable economy thanks to the circularity

of knowledge and implementation of green skills.

The pedagogy of organization identifies in the work the formative meaning and the space in which to experiment research paths, analysis and interpretation of the organizational contexts, the values and the training processes connected to the socio-economic changes. The interaction of environmental issues with social and financial ones passes through new sensitivities towards ecosystem services, the development of green skills with particular attention to new technologies.

Recent studies show that enterprise that invest in sustainable products and technologies require the

development of green skills, in a logic of sustainability. Start-up could be considered as emblematic contexts and communities of practice to investigate intangible capital as a combination of knowledge, intelligence, social responsibility and ethics thanks to their dynamism and innovativeness.

The theme of education within enterprise such as start-up, aims to enhance green jobs in the midst of economic, social and environmental changes through the acquisition and development of green skills and detect the training needs of green start-up in order to contribute to the creation of models of higher education capable of generating qualified professionals.

The interaction of environmental issues with social and financial ones passes through new sensitivities towards ecosystem services, the development of green skills with particular attention to new technologies. In the particular challenging context of the circular economy, education calls into question its “generative capacity” and focuses on the relevance of the role of the community for the integration of skills. Therefore, it is necessary to give meaning to green skills so that they can contribute to outline a global citizenship, authentic and able to interpret the changes related to new lifestyles and ways of working.

The triptych, “High education - Pedagogy of organization - Integral ecology” is a model to build democratic communities that can promote the culture of free, fair, creative, inclusive, participatory and mutually supportive labor. The connection between work, high education and community is education: learning and developing green skills, generating ecological conversion that becomes conversion to integral ecology where people are at the heart of governance.

Education, through the critical examination of processes, offers the community innovation and social cohesion.

Keywords: Community, Labor, Start up.

Towards social innovation economy through cultural transfers and community learning experiences: the case of “CusCus” project

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In today's world, as techno-social entrepreneurship culture is getting more and more recognized globally, new ideas and imaginations are shaping new models for socio-economic, sustainable and inclusive growth and development. Furthermore, the sharing of ideas, practices and experiences in cross-cultural contexts helps in co-creating new meanings and boosting creative thought processes, which are essential to innovation; this is proved by the increasing number of social innovations and enterprises led by both indigenous and immigrants that entered the European labor market, especially in host countries where migration is seen as a resource for progress and employment rather than a threat.

In the last two years, in the Trentino region of Italy, the project “CusCus: food, digital technologies and creative entrepreneurship” has been started to recognize the positive role that cross-cultural interactions between immigrants and local population may play in human, cultural and socio-economic development. The project's long-term vision is to develop intercultural business activities in the food sector by leveraging ICT technologies. The ongoing initiative is now focused on the first stage of this vision: empowering migrants and non-migrants collaborative relationships through community learning experiences that consist in training courses and social activities in the fields of digital technologies, culinary arts and entrepreneurship. The idea is to provide skills and constant opportunities for encounter in order to foster cultural contamination and new social connections; to favor socio-economic empowerment, autonomy and self-expression and, finally, to engage people who are inherently different in creating a shared intercultural identity and community. This paper is understood in its broadest sense to include critical descriptive, theoretical and applied work based on endeavors in technological, entrepreneurial and social arenas. Its main objective is to investigate how “CusCus” can be taken as a viable start-up project to develop a broadly-based, innovative and forward-looking approach to the social, economic and migration challenges that European countries will have to address in the next century.

Keywords: social inclusion and integration, community building, food cultures and traditions, digital empowerment, entrepreneurship, volunteering.

Ricerca antropologica per lo sviluppo sostenibile: innovazione sociale e dimensione di genere nelle regioni di Kaolack e Kaffrine

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Nel contesto della progettazione della innovazione sociale è importante capire l'intreccio tra aspettative e capacità disponibili in determinati contesti locali allo scopo di offrire opportunità come organizzazioni non governative tramite le istituzioni del luogo. Per capire aspettative e capacità imprenditoriali, però, è necessario interagire a livello comunitario e istituzionale. La ricerca antropologica durata un anno e svolta nell'ambito di un progetto in Senegal del Comune di Rimini finanziato dall'AICS ha permesso esattamente questo tipo di conoscenza allo scopo di individuare idee adeguate a sostenere start-up imprenditoriali e innovative prendendo in considerazione una dimensione di genere.

Nel corso della ricerca sono state intervistate donne coinvolte nella politica, donne referenti di imprese e donne membri dei gruppi di interesse economico. La ricerca ha avuto anche alcune forme di ricerca-azione permettendo di interagire con le camere di commercio di Kaolack e Kaffrine le quali sono state coinvolte nella somministrazione di questionari per la rilevazione della partecipazione femminile nell'imprenditoria. In tal modo la conoscenza così acquisita anche dai responsabili nelle camere di commercio è diventata un patrimonio comune rafforzando l'attività istituzionale di capacity building. Con l'apporto di questo studio che unisce tecniche antropologiche con una prospettiva di coinvolgimento della società civile imprenditoriale si sono individuate attività progettuali imprenditoriali di successo.

La presentazione mostrerà come tramite l'uso dell'intervista antropologica in profondità sia possibile disegnare progetti di sviluppo sostenibile realmente partecipativi e nei quali la conoscenza acquisita tramite la ricerca diviene patrimonio comune delle istituzioni per la pianificazione locale.

Keywords: Common goods, Research and Innovation, ricerca antropologica, ricerca-azione, donne imprenditrici, start-up femminili, Senegal.

CIFA's development project "100% Plastic - Collection and Recycling System of Plastic Waste in Hawassa, Ethiopia": a business model with social impact

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The paper shares the lessons learned from a development project implemented in central Ethiopia - 100% Plastic - Collection and Recycling System of Plastic Waste in Hawassa, Ethiopia - and tries to investigate which factors contributed to its success. The project, currently ongoing, is co-financed by the Italian Agency for International Cooperation (AICS) and the German Cooperation Agency (GIZ) and is being shared as best practice on issues related to sustainability, plastic recycling, community engagement and education.

The project is based on the partnership of profit and no-profit actors: Coba Impact Manufacturing Plc specialized in recycling plastic in Ethiopia and selling it on the local market and abroad, and other actors such as the Association of Waste Collectors of Hawassa, the University of Turin and of Hawassa, the Environment Museum of Turin (Museo A come Ambiente), the Municipality of Turin and the Italian NGO CIFA ONLUS, leading organization.

Specific objective of the project is to set-up the entire plastic recycling system to contribute to the environment pollution in a town like Hawassa that was struggling to preserve its famous lake. Expected results of the project are:

- Setting up a Recycling System in Hawassa (analysis of logistics, provision of tools and equipment to collectors, creation of stocking and pressing site, involvement of local actors)
- Capacity building for waste collectors and local collectors' associations
- Awareness raising on environment issues among local citizens, families and school children through Social and Community Theatre and environment education activities
- Capacity building for local authorities (technical assistance from Italian experts, exchange visits, development of a local waste management plan)

Besides ensuring the sustainability of its economic components thanks to the involvement of well-established business company that purchases the collected plastic for recycling purposes, the project is having great impact at social level both for the empowerment of local waste collectors and for raising awareness at communities' level.

Local waste collectors, who gather rubbish from households and private companies on a door-to-door basis, are world-wide among the most vulnerable workers, with minimal wages depending on collection and no protection of any social scheme. Thanks to the project they are acquiring skills on waste segregation, communication, additional life- and business-skills as well as management capacity to handle the new business. Not only the project has guaranteed them income increase that has improved their lives, but it also contributed to change their self-perception as well the community perception of their role.

The project is also transferring know-how and new skills to Municipality Officers (from Italian experts and thanks to exchange visits to and from Italy) and to University students (trained by MACA experts as scientific educators for schools' children). The creation of new business ideas is fostered by University students' competitions and grants to develop new start-up projects in the field of recycling business and sustainability issues to tackle environment Hawassa's problems.

Last but not the least the project has created a new awareness at community level on environment issues in town to such an extent that during a parade aiming to collect plastic on the streets, children and families were not able to find plastic dispersed in the environment. The project adopted the Social and Community Theatre methodology to train young community mobilizers, organize school and theatre shows, organize community events, flash mobs and parades to raise awareness in the entire community.

Aim of the paper is to showcase the project “100% Plastic” and the social impact it is having in Hawassa’s plastic waste management system and environment thanks to the combination of its business, institutional and social components. These factors are pivotal to ensure sustainability and a real social impact of cooperation projects, were the role of INGOs can bring a great added value to international cooperation for development. Moreover, non-formal methodologies embedded in development project to create skills and raise awareness can work alongside the development of new business models in order to make a change towards an integrated and sustainable society that respects human rights and dignity.

Keywords: Environment, Sustainability, Partnership and Projects, Ethiopia, NGO project, plastic, recycling.

A Social Investment in Agriculture: a sustainable model of social-impact investments aimed at improving refugees' working conditions and supporting local farmers in Lebanon

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The situation of protracted displacement of Syrian refugees in the Middle East, particularly in Lebanon, leads to a situation of severe economic instability and labor exploitation, especially in those areas with high density of refugee population coupled with the presence of sectors – such as agriculture – requiring low-cost labor force. This situation, while enabling an economic advantage for a few producers and landowners, exacerbates a situation of local conflict among the communities due to a fierce competition on unskilled jobs.

In some areas of Bekaa, for example, a Lebanese farmhand wage amounts to \$ 25 per day against the

\$ 13 daily wage of a Syrian male farmhand and \$ 4 for a Syrian female. Lebanese small farmers, on the other hand, struggle to cover their expenses through their products and to invest in the following season. The informal agricultural work system in these areas is complex and involves different counterparts. In extensive productive systems, the refugees' job demand goes through the "Shawish", a consolidated network of Syrian supervisors managing also child labor. They are the main intermediary channel between many refugee farmhands and agricultural producers and landowners.

The intervention presented aims to verify the feasibility conditions of a social investment model able to restore decent working conditions for Syrian refugees and creating at the same time growth- opportunities for the Lebanese agricultural producers and landowners.

The model envisages identifying and promoting investments in local agricultural value chains able to improve the production and, therefore, the gross economic yield of such sectors. Several studies conducted by the Food and Agriculture Organization of the United Nations and the Lebanese Ministry of Environment, as well as interviews conducted on field with Lebanese farmers, public institutions and both Local and International Non-Governmental Organizations, confirm a strong inefficiency in the agricultural sector, thus the possibility to increase productivity and proficiency through targeted investments. Following a clear negotiation path and the definition of ex-ante social and economic rules subscribed by all the actors involved, the added value ('delta') gained from the investment should be redistributed among the stakeholders involved (producer, landowners, workers and, possibly, the social investor) so as to ensure an improvement in the economic conditions of each counterpart. In particular, for refugee workers the expected results are economic improvements and a fair labor status. The social investment is therefore bound to a pre-agreed distribution of the added value aimed at ensuring decent economic conditions of the workers.

Social, economic and environmental analysis about the Lebanese agricultural sector are correlated to identify those fields in which investments can combine ecosystem restoration and dignified working opportunities, while enabling a solid development of farm businesses in Lebanon. Six different fields of intervention are presented to illustrate the potential of investing on Lebanese agricultural farms through the implementation of business development services. Cropping strategies to increase yields, soil protection techniques, compost production, wastewater treatment and renewable energy production can be combined with financial education on business management and product diversification to generate new resources through ethical investments focused on social responsibility.

Keywords: Environment, Sustainability, Partnership and Projects, Sustainable investment, Fair labor, Agriculture.

RIGHTS OF PARTICIPATION BY LOCAL STAKEHOLDERS IN THE GOVERNANCE OF RESOURCES

Tropical biodiversity hotspots as common goods: lessons from a long-term research and conservation programme in Tanzania

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Tropical rainforests represent the most important biome on earth for biological importance and provision of ecosystem services. Yet it is also the most eroded and threatened by human activities. Such biodiversity hotspots are common goods for the well-being of the local, national and international communities. The integration of biodiversity research and monitoring, the support to protected area efficiency and the conservation education to local communities are essential, mutually inter-dependent strategies for the long-term persistence of these critical areas. We showcase an example of local participation in specific contexts and reflect on global common goods in local settings, by presenting the long-term programme that MUSE - Trento Science Museum (recently joined by the University of Florence) and Mazingira Association have been conducting in the Udzungwa Mountains of Tanzania since the early 2000s. We coupled research, monitoring and biological exploration with community-based projects and international cooperation. In 2006, through its Tropical Biodiversity Section and in partnership with Tanzania National Parks (TANAPA), MUSE established the Udzungwa Ecological Monitoring Centre (UEMC), a field station of the Udzungwa Mountains National Park (UMNP). Its mission is to promote and facilitate biological research and monitoring and increase the knowledge of the outstanding biodiversity of the Udzungwa Mountains. UEMC also supports environmental education and, in general, efforts to increase people's awareness and appreciation of the park, effectively acting as an intermediary between the Park and the local community. Over the last 13 years (2006-2019) of activity, UEMC has hosted hundreds of researchers and students from all over the world, implemented important biodiversity monitoring programmes to assess the status and vulnerability of wildlife and the efficiency of the protected area, provided technical assistance to the park, conducted or facilitated higher education programmes with international and local Universities. To facilitate the integration between park and the local communities, and to boost conservation activities, in 2010 we founded the no-profit Mazingira Association. Mazingira has promoted an integrated programme of environmental conservation and development aid for the long-term preservation of natural resources. Its goal is facilitating local participation in the governance of natural resources, engaging indigenous peoples and local communities as the key component to the sustainable management of natural resources. Mazingira works with farmers, women groups, students, entrepreneurs, Village Community Banks, tourists and the relevant local institutions to preserve a common good such as the forests and change local attitude towards natural resource exploitation. Mazingira has diversified community-based conservation by trialling, with success, a number of strategies: top-down and bottom up approach, involvement of local institutions, eco-tourism as a way to make conservation profitable. The successful development process rests on building diversified and strong partnerships, locally, nationally and internationally. The MUSE-Mazingira systemic

programme is an example of how international actors such as Universities and Museums can join hands with local villages and organizations towards realizing the common goal of environment-friendly development.

Keywords: Tropical biodiversity, protected areas, community conservation, community empowerment, global citizenship education, common goods, participatory approach

Decentralised international cooperation: rescaling transboundary environmental governance through local community participation

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The concept of decentralised international cooperation focuses on the role played by local actors in shaping new governance solutions and practices for the joint conservation and sustainable management of shared natural resources and spaces. This concept aims to acknowledge and legitimise the role of local actors, especially local communities, in international environmental law and policy. It describes a global legal phenomenon that is emerging in different regions of the world and acquires a practical dimension when applied on the ground through so-called decentralised cooperative mechanisms. The effective participation of local communities in the conservation and sustainable use of natural resources at any governance level – local, national, regional, and international – finds solid bases in global and regional environmental treaties dealing with biodiversity protection. What is more, local communities can change and advance international environmental law both by applying it in practice and, increasingly, by participating in its development in institutional venues (like COPs and international conferences). In the southern African region, decentralised international cooperation is flourishing in the context of Transfrontier Conservation Areas (TFCAs). For instance, Joint Park Management Committees (JPMCs) are decentralised cross-border implementation structures responsible for enabling cooperative governance in specific portions of the Great Limpopo TFCA. Studying the composition and operativity of the JPMC operating in the Pafuri Area (which lies at the intersection between Mozambique, South Africa, and Zimbabwe) is relevant to disentangle the chain of representation that links local and international arenas, the impact of local community participation at different governance levels, and to what extent such participation can be characterised as democratic. The concept of decentralised international cooperation and the decentralised cooperative mechanism presented in this paper show that transboundary environmental governance does not operate exclusively under traditional intergovernmental cooperation, but has to be rescaled and articulated through context-specific governance mechanisms that enable the participation of local actors – in particular local communities – and their interaction across borders.

Keywords: Local communities, Participation, Transboundary governance, Cooperation, Protected areas.

Protection of historical heritage for the development of local communities in northern Mauritania

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In the Mauritanian region of Adrar, known for the important medieval cities of Chinguetti and Ouadane, there are significant archaeological sites dating back to the Neolithic, which testify to the area's fertility and a strong human presence. In particular, near the Moors nomadic village of El Beyedh there are extraordinary concentrations of artifacts, rock carvings and pre-Islamic burials. Thanks to the geographical position on the edge of the Guelb er-Richat and to a museum made by the elderly village chief in a small hut, El Beyedh is already a must for several Saharan tours and the microeconomics of the village benefits fairly from the small influx of tourists, mainly through the sale of souvenirs and Neolithic artifacts. In this extraordinary but fragile context, the Common Goods represent an important development opportunity but are often exploited without adequate awareness. The location of the village, at several hours of track from neighboring cities, guarantees the sustainability of tourist flows (few units per week) in terms of resources and pollution but the illegal sale of artifacts and the free access to the main sites represent a potential danger to the historical heritage and to the future prospects of the area. Following these analyzes, the NGO Bambini nel Deserto developed a cooperation project called "Musée du Désert" which aims at strengthening of the local community of El Beyedh through the enhancement and protection of the archaeological and historical-cultural heritage with a sustainability perspective. The objective is pursued through various planned actions:

- raising awareness among residents about the historical heritage through programs in the village school and through the creation of a small library with a section dedicated to local history and culture;
- the increase in opportunities related to sustainable and responsible tourism through the implementation of the museum, the construction of a small guesthouse and the activation of professional courses for guides and cooks/hotel operators;
- contrasting the activities of illegal trade in artefacts through the awareness of residents and merchants and the specific training of accredited guides and tour operators in collaboration with the Ministry of Tourism;
- the promotion of experimental initiatives to combat desertification and implement the productivity of the small existing fourage;
- support for research activities promoted by universities and institutions both in the archaeological field and in relation to environmental, social and technological issues, including the setting up of a laboratory and guest quarters partly reserved for researchers.

It is planned to build a museum, guest quarters and a small research center with sustainable architectural solutions, using exclusively local technologies and materials. Given the particularity of the context, the exhibition does not exclusively concern the archaeological aspect but focuses on the theme of human migration linked to climate change. A first exploratory mission in November 2018 made it possible to share the objectives with the local population, verify the feasibility of the project, collect the necessary technical information and establish the first contacts with the regional authorities. The project is developed by the NGO Bambini nel Deserto specialized in cooperation interventions in the Saharan and Sahelian areas in partnership with Taxibrousse studio and with local tour operators; a second mission is scheduled for November 2019 and the search for partnerships with universities, research centers and profit companies is underway.

Keywords: Archeology, Culture, Historical heritage, Sahara desert, Community development

The importance of local knowledge and perceptions of climate change and its impacts: a case study from small- scale farmers and institutions in the *Ceja the Selva* of Peru

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Climate change represents one of the most urgent challenges to sustainable development worldwide. Local knowledge and local perceptions of climate change and of its impacts at the local level are important to inform climate change research and policies. Rural populations and farmers are in a favourable position to provide first-hand observations of what climate change or climate variability means to them and might offer a deeper understanding of both the manifestation of climate change and its relevance and effects. This knowledge could contribute to identify regional and local diversified approaches to climate change which take into account the frames and the values that motivate and influence the behavior of people and their responses. However, looking at the vision that institutions and policymakers have on climate change and its effects is also important because, at various levels, these actors are responsible for implementing climate change mitigation and adaptation measures. Peru is considered among the 20 most vulnerable countries to climate change and its effects are already being felt in many areas. A case study from the Ceja the Selva of Peru, in the inter- Andean sector of the Amazonas Region, has been conducted to explore the perceptions and interpretations of climate change and its impacts from two different perspectives: institutions and smallholder farmers. Data collection involved 13 semi-structured interviews at the institutional level, 23 semi-structured interviews in two selected rural communities of the Region of Amazonas (Churuja and Valera) and 2 participatory workshops deploying Participatory Rural Appraisal tools. The most commonly reported indicators of change include higher temperatures, shifts in the rainy season and more frequent extreme weather events. As a consequence of these changes, reduced crop yield, greater incidence of coffee rust, increased difficulties with the organization of the agricultural calendar and new diseases for animals and humans were reported. In general, there was no contradiction between institution and farmer perceptions of climate change. However, the results of the research showed that the latter were better able to provide a detailed and extended explanation not only of the changes occurring in local climate but also of the effects that those changes were having on their livelihood. Farmers based their perceptions on lived experience and showed a deeper knowledge of their territory, while institutions, especially the governmental agencies, in many cases, demonstrated limited knowledge of the concrete impacts that climate change was having on the population and particularly on small scale agriculture. Moreover, institutions from different sectors highlighted the lack of historical climate data and of appropriate vulnerability studies, which are necessary to tailor adaptation measures and responses at the local level.

The study recommends enhancing participatory research spaces, dialogue and decision-making processes that lead to the co-designing of initiatives. This means promoting and triggering participatory, inclusive and human-centered processes, facilitating dialogic design processes in which multiple interlocutors, experts included, bring their contributions and knowledge, define and accept their own responsibilities and co-develop local initiatives. Decision-making process for programmes, policies and plans related to climate change should therefore actively involve those people who are directly affected by the impacts and showed to know the problems better (Altea L., 2019)¹.

¹ Altea, L. (2019). Perceptions of climate change and its impacts: a comparison between farmers and institutions in the Amazonas Region of Peru. *Climate and Development*, 1-13. (<https://doi.org/10.1080/17565529.2019.1605285>)

Keywords: Climate change; Perceptions, Smallholder farmers; institutions; Peru

Assessment of Gender Risks posed by Land Reclamation in Selected Communities along Manila Bay, Philippines

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Ongoing coastal development programs of reclamation, rehabilitation, and master planning pose various threats of civil, political, economic, social, and cultural rights violations to fisher folks and urban poor communities across the coasts of Manila Bay, a semi-enclosed marine water body of economic, ecological, and cultural importance whose coasts and watersheds are home to 23.21 million people. Of this, it is estimated that 11.24 million people are threatened by displacement from reclamation and its disaster risks. Meanwhile, there is an ongoing Manila Bay Sustainable Development Master Plan process (MBSDMP / Master Plan which will serve as a guide for decision-makers in the assessment and approval of programs/projects/ and activities, consistent to the national and local development plans in the Manila Bay. In these coastal resources development endeavors, there is a need to assess the impacts and risks of reclamation on the poor women and men and other vulnerable sectors in the context of a business-as-usual situation where land reclamation and even rehabilitation programs are threatening them with eviction, natural resource grabs, and loss of livelihoods. This assessment aims to establish a qualitative baseline on the compliance and recognition of gender issues and concerns by reclamation projects in Manila Bay. From the five sites of investigation in the provinces of Bataan, Bulacan, and Cavite, and the cities of Navotas and Manila, Philippines, community members perceived reclamation projects as drivers of disaster risks that compounds present threats to their various rights, including their right to information, right to self-determination, right to jobs, livelihoods, and social services, and right to property, safety, and security, among others. Also, the implementation of anti-people economic policies and development projects driven by government corruption in collusion with corporate greed were identified as the root causes of the various risks that pose a threat to their rights to property, jobs, livelihood, homes, ecological health, safety, and security, among others.

It is further exposed that none of these reclamation projects recognized the greater risks posed on women, and therefore has no particular interventions to address these risks. Reclamation proponents had nothing to offer to address the levels of inequality experienced by women across Manila Bay in terms of material services, accessibility of jobs and livelihood, space for participation in governance, and equity in determining the utilization and management of the environment, natural resources, and economies of their local communities.

The rights-based, participatory, and action-oriented approach in the process of the research and have also generated action from the men and women of communities in the sites of investigation. They have engaged in organizing their communities, building coalitions with various sectors of society, mobilizing for dialogues and protests, and leveraging governance mechanisms at various levels.

This research hopes to favorably influence the analysis and subsequent action planning of the ongoing process of the Manila Bay Sustainable Development Master Plan (MBSDMP). As such, it is recommended that a more comprehensive and gender risk and impact assessment be required to all proponents of reclamation, rehabilitation, master planning, and other coastal development activities.

Keywords: gender, reclamation, risk assessment

WOMEN EMPOWERMENT AND SUSTAINABLE AGRICULTURE DEVELOPMENT TO ACHIEVE FOOD SECURITY IN SOUTH SUDAN (WOSA)

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South Soudan is the newest country with widespread recognition, as it gained its independence from the Republic of the Soudan in 2011. South Soudan, in a East-Central Africa position, includes the vast swamp region of the *Sudd*, formed by the White Nile. South Soudan has a population of 12 million people, half of them under 18 years (2017, UN). This country has suffered ethic violence and has been in a civil war since 2013. For these reasons, the economy of South Sudan is predominantly based on subsistence agriculture with almost 60% of the total work forces engaged either directly or indirectly in this sector. Food insecurity is the major problem which occurs because some challenges such as low agricultural production determined by a rain fed farming system and characterized by short comings in term of lack of input, lack of structure and lack of knowledge. Among the most urgent needs for the population of South Soudan we can mention the following: to increase agricultural and zootechnical training courses, to have new agronomic techniques and more resistant crops to external shocks and stresses and new breeding techniques and breeds more adapted to the environment, to have new water systems both for human consumption and for irrigation purposes and to guarantee diversified agricultural production and a balanced diet with nourishing foods both of vegetable and animal origin. In this context, the Italian NGO VIDES (Volontariato Internazionale Donna Educazione Sviluppo) implements a project in the Gumbo district (villages of Sherikat, Jebel Lemon and Adodi), in the Women Promotion Centre under the Salesian Sisters of Don Bosco, that aims to strengthen the agricultural production introducing sustainable farming systems and sustainable ground water management, improving the skills and knowledge of the local population, women in particular, and increasing the production and marketing capacity of agricultural products. The project aims to promote the concept of food safety and the knowledge of correct sanitary standards. The Interdepartmental Centre of Research and Technical - Scientific Cooperation with Africa (CISAO) of the University of Turin is partner of the project collaborating to the diffusion of a sustainable approach in agriculture, animal breeding and ground water management and elaborating training and educational material. At a preliminary stage the CISAO elaborated a report containing a climate, hydrogeological and geomorphological setting at a regional level and detailed at a local scale for the area of interest in the Gumbo district. Technical data and information had to be found from the existing technical-scientific bibliography (papers, reports, documents...), public administrations and other subjects involved in the project (eg Ministry of Agriculture and Wau University). According to the project objectives, four new wells have been drilled in the villages of Gumbo, Sirikat, Jebel Lemon and Adodi. The wells were built near the individual plots assigned to the beneficiaries, in order to make water available for agricultural use with a sustainable approach management system. The hydrogeological team of the University of Turin has worked on the characterization of water performing analysis of the technical features of the wells. More specifically a phreatimeter (to measure water level in the wells) and a conductivity-meter and pH-meter (to measure pH and electrical conductivity in water samples were sent in South Sudan to directly collect information in situ. Chemical analyses were performed on nine samples of water from wells and surface water and the results have been compared to the current South Sudan legislation on water quality and the WHO (2011) to provide information about the quality of the water for human consumption in the studied area. According to the agricultural topic, 150 women,

who were vulnerable to the conditions facing the communities around Gumbo district, were trained on land preparation, planting methods, weeding practices, nursery preparation, plant protection, harvesting and post harvesting practices for crops, fruit, leafy and root vegetables. Practical application of modern agriculture practices for easy understanding was executed on the demonstration plots (common field) established in the field for the beneficiaries. Family poultry and goat breeding has been neglected by farmers in South Sudan as an insignificant occupation compared with other agricultural activities, but it can provide proteins for home consumption and cash for buying other food or facilities. For this reason the project trained women in poultry and goat keeping to improve their knowledge in modern but locally applicable systems and promote their spirit of self-reliance economically. Also for this training programme, theoretical courses have been alternated with practical activities in the demonstration farm. The project, whose activities are still ongoing, applies a participatory approach to increase the consciousness of the importance of sustainable systems for the management of natural resources, whether they are water, soil, pastures, plant essences or animal breeds.

Keywords: South Soudan, Food security, Agriculture, sustainable management of natural resources.

FOOD IN COMMONS: CIVIC PARTICIPATION AND LOCAL FOOD POLICIES

The Bergamo Food Policy Roundtable: some preliminary considerations around an urban food policy construction process

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Food is becoming an increasingly disputed issue in both the Global North and the Global South. Food security and food sovereignty are still influencing the everyday life of almost 1 billion people in the World. Indeed, the agro-industrial food system, based on the 'Green Revolution' will to feed the World, presents several emergencies and negative externalities which have been affecting people, the environment, and both global and local economy. Moreover, the ongoing financial and economic crisis has strengthened the corporate's economic and political power and it has exacerbated inequalities. It has also reduced the citizens' perception of security and the State's policies effectiveness. To face this scenario, cities in both the hemispheres, often pressured by citizens' demands to improve access to safer and healthier food, have started to experiment with new approaches to limit the environmental and social impact of the dominant agro-food system. This latter has been identified as the main responsible to some paradoxes which have been affected the contemporary society, especially for what concerns the increasing number of people undernourished or affected by obesity or overweight, the loss agrobiodiversity, and the growth of food waste. To rethink and try to solve these questions, at least at the local level, some cities have begun to adopt participatory approaches at the municipal level often started with the establishment of a Food Policy Council (FPC). Such strategy is based on the idea that to correct the externalities arising from the conventional agro-food system is essential to identify innovative solutions requiring the involvement of all the food actors. The idea of the Bergamo Food Policy grew out of this debate, with the goal of identifying ideas and practical solutions to these problems that could improve the urban food quality, providing healthier and more sustainable food that adequately remunerates all actors engaged in the food supply chain. At the same time, the idea is to set up a system of all initiatives for education, urban agriculture, local revitalization, and local agribusiness that already exist in the region. The process officially started in 2014 when the Municipality of Bergamo decided to take the lead of the process. However, in the city, an informal public forum for the discussion of key issues related to the food system has existed since 2007, when the local Solidarity Economic Network - called "Cittadinanza Sostenibile" - was formed involving different sustainable community movement organizations (SCMOs) such as the local GAS networks, fair trade and consumer cooperatives, Slow Food, environmental organizations, etc. While the activity of such grassroots network has been quite intense over the years, the idea of FPC has only started thanks to the local University commitment through the research project called 'Bergamo 2.035. A new urban concept'.

During the first years, thanks to the fact that the project was led by the local University, it was possible to involve many stakeholders of the local food system in the project, bringing together grassroots consumer organizations (such as GASs, Slow Food etc.), producers (mostly small local farmers), some local administrators, Coldiretti and Confagricoltura. Therefore, meetings were no

longer held at the local University and started to be called directly by the Municipality. After a reassessment phase where the mayor of the town of Bergamo took the responsibility to chair of the FPC, the researchers were invited to join the forum as representatives of the local university. Starting in 2015, all these actors started to periodically meet and work on the local food system. In 2017 a further development took place as the Municipality hosted a G7 meeting about sustainable agriculture and food security issues. Moreover, thanks to a public grant provided by the Regional Government, in 2017 an online platform, that collects all the initiatives related to sustainable agriculture and alternative forms of food distribution (previously mapped by the local university), has been created with the aim to enhance the relationships between consumers, producers and sellers, and encourage the best practices dissemination. More recently, the Agriculture Round Table (this was the first label of the FPC), has subscribed to the Milan Food Policy Pact and changed their name in Bergamo Food Policy Roundtable.

The FPC currently involves the mayor, other personnel of the municipality, producers' spokesmen, the two main agricultural entrepreneurs' representatives, thus, Coldiretti and Confagricoltura, researchers, professionals, and citizen associations and groups. In addition to the website, the group has produced informational material and press releases regarding the project, and it has established a monthly farmers' market which involved producers engaged in the main farmers' unions and organizations.

In this contribution, we would like to attempt some preliminary assessment of this ongoing participatory process, sharing our experience with the other participants to jointly reflect on the strengths and weakness of such participatory initiatives, as well as find out possible future strategies to improve the actors' cooperation.

Keywords: Urban food policies; Food Policy Council; Sustainable Agriculture.

La Piana del Cibo: an institutional innovation for food as a common good

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This contribution highlights the specific characteristics of the Lucca Food Policy, in the complex framework of organizational models suitable for the implementation of Local Food Policies.

The food policy started from the acknowledgment of the Milan Urban Food Policy Pact (MUFPP) to which the municipalities of Lucca and Capannori have adhered, but later it was developed through the affirmation of some key principles and the definition of five strategic lines of action, resulting from the participatory process implemented under Circular food.

The participatory project Circular food has been activated in 2018 in the area of the Plain of Lucca within the regulatory framework of the Tuscan regional law (L.R.) 46/2013 - Promotion of citizen participation in the processes of construction of regional and local policies. L.R. 46/2013 was adopted to promote the awareness of citizens and local administrations on the management of common goods. This law aims to “renew democracy and its institutions by integrating them with practices, processes and tools of participatory democracy.”, and thus it pursues a “greater social cohesion, through the diffusion of a culture of participation, valuing all forms of civic engagement, knowledge and skills disseminated in society”.

Circular food's discussion theme is food as a common good and the project tried to define public actions to reinforce this vision. Five municipalities decided to tackle together the theme of local food policy, through the participatory planning method, with the aim to implement an Inter-communal Food Plan, the so-called Piano del Cibo.

Piano del Cibo establishes a new model of governance that includes three elements: (a) the Assembly of Mayors with functions of direction and assisted by (b) the Office of the Food Plan with functions of secretariat and coordination, and (c) the Food Agorà, which brings together citizens, actors in the local supply chains and the third sector and which has the task of discussing the actions to be taken and the priorities for action.

The Food Plan includes a set of actions aiming to improve the production, distribution and consumption of food, in order to guarantee the right to healthy food for the population of the Lucca Plain. Moreover, it is an example of inter-municipality governance model in the field of food policies, aiming towards sustainability and the right to food.

The plan highlights the need of encouraging development and sharing practices and knowledge not only between actors of the same food systems but also between different administrations and municipalities. Indeed, one of the objectives of the plan is to exchange and disseminate knowledge and good practices, since Circular food project revealed that skills and best practices already exist in many municipalities.

The Food Plan will have to face many challenges, both in the short and long term, such as to ensure diversification, participation, sharing and coordination among the various actors.

The main innovative characteristics of the Food Plan are the following:

Citizens engagement needs to result in an active contribution to the co-planning activity of the food plan, and not only consists in the attendance at project meetings;

The theme of food needs to be included as a priority into the local political agenda.

At present, not only food is not included in the political agenda, but there is no political leadership responsible for food policies, able to dialogue with citizens and local stakeholders. In this framework, the political challenge is to bring the issue of food to light pointing out that food may constitute also an opportunity for territorial development.

To set a model of governance for five local authorities with separate offices, services, contracts, projects and often without any contact or information exchange among them. The lack of a common model of governance causes the lack of optimized administrative processes. Indeed, the main administrative challenge is to define a model of governance for food policies in the plain of Lucca.

Keywords: Participation Governance Innovation Citizenship

Food systems as commons. A chance for urban food planning in the Global South?

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In the contemporary world, with rare exceptions, food products are classic market goods, whose produced quantities and whose economic value are linked to the dynamics of supply and demand. How the commodity nature of food is linked to the affirmation of the right of every man to adequate nutrition? Is it possible to consider food as a commons, as some of the elements used to produce it (for example, water and soil) are?

This contribution reflects on the possibilities and on the limits of the use of the category of commons talking about food, proposing a shift in the adopted perspective, from food itself to the food system, as the combination of all the activities connected to production, transformation, distribution, consumption and post-consumption of food and all the related institutions and the regulatory activities (Pothukuchi and Kaufman, 1999).

This argument is supported exploring two important “pillars” of alternative food geographies, such as alternative agri-food networks (Alternative Food Networks), and urban food strategies (Wiskerke 2000). These practices, initiated both in contexts of criticism of the dominant system (AFN) and in the institutional sphere (UFS) consolidate a progressive overcoming of the conception of food as a purely economic good, contributing to spread a more complex and broader vision, including the relationship with the territory and its actors, environmental sustainability, socio-spatial justice.

The proposed perspective assumes a peculiar meaning if we think at urban food systems in the Global South, where urban food strategies relying on a commons understanding of the food system could support effective actions against food insecurity and unsustainable management of local resources.

References

- Pettenati G., Toldo A. e Ferrando T. (2018), “The food system as a commons”, in Vivero-Pol J.L., Ferrando T., De Schutter O., Mattei U., Routledge Handbook of Food as a Commons, London, Routledge
- POTHUKUCHI K., KAUFMAN J., “The food system: A stranger to the planning field”, Journal of the American Planning Association, 66, 2000, n. 2, pp. 113-124.
- WISKERKE J.S.C., “On places lost and places regained: Reflections on the alternative food geography and sustainable regional development”, International Planning Studies, 14, 2009, n. 4, pp. 369-387

Keywords: food systems, commons, alternative food geographies

BUILDING LOCAL FOOD GOVERNANCE SYSTEMS. THE CASE OF THE FOOD PLAN OF THE PISA PROVINCE

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In a context of acknowledged need for a transition to more sustainable food systems, the building of a new food governance system is crucial. The complexity of the changes that are needed in the institutional practices and in the production and consumption models, but also the need to give space to all the issues and potentials that emerge show the necessity to define new governance models, able to guarantee an integrated management of food-related issues/sectors and adequate operational and decision-making mechanisms.

Within a framework of multi-level governance, the empirical evidence shows that the pathways of innovation developing at the local scale are particularly interesting. Here you can find different connectedness among the public and private actors involved, institutional flexibility, and chances to experiment with innovative solutions. The urban contexts represent significant potential spaces of innovation in this regard. Indeed, cities have been experiencing significant pathways of technical, organizational, institutional and social change to face the problems related to food. The urban food strategies that developed in a number of Western Countries are expressions of this potential.

This paper analyses an initiative that took place in Tuscany (Italy), in the territory of Pisa province. Here, from 2009 to 2015, public and private actors have been interacting around the design and implementation of an integrated urban food strategy. By taking into consideration the features of the context and the dynamics that characterized the process, which ended without a positive outcome, the paper critically analyses the challenges and the weaknesses emerged. The problems related to the active and continuative involvement of the public actors, to the participation of the various expression of civil society, and to the implementation of an institutional environment conducive to the exercise of food democracy are among the main issues analysed.

Keywords: food governance, urban food strategy, food democracy

LOCAL QUALITY FOOD AGENDA (Camaioire)

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Food local aspects are taking on new importance to the eyes of the communities. Alongside more theoretical constructions developed by researchers working in multiple disciplines, we find territorial experiences differently characterized as a function of stakeholders, consumers, producers, institutions. Local participants are usually involved in participatory processes where food becomes a frontier object for interactions which re-design visions, targets, practices and conceptual frames that see food access - in its multifunctional components and relations with production and local resources - emerge below cognitive dimensions, organizational spaces and new work rules. Public policies as well, after an early aloofness, disclose interest facilitating collective processes underlying social innovation actions. The actions, aimed to a new interpretation of food as a resource for communities, facilitate intervention- research processes where balance, between practical elements and tangible results, alternates with the need of providing firm methodological bases to assure required transitions and useful interpretations for new collective awareness. The paper is focused on local food, starting from the analysis of Camaioire municipality case: here, thanks to Tuscany law on participation, since 2016 has been launched a new narration of the local food supply chains. The initiative, started by a group of producers, has attracted the support of municipality and a facilitation-research group. The process, still in progress, provided innovative results: improving worth of local products, increasing the sense toward food theme, developing interactions within agri-food system actors offering useful lessons from theoretical and operational point of view.

Keywords: local food, communities, local supply chains

STUDENTS AS PROTAGONISTS

ADVANCED TRAINING COURSE FOR MYANMAR GENERAL PRACTITIONERS: CONTEXT ANALYSIS CONDUCTED BY STUDENTS

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The University of Parma and the University of Medicine 1 of Yangon have signed a collaboration agreement foreseeing bilateral exchanges of students and professors, and joint participation to research and cooperation projects. Financing received by the MIUR and by the European Union are allowing to foster reciprocal exchanges of students, professors and administrative personnel, and to enhance collaboration with civil society organizations. The collaboration between the two Universities, the General Practitioners Society of Myanmar and the Emilia-Romagna Region has led to the programming of an advanced training course for four Myanmar general practitioners, with the aim of providing them with the expertise necessary to become trainers of their Myanmar colleagues, in view of an idea of global citizenship. The final purpose of this initiative is that of supporting and encouraging the quality improvement of the health services in rural areas of Myanmar, within the field of primary health care.

The programming of this advanced training course clashes with difficulties as related to the cultural and social differences between the two contexts. Indeed, the country providing the training is a country based on democracy for over 70 years, with high-income, of western culture, laic but with Christian origins, whilst the country receiving the training is a country recently exiting a 50 years military dictatorship, with low income, of eastern culture, having its roots in the Buddhist tradition. Thus, in order to organize the training course, it is necessary to conduct an in-depth context analysis providing the course's organizers with understanding on the teaching methodologies used in Myanmar, on the developments of the political situation, on the education needs of medical doctors and on the health needs of the population of rural areas of Myanmar.

The frequent contacts between the professors of the two universities and the representatives of the civil society organizations involved have provided useful information but, however, they have not allowed for an adequate context analysis. Hence, in order to deepen the analysis, it was considered helpful the contribute of the students that, in different modalities, are taking part in the project. The students of medicine of the University of Parma experiencing a period of 1-3 months internship in the health facilities of Myanmar, have the possibility to actively know and understand the teaching methodologies used in that country, to come into contact with the real social and health situation, and to evaluate the differences with their country. The Myanmar medical students coming to Parma are bearers of the educational habits, of the cultural specificities and of the health needs of their country. In addition, Italian students of other faculties such as sociology, social services and international relations have been involved in the context analysis as they are bearers of critical analysis skills gained during their studies and as they are expression of the evolution of the society in a global sense, and hence bearers of a more dynamic idea of citizenship.

The results of the analysis conducted in collaboration between students and professors, despite still being in an elaboration phase, have evidenced cultural characteristics, social practices and important aspects of the Myanmar health system that could represent best practices for the improvement of the Italian health system.

The collaboration between students and professors, beside facilitating the programming of the advanced training course, has also led, unexpectedly, to the idea of developing an Italy-Myanmar laboratory for exchanges of best practices in the field of primary care.

In conclusion, the idea of involving students in a university cooperation project has led to positive results, beyond expectations. Indeed, the students, being bearers of an intellectual and cultural dynamism which is typical of their age and being protagonists of an ever more globalized world, have provided an essential contribution to the understanding of global citizenship as a common good.

Keywords: Global Health, Development

CARDIO-VASCULAR RISK FACTORS IN CAMEROON: STUDENTS PROTAGONISTS

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The University of Parma welcomes nearly 300 Cameroon students, with the Cameroon population being the most numerous community of international students of the University. Such a high representation, certainly more superior of the ones of all other Italian universities, could be explained by the intense collaboration between the Cameroon Students Association and the Academic Center for International Cooperation of the University of Parma in the common programming of projects aimed at enhancing the presence of international students at the University of Parma.

Specifically, the Cameroon students of the Faculty of Medicine and Surgery have launched a research project in collaboration with the professors of the Faculty of Medicine and Surgery of the University of Parma and with the professors of the University of Dschang (Cameroon). Scientific data are jointly collected by Cameroon and Italian students of the University of Parma during field mission in Cameroon. The project concerns the analysis of cardio-vascular risk factors as present in some areas of Cameroon. The lifestyles of the Italian population and those of the Cameroon one are extremely different hence, it is likely that even cardio-vascular risk factors are very diverse.

In order to conduct the study, some Cameroon students of the degree course of Medicine and Surgery and of the degree course of Nursing have organized, and are still organizing, some field mission for Italian students led by Cameroon students at the University of Dschang and other health facilities of that region. The students organize, in collaboration with the students of the University of Dschang some days of meeting with the local population in order to collect information on their lifestyles and on the cardio-vascular risk factors. The data collected, stored in a database as prepared by professors of the University of Dschang, will then be systematically analyzed in collaboration with professors of the University of Parma. The study is still ongoing, but some preliminary results have been already exposed by the Cameroon students of the University of Parma in their degree thesis.

A potential important interest of the research consists in the possibility of individuating risk factors different from the ones already known for the Italian population that could concern both Italian citizens and the numerous citizens coming from Sub-Saharan countries having residence in Italy. This project, conceived from the initiative of young students, represents an example of the pivotal contribution that young students can provide to the idea of global health as a common good.

Keywords: Global Health Primary Health Care Development

GLOBAL HEALTH AS THEATRE PERFORMANCE: A MASTERCLASS ON PUBLIC AWARENESS WITH UNIVERSITY STUDENTS

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Context

The public communication of science is one of the most challenging issues in our “knowledge society”: lack of interest from citizens, fake news, difficulty in access clear information are only some factors that make science far from citizens (Annuario Scienza e Società 2016 -2017 - 2018). The question becomes still more difficult when our communication is aimed at raising awareness on specific science issues, with the objective of making people aware of contents and stimulate them to act differently (Bucchi-Neresini 2010¹; Bauer 2014³). In these cases traditional communication formats do not work, because they attract mainly people who are already “sensitive” to the topics (let’s think about public conferences or journalistic articles) and do not succeed in attracting new audience segments. Innovative formats of communication, using creativity and culture, can help in attracting a wider audience, in order to make people curious and closer to themes usually perceived as distant.

Doctors with Africa Cuamm and the Global Health Festival

We want to propose here a specific case of science communication that Doctors with Africa Cuamm presented last April in the context of the Global Health Festival held in Padova (www.festivalsaluteglobale.it). Doctors with Africa Cuamm has a long experience on Global Health issues, specifically with University students and schools: since 2011 the NGO has been carrying out outreach seminars, academic courses for students, trainings for health professionals in the field of global health and has reached more than 2800 persons in Italy.

Thanks to this experience, Cuamm has decided to organize an event addressed to young people (aged 19-30) in order to raise awareness on global health topics. Usually youngsters do not know what global health is or, possibly, they think it is something very distant from their everyday experience.

the project: “global health theatre masterclass”

For these reasons, Cuamm decided to propose a “global health theatre masterclass”, a cross-cultural activity aimed at involving both students already aware of global health importance and students who were mainly attracted by a cultural opportunity (and who had not been exposed before to global health issues).

The activity was a masterclass composed by 6 meetings for 12 university students from different faculties led by a theatre director and a final performance held in a popular theatre of Padova during the Global Health Festival.

The masterclass on one side gave students basic skills about acting, on the other side it encouraged students to discuss about global health issues: students were free to bring their own experiences, doubts and thoughts. No narrative plot was decided *ex-ante*, but the theatre performance was decided thanks to the contributions of each student. The themes students brought to attention and discussion have been: nutrition, social determinants of health (i.e. richness/poverty or living in cities/living in suburbs), role of education on health, recycling and environmental pollution.

With the help of the artistic director, all the above-mentioned themes conveyed in the plot of a theatre performance, written by a playwright and played by 12 students and 3 professional actors.

³¹Bucchi M, Neresini F, *Which indicators for the new public engagement activities? An exploratory study of European research institutions*, in Public Understanding of Science, 2010

Bauer M, A word from the Editor on the special issue on ‘Public Engagement’, in Public Understanding of science, 2014 Jan.

The performance took place on Saturday night in a popular theatre of the city center and all the 250 seats (mainly young people) were sold out. The performance is replicable.

Lessons learned:

- **Cross-cultural projects allow to reach a wider public:** on one side people interested in scientific issues (in this case global health) and on the other side people interested in cultural format (in this case acting classes) who otherwise would never get in contact with the theme.
- **Involving students in the construction of the performance make them closer to the themes and make them act as ambassadors of the project:** audience development has been the key success of the initiative.
- **Science and art/culture should not be perceived as alternative/dichotomous:** they can work together in order to create innovation in communication of science.

Keywords: Public outreach, public engagement, public awareness, science communication, university students, engagement through arts

Vet For Africa: an experience of international solidarity of the students of veterinary medicine at the University of Bologna

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The contribute illustrates the volunteering engagement activities involving veterinary students in and out of Africa.

As from 2003, students of veterinary medicine of the University of Bologna have been carrying out a solidarity project at the village of Hanga, south Tanzania. The context of the intervention is a monastery of Benedictine african monks that - similarly to the Italian Benedictine tradition of the middle age - have promoted the development of the village through several activities starting within the monastic community.

Hanga Monastery has now become a recognized center for the health and education services but also for the cattle and poultry farming.

Since 2003, more than 50 students of veterinary medicine have spent a voluntary period at Hanga, to support the activities of the cattle and chicken farms thanks to the competences and skills acquired during their studies. Students are in charge of the health of the animals, they supervise the management of the farm, provide updated information on how to prevent diseases and give advices on how to improve the nutritional status and the productivity of the animals.

The students are supervised by the professors of the veterinary school of the University of Bologna as well as by veterinary practitioners that give their support to the initiative on a voluntary basis.

Beside the veterinary activities, students are constantly involved in the life of the village, promoting further initiatives such as courses of hygiene and nutrition for the children of the schools and courses of animal production for the farmers of the village. The improvement of the facilities of the primary school, the building of a new dormitory for the accommodation of children coming from remote villages (supported by an Italian pharmaceutical company), the building of the library of the village (funded by the Italian Bishops Conference) are all the result of students initiatives. Students are directly involved in the planning of the initiatives as well as in the crowd funding.

In order to provide a better organization to the initiatives, in 2014 the students, together with the other participants to the projects, have founded the association “Vet For Africa”, a nonprofit organization affiliated to the ACLI, the Christian Association of Italian Workers. The association supported the University of Bologna UNIBO4Refugees initiative by launching a training in animal farming for subsequent job placement.

“Vet for Africa” is also involved in service learning and social engagement activities related to the African continent.

Since 2014, Vet for Africa, together with the Department of Veterinary Medical Sciences, has been involved in two different international cooperation projects funded respectively by the Emilia Romagna Region and the MAECI/AICS (Ministry of foreign affairs and international cooperation/Italian agency for development cooperation). The first project, named VETBOME, is aimed to improve the veterinary education in the Tigray region and it is run in collaboration with Mekelle University (Ethiopia). The second project, named Fair Agro-Zootecnical Regional Empowerment in Tanzania” is run in collaboration with in collaboration with “COPE” (Cooperazione Paesi Emergenti). This latter has been included in the “Field work” credit mobility initiative devoted to UNIBO masters’students. The above extracurricular activities are just some examples of initiatives that have been run, from more than 15 years, giving a valuable contribution to the education of students to become skilled professionals and responsible citizens.

Keywords: Students, Veterinary international cooperation, Inclusion

DÉVELO ASSOCIATION: AN EXAMPLE OF STUDENTS INVOLVEMENT IN INTERNATIONAL COOPERATION BETWEEN UNIVERSITIES

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DéVELO Association

The Earth provides all that we need to live and thrive. So, what will it take for humanity to live within the means of one planet?

Individuals and institutions worldwide must begin to recognize ecological limits and human development trade-offs. This means investing in technology and infrastructure that will allow us to operate in a resource-constrained world while implementing development models that considers the 'climate justice' principle.

In this context, the role of Universities in International Cooperation (IC) has grown thanks to the overthrow of transfer process (technology, financial resources, skills) in favour of the endogenous growth, local capacity building through the sharing of knowledge, aiming the development of a new and original cultural synthesis (L. Sarli et al. 2015).

In this context the role of University answers to the need of more and more locally adapted cooperation, based on "long period and common interests" partnerships aimed to high efficiency capacity building interventions.

If we look at the University as a sample of the educated population who should be able to find new and smart paradigms in the context of the global crisis, it appears clear how the ability of the academic world to fulfil this task relies completely upon the willingness of each components of the university to discuss, to interact and to push a community leading vision, a general asset of values, connected with competences and skills, that can stand the global crisis and promote a new development paradigm.

In this light, what could make the difference, is the presence, or absence, of students in this field: IC recalls more and more students as a stage for their practical internships. At the same time the experience in IC allows students to face the "delicate theme of human development" on their own skin, as it is a core concern in everybody's everyday life.

At the State University of Milan, inside the Faculty of Agronomy, the association called "DéVELO" is, since few years, carrying the voice of the students who are interested and who want to get involved in this field.

DéVELO's role is to act in favour of the Academic Internationalization, namely regarding participation of students and professors to IC projects and to valorise the result of these exchanges in order to make better training for the other students and professors, in Italy. In fact, empirical research shows that contacts and interactions between different groups are the best way to positively change possible negative prejudices, and to help cooperation.²

Since 2013, DéVELO has implemented several activities in Italy and abroad: the crowdfunding called "UNI-MI-MAK: from students to students", promoted during EXPO2015, aimed at collect money in order to activate scholarships at the Faculty of Agrosience at the University of Makeni in Sierra Leone, which was previously created through a collaboration of the University of Milan Department of Agri-Environmental Sciences with the Saint Lawrence Foundation and the Ministry of Education in Sierra Leone.

During the EXPO2015 DéVELO also collaborated with NGO Fondazione Acra, FAO and the Municipality of Milan in the framework of the "Microgardens" program in Dakar and Milan. The collaboration with Ingegneri Senza Frontiere association and COOPI NGO within the SI'PO'FA' project sow the implementation of peer-to-peer educational actions on agri-food system issue in Milanese schools. In 2017 with UNIMI (University of Milan) and specifically with CR SHUS (Sustainability and Human Security), DéVELO organized a series of seminars called 'Sustainable Cities'.

From 2017 to 2019, in collaboration with the University of Milan Department of Agri-Environmental Sciences, the University Notre Dame of Haiti and CISV NGO, DéVELO led a project in Haiti called IFAH

(Learn and Do in Haiti) whose aim was to reduce aflatoxins contamination in corn and sorghum products and to ameliorate local food quality and agricultural practices in order to create more adaptive agroecosystems.

In 2018, also thanks to the IFAH project, Dévelo earned the Bologna Sustainability Award for the innovative approach toward self-implication of students in the field of International Aid.

Finally, since 2019, Dévelo collaborate also with AIDA (Italian association for Agroecology) with the aim of developing and diffusing an agroecological approach for land management and with the aim of creating synergies with other student groups and associations willing to connect the academic world with the problematics and issues of critical contexts, such as the 'Global South', and to spread widely in interdisciplinary contexts alternative ways of human development thinking and planning.

Keywords: Agroecology

WORKSHOP CHIASMA 2019 – A PARTICIPATORY PROCESS FOR S. MARTINO

Associazione Acropoli Trento

Chiasma is an intense design&make workshop, organized by the university Association Acropoli on an annual basis. It represents an opportunity for students and young architects to develop a project through all its phases, from conception to realization, considering a limited time of one week.

In its third edition, Chiasma will take place in an urban context within the city of Trento, via San Martino. San Martino is a historic neighborhood with a strong identity and sense of belonging perceived by inhabitants and economic, social-cultural players. Despite its proximity and connection with the old town, until a few years ago this area was considered marginal. Recently, the neighborhood has experienced a series of transformations, for example the conversion of via San Martino into a pedestrian-only zone. As a consequence, the street is now a wide empty boulevard which needs to express its potential: the idea is to create the urban furniture of the street involving the district users.

The process we figured out is composed of four phases: involvement, design, construction, management.

The first phase is developed as a participatory planning process. The goal is to share with the entire community the strategic and management processes of urban planning in order to understand and identify their needs and eventually develop the best project solution.

The participatory planning process is divided into more phases. The first one, a quantitative analysis, aims to identify and categorize the different actors who live the area. To achieve this target, inhabitants and salesmen are invited to fill in a map which describes the structure of the social and cultural relationships of the entire neighborhood.

The second phase is a qualitative analysis. Some meetings are organized, as well as discussion moments with different actors (residents, traders), creating what is called a focus group. Within these meetings, participants are invited to express their wishes, identifying functions and activities they would like to experience throughout the street. It is extremely important to link desires with activities and not with physical objects. During these moments it is essential to own great listening and communication skills. In fact, the result of the process must fit real needs and desires. At this stage, the purpose is to elaborate data and to extract relevant information. The meetings are also great occasions to identify different users as promoter of the entire process. In the following paragraph are presented the different ideas emerged on the map and in the first focus group. San Martino is seen as a sort of village within the city, with its own independence. It is strongly linked to its past as artisan and commercial district. Besides, the pedestrian zone in Via San Martino confirms the perception of the street as the heart of the neighborhood, which is now considered the village square. On the other hand, as the form of this space is not a square, some other users consider the street as a boulevard and perceive the void of the street as a positive aspect. Consequently, it turned out the need to create a movable and flexible furniture, in order to make people feel a sense of continuity and perceive the entire boulevard/square as a single space. Users also underline the necessity to bring different activities in the street such as open-air cinema and cultural debates.

Children must not be forgotten: the presence of the school Sanzio, which overlooks Via san Martino, is extremely strong and will certainly influence the result of the entire process. Another fact that has to be considered is that a minor part of the users do not support the process in action: they perceive as undermined their possibility to freely and widely use the road for different events and activities.

All the aspects emerged during the different focus groups will be eventually discussed, reprocessed and rearranged, before being presented in a final product: the material will be used as a starting point for workshop participants. The documentation phase will be transformed into a real and physical product. Participants will be guided by three international architects: Campomarzio, Brett Mahon and Sports Collaborative. The artifact will be able to encourage contacts between different actors and to activate urban regeneration processes. During this step, designers will deal with limits and instructions given by administrative bodies.

In order to allow the entire process, it was fundamental to relate with different realities: the municipality of Trento (Ufficio dei Beni Comuni) and the neighborhood committee San Martino Dentro. The association Acropoli, together with these two entities, stipulated a collaboration agreement. The pact is an official document, which establishes rights and obligations of the different parties. The association receives the permission to intervene on public property and the committee declares to take care of the artifact once created.

Keywords: participation, community, identity, stakeholders

ONE HEALTH: MULTI-SECTORAL AND MULTI-STAKEHOLDER APPROACH TO PROMOTE HEALTH AND SUSTAINABLE DEVELOPMENT AT LOCAL AND GLOBAL LEVEL

Ricerca antropologica per lo sviluppo sostenibile

F. Declich

Università di Urbino Carlo Bo

La offerta di servizi sanitari nel corso di progetti di sviluppo in PvS si scontra spesso con concezioni della salute diverse da quella occidentale e con eziologie della malattia che non combaciano con la visione della medicina occidentale. Il rischio di questo scarto semantico è non solo la incomunicabilità rispetto alla richiesta di salute che si incontra dove si intendono offrire servizi, ma anche la inefficacia del servizio che si vuole proporre nelle strutture proposte. Per questo in diversi paesi è stata realizzata da anni un'integrazione tra i servizi che riconoscono l'importanza del concetto di malattia degli utenti e quindi anche del come viene concepito un processo di cura. Uno dei casi esemplari è quello del Cile, con l'inserimento delle machi, curatrici Mapuche, nel sistema nazionale sanitario. Questo paper vuole esemplificare il ruolo che ha la ricerca antropologica in questo campo per garantire servizi più efficaci e all'interno dei quali si possa realizzare una reale interazione tra gli operatori e gli utenti. I primi sono portatori di un concetto di medicina occidentale che però è in realtà anche un indotto importante in termini di infrastrutture indispensabili, di rete di servizi e di disponibilità di prodotti farmaceutici, e gli utenti che, essendo portatori di diverse concezioni di malattia e di medicina, vedono solo la superficie degli effetti del sistema occidentale di cura e non comprendono la crucialità dell'indotto e del mercato che vi è sottostante. Lo studio di questo scarto di significati, svolto tramite metodologie che vanno dall'intervista aperta al questionario e che prevedono la ricerca etnografica sul campo, ha un ruolo chiave per la realizzazione di servizi di salute che rientrino nel quadro di uno sviluppo sostenibile. Si porteranno esempi di una ricerca svolta in Somalia sulla domanda e la offerta di salute che rivela come la domanda di salute non solo è espressa in forme diverse da quelle che gli operatori sanitari dei progetti si attendono, ma deve essere decodificata per poter offrire servizi efficaci e sostenibili nel tempo sia per i costi che perché vi sia una partecipazione e appropriazione locale.

Keywords: Public health, salute pubblica, domanda di salute, offerta di salute, bisogni sanitari, medicina tradizionale, sostenibilità servizi sanitari

Parasitic zoonoses control through a One Health approach: experiences from the South and the North of the World

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Parasitic zoonoses are communicable diseases caused by protozoa, helminths and arthropods, which are transmitted between humans and animals. Most of these parasites have a complex life cycle, with human beings acting as definitive or accidental hosts. The epidemiological role of different species of domestic and wild animals is crucial for parasites' maintenance and transmission to humans. Human health is usually guaranteed by food safety measures (e.g. meat inspection for taeniasis, water sanitation for giardiasis and cryptosporidiosis, etc.), either through improvement of hygienic standards (proper management of sewer to prevent environmental contamination with *Taenia saginata* and *T. solium* eggs) and biosecurity procedures (infested offal destruction during slaughtering to prevent cystic echinococcosis transmission; diagnostic test at slaughterhouse for trichinellosis). However, rarely the surveillance of these parasitic zoonoses integrates together the aforementioned actions with other actions directly aimed at reducing the circulation of the parasites in the animal population. Besides, the knowledge of the animal epidemiology of these parasites by the medical staff committed to their control in the human population is often inadequate, and the same could be said for veterinary staff with respect to the epidemiological spread in humans.

In the South of the World, human health is highly threatened by parasitic diseases, since the poor socio-economic conditions of the people living in these areas facilitate the endemicity of such infections. In fact, the WHO defined and identified a list of diseases prevailing in tropical and subtropical conditions, and named them as "Neglected Zoonotic Diseases". These diseases are mainly affecting "populations living in poverty, without adequate sanitation and in close contact with infectious vectors and domestic animals". In this list, parasitic zoonoses (e.g. taeniasis, neurocysticercosis, cystic echinococcosis, leishmaniasis) are well represented. Therefore, the control of transmissible diseases should be one of the priorities of international donors and implementing agencies acting in the field of international cooperation, but often they focus on training and direct health interventions, such as vaccination campaigns and disease treatments. The achievement of an appropriate knowledge of transmissible disease epidemiology in the intervention areas and the up- grading of planning and operational capacities of local institutions devoted to animal and public health surveillance are rarely included in project design and implementation. Academic institutions may play an important role in supporting development actors to fill this gap and this process can be facilitated in long-term interventions. An interesting example of such a long-term cooperation is represented by the initiative undertaken by the Italian NGOs SIVtro VSF Italy and Africa 70 and the Sahrawi Veterinary Direction (Saharawi refugee camps, north Africa). This cooperation activity aimed to structure and upgrade the routine activities in animal health and food safety of the local institution, with an emphasis on the control of transmissible infections. The collaboration was successful thanks to a multi-stakeholder approach, which included also research institutions and universities.

Various studies concerned, among other topics, with the problem of transmissible diseases (e.g. cystic echinococcosis and toxoplasmosis) have been carried out since the year 2000 to address knowledge gaps identified by local actors and projects' staff

Many scientific products were developed, including scientific papers, but the more relevant outputs consisted in providing answers to locally raised issues (e.g. the possible involvement of stray dogs in cystic echinococcosis diffusion was highlighted; a limited circulation of toxoplasmosis was

identified and the risks for humans assessed). Systemic synergies between human and veterinary medicine in the control of zoonotic diseases can be fruitfully investigated thanks to economics. The identification and estimation of the economic consequences of any disease is of paramount importance to guide the decision-makers in a more cost-effective use of available resources. We are still lacking standardized and well-recognized models for integrating the epidemiologic and the economic assessments of zoonotic diseases. A recent study addressed this problem by using concepts and procedures of the holistic “One Health” paradigm. The method was based on transdisciplinarity and system thinking, with the aim to design the evaluation and data collection of two case-study diseases (cystic echinococcosis and leishmaniasis), currently emerging in the Veneto region (north-eastern Italy), which represents a typical area belonging to a developed country.

The transdisciplinary and systemic approach in the evaluation of disease impact and appropriate control measures applied in this pilot study in north-eastern Italy appears interesting and promising, showing a good reproducibility and versatility of the methodology. In times of limited financial resources, this study can be transformed into an operational tool for the control of parasitic zoonoses also in the context of the Global South, where it is urgently needed the setting of a formalized protocol for the institutional cooperation through a One Health approach.

The experience of the Multi-Stakeholder Platforms to enhance the resilience of pastoral communities in the Somali region of Ethiopia

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In the framework of the program financed by the Italian Agency for Development Cooperation (AICS) in response to the humanitarian emergency caused by El Niño in Ethiopia, *Comitato Collaborazione Medica* (CCM) partnered with *Comitato per lo Sviluppo dei Popoli* (CISP) to foster the resilience of local communities in three districts of Somali Region (namely Filtu, Dekasuftu and Kersadula *woredas* of Liben zone, in the south-eastern region of the country). The initiative '*An integrated approach to improve the living conditions and strengthen the resilience of pastoral and agro-pastoral communities affected by drought in the Somali Regional State*' started in October 2018 and will last 16 months.

The action supports an integrated trans-disciplinary approach to promote the wellbeing and health of pastoral communities, their livestock and surrounding environment, with the final goals of strengthening the mechanisms of community resilience and mitigating the effects of drought. The proposed approach builds on the results of the One Health (OH) operational research conducted by CCM in 2015-2016 and capitalises the long-term experience of both organisations in community-based projects, specifically in pastoral areas. Recognizing the close interrelation of human, animal and environmental health, the OH approach proposes a multisectoral collaboration to address and reduce the health risks and reach the sustainable development of local communities. In this framework, the project tackles community needs in different sectors, including health, water, natural resource management, agriculture and food security. Based on each organisation expertise, CCM has taken responsibility of the (animal and human) health activities whereas CISP of water, agriculture and environmental actions. The project was designed and is implemented in coordination and cooperation with local authorities and local communities, ensuring a continuous exchange among parties and the alignment with district priorities and development plans.

The project success is guaranteed by the promotion of an integrated multi-disciplinary community approach capable of stimulating and sustaining the collaboration and cooperation of different actors in the identification of effective solutions to community problems. This is achieved through the creation of Multi-Stakeholders Platforms (MSP), a place of exchange and community dialogue that gives the opportunity to all its members to participate in the identification of common strategies to improve agricultural productivity and nutrition, management and protection of natural resources, health and well-being of the humans and animals, mitigation of environmental risks.

One MSP was established in each of the 6 villages (*kebele*, the lowest administrative country division) targeted by the project. A community workshop was organized in each village, involving a large number of community members, traditional leaders and local authorities, with the objective of underlining the effectiveness and importance of the collaboration and cooperation among actors to achieve a common goal. Through a participatory approach, each community was then called to designate the most suitable members for the MSP: 20 people were selected in each village, representing 2.000-5.000 residents. In each MSP, the number of members equally represents the main groups present in the community, including agricultural, livestock and health sectors, Disaster Risk Prevention and WASH committees, women associations, religious and traditional leaders, private merchants, village administration and local authorities.

Different training courses were carried out to actively involve the MSP members and support them in their management capacity and operational autonomy. The first training aimed at supporting the establishment and organization of the MSP itself, by focusing on the role that each member plays within the group and the identification of local capacities and resources to solve a problem. Other trainings were organized to address specific agricultural topics and engage the MSPs, and through them the whole community, in the application of new techniques. These include conservative cultivation in arid areas and irrigation practices in areas close to or on the river banks. Moreover, the MSPs were involved in various awareness activities concerning One Health, transmission risks and preventive measures of zoonotic diseases.

Upon the completion of the training, the six MSPs were engaged in mapping the different resources and services present in their territory. Each group participated in transect walks aimed at creating a map of the community, highlighting the general geographic features (rivers, water points, hills and mountains) and infrastructures (roads, public service structures, bridges and market places), the human and animal health services, the areas where the animals live and move and other important natural resources (vegetation and pasture). Discussions and group meetings within each MSP followed the mapping exercise, with the main objective of identifying the major problems affecting the entire community and suggesting feasible interventions that could become short, medium- and long-term solutions. Priorities identified mainly refer to human and animal health, water sources and reservoirs to guarantee water supply during drought periods and management of environmental resources.

Priorities and identified solutions will be shared with local authorities and development partners, to ensure that the MSPs lead and directly participate in the process of community restructuring.

Keywords: *One Health*, community engagement, community participation, resilience, pastoral communities

Experiences supporting food security with a One Health approach in the global South

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The One Health (OH) approach to global health recommends a holistic view to face complex challenges that threaten human, animal and environmental health, through effective social policies and responsible management of natural resources (FAO, 2011). In this scenario, food security is a global priority that needs a multidisciplinary approach.

In the last 30 years, Vétérinaires Sans Frontières Italie (Veterinari Senza Frontiere - VSF Italy), together with its partners and in particular in collaboration with the VSF International network, carried out projects dealing with food security and safety following a OH approach. VSF Italy projects involve the poorest rural communities and are conducted in collaboration with organizations and experts with different backgrounds and skills working for the same common aim: improve human and animal health and reduce poverty and hunger through sustainable rural development. In particular, three projects with a specific focus on food security were recently conducted by VSF Italy and will be presented as cases studies of OH approaches in the field. The projects were carried out in Mauritania, in Senegal and in Peru.

SAL-TIZ, Sécurité Alimentaire dans la Région du Tiris-Zemmour un défi entre développement et aide alimentaire, is a project conducted by the NGO Africa '70 in the Tiris-Zemmour, the north-eastern region of Mauritania, from 2014 to 2017. Africa '70 works since 1971 for improving living conditions of populations in the global south with a OH vision in particular in Algeria, El Salvador, Niger, Guatemala and Mauritania. VSF Italy was one of the partners of this project, that had as the final objective the improvement of the food security and living conditions of the poorest families, in respect of the local traditions and the territory. To do that, groups of women were engaged in business activities related to the processing and sale of food products, i.e. pasteurized milk and dairy products, dried meat, couscous and derivatives of the plant *Moringa oleifera*. The activities of the project were carried out trying to build a collaboration with the local farmers' associations and public veterinary services. The beneficiaries were also trained on food hygiene, infectious diseases, prevention measures and administrative - accounting management. Moreover, the project included a participatory epidemiology and an epidemio-surveillance study, focusing on zoonoses and on diseases highly impacting on animal health, such as Brucellosis, Rift Valley Fever and Peste des Petits Ruminants.

Regarding Senegal, VSF Italy has been working in the Kaffrine Region in collaboration with the ONG COMI (Cooperazione Per Il Mondo In Via Di Sviluppo) since 2017. The project includes the construction of a milk collection and transformation centre for more than 40 farmers from the village of Ndiao Bambaly and neighbouring areas. The aim is to support safe and sustainable production of locally sourced milk, also in order to reduce the spread of packaged powdered milk, generally imported.

Moreover, this dairy processing would be a strategic centre for training (e.g. for farmers and cheesemakers concerning the correct hygiene and management of the milk supply chain) and collective activities aimed to give support to the farmers and sustaining them in the local market. Finally, thanks to the collaboration with the farmers' delegation and with public veterinary services,

the projects aims at improving animal health and welfare and at guarantee healthy food to the final consumer.

Lastly, in 2017 the newly formed VSF South Tyrol, a Regional Group of VSF Italy, started a project for the implementation of a small scale dairy centre with a cheese factory in Mayobamba, a Peruvian city in Andean Region. The intervention provides for trainings to farmers and cheesemaker on dairy hygiene and management. A milk transport system was organized from the producer to the centre and an expert cheese maker has trained the local staff about production techniques of various types of cheese. The future perspective of this project will involve livestock management, improvement on milk quality and milk transformation in order to promote a better antimicrobial stewardship in OH vision.

In conclusion, thanks to the experiences carried out in our past and to current projects, we would like to highlight the importance of a multidisciplinary approach to food security, where classical animal health strategies are merged with agro-ecology and traditional medicines. In this prospective, to hit the final OH goal agronomists, veterinaries and physicians should collaborate for the promotion of sustainable productions and animals and human welfare, in compliance with the surrounding environment.

Keywords: food security; developing countries; food safety; cooperation; veterinary; one health

Inter-institutional collaboration for training and research in One Health: the experiences of CCM and CISAO_University of Turin

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In order to improve the effectiveness of the One Health approach, there is a need to establish a better sectorial balance between existing groups and networks, in particular between veterinarians and medical doctors, animal and human health workers. Moreover, it is essential ensuring the participation of local communities and experts of the environmental and wildlife protection sectors, as well as sociologists, institutional decision-makers and experts in sustainable development.

For this reason, CCM begun to address these interrelations in 2005, particularly dealing with the health of nomadic pastoralists from Ethiopia through the project “One Medicine”. These populations migrate, following their livestock, searching for grazing land. Their well-being and livelihood are closely linked to their livestock, which is their only source of wealth. By moving around, they improve the environment and mitigate desertification. The existing system of health delivery service is static and health officers face several difficulties in reaching these nomadic communities and providing them proper care. The multidisciplinary One Health approach allows us to offer a service that deals with both human and animal health, through people duly trained for each village: the Community Health Workers and the Community Animal Health Workers. The health system we have in mind must be safe, accessible, sustainable and compatible with the evolution of the ecosystem.

The experience gained on the field urged us to share our results with a larger audience, with the final goal of promoting the One Health approach in a wider context. In this regard, in November 2018 CCM organized a scientific conference in Turin, where the topics presented by the invited speakers included Biodiversity (introduced by Franco Correggia), overview on One Health (by Jakob Zinsstag); One Health and Health of Humans (by Micol Fascendini); Environmental health and its legal aspects (by Pia Acconci); “One Health Approach” in cooperation projects in Sub-Saharan Africa: The use of acaricides to control the ticks infestation in Zambia – Implications for human, animal and environmental health (by Daniele de Meneghi); Climatic changes and impact on man (by Alessandro Pezzoli). Moreover, the conference allowed sharing the experience of CCM project on One Health among pastoral communities in northern Kenya, including the results of field researches on climate changes and anthropological studies conducted in the project area. The conference material is available on (<http://www.ccm-italia.org/convegni-scientifici>).

More recently, CCM has opened a discussion with the University of Turin, Polo Universitario S. Luigi-Orbassano to jointly organize a course on One Health for the Medical School students. At the AgroVet campus in Grugliasco, some lecturers and researchers have started to include in their courses short modules/teaching units/seminars on One Health to allow students to familiarize with the OH concept and approach. Within the teaching activities of the International Master “Sécurité Alimentaire et Durabilité Environnementale” (project R.U.S.S.A.D.E. EU-EDULINK II), coordinated by CISAO_UniTO, in collaboration with Universities of Niger, Burkina Faso and Chad, a teaching module on One Health was included in the Master curriculum.

As regards research activities on One Health, it is worth mentioning that some lecturers/researchers of the Department of Veterinary Sciences have developed –within the activities of the COST action TD1404 NEOH (<http://neoh.onehealthglobal.net/>)– an innovate framework to evaluate One Health initiatives. The framework allows to attribute specific OH scores and to generate OH indexes to evaluate quantitatively and qualitatively different OH initiatives, activities, projects, including

development cooperation programs. Such framework is a useful research tool which can provide qualitative and quantitative data to help decision makers and politicians to support and implement or discard health initiatives, on a sound scientific basis.

Keywords: One Health, Training, Education, community involvement

Collaborative data collection and interactive mapping as a support for multisectoral analysis in the framework of the One Health project in North Horr, Kenya

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The One Health concept promotes a harmonized approach to the study and promotion of human, animal and environmental health, recognizing the mutual interdependence among them and overtaking the respective disciplinary boundaries.

The analysis of complex systems requires an inter-disciplinary approach to benefit of different expertise and several data sources, often featured by different spatial and temporal scales. Particularly, in the process of translating the One Health concept into action, the ability to visualize the available information on a map it is essential to facilitate their analysis and interpretation. The recent development and spread of Geospatial Information Technologies, such as Geographic Information Systems (GIS), Global Positioning Systems (GPS) and Satellite Remote Sensing (RS), represent a great opportunity to enhance the integration, visualization and analysis of a massive quantity of data.

At the same time, the ability to observe the environment, identify any change, record it and timely share relevant information is crucial to enhance community preparedness towards potential risks. In developing countries, where communities strongly depend on the natural environment, the practical knowledge for risk assessment and decision-making usually lays in the memory of a limited number of individuals and is often transmitted only through oral communication. In this context, innovative technologies can become important tools to enhance the local capacities in observing, monitoring and sharing information. A digital platform that combines primary data collected in the field and secondary data coming from open or institutional sources represents, therefore, an important asset to allow the 'making sense of data' and support decision-making processes.

This paper presents a methodology to engage different actors in the collection, storage, visualization and analysis of human, animal and environmental health data. The described methodology was developed in the framework of the One Health project, financed by the Italian Agency for Development Cooperation (AICS) and implemented by a multidisciplinary consortium composed of international non-governmental organizations, research institutes and private actors. The project focuses its actions among pastoral communities in North Horr sub-county in north Kenya.

The methodology relies on three key pillars: a mobile application for the collection of geolocalized data, a spatial database for the management of primary and external sources-available data and a web-GIS platform to represent, analyze and share the data with multiple users. Such methodology aims at enabling a collective interpretation of data to support decision making. In particular, its inter-disciplinary approach builds on the powerful effect of blending local knowledge, available technology and shared experience, through a community engagement process including:

- a. a community listening process, to identify hazards and relevant information to include in the observation and monitoring system;
- b. a participatory collection of geo-localized data and timely reporting of identified hazards and relevant information through the mobile application;

c. an interactive visualization of collected data and their overlay with additional geographic or climatic features, through the web-GIS platform.

Since the project kick-off, target communities were engaged into a long-term listening process through ethnographic methods and participatory tools, fostering the mutual understanding and facilitating the identification of local knowledge, experience and hazards concerning the pastoralist environment. In particular, the listening process allowed the participatory identification and selection of key essential health resources and environmental features to monitor along the project (e.g. health facilities, water points, raining and temperature data).

The identified features were eventually combined into a mobile application to enable the collection and timely sharing of data from the project area. The geo-localization of the relevant environmental features enhances a deeper mutual comprehension of the project area by all project stakeholders. Moreover, the possibility to timely share information on hazards, and eventually support a coordinated response, encourages and enhances their engagement in observing and reporting significant changes in the environment and their eventual impacts.

Finally, data collected through the mobile application feed the web-GIS platform, allowing an accurate and quick visualization of collected information on a geographical base map which enables a 'making sense process' out of them by integrating different datasets. The platform, in fact, allows overlaying climatic data, remote sensing observations and other data sources already available, either from institutions or open sources. Such interactive mapping tool fosters an effective participation of the project stakeholders to the creation, sharing and interpretation of local data. Moreover, the storage of different data in one unique database and the huge variety of their potential combinations fosters both the scalability and generalizability of the methodology.

In this framework, the multi-disciplinary background of project partners and the constant and open dialogue among experts, local communities and institutional actors has to be considered not only an added value, but a fundamental prerequisite for an effective intervention in the One Health domain.

Keywords: Environmental management, One Health, multi-disciplinarity, community engagement, innovative technologies

POSTER

PROFIT AND NO-PROFIT COOPERATION: A CHANGE FOR DEVELOPMENT COOPERATION

SonoMobile: a challenging new way of collaboration between profit and no profit organizations

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Kenya has some of the highest rates of maternal and neonatal mortality in the world, at 360/100.000 and 22/1000 live births respectively. Maternal and child health indicators in the informal settlements of Nairobi – primary target of the present initiative – paint a mixed picture with gains in some respects and losses in others. On the one side, being in the outskirts of the capital opens to several opportunities, like the availability of health centres in the surrounding areas, on the other side, the high population density and poor hygiene conditions bring huge challenges to the health status of slum dwellers. These elements result in neonatal and infant mortality rates that are 133% higher than the city average rates [Ndugwa RP, 2008; APHRC, 2014], together with a maternal mortality rate almost double than the national average (+95%) [Ziraba AK, 2009; APHRC, 2014]. Among the main determinants of the above-listed rates is also identified the limited availability of basic ultrasound services during the perinatal path and the missed opportunity to tap the diagnostic potential of such technologies [SZ Wanyonyi, 2017]. World Friends is an Italian NGO operating in the slums of Nairobi North-East, where it is now building a project on portable obstetric ultrasound, bringing new technologies to make the access to services more equitable.

The project aims at contributing to the achievement of the Sustainable Development Goal 3 in Kenya, through increasing access to obstetric ultrasound, an important factor in the reduction of the above stated mortality rates. The specific objective is to improve maternal and neonatal health within the capital city, Nairobi, especially in favour of the population residing in the informal settlements.

The main activities of the project are: (i) training of midwives specialized in ultrasound and duly recognized; (ii) start-up and management of a mobile ultrasound service at facilities that offer Primary Health Care, with priority given to the marginalized areas of the capital; (iii) quality control of the newly created mobile service, through the partnership with Italian universities, namely the School of Medicine from the University of Turin and the University Campus Bio-Medico in Rome.

The project's structure integrates profit and no-profit entities, involving a Kenyan start-up, Health-E- Net, for the development of the IT platform for the mobile service. Moreover, it creates a partnership with an Italian company, OTE Medical, sharing expertise on the use of the mobile ultrasound machines, in the framework of the reform carried out by the law 125/2014.

The project has a very strong vocation in the field of innovations, including the use of portable ultrasound technology made available only recently, and still scarce in Africa [WHO Innovation

Compendium, 2014; HB Harvey 2014]. The mobile ultrasound service is also run remotely through an IT platform that integrates all management operations.

Moreover, it aims at overcoming the gap of availability of specialists in Kenya, by promoting for the first time a task shift in the field of ultrasound in favour of nursing staff [WHO, 2007; G Bell, 2016; RO Nathan, 2017]. It is therefore expected to achieve:

- Larger availability of qualified healthcare personnel able to offer basic ultrasound services in the informal settlements, as well as in remote areas;
- Enhanced accessibility, fruition and functioning of quality ultrasound services, transitioning from an established radiology department in the health facilities to an outsourced service;
- A reasonable task shift in favour of midwives, with proper and clear definition of professional boundaries and appropriate and recognized training.

By means of promoting a wider and more equitable access to obstetric-gynaecological imaging, it is possible to identify, at early stages, a larger number of conditions that put mothers and newborns' survival at risk. On the bases of a diagnosis formulated by a nurse operating an ultrasound machine one can adopt, in an informed manner, the necessary therapeutic precautions in order to reduce negative pregnancy outcomes.

Keywords: Sustainability, Partnership and Projects, Health, Innovation, Education & training

Profit – no profit in international cooperation: the experience of Etimos Foundation.

G. Franceschetti, M. Santori, D. Libralesso

Etimos Foundation

1.

The new law for international cooperation (L.125/2014) has introduced, in Italy, several elements defining its scope in terms of methodology, contents and subjectivity.

Strategic elements are the recognition of the role of the private sector (also profit making) as a subject of international cooperation, together with the provision of specific competence to “Cassa Depositi e Prestiti”, to make it the Italian public financial institution for international cooperation.

Whereas in recent years civil society organizations have been the main actors in international cooperation, often in opposition with the role of the business, the new law introduces an advanced paradigm. In the current era of economic globalization, international cooperation policies with partner Countries express an increasing synergy among sustainable business, inclusive finance and impact investing, civil society organizations, the Academia, diasporas, together with the national and local institutions (ref. Art. 23 and Art. 26 of the Law 125/2014).

New integrated and coherent Country strategies are drawn for the achievement of the SDGs targets.

2.

This process has already been in place for a few years, it allows, on one side, to increase the efficiency of international cooperation programs, on the other, to generate a multiplier effect in terms of mobilization of public and private finances. These elements have been recalled in the acts of the 2015 Addis Ababa Conference on Financing for Development (Addis Ababa Action Plan, 2015).

Ethical Finance has always played a pivotal role in the development of the private sector and in the start-up of sustainable businesses in the Partner Countries. Programs related to financial inclusion, institutional capacity building and financial education allowed, in multiple scenarios, the local institutions and organizations to increase the ownership of the development process. In this framework, we move towards practices of so-called blended finance, where grants work as enablers to increase sustainable investments from the private sector, at local and international levels.

3.

Some practices implemented before the adoption of the law 125/2014, promoted by the Italian international cooperation system both in Asia (Sri Lanka) and in West Africa (Senegal) successfully tested innovative public-private partnerships paths, which are now fully recognized in the renovated institutional and regulatory framework.

Keywords: Sustainability, Partnership and Projects, Development finance, Financial inclusion, Impact investing, Public-private partnership.

Local Authorities, Public Utilities and Companies in the Decentralised Cooperation: territorial partnership for a sustainable local development

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Think global, act local is the vision at the core of the decentralized international cooperation activities. Decentralized or territorial international cooperation is that kind of international cooperation for development led by regions or local authorities in the framework of their territorial links with local institutions (counterparts as much as possible) of the countries they work with. These activities aim to establish and strengthen mutual equal and sustainable development through active participation of public and private subjects. Private subjects are both the not profit and the profit ones, along with public utilities - which have been working on these topics for many years - and, more recently, private enterprises. This contribution is presented thanks to the experience developed by the Municipality of Turin through some case studies in the sector of local public services for water, food, environment, sustainable mobility and energy. The presentation will focus on how public utilities' role is changing taking into consideration new economical subjects as well. Additionally, it will show the territorial partnership for development tools to manage these new or renewed phenomenon: from already experimented traditional models (partnership agreements, memorandums, coordination meetings, bodies as associations, foundations, agencies or institutions) to new tools. Indeed, the presentation will aim to understand if and how it's possible to regulate these partnerships with the "shared administration pacts": ones of each common good that are the topic of these projects (environment, food, water, social cohesion, urban spaces) or on a possible new common as "g-local solidarity".

Keywords: Common goods, Environment, Sustainability, Partnership and Projects, Public-Private partnership, Shared Administration Pacts

CAN WE LEARN INTERNATIONAL COOPERATION? INTERNATIONAL COOPERATION TRAINING IN THE THIRD MILLENNIUM

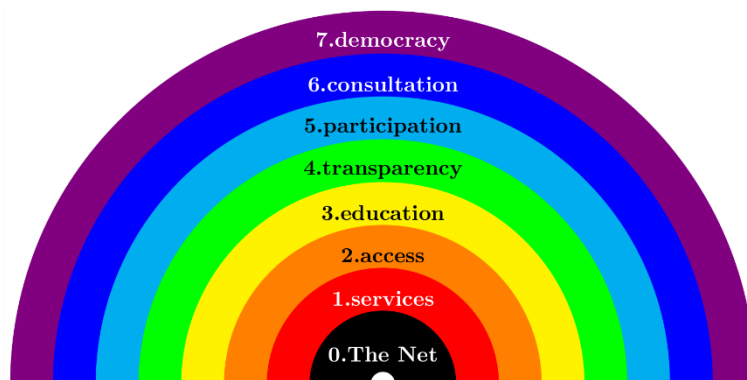
The “Rainbow of Digital Citizenship” revision

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Our society is shaped by information and communication technologies, a continuous reciprocal influence between what happens in the real world and what happens online. This context inevitably extends the citizenship concept which becomes digital, where rights and obligations are properly declined to meet technology opportunities or to face technology misuse. These opportunities, however, challenge the very idea of citizenship and the exercise of underlying rights. The author (with former colleagues) proposed a layered formalization called “The Rainbow of Digital Citizenship rights” [De Cindio et al., 2012] to slice all aspects of digital citizenship in conceptual levels. The framework describes an abstraction of layers spanning from basic network access up to the highest “right to active involvement in policy-making.”, i.e., from low to high:

- **The network**, the infrastructure is relativistic (two observers cannot “see” the same network state no matter what) and traces are often persistent (no privacy), these anti-features should be well known and somewhat corrected;
- **Services** should be openly standardized, data should be ethically managed, service contracts should be transparent and fair, security and availability should be fulfilled, FOSS software should be used instead of proprietary;
- **Access**, any citizen should be able to access a set of basic digital services (i.e., mail, storage, computation, etc.) in an equalitarian way;
- **Education** should be a leverageable right of any (digital) citizen, thus knowledge should be accessible through open licenses and institutional/national education programs should include “digital citizenship” topics;
- **Transparency**, data should be openly accessible, with very few exceptions, to all citizens that must be able to know factual information about government decisions (*pre* and *post*);
- **Participation** models the right to create data and to contribute to a digital citizenship community;
- **Consultation** defines the right to be consulted, institutions should ask digital citizens for opinions about decisions that have to be taken, opinions can be backed by documents;
- **Democracy** is the final and highest level of digital citizenship, it is reached when digital citizens can vote on topics and decisions instead of delegating representatives every few year



The Digital Citizenship Rainbow goals:

- the capability to analyze situations and contexts where technology is involved in some citizenship process by generating a spectroscopy-like diagram of the process under study;
- the availability of a simple and fairly understandable logical model to be used when describing a digital citizenship context/process/system in a non-technical environment such as when speaking to politicians (decision makers) and citizens (stakeholders);

The framework has been in use and revision during the years, it has been used as a didactic tool

throughout the many instances of the Digital Citizenship and Technocivism course at the University of Milano and it has also been tested during design and negotiation of many participatory processes in the region of Lombardy. The model performed very well in both contexts, the two main weaknesses emerged were:

- the sometimes blurred (i.e., not always easy to sketch) boundaries between 5th, 6th and 7th levels
- the order of the lower levels, changed from access-services-education to the current services-access-education

The presentation will delve into the level descriptions, make some application examples and explain the refinements applied.

Keywords: digital citizenship, e-democracy, e-participation, open government, open data.

ONE Campaign

R. Falvo

ONE Youth Ambassadors

ONE is a campaigning and advocacy organization of more than 9 million people around the world taking action to end extreme poverty and preventable disease, particularly in Africa. Whether lobbying political leaders in world capitals or running cutting-edge grassroots campaigns, ONE pressures governments to do more to fight empower women and girls, and to combat corruption so governments are accountable to their citizens. Cofounded by Bono and other activists in 2004, ONE is strictly nonpartisan and based on the principles that eradicating world poverty shouldn't have any political colors and that the fight against poverty isn't about charity, but about justice and equality. In Italy, ONE operates through the support of over 40 young activists spread all around the peninsula, educating and empowering them to carry out awareness-raising activities and to hold their governments accountable. After a brief introduction on ONE, the session will focus on the experiences of the Youth Ambassadors as active citizens. ONE teaches youths to be citizens of their city, country and the world as a whole, with the higher goal of safeguarding the common good towards sustainable development.

The session will dive deeper into the Youth Ambassadors' activism analyzing a variety of case studies. The first case study will present the experience of a Youth Ambassador from Turin who has co-written a motion on gender equality, which takes its ground from ONE's campaign named Poverty is Sexist. This young woman has strengthened her network and relationships with the local administration, pushing some *Presidenti di circoscrizione* to sign the motion and play an active part in the fight against gender inequality. As a result of this, she has been invited to take part in many local events and talk about what the city's administration can do to reach gender equality and all the other SDGs by 2030. The second case study will talk about the campaign on the Global Fund, a multilateral organization that effectively fights against AIDs, Tuberculosis and Malaria. Italian Youth Ambassadors are collecting postcards with the purpose of giving a voice to the Italian citizens that want to see a fully replenished Global Fund. The postcards will be delivered to the Deputy Minister of Foreign Affairs and Development Cooperation Emanuela del Re to make sure that Italy will pledge an ambitious contribution to the Global Fund at its replenishment conference in October 2019. A final, very, tangible, case study is the example of the European elections campaign. For one month, ONE's Youth Ambassadors met European candidates to discuss with them the important role that EU plays in the fight against extreme poverty and in reaching the SDGs by 2030. The EU, with its member states, is the biggest donor of development aid in the world. Candidates had to be reminded that the electorate wants to see actions and not only words. This final case study will dive deeper into the lobby meetings that Italia Youth Ambassadors organized and attended, as well as our recommendations to the new European Parliament. Among these, the negotiations on the Multiannual Financial Framework, the EU's 7-years budget, will be of great importance, along with the need for the EU to invest in an ambitious partnership with Africa.

The speaker will wrap up the three-case studies presented underlying the main takeaways. This will show that there are a variety of ways to raise awareness and teach the general public that we can try to influence the political processes and make our voices heard. Our political duties as citizens do not end after our votes and casted. Carrying out campaigning actions and advocacy activities can strengthen the democratic process in a country, bringing citizens closer to the policy making process. We believe that sharing the experiences of the ONE Campaign's activists can inspire other young people to be active citizens in their communities building a more functional democracy overall.

Keywords: .

Higher education, beyond public to common good: Enhancing equity, quality and sustainability in HE systems

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Higher education has increasingly been referred to as a public good in education development discourse and research. Many scholars have underlined the importance of the principle of public good as applied to higher education in relation to the need to preserve the public interest and societal development in contrast to an individualistic perspective. Moreover, this principle has also been used in relation to reaffirming the fundamental role of the State in higher education in order to counteract the greater involvement of non-state actors. This theoretical paper questions whether the public-good framework is still a valid one particularly in light of the current dynamics of the higher education landscape characterized by growing trends of privatization and commercialization. Indeed, as well as undermining principles of equity, these trends may affect the ultimate purposes and main functions of universities. In this context, higher education is increasingly perceived as a private good, a producer of knowledge and skills for economic competitiveness, and a facilitator of private interests.

While acknowledging the existence of both public and private benefits in higher education, this study demonstrates the validity and relevance of the concept of public good as a guiding principle for educational governance. By adopting a political perspective that focuses on the institutional regulation of goods, this study identifies different levels of state responsibility and intervention (Bergan et al., 2009; Kohlrausch and Leuze, 2007). Moreover, this principle arguably implies that all discussion on higher education should pertain to the sphere of the 'public' and not be confined to private or market domains. However, the way the public sphere should be reconstituted requires a shift in culture, which may combine both top-down and bottom-up approaches, in order to significantly revisit and reshape the way public institutions themselves function. While acknowledging the importance of the role of the State in educational governance, it is also argued that a mere reaffirmation of the principle of higher education as a public good may not be sufficient to counter the effects of the market in both the public and private domains.

Referring to the concept of common goods, this paper explores complementary frameworks for the development of new approaches likely to strengthen participatory and deliberative processes and to implement sustainable and equitable forms of cooperation according to different realities. Indeed, the concept of common goods is increasingly adopted in philosophical-political spheres since its theoretical foundations are grounded in the alternative practices which oppose the current trend of market policies. Unlike 'public goods', which can be enjoyed as individual goods, 'common goods'

necessarily require forms of collectivity and shared governance both for their production and enjoyment (Deneulin and Townsend, 2007; Taylor, 1995) and because of their intrinsic social and relational value they cannot be reduced to economic resources or to factors of production (Donolo, 2012).

In contrast to dominant development discourse, the concept of higher education as a common good calls into question the utilitarian model which sees higher education as a mere individual socio-economic investment and favors a humanistic approach which implies the enhancement of the cultural, social and relational dimensions of each educational process. This normative principle highlights the pursuit of learning as a shared endeavor and responsibility as well as the need to question the current imbalance in the governance of knowledge (Oakeshott, 1989; Biesta, 2007). It

entails empowering communities and fostering deliberative processes in order to envisage new social structures while ensuring more inclusive and sustainable higher education systems. This has implications on both the organization of higher education systems, with regard to the enhancement of participatory processes and sustainable forms of cooperation according to different realities, and on their purposes that should emphasize an open approach to critical enquiry in order to extend human understanding (McCowan, 2018).

The renewed importance accorded to higher education is reflected in the Education 2030 Agenda adopted in 2015 where it is considered as fundamental in addressing societal challenges related to other sustainable development goals (UNESCO, 2018). However, if higher education is really going to contribute to these aims, it is necessary to develop democratic structures that can promote the free exercise of responsibilities where all opinions are valued, and different visions of education and development are put forward. The concept of higher education as a common good may therefore provide a useful complementary framework to foster the diversity of worldviews and knowledge systems in order to envisage alternative development models and rethink higher education systems substantially. This is particularly relevant to the challenges of the new sustainable development agenda, especially with regard to ensuring more equitable educational policies and opportunities.

Keywords: .

UNICOO experience: training future practitioners and building global citizenship

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DCPS, Università di Torino

The poster analyses UNI.COO project as an experience that connects the training in international cooperation and field research with the creation of global citizenship. The poster relies on two researches that have been conducted with project participants in the last five years.

UN.COO is a project promoted by the University of Turin that, since 2012, allows students coming from various courses of study to spend up to three/six months of time in an INGO office, in Latin America, Africa and Middle East. Students, the university departments and NGOs agree on a research project, linked to the NGO activities and to the participants academic curriculum, that the students carry out during the internship period. Professors and senior researchers are involved as scientific supervisors. At the end of the internship period students submit a research report that, in many cases, become the basis to develop their thesis of master /laurea specialistica.

Keywords: .

Youth and future: promoting sustainable development through the educational challenge of work-related learning

S. Mazzoli

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The severity of the environmental issues and the current socio-economic imbalance highlight the unsustainability of the present development model, which has generated significant repercussions on the quality of life of current and future generations. Damage caused by the constant exploitation of our planet's resources poses a dramatic paradox: just when humanity has the scientific and technical capacities to achieve a fair and lasting welfare, we are witnessing an intensification of conflicts and an increase in inequalities. In fact, advancements made possible by science and technology would potentially generate innumerable benefits for humanity but, sometimes, their indiscriminate use can lead to dangerous disadvantages. Severe damages caused to the planet are just some of the most visible evidence of such current trend.

The ability of humans to transform the environment in which they live, if used correctly, can therefore produce significant advantages to their quality of life. However, when abused such ability can cause harmful effects on the environment and on people. The undeniable truth of the serious consequences inflicted to our planet by a progress that is exclusively linked to quantitative growth and profit has therefore paved the way for new development models that are able to reconcile the efficiency of economic systems with a fair distribution of resources and the construction of a society based on the value of sustainability.

However, sustainability is rarely spontaneously achieved: it is on the contrary the result of an educational process through which individuals become aware of the interconnections that bind them forever to nature, to society and ultimately to humanity itself, generating respect, democracy and participation along the way. The 17 objectives of the UN Agenda 2030 must be considered in the same light. They are closely related to the fight against poverty, to social equity and the implementation of sustainable development, all goals in which education plays a role of primary importance. The fourth objective of the global agenda for sustainability, specifically refers to the adoption of quality education, fair and inclusive, able to generate learning opportunities for everybody and to promote a global citizenship so that all students could acquire the knowledge and the skills that are mandatory to promote a truly sustainable development. Therefore, it is relevant to identify promising training environments to implement an *education to global citizenship*, one that would be able to guide students through life, preparing the citizens to be active players in their own future, for their personal and collective benefits. Among these potentially relevant educational and training environment, 'work-related learning' ('ASL - Alternanza Scuola-Lavoro' in Italian) and the paths for transversal skills and guidance ('PCTO - Percorsi per le Competenze Trasversali e per l'Orientamento' in Italian), provided in Italy for all students in the last three years of secondary schools, can represent successful educational opportunities to acquire, through active learning models, the tools needed to face the constant evolution of the educational

process and work-related dynamics. An educational setting where learning processes are carrying along as well ability to construct a responsible and competent citizenship, favoring a fair and lasting development for the benefit of current and future generations. In this context, on a national scale, many work-related learning experiences in high schools, aimed to develop a global citizenship for sustainability, have proven to be extremely successful formulas. These are experiences that question the education of the younger generations to promote correct lifestyles, to teach behaviours that are attentive to the pursuit of a common good, to encourage the participation in responsible, creative, respectable, and participatory works, also through the development of new jobs that call for ecological activities.

Keywords: educational of the younger generations, work-related learning, global citizenship, education for sustainable development.

The SHuS' formation actions for Students and Public Administrators

C. Fiamingo

SHuS-Sustainability and Human Security: cooperation and security agendas, Università degli Studi di Milano

Introduction. SHuS - «Sustainability and Human Security: cooperation and security agendas» is a Centre of interdisciplinary research, formed by members of six (6) Departments of the University of Milan - La Statale (2015-*)⁴, after the previous experience of the inter-university / faculty, and /disciplinary seminar (SIII) on the ExpoMilano2015 themes (2007-2015). The group is specialized in the dissemination of multi- and interdisciplinary perspectives concurrent with sustainability and sustainable development. The shared conviction that the concept of sustainability is interdisciplinary in nature lies in the experiences of the development cooperation projects. Usually applied in “measuring” the livelihood, and the human security nexus in fragile/weak contexts of the “Global South”, all the spheres of human security should be taken into consideration⁵. Even where they are taken for granted, as in the “Global North”, which is revealing its weakness, nowadays, between the *post-work era* and the climate changes it is facing. These spheres of human security are covered by the departments that converge in SHuS, and by the network of expertise gathered around it. The respective research-works on the livelihood assets amongst human, social, natural, physical and financial “capitals”, can reveal vulnerabilities in their imbalances, that can be managed via policies and institutional processes. Hence, the SHuS' targets, via the formation of the “Human Capital”, are both the students and the public administrators, in order to spread the needed awareness and a culture of sustainability, in order to develop a sensitive, reactive, and creative citizenship.

Methods. SHuS organized:

1. the workshop about urban sustainability, titled: «**Smart Municipalities: to favor the development of resources, expertise, and sensitivity of the Lombard Municipalities**», within the Polis-Lombardia framework of the “School for Local Authorities”, for the ANCI-Lombardia associated municipalities, now in its second, larger edition;
2. a transdisciplinary course with a complex program, titled «**Sustainability and sustainable development**» for BA/MA students of both triennial and master courses of all the faculties of the University of Milan, to be started in the next AY 2019-2020.

While the second has not yet set into action, it is worth saying that it has been conceived as a guided study path for the students, starting from the consciousness of the correct behavior towards the habitat, while progressively narrowing the domain up to the individual sphere of action towards their own lifestyle, health, study and work.

The SHuS-ANCI-Polis Lombardia courses are now at their second edition (I: 25-9/6-11 2018, in 4 sessions⁶; the II: 25-6/5-11 2019, in 6 sessions⁷). Organized after the guidelines both of the Agenda 2030 and of the toolbox of the “Quality of public administration (2014-2020)” of the European Commission, both courses emerged after extensive academic brainstorming sessions in SHuS, and after a public workshop on «**Urban sustainability. Scientific community and active citizenship: ideas, proposals, actions**», University of Milan (28-4/27-5 2017, in 9 daylong seminars).⁶ A call for papers followed, and the free, open-access publication “**Città sostenibili**” is in print

⁴ Dipartimenti coinvolti: Studi internazionali, giuridici e storico-politici; Beni culturali ed ambientali; Filosofia; Scienze Agrarie e Ambientali; Medicina Veterinaria; Scienze della Salute; Informatica.

⁵ Economic-, food-, health-, environmental-, personal-, community-, and political security

⁶ 4 sessions course 2018: Ambiente: politiche e legislazione; Ambiente: gestione sostenibile delle risorse naturali; Gestione dei rifiuti fra diritto e bio-economia; Trasformazioni territoriali e urbane per la qualità della vita.

⁷ 6 sessione course 2019: I Comuni e l'ambiente; Rifiuti fra diritto e bioeconomia; Trasformazioni territoriali e urbane per la qualità della vita; Promozione di stili di vita sostenibili; Conoscenza del territorio e turismo sostenibile.

(Altravista Ed.), with the aim to offer a set of useful tools for scholars, public administrators and students keen in the multifaceted sustainability issue, within the urban contexts.

Results and discussion. The 1st edition of the SHuS-ANCI-Polis Lombardia School for local authorities was a pilot course: 85 attendance certificates given by Polis-Lombardia to the public administrators in November 2018, and the customer satisfaction tests given at the end of each session, pushed Polis- Lombardia to ask for a second course. The constant attention to both the global trends and the specific goals recorded in the yearly *Report Lombardia Agenda 2030*, reminded at the beginning of every session by the experts of Regione Lombardia, granted such a success. The replies to the questionnaires inspired us in programming the second course, granting a good balance between theories and practice, deepening with other expertise the normative aspects, while introducing the social welfare chapter and the territorial policies, by giving a stronger consistence to a culture of sustainability built upon the exigencies claimed by the same attenders.

Conclusion. High profile educational standards can answer properly to the rapid changes this World is facing, both in terms of its ecosystem and governance, beyond the rhetoric. The tasks of SHuS via its educational projects are twofold:

- raise awareness and commitment about a complex urban culture in terms of sustainable governance, at a local level via a participatory approach that involves the same public administrators target of the courses, matching their needs with the scientific offers granted by the academicians and the professional expertise involved, also via a series of comparative approaches to (bad and good) practices around the world;
- grow a fertile, cultural terrain, through generations of committed young soldiers of the sustainability of the Planet, able to respond to the challenges to come, and find their way at the crossroads of the many disciplines that deal with sustainability in different sectors.

Keywords: .

EXPLORING THE WATER-ECOSYSTEMS-FOOD (WEF) NEXUS UNDER THE LENS OF THE COMMONS: FROM WATER AS A COMMON GOOD, TO RIGHT TO FOOD

Urban resilience assessment of sea-level-rise adaptation and, how/to what extent does cities' resilience-enhancement impact their sustainable development? Case studies of Rotterdam, the Netherlands and Yokohama, Japan

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Climate change is now affecting every country on every continent. The rise of sea level as one of the main consequences of global warming, is disrupting those particularly vulnerable delta cities, home to more than two-thirds of the world's largest cities and 340 million people, of which prospering urban areas host a range of human, economic and natural capital. Apart from intensified erosion, aggravation of saltwater intrusion, exacerbation of storm surge and tidal bores, sea level rise affects various forms of infrastructure and economic activity including roads, railways, ports, internet, sanitation, drinking water, energy, tourism, agriculture, etc., therefore, the rising sea level increases the challenge of achieving sustainable development in coastal areas, with the most serious impediments in developing countries. Thus, to reduce vulnerability and strengthen resilience, by reinforcing city's adaptive capacity to sea-level-rise-related hazards, are urgently needed and essential for long-term sustainable development.

Albeit resilience-building and enhancement have gained momentum in the latter approach over the last decades, and have been put into policies, strategies and planning practice in many delta cities, the understanding of what it entails, or which mechanisms to introduce in order to create specifically sea-level-rise resilience is still limited among policymakers and practitioners. To address this problem, this research adopts a PARA ("protect-accommodate-retreat-avoid") adaptation strategic framework and analyzes its embedded resilience thinking from multi dimensions. An integrated urban sea-level-rise resilience diagnosis tool has been furtherly developed with four progressive steps: 1) planning and preparation; 2) absorb; 3) quick response; 4) adaptation; which is consisted of following principles: anticipation and foresight, preparedness and planning ahead, homeostasis, compartmentalization, robustness and buffering, redundancy, omnivory, flatness, high flux, learning, flexibility, imperfection reflectivity. The proposed tool aims at assessing the resilience of the current urban system and check their adaptation plans towards sea level rise according to their fulfillment of resilience principles.

On the other hand, the idea of resilience-building has been naturally taken for granted as an element facilitating urban sustainable development, however, the relationship between resilience and sustainability is in fact complicated. Although the 11th SDGs (Sustainable Development Goals) combines both the terminology of resilience and sustainability, due to enormous similarities as well as overlapping between two concepts, they are often used without clear distinction in meaning and purpose for a variety of applications.

By thoroughly reviewing relevant scientific literatures and case studies across different disciplines (i.e. engineering resilience, ecological resilience, evolutionary resilience, sustainable development, urban sustainability, urban and spatial planning, etc.), the research identifies therein stated characteristics to interpret 5 types of relationships between sustainability and resilience: 1) resilience as a component of sustainability; 2) from “fail-safe” to “safe-to-fail”; 3) sustainability as component of resilience; 4) conflicts and separation in implementations; 5) integration and balance in applications. Solutions for sustainability and resilience are more likely to evolve from inter- and transdisciplinary research and project-based collaborations.

Assuming that not all of the theoretically based principles are fit to work in practice, and delta cities with existing both sustainability plans and sea-level-rise resilience strategies perform differently, this research explores the extent of urban resilience establishment with above proposed diagnosis tool, and discusses how certain representative sea-level-rise adaptation initiatives impact on city’s sustainable development in two illustrative case studies and their respective approaches: Rotterdam in the Netherlands and Yokohama in Japan. By means of policy analysis and semi-structured interviews with key stakeholders, the current adoption of resilience principles in strategies, institutional contexts and adaptative measures are investigated in two cities, both are faced with high risk of sea level rise consequences. Based on the findings, the framework and its indicators are refined to finally present a diagnosis of urban sea-level-rise resilience-building, and the contextualized nexus between sustainability and resilience are redefined with field research on selected adaptative initiatives. The goal is to provide utility for policy-makers and practitioners about: 1) the current situation of city’s strengths and weaknesses as well as the implicit choices and framing in targeted sea-level-rise resilience-building approaches, 2) how and to what extent resilience-building initiatives affect city’s long-term sustainable development from respectively economic, social and environmental perspectives; 3) compare experience between eastern Asian and western Europe, and shed light on the different spirits by cultural, historical, geographical deductions.

Urban sustainability and urban resilience, as pervasive human activities of the Anthropocene, are both about the significant roles of urban development for delta cities, primarily confronting great risks of sea-level rise. To dig into human’s practical experience on resilience building and their integrated pathways employed for facilitating sustainable development, continues human’s efforts on shaping our biosphere and Earth System dynamics.

Keywords: Urban resilience, urban sustainability, sustainable development, climate change, sea level rise, water governance

Mapping the global potential of water harvesting to increase crop production from successful case studies

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Current water management and irrigation practices are pushing water consumption to unsustainable rates, which can be worsened in the view of growing global population and climate change. Sustainable land and water management practices in agriculture are key to meet global sustainability targets, thus the United Nations recently declared that 2021-2030 will be the decade for ecosystem restoration. Water harvesting has been widely applied in different social-ecological contexts and demonstrated to be a valuable approach to increase food production sustainably. However, current global estimates are based on purely hydro-ecological assessments that provide valuable information on the ecological suitability of water harvesting but neglecting the relevance of the socio-economic dimension of agriculture, which can be a critical factor in the feasibility and success of sustainable transformations. The lack of comprehensive social-ecological estimates can thus hinder the development and effectiveness of policies and funding to out-scale this technology globally. This work provides a first evidence-based global estimate on the potential of water harvesting to increase crop production with a social-ecological lens. We analyse the social-ecological similarities in 171 successful water harvesting case studies to estimate global areas for potential successful out-scale of water harvesting. The hotspots for successful implementation can complement conventional hydrological analysis and guide policy development at global scale. The methodological approach can be replicated at finer scales to inform regional agricultural intensification with sustainable land and water management practices.

Keywords: Socio-Ecological Systems, Land system archetypes, Water-Ecosystems-Food Nexus, Arid areas, WOCAT, Sustainable Development Goals SDGs

Environmental and health issues due to mismanagement of solid waste affecting water resource in low- and middle-income countries

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All organisms, including human being, require water to survive. At the same time it is important to consider the growing human population and industrialization are causing the spread of a wide range of physical-chemical contaminants and pathogens within the water bodies (Pichel et al., 2019). In this context, solid waste management and disposal is an important element to consider related to safe water. Not surprisingly, the target 6.3 of Sustainable Development Goals (SDG) 6 of United Nations asserts: “by 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials” (UN, 2015).

But currently solid waste mismanagement is a global issue in terms of environmental contamination, which continues to affect mainly developing countries (Ferronato and Torretta, 2019) and may lead to several health consequences (Vaccari et al., 2019). For instance, according to the International Solid Waste Association (ISWA, 2016) dumpsites receive about 40% of the global solid waste and they serve around 3 - 4 billion people. As could be expected, contamination of groundwater and surface water due to leachate from dumpsites and bad managed landfills is a common and significant problem in developing countries (Han and Currell, 2014; Maiti et al., 2016). With this in mind, in a recent publication (Vaccari et al., 2018), we modeled the flow of a range of contaminants originating from leachate in dumpsites (As, Cd, Cu, Pb, Ni, Zn), taking into account the path the pollutants make to reach the groundwater and the point of exposure. This model may be useful to predict the boundaries of the area of risk related to the presence of a dumpsite, finding where a local community may use or build a safe well for drinking water. Furthermore, the results of the study showed as the area of risk was large and varied significantly changing some input parameters.

In a further publication (Vaccari et al., 2019) we focused on the environmental and health issues related to the informal treatment of waste electrical and electronic equipment (WEEE) in developing countries. In this regard, it is important to take into account not rarely WEEEs have been exported from industrialized to developing countries, where they represent a secondary source of valuable materials (e.g. gold, copper, silver). In the paper, data were collected in the areas in which WEEE informal activities were conducted, in terms both of inorganic and organic compounds in the environment (air, dust, soil, water, and sediment). It was also highlighted significant levels of those pollutants have been detected in human bodies, both children and adults, working in or living in areas with informal WEEE treatment. This fact is not surprisingly, indeed when a comprehensive conceptual model is defined, to develop an accurate health risk assessment, all four components of the risk calculation have to be included: release, transport, exposure, and consequence (Fjeld et al., 2007). Hence, these contaminants, through direct contact or climbing the food chain, may reach the human population.

In this context, scientific International Development Cooperation plays a key role to raise awareness among local stakeholders, conduct further research and propose appropriate solutions to improve living conditions of involved communities.

References

- Ferronato, N.; Torretta, V. Waste Mismanagement in Developing Countries: A Review of Global Issues. *Int. J. Environ. Res. Public Health* 2019, *16*, 1060.
- Fjeld, R.A.; Eisenberg, N.A.; Compton, K.L. *Quantitative Environmental Risk Analysis for Human*

Health; John Wiley & Sons: Hoboken, NJ, USA, 2007; ISBN 9780471722434.

Han, D.; Currell, M.J., (2014) Persistent organic pollutants in China's surface water system. *Sci. Total Environ.* 580, 602–625.

ISWA (International Solid Waste Association) (2016). A roadmap for closing waste dumpsites: the world's most polluted places. Available online: https://www.iswa.org/fileadmin/galleries/About%20ISWA/ISWA_Roadmap_Report.pdf (accessed on 27/05/2019)

Maiti, S.K., De, S., Hazra, T., Debsarkar, A., Dutta, A., (2016). Characterization of leachate and its impact on surface and groundwater quality of a closed dumpsite - A case study at Dhapa, Kolkata, India. *Procedia Environ. Sci.* 35, 391–399.

Pichel, L., Vivar, M., Fuentes, M., (2019). The problem of drinking water access: A review of disinfection technologies with an emphasis on solar treatment methods. *Chemosphere* 218, 1014–1030

UN (United Nations), (2015). Transforming our world: the 2030 Agenda for Sustainable Development. A/RES/70/1. Available online: https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E (accessed on 27/05/2019)

Vaccari, M.; Vinti, G.; Cesaro, A.; Belgiorno, V.; Salhofer, S.; Dias, M.I.; Jandric, A. WEEE Treatment in Developing Countries: Environmental Pollution and Health Consequences—An Overview. *Int. J. Environ. Res. Public Health* 2019, 16, 1595.

Vaccari, M.; Vinti, G.; Tudor, T. An Analysis of the Risk Posed by Leachate from Dumpsites in Developing Countries. *Environments* 2018, 5, 99.

Keywords: Health risk, developing countries

Improving small holder farmers resilience with a integrated agroecological toolkit

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Small holder farmers are one of the most vulnerable subjects of the effects of climate change. Due to their attitude to plan and to follow natural rhythms, they are strongly affected to the increase in variability due changing climate.

Adverse events increase the risk of crop damages and unfruitful yields.

Disasters and crises don't just have immediate, short-term effects: they undermine livelihoods and national development gains that have taken years to build.

Climate change has then a negative impact on food security and is important to increase farmer resiliency in order to grant the common right to a sustainable food systems.

On this issue technology can help to increase resilience realizing a climate smart agriculture. According to FAO, climate smart agriculture is an approach that helps to guide actions needed to transform and reorient agricultural systems to effectively support development and ensure food security in a changing climate.

Climate smart agriculture can be effectively implemented by integrated platforms which help farmers to adapt to the variability of adverse events.

With an integrated approach that creates a nexus between knowledge sharing, remote sensors, renewable energy and biodiversity recovery, AGROSMART offers the possibility to farmers to have an adaptive crop management following the changes in environmental conditions.

AGROSMART indeed is based on a sensor network that allows to monitor soil, air and meteorological conditions: through an integrated database, the collected information allows farmers to follow up climate variability by a simple cell phone.

The stored data also help to pilot a set of solar pumps for a sustainable and variance-compliant irrigation. The irrigation system is thus in support of an agroecological vision of farming, that will help to increase biodiversity.

The interaction with the platform is indeed bilateral as the farmers are able to insert crop management tips, experiential feedbacks and advices based on the local land knowledge.

In such a way AGROSMART offers a complete toolkit that uses the information exchange as a paradigm of resilience enhancement.

The work will describe the main structure and the basic components of the platform and their connection with the climate smart concepts. The cooperative approach of the build-up phase will be also exposed in order to better express the potentiality of the platform.

At its degree of development agrosmart can offer a scalable model for climate smart farming on which technology and natural resource protection coexist to improve and grant food security at a small farming scale.

Keywords: Climate Smart Agriculture, Climate Change, Adaptation, Small farming

Terraced agroecosystems effectiveness in granting food security. Case study of Larbaa Ayacha basin in Moroccan Rif from a hydrogeological perspective

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The soil participates in an important cycle for life on Earth, related to the biosphere, the lithosphere, atmosphere and hydrosphere. Soils support the majority of agricultural products, they participate in climate regulation, forestry and pastoral health. Indeed, soil is the source of more than 99% of human food, for this reason food security directly depends on soil productivity. However, erosion and soil degradation is one of the main causes affecting soil productivity and increasing risks of global food insecurity. Estimates have shown that land degradation is expected to impact on global food production by up to 30% over the next 50 years. Hence, the need for the implementation of adequate soil conservation techniques at the watershed level. The present study aims to determine and evaluate the effect of Best Management Practices (BMPs) used (e.g. terracing, strip-cropping and contouring) on soil erosion in a Mediterranean watershed located in North-West Morocco. This area is made up by more than 70% of agricultural surface and it is considered the major source of food for the population. Previous studies have shown that this basin is the seat of an intense erosive process, hence the need for the establishment of anti-erosion control techniques. To achieve these objectives, the SWAT hydrological model version 2012 has been applied in this basin using a multi-objective and simultaneous optimization approach. Flow rates and suspended matter were calibrated and validated on a monthly scale using SWAT-CUP Sufi2 algorithm. The results obtained show that this basin releases a significant soil sediment load with an average of 28 t/ha/year.

The scenarios obtained from the different BMPs show that the terracing technique offers a 29% reduction in erosion, which reduces the average soil loss at 8.12 t/ha/year. Strip-cropping reduces soil erosion by 10%, giving an average soil loss of 19.88 t/ha/year, however, the contouring technique is considered inappropriate in the basin since it amplifies soil erosion by 32% leading to an average soil loss of 36.96 t/ha/year. This work highlighted how terracing is a preferred technique in the basin analysed to ensure sustainable food production, through the preservation of arable land and the facilitation of precipitation infiltration.

Keywords: Terraces, Soil Erosion, Agricultural Landscapes

The effects of flood on food security in Pakistan and Bangladesh

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The investigation on the effects of natural disasters on food security is particularly significant for developing countries where the food availability can be highly jeopardized by extreme hydrological events that cause damages to crops and food stocks. The main objective of this study is the food-flood nexus analysis, developing a methodology that integrates remote sensing data, agricultural statistics,

and water footprint value, in order to evaluate the flood impacts on food supply. The analysis is carried out through: (i) the evaluation of potentially damaged agricultural areas; (ii) the transformation of damaged areas into crop loss; (iii) the estimation of the associated calories and water footprint losses (Pacetti et al. 2017).

Based on the existing literature related to extreme floods, the impacts on food security of two disastrous flood events in Bangladesh on 2007 and in Pakistan on 2010, are analyzed. On the basis of available satellite data, flood maps are obtained. Taking into consideration the peculiarities of topography, land use and crops characteristics for the selected study areas, the potential crop losses is converted into effective crop loss. The specific crop resistance to submergence in terms of time and water depth is added to refine the crop losses evaluation. The results are then expressed in terms of lost calories through the use of Human Energy Requirements (HER) indicator (FAO, 2001) and in terms of lost water through Water Footprint (WF) indicator (Hoekstra et al. 2011). For the Pakistan flood event, the affected agricultural territories are estimated using remote sensing data and the characteristics of the crops yield are derived from FAOSTAT database (FAO, 2016). Using the crops production data for the 10 years before the flood event, the average agricultural yield for the main crops lost (i.e. sugarcane and rice), and the actual crop losses (in term of weight) are estimated. Knowing the energy content in kcal/kg of the different crops, the associated food energy losses are also estimated.

The results show a reduction of production that is about 19% for sugarcane and 40% for rice that is associated to a significant loss of energy available. The sum of crops and stocks destroyed amounts to a total of 205 kcal/cap/day lost, due the flood and it is equal to a loss of 8.5% of the Pakistan average food supply (10.7% if we consider only the energy derived from vegetal products).

The food losses results are converted also into WF resulting a total loss of $1.84 \text{ E}+10 \text{ m}^3$ that is equal to 13.5% of the Nation WF.

Since rice is the main cultivation of the country, in the Bangladesh case study a specific analysis of rice resistance to flood is carried out, determining the threshold values for the flood hydraulic height and period of submergence (1 meter with a period of submergence greater than three weeks).

The results show an average loss of 103 kcal/capita due to flooded rice, representing 5.3% of the potential energy usually provided by this crop. If we consider the effects of flood only on the population of the affected districts, the result increases dramatically to 398 kcal lost.

The food losses results are converted also into WF, obtaining a total WF of $4.72\text{E}+09 \text{ m}^3$ that is equal to 4.4% of the national WF.

Flood risk has many hidden connections with environmental, social and economic spheres that need to be analyzed to develop effective integrated water-land management strategies. The results highlight the countries vulnerability to flood, being both countries strongly dependent on local agricultural production. The 2010 flood event in Pakistan, the already scarce food supply is worsened. The 2007 flood event reflected critically upon Bangladeshi food security, almost doubling the existing food deficit. The results can be combined with other spatial analysis in order to provide a broader picture of the flood effects on a territory.

Keywords: Food security, Flood, Nexus, Remote sensing, Water Footprint

Traditional irrigation, commons and ecosystem services

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Traditional irrigation techniques, based on qanats, moist and dew collection, and rainfall harvesting, are an axle for the oases and a defense method against desertification, in a great area ranging from Central Asia to the Mediterranean basin. Here they played a key role in the practice of traditional and sustainable agriculture, which nowadays may have important positive fallouts also on the mitigation of the climate change. They have been therefore a major junction of the nexus between water management and the food security.

Yet their importance goes beyond being a mere historical or intangible cultural heritage. In fact they innervated traditional societies of the whole Mediterranean basin and Central Asia, and they are a key to understand anthropogenic landscapes, so that it may be e.g. concluded: “it was irrigation, and only irrigation, that made possible the rise of civilization on some of the otherwise barren land of Central Asia” (Starr, 2013). Thanks to their flexibility, they are adaptive and coevolutive, and they allow to cultivate peripheral areas, thus stimulating biodiversity and mitigating hydrogeological risk. Moreover they are traditional but (often) not endogenous, thus they are projected in an ecumenical dimension of culture.

Therefore traditional irrigation techniques may be still important not only for arid or semiarid climates, but also for temperate areas, where water scarcity conditions may occur as a consequence of climate warming, reduction of snowfall or change of rainfall pattern regimes. As a framework to unveil their importance for sustainable agriculture, soil protection and climate change mitigation, with possible relationships also with land planning, in this contribution we will review and propose an assessment about the ecosystem services provided by traditional irrigation. Finally assessing the technical and paradigmatic importance of traditional irrigation also for temperate areas, it will strengthen the dimension of the cultural interaction which is innate to these techniques.

ACCESS TO WATER IN THE GLOBAL SOUTH: ACTORS, INTERESTS, PROBLEMS AND THE ROLE OF INTERNATIONAL LAW

Access to Water in the Sustainable Development Goals: Between International Cooperation and Local Participation

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Even more than Millennium Development Goals, the existence of Sustainable Development Goals (the former's evolution) is very well-known to all those interested in international matters, especially those working in the development aid sector. Indeed, references to them are scattered around a wide array of documents produced by both intergovernmental and non-governmental organizations, and of course by States. Many people also know that one such goal (Goal no. 6) is devoted to the realization of the right to water as well as the improvement of sanitation facilities all over the world. However, when it comes to the precise content of the goals – let alone their implementation mechanisms – the same people are likely to have a less clear understanding of how all this works. The reason is simple: Sustainable Development Goals can be quite composite and the way they are to be attained may involve different actors. The purpose of this presentation is, accordingly, to provide some coordinates on these issues, focusing on Goal no. 6. A sketchy illustration of this goal will be offered, explaining its relationship with the right to water but also in which respect it differs from it. However, the main part of the presentation will aim at introducing the actors that, at any level, contribute to the attainment of Goal no. 6 or are entrusted with monitoring its status: States, international organizations and their agencies, civil society, and local populations. The ultimate objective is to bring some order to an entangled environment.

Keywords: Sustainable Development Goals, Right to Water, Right to Sanitation, Participation.

The Recognition of a Human Right to Water in the African Context: Normative Basis and Recent Jurisprudential Developments

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Living in Western Europe we tend to take it for granted that we have access to safe water wherever and whenever we might need it. Likewise, the issue of a human right to water might appear kind of remote. Yet in other parts of the world where people are experiencing severe drought or are forced to travel long distances for clean water, a right to water can prove to be a valuable tool to help improve their situation.

Particularly relevant in this regard is the case of the African continent, where, according to estimates, water scarcity affects 1 in 3 people and is getting worse with population growth, urbanization and increases in household and industrial uses. Despite this, from a legal point of view, the African human rights system has been largely silent about the right to water, as an explicit and comprehensive protection of the right in question is not included in the main African human rights instrument, the African Charter on Human and Peoples' Rights (Nairobi, 27 June 1981, entered into force on 21 October

1986). However, the Charter's monitoring and enforcement mechanism, the African Commission on Human and Peoples' Rights, has mitigated the effect of this absence through a teleological approach to the interpretation of other rights clearly set out in the African Charter in such a way to comprise the right to water. More precisely, it has ruled that the right at issue is implicitly guaranteed under the African Charter's Article 4 (the right to life), Article 5 (the right to dignity), Article 16 (the right to physical and mental health), Article 22 (the right to economic, social and cultural development) and Article 24 (the right to a healthy environment). The approach developed by the African Commission in its jurisprudence undoubtedly represents a step in the right direction. However, some questions still remain unanswered: which is the legal basis of the right to water? What are its exact content and its normative status? Is the right to water a stand-alone right or it rather represents a guarantee used to ensure the fulfilment of other rights set out in the African Charter?

The present contribution aims at shedding light on the above issues through the discussion of the jurisprudence of the African Commission on the human right to water. To this purpose, attention will be paid also to the wide array of sources (at both the supranational and domestic levels) from which the Commission may draw inspiration in its promotional and protective mandates in order to assess whether such an approach could prove helpful as regards the clarification of the unaddressed aspects of the human right to water under the African Charter.

Keywords: Local communities, Participation, Transboundary governance, Cooperation, Protected areas

Participatory action research project on water, sanitation and nutrition in central Tanzania, using a visual approach

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The research is integrated into the project “S.A.N.I. - Integrated Support for the Right to Water, Hygiene and Nutrition in central Tanzania”, financed by AICS, led by the L.V.I.A., in partnership with CUAMM, Hydroaid, the University of Dodoma (UDOM), the University of Turin (UNITO), with the Uni.Coo program for international cooperation, and the Interdepartmental Centre of Research and Technical and Scientific Cooperation with Africa - CISAO-UNITO.

The purpose is to analyze the relationship between water quality, hygiene, and nutrition in relation to

maternal and child health in the daily life of some specific rural contexts in the regions of Iringa and Dodoma (Central Tanzania). These areas are involved in a problematic situation, where according to the data provided by the Tanzanian ministry, still more than 40% of the population doesn't have access to water: the coverage of water schemes on the territory is not sufficient and the funds available to repair the water supply points, often broken, are insufficient. Moreover, according to the “Tanzanian National Nutrition Survey 2015” in the area of Dodoma child malnutrition is quite high: 37,7% of child under-five are stunted, 17,1 underweight, and 5,5 wasted.

Much has been done to improve the water's infrastructure and accessibility. However, far from being just a technical issue, WASH problematic relies on a complex and broad web of social and cultural dynamics deeply rooted in each community: embracing power relations, groups dynamics, traditional practices, social hierarchies and inequalities, people different expectations and representations of problems and spaces, what is considered formal and informal and by whom. At the same time, we weren't interested just in the descriptive dimension of the investigation, but also in making local people become active participants, raising awareness, stimulate proposals, strengthening already existing networks and creating new ones.

In order to do so, and enter such complexity, has been designed a qualitative research, following the participatory action research methodology (PAR):

PAR is a cyclical process comprising phases of data collection, reflection, and action. Data is collected, shared and analyzed with the participants, thus stimulating reflection and awareness of what comes up. The current systems and habits may be questioned, and participants are facilitated to take action, moving from “what is” to “how it could be”. It is a valuable way to investigate problems in-depth, to recognize a multifaceted version of what is going on, to explore and analyze power dynamics, and to uncover what generally remains hidden or marginalized. PAR is particularly aimed at avoiding an “extractive” and “exploitative” approach, which considers research just as a fast and broad process of data collection and analysis, and the people involved as mere informants.

This is a grounded approach, which needs building up strong trust relationships with participants. For this reason, has been planned to focus on no more than 10 family groups, in a given context, for three months.

The participants are “sampled” among marginalized people experiencing WASH -related issues, after a phase of “exploratory” analysis, using then the snowball technic to gather all the people.

In this phase are used several methods of analysis as semi-structured and unstructured interviews, life stories, mental sketches, participatory mapping, focus groups. The core of the research is the PAR, with the group of participants. In this extended phase, through a visual approach using photovoice method, people are asked to analyze WASH issues affecting their lives, reflect upon them, verifying what is lacking, what could be managed differently and how, take action, trying to make a little change, then come back, evaluate what worked and what didn't and start again the cycle.

At the end of the process, there is a part of scaling up: people are asked to involve the larger community and local policymakers, sharing the experience, stimulating discussions and proposals. The ultimate goal of the research is to bring out, in a participatory and inclusive approach, problems, expectations, and proposals in order to improve the capacity of action and water management by the local community. This through the process of collection, and reflection on thick and relevant data about the structure of the context on a socio-economic, ecological, demographic and cultural point of view, as well as the users' profile and water-related practices: this means analyzing the community's "water path", regarding its distribution and consumption. Understanding the location and representations of water and the ability of the community to evolve and improve, in order to promote reflections, debates, and proposals concerning the "moral" contract between organizations, authority and local society in relation to the daily use and management of resources.

Keywords: Community-based research Participatory action research WASH
Water management, Photovoice, Tanzania, Rural areas

Building community resilience against climate change: the “Atrapaniebla Comuneros” project in Peña Blanca, Chile

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Desertification, exacerbated by climate change, represents one of the greatest environmental challenges of our times (UNU-INWEH, 2007). In Chile it is estimated that the desert will advance from 0.4 to 1 km per year, having as main causes climatic changes that accentuate the aridity of the territory, as well as inadequate and persistent human activities, overgrazing and erosion. Facing this scenario people living in dry lands must adapt. Adaptive capacity is defined by the IPCC (Intergovernmental Panel on Climate Change) as the ability of a system to adjust to climate change - including climate variability and extremes - to moderate potential damages, to take advantage of opportunities, or to cope with the consequences. Especially in areas where rainfall is becoming more and more scarce the adaptive capacity is important from a water harvesting point of view. This work aims to analyse a project of water collection in a semi-arid area of Chile, where the worsening of climate has tangible consequences in particular for small rural communities strictly dependent on natural resources. Rural communities in Chile are very vulnerable to water scarcity due not only to decreasing rainfall but also to national water management (Codigo de Agua 1981): as water in Chile is considered a private good it is often in the hands of mining or agricultural companies that by law can use water without restrictions, thus leaving populations dry. The project analysed in this work is a Fog Harvesting project called “Atrapaniebla Comuneros” located in the agricultural community of Peña Blanca, Coquimbo region (central northern Chile). Given this geographical and social context, fog harvesting is a very valuable water resource. The collection of fog takes place passively, i.e. without the need for energy or machinery, allowing the spread of this technology even in hostile and isolated places. In fact, a perforated mesh is placed perpendicularly to the main wind direction to capture the water trapped in the fog when the air passes through it. Since there are no significant technical concerns, what is crucial is to understand where this technology is effective. Advection fog, due to its formation, is the ideal fog type to be catch. Factors such as high pressure, wind circulation, sea currents and topography must be considered to identify which areas are subject to this fog type. Central northern coast of Chile, thanks to its geographical conformation, meets all the conditions for advection fog formation and its harvesting. A specific study on the performance of fog water collected with different fog-meshes is reported thanks to the collaboration with the chilean foundation “Un Alto en el Desierto”. The study consists in the creation of a database on the water collected by four Standard Fog Collectors (SFCs), with the aim of investigating fog potential of the place, the efficiency of different mesh materials, and the correlation between fog collection and other weather phenomena. The potential and limits of this technology have been evaluated with the aim of drawing up proposals for the development of the project. Three proposals to cope with climate change are presented, striving to make the most of this unconventional water resource.

The proposals respond directly to the needs expressed by the community of Pena Blanca on the future use of the Atrapaniebla Comuneros project: the comuneros (inhabitants) expressed a commitment to greater involvement in the project with the possibility of creating jobs related to it. A multi-level network of bodies will be identified for each proposal to provide a framework for cooperation and support to ensure their effective implementation.

Finally, the work seeks to demonstrate how fog harvesting - an adaptive technique that already occurs in nature allowing plants to grow in hostile environments - has the same strengthening effect for communities: fog water proves to be a valuable contribution to drylands and to boost small rural realities.

Keywords: Fog Harvesting, Chile, Rural Community, Desertification, Climate change adaptation

The Right to Water in Inter-State Relations: The Scope of the Obligations of Assistance and Cooperation

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The implementation of the right to water might become a pipe dream if the obliged State is not endowed with a sufficient amount of this – by definition – scarcely fungible natural resource. When a State is hopelessly affected by water scarcity, the only credible option to fulfill its human rights obligations related to the right to water might become inter-state cooperation. Even considering the potential impact of the adoption of water-efficient policies, such as the abandonment of water-intensive agriculture in water-scarce countries, there can be cases where the only available option to fulfill the water needs of the population is the physical acquisition of water from abroad.

Against this background, the present paper aims at providing a description and a critical assessment of all of the policies that State authorities can implement at the international level to increase the water-endowment of the State. The analysis will be carried out adopting the standpoint of international law and analyzing the impact of international rules on the policies aimed at the acquisition of water. In particular, the paper will consider the legal regulation and the import of the following “strategies”:

- The acquisition of bulk water through international trade or agreements;
- The stipulation of large-scale land leases including in their scope the sources of water located on the land;
- Water conflicts and aggressive strategies aimed at the acquisition of territory and sources of water through the use of force, with reference to the prohibition of annexation, the duty of non-recognition, the regulation of the exploitation of natural resources in occupied territories, and their impacts on the availability and use of water;
- Judicial strategies aimed at re-demarcating or re-discussing borders thereby re-allocating water resources;
- Inter-State cooperation in the sharing of the water resources of transboundary watercourses, with specific reference to the concept of “vital human needs” as a parameter for the allocation of the water among co-riparians;
- The debate on the extraterritorial application of economic, social and cultural rights and on the obligations of international cooperation and assistance in the provision of water under the applicable human rights treaties.

The paper will assess how these different sets of rules, having an impact on the allocation of water at the international level, interact with the concepts of food security and sustainable development. In conclusion, the existing tension between state sovereignty and efficient allocation of natural resources at the global level will become apparent.

Keywords: Right to Water, Transboundary Watercourses, Trade in Water; Large-Scale Land Lease; Water Wars; International Cooperation and Assistance

DISABILITY MAINSTREAMING: A SUCCESSFUL KEY TO LEAVE NO ONE BEHIND

Disability, Human Rights and Sustainable Development

C. Anselmo

CBM Italia Onlus

In 2006 the United Nations Convention on the Rights of Persons with Disabilities (CRPD) came into force. The CRPD is one of nine core international human rights treaties and it includes 33 core articles covering all areas of life.

In February 2016, 161 out of 193 United Nations Member States or over 80% of countries have ratified the CRPD. Once a country ratifies this means that the country is legally bound to implement the core 33 articles and must report on their progress in writing to the United Nations on a periodic basis.

According to the 2011 World Report on Disability by the World Health Organisation/World Bank, there are an estimated 1 billion persons with disabilities worldwide. The same report states that 1 in 5 of the world's poorest people have disabilities. Disability is both a cause and consequence of poverty, yet international policy-makers and stakeholders have not historically recognised or prioritised this issue within international development efforts.

After three years of intense intergovernmental negotiations United Nations Member States adopted the 2030 Agenda for Sustainable Development in September 2015. The 2030 Agenda has 17 goals for sustainable development and 169 targets. There are 11 explicit references to persons with disabilities in the 2030 Agenda, and disaggregation of data by disability is a core principle.

The 2030 Agenda and the Sustainable Development Goals (SDGs) will influence the direction of global and national policies relating to sustainable development for the next 15 years. If the 2030 Agenda is going to be successful, all of the UN Member States - 193 countries - must include persons with disabilities in their national plans for implementation and monitoring.

While the infographic aims at illustrating how the 17 goals of the SDGs and the 33 articles of the CRPD are linked to each other, it is important to stress that both the SDGs and the CRPD must be implemented as a whole; This means that countries should not 'cherry pick' single goals or articles, as all of them form part of a complex and interconnected equation.

How does this infographic work?

The text of the 2030 Agenda and the Sustainable Development Goals (SDGs) can be interpreted through the lens of the UN Convention on the Rights of Persons with Disabilities (CRPD) in the following ways:

- All references to 'equal' must be underpinned by **CRPD article 5**, which promotes equality of opportunity and non-discrimination of persons with disabilities.
- References 'for all' include all persons with disabilities - people with different types of impairments and support requirements; women with disabilities (**CRPD article 6**) and children with disabilities (**CRPD article 7**).
- All references to 'access' or 'inclusion' can be fulfilled by **article 9 of the CRPD** on accessibility which requires governments to take action to ensure persons with disabilities the right to independent living and participate in all aspects of life.
- All references to 'those in vulnerable situations' include the right of protection and safety of persons with disabilities in situations of risk, natural disasters and humanitarian emergencies (**CRPD article 11**).
- All progress made by the SDGs must be monitored through disability disaggregated data (**CRPD article 31**).
- All References to 'development and/or least developed countries' relate to international cooperation and partnerships (**CRPD article 32**).

Keywords: CRPD, Agenda 2030

TRENTINO MONTAGNA ACCESSIBILE

I. Berasi

Tsm/Accademia della Montagna

Il progetto “Trentino Montagna Accessibile” caratterizza ormai da più di sette anni l’attività di Tsm / Accademia della Montagna del Trentino, il cui obiettivo è di rendere il territorio montano accessibile e fruibile a tutti, oltre che cogliere l’opportunità di diventare una destinazione turistica accessibile.

Rendere un territorio accessibile e costruire un’offerta turistica di qualità significa assicurare la fruibilità dei trasporti, della mobilità, dei servizi, dei luoghi pubblici, della ristorazione e del tempo libero. Per tutto questo servono collegamenti utilizzabili senza discontinuità, che offrano anche alle persone che hanno bisogni speciali un ampio grado di autonomia nella fruizione del territorio.

Gli obiettivi del progetto sono perseguiti da Accademia della Montagna con l’impegno nel diffondere la cultura dell’accessibilità per offrire una fruizione del territorio di qualità sia per i residenti che per i visitatori, nel certificare territori, eventi e strutture con rilevante qualità dell’accessibilità strutturale utilizzando il marchio Open e nel formare studenti e professionisti.

La cultura dell’accessibilità risulta poco diffusa: il problema legato all’accessibilità di strutture e attività è spesso riconosciuto dalle persone direttamente interessate da disabilità e dai loro familiari; risulta purtroppo pressoché sconosciuto e lontano per il resto della Comunità.

L’accessibilità è tuttavia da considerare un vantaggio per un ventaglio più ampio di utenti: persone infortunate o con età avanzate possono infatti trarre vantaggio dall’accessibilità e portatori di interesse avranno l’opportunità di soddisfare le loro necessità.

Piccoli accorgimenti permettono una maggiore e condivisa fruibilità di beni attività e territori, garantendo pari opportunità ed offrendone di nuove. Accademia si impegna nella diffusione della cultura dell’accessibilità, cercando di coinvolgendo la Comunità ed i diversi attori presenti sul territorio e trasmettendo loro informazioni e buone pratiche.

L’attività di certificazione di Accademia della Montagna è conseguente alla creazione dei Marchi Open (marchi di qualità in materia di turismo accessibile) e delle Linee Guida di utilizzo della certificazione. In particolare, sono stati definiti tre marchi di qualità in materia di accessibilità: Open, riferito alle strutture pubbliche e private, agli impianti, alle strutture ricettive e commerciali; Open Event per gli eventi di piccole e grandi dimensioni, sportivi e culturali; Open Area, destinato ai territori e alle destinazioni turistiche.

L’iter di certificazione è stato definito dalla giunta provinciale, (delibera di approvazione delle linee guida n. 1953 del 14 settembre 2012) che ha affidato ad Accademia della Montagna la gestione operativa degli stessi. Sono stati approvati dalla stessa le schede dei criteri di certificazione accessibilità che danno un’immagine leggibile e univoca del Trentino Accessibile creando un sistema di turismo accessibile secondo linee omogenee e comprensibili. L’aspetto particolarmente innovativo è che questi marchi non sono stati ideati, promossi e riconosciuti da un ente privato ma da un Ente Pubblico super partes. Inoltre, le schede di mappatura e certificazione per le strutture a marchio Open sono state predisposte grazie all’intervento delle associazioni rappresentative del mondo della disabilità e da tutte le categorie economiche: associazioni albergatori, ristoratori, commercianti, artigiani.

Sono state intraprese inoltre attività formative sul tema dell’accessibilità in collaborazione con diversi istituti scolastici e percorsi formativi: in particolare hanno riguardato la scuola

Alberghiera di Tesero, l'Istituto Superiore La Rosa Bianca di Cavalese, l'Istituto di istruzione Martino Martini di Mezzolombardo e la scuola di Alta Formazione di Rovereto.

L'attività formativa ha coinvolto anche i professionisti della montagna quali guide alpine, maestri di sci e accompagnatori di media montagna per garantire un prodotto turistico sia estivo che invernale di qualità in cui la montagna e gli sport ne fanno da protagonisti.

La formazione di figure professionali quali architetti, ingegneri e geometri offre l'opportunità di una progettazione più responsabile e inclusiva, definendo l'accorgimento da considerare durante la progettazione, evitando la necessità di intervenire su edifici ed infrastrutture ex post.

Keywords: Culture, training activities, "Marchio Open", accessibility.

LOCAL PARTICIPATION IN THE GOVERNANCE OF NATURAL RESOURCES

Topic: Sustaining Sustainability: How do changes in Assets Affects Peri-urban Livelihoods

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The research linked urban expansion resulting from urbanization with changing morphology processes happening in peri-urban communities. Two villages of Kumasi City peri-urban were used as case study. Appropriate analytical framework and methodology (literature review and empirical evidence) were employed to ensure that all pertinent issues of peri-urban interface are brought to light. It was discovered from the study that since peri-urban livelihood is linked with assets base; it has been found that stock of asset, as well as transformation processes, were major factors in the shaping of livelihoods strategies. For that reason, success or failure of household livelihoods was seen to relate to the kind of livelihood strategy employed. With efforts to mitigate for livelihoods failure due to peri-urban development, households' recourse to remittances, land disposal, and other means as alternative livelihood approach. The study calls for local government policy interventions in regulating peri-urban transformation process and providing safety nets for the vulnerable.

Keywords: Urban expansion, Peri-Urban Interface, Livelihoods, Asset, Households

Commoning and Commons in mountains areas of Italy: a participation dilemma in a changing society

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In Italian mountain territories rural commons (e.g. forests, pastureland, mountain huts, irrigation systems) have been governed through collective action organizations that have historically guaranteed the balance between human productive activities and environmental protection (Granet-Abisset, 2015, Bartaletti, 2004). They have sustained rural livelihoods from subsistence agriculture to breeding and house building. This has in turn enhanced community resilience and long-term preservation of resources. The definition of commons that we use in this study refers to a governance regime, whereby a group of people holds a collective property and needs to decide collectively over the common pool resources (De Moor, 2019).

Nowadays, transformative changes such as new economic models, demographic trends, climate changes and new institutional settings in mountain territories are compromising the established balance between society and natural resources (Granet-Abisset, 2015). The traditional governance system of the commons, the way they are conceived as well as the way resources are used and managed are questioned. Hence, it is relevant to identify the leverages of change and their impacts on rural commons. Moreover, it is relevant to investigate the way such governance systems can adapt and innovate to face such changes in order to guarantee sustainability of the common resources and resilience of the whole community.

Given the framing of the mountain rural commons as complex governance systems in changing mountain territories, it becomes relevant to reflect that they are subject to an increasingly relevant participation dilemma, about who is legitimized to use and govern the commons and according to which rationale. We believe that the changing role of the state, the different social composition, the economic transition and the climate change effects conditions of a specific place should be particularly taken into consideration in **sustainable governance of mountain rural commons**. We argue that the reframing of participation tools, the development of innovative commoning practices as well as the setting of sustainability principles in governing commons may enhance their preservation, valorization and **resilience** towards new societal trends. In addition, new forms of cooperation and **social innovations** in terms of reconfiguring networks, social practices and governance processes, can be used to further promote rural commons.

The research seeks to tackle the relation between **transformative trends** of the mountain territories and sustainable governance of commons. Following research questions are investigated: How do these trends/changes/leverages affect (positively and negatively) the governance of common resources and commoning practices? Which participatory approaches and commoning practices enhance sustainability in the governance of commons?

The authors conduct a literature review on different socioeconomic theories that frame commons, commoning practices and in general forms of participation in the governance of commons. The selected theories relate to the relevance of **social capital** (Putnam, 1995, Fukuyama, 1996) and a system of individual and collective utilities (Cox, 2019, De Moor 2019) as prerequisites of collaborative participatory managing of the commons and to the “**commoning**” (Euler, 2018) as the resulting practice. Moreover, concrete insights have been collected from an expert workshop and from explorative interviews on the traditional and new types of organizations that are managing the

common pool resources in the selected study region of Trentino-Alto Adige and Veneto. The results draw a synthesis of the reviewed literature and some further insights to the research questions on the base of the empirical evidence in the selected study region.

Keywords: **Social Innovation, Resilience, Social Capital, Commoning, Sustainable Governance, New societal trends, mountain areas**

The commons: an innovative basis for transnational environmental law in the era of Anthropocene? The case of Latin America

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Contemporary processes of commodification and exploitation of natural resources imperil the already fragile Earth's ecosystem equilibrium. The scientific community has been continuously warning that climate change and our ecological footprint have already passed the point of no return. The undelayable urge to protect those resources that are intrinsically essential for the welfare of communities and for the life of our planet is now felt more than ever before. For these reasons, the major challenge of the next decades will be to find innovative political, scientific and legal tools for managing the ecological and social issues brought by a "man-made" geological era: the Anthropocene.

The commons are all those environmental components that are essential to the life of every living being on the planet, making up a personal yet collective asset that we all equally share. The peculiar nature of these goods (non-excludable and rival), coupled with the exponential growth of population in the last century, has been fulfilling the dramatic "tragedy of the commons", that Garrett Hardin famously predicted exactly in 1968.

Scholars agree on the fact that the commons do not fit in the classical dichotomy of private vs. public property, as these two poles fail to provide an adequate protection for this peculiar category of goods. Given their essentiality for life, various scholars agree that it is inconceivable to put on the market or privatize water or forests, for example, as if they were like any other commodity. Also, these scholars mostly argue that the modern liberal-constitutional state has been unable to ensure

such protection, particularly because the state has grown more sensitive to the interests and power of private corporations.

The awareness of the necessity to protect environmental commons is particularly felt in Latin-America. This sensitivity is due to the immense richness of natural resources characterising this area and to the decades of violent struggles for the protection of natural resources. In fact, in recent decades, Latin America has experienced serious tensions between extractive development models and recognition of the rights of nature.

The national and supranational jurisdictional institutions of the region – namely the Inter-American

Court of Human Rights, the national high Courts and the constitutional legislators, especially in Ecuador and Bolivia – have answered to these threats by recognizing to the environment its own legal personality.

The aim of our analysis is to evaluate the rise of a Latin-American environmental *ius commune*, which is formed by a group of transnational norms (national and international) and is seen as an instrument to enforce a system of protection inherent to ideas like 'living well', rights of nature, and collective goods. The starting point of this reflection will be the Court's Advisory Opinion OC-23/17 and the Supreme Court of Colombia STC 4360-2018

We believe that a new way to conceive environmental justice is needed for navigating the *unstable and agitated sea of the Anthropocene*. Therefore, in this contribution we would like to investigate - using the lenses of the Latin-American environmental *ius commune* - whether and how much the theory of the commons can be helpful in defining the legal and ethical content of a new transnational environmental justice for our present days. The above-mentioned judicial decisions contain in fact most of the elements characterising the theory of the commons.

The innovative approach we would like to follow links environmental justice to a more *holistic* view of the man-nature relationship, a view that stresses the fundamental role of the "ecological

communities” (Mattei, 2015, 2018) in the governance of the commons. We would like to argue that embracing the commons, as the legal and ethical basis for a new conception of environmental justice, would help facing the increasingly transnational dimension of today’s environmental issues. Besides, a commons-based approach would potentially entail the overcoming of rather obsolete dichotomies in a transnational dimension, such as the public-private one and the anthropocentric vs. eco-centric one.

Keywords: Commons, Latin America, Anthropocene, Environmental Law, Ecological community, Indigenous Community, Environmental rights

THE ROLE OF PUBLIC ARCHAEOLOGY AND CAPACITY BUILDING TO ENHANCE “ECG”: SUSTAINABLE DEVELOPMENT OF THE LOCAL COMMUNITIES OF THE AFRICAN HORN

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Eritrea, achieved its independence from Ethiopia in 1991, after 30 years of war. On July 9th of 2018, thanks to the acceptance of the peace agreement, defined in 2000, the dialogue with Ethiopia has finally resumed. The two Countries face now together the challenges of being located in a strategic area like the Horn of Africa. At the same time, the *African Union*, Europe and, in particular, Italy have declared full support to the peace between the two Countries collaborating in the actual implementation of this rapprochement.

In this political framework, Eritrean-Italian projects might have the possibility to meet some needs due to a central new role of Eritrea. The paper aims at providing two examples of joint-project in progress, trying to analyse not only their impact in terms of technical achievements, but also their side effects, such as the comprehension of the role of Eritrean Cultural Heritage in a worldwide cultural scenario, and the local communities' awareness of its value, enhancing their participation in managing it.

Since 2012, the Università Cattolica di Milano together with Politecnico di Milano, and other Italian universities, has been collaborating with the Eritrean Ministries. Two are the specific research and training projects: the first is on the archaeological site of Adulis; the second is on the city of Asmara. The Eritrean-Italian Adulis Project is dedicated to the knowledge, research and conservation of one of the most important archaeological site of Eritrea and African Horn, chronologically contemporary with the site of Aksum, now in Ethiopia. The second one is focused on a Capacity Building theoretical and practical training course for safeguarding Asmara's historic urban environment, which was recognized as unique example of Modernist African City with the nomination as World Heritage Site on July 8th

2017.

Both the projects are conducted in total peer collaboration with the local partners: Eritrean Commission of Culture and Sport, the Governor of the Northern Red Sea Region, the Northern Red Sea Regional Museum of Massawa, the Asmara Heritage Project, the National Museum of Eritrea. Italian scientific partners are the Research Center on Eastern Desert (Ce.R.D.O.), the *Università degli Studi “L’Orientale” di Napoli*, the *Pontificio Istituto di Archeologia Cristiana di Roma*, the *Università degli Studi dell’Insubria*, and *Associazione Internazionale di Studi sul Mediterraneo e l’Oriente*. Among others, fundings from MAECI and Europe supported the projects.

Aim of the cooperation projects is to strengthen the technical and management capacities and skills of the target groups through these main objectives: creating new planners and managers in the field of heritage through a long term advanced training program providing both technical and theoretical knowledge; enhancing technical skills for archaeological and restoration operators through their active participation on designated training sites; raising public awareness about the benefits of preservation; stimulate social and economic development related to the conservation and valorisation of the national heritage; supporting civic society role in the understanding of local identities and global citizenship issues.

In the new future scenario, heritage and capacity building could become the twin pillars of the construction of a conscious involvement into a global citizenship education, together with the valorisation of cultural identities of the African Continent (*Agenda 2063*, 5).

In the case of “Adulis Project”, the local communities, i.e. the actual heir of a rich civilization that has now disappeared, which has left an incontrovertible sign in the history of human civilization, are

directly addressed and involved. This helps concretely to bring back to the light of contemporaneity this legacy, guaranteeing its integrity and matter: in Adulis the site peculiarities suggested a research and study on optimized vernacular local techniques that can contribute to the conservation of the archaeological site. This turns out to be an excellent starting point for a maintenance planned over time, which can make use of local knowledge and local traditions, sharing the commitment in taking care of the local heritage. Objective of the project is also the creation of the archaeological park of Adulis using the approach of Public Archaeology, which aims to connect stakeholder values and cultural landscape management, to widen engagement and participation of the local communities. Such an approach is essential to help sustaining local identities, economy and environment, as basis for security and intercultural dialogue.

In the case of Asmara the “Capacity Building Training Project” is planned over two years. Beside theoretical knowledge and practical skills, the project aims at providing a cause for reflection on the need for a national School of Architecture, which at the moment is missing in Eritrea. The training of new specialists, managers and administrators in the field of Restoration will focus on specific buildings and sites which are selected from the public asset in the city and are acknowledged as elements of national identity, in order to enhance the relationship between stakeholder values and cultural landscape management.

Keywords: Public Archaeology, Capacity Building, Horn of Africa, Eritrea, Cultural Heritage

Anthropological research applied to sustainable development projects: the case of female domestic workers in Ethiopia and Tanzania

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My anthropological research, still in progress, has been carried out in Ethiopia and Tanzania under the umbrella of the NGO CVM (Comunità Volontari per il Mondo), within a PhD program in Global Studies at the Italian University of Urbino Carlo Bo. CVM, based in Italy (Porto San Giorgio), is working on development projects for the Creation of Support Networks for Domestic Workers in Africa, specifically in Ethiopia and Tanzania. Domestic workers are young women who migrate internally, from rural to urban areas, to work within the households of their employers. My fieldwork research has been conducted in specific areas where the NGO has its premises: Addis Abeba, Debre Markos (Ethiopia); Dar es Salaam, Bagamoyo, Morogoro (Tanzania).

My qualitative research mainly focuses on the experiences, life choices and aspirations of domestic workers, and the ongoing strategies they put into place to improve their lives, albeit under restrictive circumstances and serious constraints. I draw attention on various forms of network resources that domestic workers establish and mobilize in order to carve out personal spaces of action.

The choice of a two-country study allows to contribute to a rather scant literature and research that address internal gendered migration dynamics, with a specific focus on domestic work, in a comparative manner.

Through the involvement of young women themselves, and giving space to their voices, this research

aims to contribute to development projects and campaigns launched by the NGO itself. The latter advocates for domestic workers' rights, even going beyond specific country case studies, towards the acknowledgement of domestic workers' contribution at local, national and global level.

Through the collaboration and the ongoing dialogue with several organizations and institutions, both at local and international level, the NGO is working on projects for the creation of a decent work for domestic workers. A few months ago, a CVM association of domestic workers in Ethiopia has been recognized as an affiliated of IDWF, the International Domestic Workers Federation.

Domestic workers are one of the most vulnerable workers in the world, experiencing discrimination and marginalization with regard to pay, working conditions and legal rights, and being often the targets of verbal, physical and sexual abuse. Among the challenges that domestic workers face, there is the isolation of the workplace (the home), that often leads to a lack of freedom and movement.

Neither Tanzania nor Ethiopia have ratified the ILO Convention on Decent Work for Domestic Workers,

2011 (No. 189). In Ethiopia, domestic workers are not recognized in the Labour Proclamation 377/2003, and the law does not allow them to join/form a trade union. Domestic workers under Tanzania laws are considered together with other employees, their rights are provided for under the Employment and Labour Relations Act, 2004 and Regulation of Wages and Terms of Employment Order, 2010. However, there is no specific provision which strictly applies to domestic workers alone.

Without losing sight of the vulnerabilities and risks in the domestic workers' lives, which are overwhelmingly volatile, I listen to domestic workers' voices, both in Ethiopia and Tanzania, I look at the diversity of their experiences, the multiple trajectories that they follow, and the choices that they

make. Their choices are made within very constrained options, being a result of a dialectic between opportunities and structural constraints. For instance, girls may leave their place of origin in order to escape dominant gender regimes and heavy forms of social pressures at home, as well as to find a response to unmet aspirations, among the other reasons.

I put an emphasis on the role of networks in shaping domestic workers' movements, I take into account the multiple social relations in which their lives are embedded, with gender being at the core. The intent is to bring a valuable overview of domestic workers experiences beyond their portrayal of victims or heroines, at the same time acknowledging both the gendered context-specific and the structural constraints that they face. Through domestic workers' narratives and voices, it is possible to better understand their life and working experiences, as well as the contribution that they provide to the development of their communities, both in their place of origin and in the place of destination.

Within the NGO development projects on domestic work, the aim of my anthropological research is precisely to contribute to the creation of an inclusive and participatory environment, where domestic workers play a key role and speak in their own voice. The intent is also to minimize some of the existing power hierarchies in both the NGO projects and the research process. The ultimate goal is to contribute to development projects for domestic workers, coming up with new recommendations for development policy and interventions.

Keywords: Decent work, development

Open source GIS and solid waste management in low and middle-income countries: an application for Lebanon

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The discussion presented in this paper is about the development of a simple procedure which integrates data collection and spatial analysis to provide a practical support for solid waste management (SWM) in developing countries. The procedure will be based on the use of free open source software (FOSS) geographical information system (GIS). The reasons for the research are explained as follows.

Solid waste management (SWM) in low and middle-low income countries represents a big issue, which seriously affects both human health and the environment. A big limit to the improvement of solid waste management systems, in many cases, is the economic burden, due to the lack of funds. Between the different stages a SWM system is divided into, waste collection and transport is one of the most expensive in terms of money, and has an environmental impacts in terms of fuel consumption and pollution. For these reasons, it is important to find strategies to optimize this and other stages of SWM.

Chalkias and Lasaridi (2011) explained very well the importance of the use of GIS in the optimization of the SWM system and presented many case studies, which refer to waste production and distribution, route optimization, and proper siting of waste treatment facilities and landfill sites. Nevertheless, most of the presented case studies are based on the use of proprietary software, and this can represent a limit with reference to the accessibility of the software itself.

FOSS has been consequently identified as a tool which can be easily accessed, with no costs, and capable to be modified to fit the needs of the local context. The potential of FOSS, which is linked to the freedom given to the user to modify and share, and includes also its most evident characteristic which is being free of charge, has been widely discussed in literature, together with its points of weakness (Câmara and Fonseca, 2006). Of course, some difficulties have been found in the implementation and use of FOSS (Øverland, 2010) in low income countries, and issues mentioned in literature should be taken into account. Nonetheless, the last years have seen a considerable improvement in the potential and usability of GIS open sources, which should be acknowledged.

The discussed procedure has been consequently developed with an open source and open data approach. Relevant importance has been given also to the accessibility of geographical information, for example considering OpenStreetMaps (and not only) as a relevant tool.

A result of the application of this procedure to a Municipality in the South of Lebanon will be finally presented. This application is part of a wider research, which is still on-going. This presentation aims to rise comments and suggestions which will represent an appreciated contribution to the research.

Keywords: Open Source, Waste Management, GIS, Waste Collection, Route Optimization

Hydrocarbon activities impacts in the Amazon of Ecuador and social resistance: the Toxic tour in a geographical perspective

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Ecuador is a developing country of South America, that thanks to the tropical ecosystems of the Amazon Region (hereafter RAE, Region Amazónica Ecuatoriana) covering about the 45% of the national territory, belongs to the group of 17 megadiverse countries, as defined by Conservation International in 1998. In 1967 large oil reserves were discovered in the RAE, and from 1972 onwards Ecuador has been an oil exporter. The first oil well was drilled in Lago Agrio Canton by the USA oil company Texaco (today Chevron) and later hydrocarbon activities expanded in all the Northern and central RAE. Since this first oil project, the very high biological and cultural diversity of the RAE, where a great variety of indigenous people and settlers lives, is under pressures and subject to socio- environmental impacts caused by a growing increase of the oil exploitation. Mainly in the past years, due to the contribution of low standard quality technologies of Chevron-Texaco and other companies and the indifference of the Ecuadorian state, a lot of documented socio-environmental impacts spread on the whole area, such as: oil spilling on ground and rivers, gas flaring of injurious gases, oil pools not well impermeabilized, the building of roads and direct and indirect deforestation due to agricultural activities of new settlers, and the increase of illness and wide cultural changes for the indigenous populations.

In response of this unsustainable situation, more than 25 years ago different indigenous communities, settlers and social associations affected by Chevron-Texaco, created the association “Union de Afectados y afectadas por las Operaciones Petroleras de Texaco” (UDAPT), that became formally constituted in 2012. UDAPT is fighting for the legal recognition of the socio-environmental damages of Chevron-Texaco and the remediation of all impacts, in different ways, via legal actions, campaigns for the human and environmental rights protection and communicational/educational projects, such as the Toxic Tour.

Toxic tour is a “touristic tour” where UDAPT volunteers guide everyone is interested in a visit to the contaminated areas by Chevron-Texaco activities to denounce and disseminate the Chevron-Texaco destruction of biological and human life of this part of RAE. During the tour, People can literally touch with their own hands the ground contaminated by oil, see the “restored” oil pools by the oil company still full of oil, smell the gases of the gas flaring, and can speak with the local witnesses of this disaster. Many persons, from Ecuador and abroad, were involved during these years to this initiative, as “tourists” coming from academic world, the society, simple citizens, different social and environmental organizations and the same Ecuadorian government and as volunteers like young volunteers from the Italian FOCSIV (Federazione degli Organismi Cristiani Servizio Internazionale Volontario) that since some years are spending their “Servizio Civile nazionale all'estero” working with UDAPT.

In this presentation we want to contribute to the dissemination of the Toxic tour and present a geographical approach on its development, with a virtual tour made of images and maps of this very important activity of UDAPT. The contribution is a synthesis of two Toxic tours of this last two year, carried out by the professors and students of “GIS and Remote Sensing” course of the Master degree in “Climate Change, Sustainability and Development” of the “Universidad Andina Simon Bolivar Ecuador” of Quito. As academic assignment, the students were called to “improve” the tour with the use of paper maps and geo-app for smartphone to collect different kind of georeferenced data and photos, such as contaminated pools and gas flaring sites, interviews to local actors and finally prepare a report and a project work with all data and analysis in a WebGIS and GIS project. In this transition from the classroom to the fieldwork, and from the screen of a pc to tou

ching with hands the oil activity impacts, most students remained very impressed with the situation and started to think about how to help UDAPT in and out the University, so confirming that the Toxic tour is an effective project in the long fighting of these local actors for their human and environmental rights.

Keywords: Hydrocarbon activities impacts, Ecuador, Amazon, Toxic Tour, maps

SUSTAINABILITY AND COMMON OWNERSHIP OF NATURAL RESOURCES: A LEGAL OVERVIEW

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There is a potential convergence between the concept of sustainability and the legal paradigm of the “beni comuni”. It is conceivable that, on one hand, the sustainable use of a resource turns it into a common good. On the other hand, it is arguable that the common ownership of a resource ensures sustainable stewardship.

The contribution aims, at first, to explain what does it mean, in legal terms, the concept of sustainability. The crucial question is whether sustainability could be understood, today, as a legal principle that limits the discretion exerted by Public powers in regulating the use of natural resources in private or public ownership. In satisfying this question I will consider how the principle is managed by the Italian courts in judging the lawfulness of public decision authorizing the exploitation of natural resources.

Secondly, the contribution has in view to analyze the legal paradigm of common ownership of natural resources. I will answer, in particular, to the question of how could be conceived the relations among: a) the common good; b) the community (the national / local community, the State / Municipality as their legal representatives) that is collectively entitled to that common good; c) the individuals that are part of that community. In dealing with this topic, I will examine different models: the “domini collettivi” (Italian legal tradition) and the public trust doctrine (US legal tradition).

Thirdly, the intervention is finalized to canvass the relation between the legal concept of sustainability and the legal paradigm of common ownership. The question is, is the legal concept of common ownership a useful tool to achieve the sustainable management of natural resources. I will address this issue by a case law approach.

Keywords: COMMON OWNERSHIP, PUBLIC TRUST, DOMINI COLLETTIVI

Importance of local community participation for a sustainable management of the Ypacaraí Lake (Paraguay)

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Local communities of developing countries are closely connected with natural resources of the surrounding environment, conferring to nature a high cultural and religious value. This connection constitutes, in some cases, a helping occurrence for avoiding the degradation of natural resources, which also represents the basis for boosting socioeconomic development in emerging contexts.

However, the rapid growth of developing countries poses new challenges for the conservation of their natural resources, as the goods and services naturally offered by the environment have unsustainably been overexploited. Therefore, local communities that protect natural resources are increasingly becoming a niche in several emerging contexts, highlighting the need to find a new equilibrium status to sustain the socioeconomic growth without losing sight of the essential role played by the existing natural resources.

A possible approach proposed in the literature is based on the participation of local communities in the governance of natural resources, which was shown to improve participation and active citizenship at the local level.

Here, we discuss the possible benefits given by the participation of the local communities of Paraguay (South America) in the governance of one of the most important natural resource offered by this subtropical country, namely the Ypacaraí Lake.

Indeed, the lake represents a nationally relevant freshwater resource for the landlocked Paraguay, constituting the reference place for recreational and touristic activities of local communities during summer, thus indicating its socioeconomic and political value. In addition, the connection between local Paraguayan communities and the Ypacaraí Lake is suggested by the lake proximity to the capital city of Asunción, which hosts almost one third of the country's population. The importance of the lake is also underlined from an environmental point of view, as it represents a major source for drinking and irrigation water for neighbouring towns. Nevertheless, this subtropical lake constitutes a case of potentially high scientific relevance, presenting a unique combination of natural factors in the context of a rapidly developing country.

However, during the last two decades, the rapid growth of population and activities within the Ypacaraí Lake basin has led to its environmental degradation, a heartfelt matter of high political concern that led to several but uncompleted restoration projects, both from local and international agencies.

Moreover, in this framework, the local Paraguayan communities of the Ypacaraí basin have never played a significant role, although their well-being strongly relies on a sustainable management of the lake. Specifically, the local community role has been obfuscated by the high administrative, political and institutional fragmentation of the basin, which are characterised by many actors whose responsibilities in relation to the management and monitoring of the lake and its system are, in many cases, either overlapping or not clearly assigned. However, local communities may boost the restoration of this freshwater resource if involved in the governance of the lake according to a bottom up approach, which would inevitably influence the political actions for reaching a sustainable management of the Ypacaraí basin. More precisely, lake basin communities can provide useful local knowledge of this delicate freshwater resource, since the reconstruction of its environmental state represents one of the main challenge for addressing the restoration issue.

Although a unified knowledge base does not necessarily readily translate into action, the socioeconomic and cultural importance of this lake in Paraguay sets an ideal political scenario for

future interventions and further research through a multi-disciplinary approach that assign to local communities a relevant role in the governance of this freshwater resource.

Keywords: Freshwater resource, sustainable management, lake basin communities, Ypacaraí Lake

Comparing sustainability assessment methodologies for SES development in developing countries; a case study in Chiapas, Mexico

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Environmental impacts and marginal territories' development are actually issues of great interests for the international community, from the scientific and political points of view. Socio-ecological systems (SES) management and innovation is a crucial point in the struggle for climate change mitigation, most of them are located in marginal rural areas of developing countries, most of which are interested by quick environmental and institutional changings. For such reasons scientific community has been called to find appropriate tools to assess agroecosystem's sustainability and determine the best development strategies to be implemented. Lots of methodologies already spread worldwide attempting to satisfy such challenge, from sustainability assessment tools, based on data aggregation in a set of indexes, to a variety of simulation and modelling methodologies. Yet, after acknowledging that the implementation of pre-packaged general solutions by international NGOs or Academic Institutions, like the often proposed 'win-win strategies' inspired by Global Green Economy principles, are very likely to fail in their implementation or to lead to social conflicts among stakeholders mainly because doesn't consider local actors' participation as a main target; to definitely understand which strategies may effectively lead us toward Sustainability, an unsolved question needs to be answered: which kind of approach and methodologies may be the most suited to deepen our comprehension of SES development aimed to fight climate change and improve local livelihood in marginal rural areas?

Sustainability assessment tools for agroecosystems like SAFA (Sustainability Assessment of Food and Agriculture) by FAO and LCA (Life Cycle Assessment) have already been largely experimented, mainly in the industrialized world and analyzing entities such as modern enterprise. However, such methodologies present some limitations: their implementation requires highly specialized technical support to collect data, the output are normally information based on average calculations and actors' participation is not always and effectively implemented. Such methodologies lead to static and 'blurred' images of sustainability, moreover the validity of such assessment lasts few years. For such reasons, such tools are even less appropriate when applied in complex SES such as marginal rural areas of developing countries. Indeed, in such contexts, entity's borders are undefined, data records are not accurate and often there is a peculiar intimate link between human activities and the surrounding natural areas. The beforementioned limitations are much more exasperated in such contexts characterized by rapid and unpredictable economic and environmental dynamics.

South Mexico, a medium-sized mega diverse area, offers great examples of the highlighted problematic; rural areas in the country are, for the majority, marginal and complex SES areas. Some authors developed a specific sustainability assessment program called MESMIS program (Natural Resource Management Systems in English) to offset the explained issues. MESMIS is much more focused on the analysis of the dynamics of a socio-environmental system in term of its PRODUCTIVITY, RESILIENCE, ADAPTABILITY, STABILITY, CONFIDANCE, EQUITY AND SELF-ORGANIZATION CAPACITY, rather than in the aggregation of a series of indicators; but soon authors understood that the main future to consider in other to overcome sustainability assessment limitations is to enhance local active participation. For such reason researchers overcame MESMIS approach implementing Agent-based modelling methodologies and Board-game simulations in Mexican SES; their insights are very interesting for Sustainability implementation worldwide.

Indeed, such methodologies are decisively based on local actors' participation because data are collected by researchers implementing the simulation models directly with interested actors in the

form of board game. Moreover, playing, stakeholders have the possibility to understand the dynamic of the SES where they act, to observe the simulated consequence of their choices and the chances and opportunities that may emerge from their mutual cooperation. Definitely, policies and programs based on such analysis have a high potential to strengthen local Sustainability offsetting the inherent contradictions of classic methodologies and may be reproducible worldwide in different contexts.

Keywords: Communitarian governance, participative methodologies, sustainability assessment, agroforestry

Bottom-up institution building in highly conflicting land use scenarios. Applying the constitutionality approach to the Chaco Salteño forest governance

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The Chaco salteño, in Argentina, has been a deforestation hotspot over the last two decades. As a result, forest users, including indigenous people (IP) and small-scale criollo farmers are increasingly threatened by the advances of the agricultural frontiers and the deforestation process. This has caused displacement of indigenous communities and small-scale cattle farmers, which has increased pressure on common resources, and in particular remaining forests.

The recently developed constitutionality approach aims to address an important gap in the literature on governance of common pool resources. This approach examines cases of bottom up building of institutions participation, and highlights pro-active and strategic participation of local actors in the design of local institutions (Haller, Acciaioli, & Rist 2016). Haller et al identify six components of constitutionality: 1) emic perceptions of the need for new institutions, 2) participatory processes of negotiation, 3) preexisting institutions as a basis for institution building, 4) outside catalyzing agents, 5) recognition of local knowledge and 6) acknowledgment of the new institutions.

In this presentation, we aim to apply the constitutionality approach to two cases of local resource governance in the Argentinian Chaco eco-region. On the “Ruta 81” (Hickman, Dragonés, Coronel Juan Sola), we discuss how pressure on land fostered the creation and development of multiple peasant organizations and new indigenous movement. We discuss how these associations became important in the governance process at the provincial level. In some cases, new alliances were formed between smallholders and indigenous communities, characterized by the presence of prominent indigenous leaders. We compare the case of the Ruta 81, with Santa Victoria Este. In Santa Victoria Este, conflicts between Indigenous communities and smallholders led to the creation and institutionalization of several institutions representing these actors (the most important cases being Lhaka Honat and the Organización de Familias Criollas OFC).

We show that high conflict occurrence does not hinder the development of local institutions. On the contrary, the high conflictivity in both of these cases fostered the creation and development of local institutions. Further, the case of Ruta 81 shows that having a “common enemy” embodied in this case by large-scale agribusiness actors, contributed to unite different social movements and lead to the creation of alliances between indigenous movements and peasant organizations. The situation is however very different in Santa Victoria Este. We argue that conflicts between indigenous and criollos, as well as the involvement of the State and justice courts led to the multiplication of negotiation channels, eventually leading to a weaker constitutionality process.

This article builds on several structured interviews that were conducted by the authors, as well as on secondary literature and participant observation.

Keywords: Environmental governance, constitutionality, bottom-up organizations

Comunità in azione - Art Beni comuni e cittadinanza attiva

G. Venditti, L. Prosser

Tempora Onlus

Numerosi Comuni del Trentino hanno mostrato particolare interesse e sensibilità nei confronti di iniziative a favore di Beni comuni e cittadinanza attiva. Questa tendenza è spiegata dalla necessità da parte dei cittadini di essere sempre più coinvolti come soggetti attivi nella gestione dei Beni Comuni, anziché restare destinatari passivi di decisioni prese dall'alto. Nell'ambito di questa azione di coinvolgimento è necessario considerare tre elementi chiave: il principio costituzionale di sussidiarietà orizzontale, l'amministrazione condivisa e il patto di collaborazione. Il primo è un principio introdotto al comma 4 dell'art. 118 con la Riforma Costituzionale del Titolo V, ed è volto a regolare i rapporti tra gli enti di governo territoriali e i cittadini che, all'insegna dell'amministrazione condivisa, interagiscono "orizzontalmente" e decidono di collaborare nel perseguimento di interessi generali. In linea con il principio di sussidiarietà orizzontale, inoltre, l'amministrazione condivisa si configura come un modello organizzativo che prevede il coinvolgimento di cittadini e pubblica amministrazione in un impegno congiunto, mirato a promuovere attività concernenti la cura, la rigenerazione e la gestione condivisa dei Beni comuni. Infine, a regolare suddetti interventi entra in gioco il patto di collaborazione, espressione del rapporto tra amministrazione locale e cittadini attivi, che definisce gli ambiti e le modalità di questa riqualificazione. In armonia con questi tre elementi ed i principi ad essi legati, *Tempora Onlus* ha lanciato nel corso del mese di febbraio il progetto "*Comunità in azione - Art Beni comuni e cittadinanza attiva*", finanziato dal Ministero del Lavoro e delle Politiche Sociali. Il progetto è stato attivato in contemporanea nei Comuni di Arco, Calceranica e Caldonazzo e si è sviluppato su varie fasi. Inizialmente, la formazione ha coinvolto in maniera capillare i dipendenti comunali, rendendoli preparati e competenti nell'attuazione dei patti di collaborazione con i cittadini. In un secondo momento, sono stati predisposti interventi di sensibilizzazione sui temi dei Beni Comuni, della legalità e della corresponsabilità, indirizzati alla cittadinanza delle varie aree territoriali partner del progetto. A queste iniziative è poi seguita una fase dalla marcata vocazione artistica che ha visto l'attivazione di alcuni workshop, gratuiti ed aperti a tutti i cittadini, dedicati alla street art e alla scultura, anch'essi mirati a trasmettere concetti e pratiche di riqualificazione e rigenerazione urbana e partecipazione. L'elemento innovatore del progetto risiede, oltre che nel tentativo di interessare e coinvolgere un target giovane, anche nella possibilità di seguire e contribuire online allo svolgimento del progetto tramite il sito internet interattivo dedicato. Inoltre, i risultati della riqualificazione urbana di alcuni siti degradati avvenuta attraverso il percorso artistico saranno raccolti e documentati nel libro illustrato che sarà reso disponibile alla fine del percorso.

Keywords: Street Art, Riqualificazione Comunità Cittadinanza Attiva

LOCAL FOOD NETWORK: POLICIES AND PRACTICES OF INTERNATIONAL COOPERATION

Community-Supported Agriculture: local actions with larger impacts for a social ecological transformation. An Italian experience, an international perspective to rethink the territory and the city

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Reports say cities keep expanding, consuming fertile land and enlarging transport infrastructures to allow for their increasing affluence to be satisfied by external resources and goods. However, if tragic social and ecological incidents regrettably start emerging, their systemic nature is no (yet) widely acknowledged. As a matter of fact, the social and ecological limits of the current industrial economic paradigm on this planet let us glimpse an upcoming exhaustion to be possibly prevented through a positive transformation. If the quest for an improved efficiency of the same paradigm seems not much more than a diversionary, we maintain that the demand should be targeted instead, and the rethinking of the territory, the city, and its supporting environment is necessarily involved. In this perspective, food seems a good start in such a transformation, for its ability to shape the territory both for its production and for its delivery, while representing one of the basic human needs. We present an example of communal self-management for organic agricultural production, inspired to model of Community-Supported Agriculture (CSA). This project was started in the urban sprawl of massively industrialised North-Eastern Italy by committed individuals and grassroot groups, already active in discourses on ecological sustainability, social equity, social and solidarity economy, transition and post-growth. After describing the functioning of the model as well as of the case study at issue, also framing it in a multi-scale dimension, we analyse its benefit both at a local level and at larger levels, involving the shape of cities, their relations with the countryside, the needed transport infrastructures as well as the preservation of land, water bodies, and local resilience and quality of life in general. From individual-to-collective self-determination and bottom-up initiative through food plans and other tools to be participatorily defined with all the actors of a given area, a CSA can represent the trigger of a virtuous paradigmatic shift in more or less institutional policies for the maintenance, regeneration, and strengthening of territory and urban environments

Keywords: Community-Supported, Agriculture, Comunità che Sostengono l'Agricoltura, Food Policy, Piani Locali del Cibo Pianificazione Alimentare, Local Food Plans, Social and Solidarity Economy, Economia Solidale, Agricoltura urbana.

COOPERATION FOR EDUCATION IN AGRICULTURE: CISAO_UNITO AND CLICHA PROJECT, A MODERN TRAINING APPROACH TO COPE WITH THE CHALLENGES OF CLIMATE CHANGE AND FOOD SECURITY

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A significant impact of climate change (CC) on the primary sector (agriculture, livestock breeding and fishery) is the threat to food security from decreasing crop yields, extinctions of breeds and varieties, and loss of habitats from extreme events (i.e. drought and inundations). The improvement of resilience in agriculture is a key feature to ensure the sustainability in food production, and at large the survival of mankind. The Mediterranean region has been identified as one of the most prominent CC hotspots: in this area, CC could further exacerbate already existing problems related to water scarcity, groundwater salinization and soil desertification, thus resulting in a decrease in land productivity, agricultural yields and rural income. Therefore, the national economies of the Mediterranean countries, especially the developing ones, would suffer not only from the direct impacts of CC, but also from the high costs of mitigation.

The **CLICHA project (Climate Change in Agriculture)** was designed upon a national priority (environmental protection) of a partner country, Tunisia; this is also a regional priority for the neighbouring countries. Amongst the many subjects that could be covered under the heading of environmental protection, the project consortium selected agriculture as it plays a vital role for the Tunisian economy. The strategic objective of EU-Tunisia relations involves the support to sustainable development - including **sustainable agriculture** - for reducing social and regional inequalities and improving the population's standard of living.

As it is not possible to cope with CC challenge and stimulate sustainable agriculture without a strong focus in education, the CLICHA consortium deemed it important **to modernise the curricula of Agriculture and Animal Production courses offered by the Tunisian Higher Education Institutions (HEIs)**, so that students could be equipped with the necessary skills and knowledge to tackle this challenge under the specific local conditions.

CLICHA is an ERASMUS+ project (Key Action 2 - Cooperation for innovation and exchange of good practices - **Capacity Building in Higher Education**) which has embraced an interdisciplinary approach for this complex problem.

The wider objective of CLICHA project is to create qualified scientists who will contribute to the development of **environmentally friend and sustainable agriculture**, and will be readily absorbed by the labour market. These scientists could become the transformation factor for the whole society towards a more sustainable way of farming, production, consuming and living: **to produce "enough safe and right food" for all.**

The major objectives and outputs of CLICHA project are:

- a) **production of new teaching material** on "*climate change, crop and animal/livestock production*", paying particular attention to **sustainable use of water resources**;
- b) **development of new/updated courses**; an overall of 41 common curricular courses on the above subjects - **including the Climate Change component** - were evaluated and updated;
- c) **use of modern learning/teaching materials & tools** (provision of ICT equipment, e-learning platform, dynamic website, etc.);

- d) **reinforcement of internationalization activities, partnership strengthening** (conferences, common publications, teachers exchange);
- e) **involvement of the private sector** (enterprises, commercial companies, etc.) to be linked with research & academia (business fora);
- f) **dissemination amongst stakeholders and general public** (tv, news, social media, etc.), and third mission activities.

The project activities are developed by **10 Partners from 4 Countries**:

- **3 partners from Greece**: P1 Agricultural University of Athens (AUA, EU project coordinator); P2 Creative Thinking Development (CRE.THI.DEV.); P3 National Centre for Scientific Research “Demokritos”
- **5 partners from Tunisia**: P4 University of Jendouba (UJ, Tunisian project coordinator); P5 University of Carthage (UCAR); P6 University of Sousse (US); P7 National Institute of Field Crops (INGC); P8 Centre of Adaptation to Climate Changes (CACC);
- **1 partner from Latvia**: P9 Latvia University of Life Sciences & Technologies (LLU)
- **1 partner from Italy**: P10 CISA0_UNITO, Università degli Studi di Torino

Although CLICHA project targets directly the HEIs, the final impact is expected to be far wider. Besides the Tunisian students and the teachers and technical staff of Tunisian and EU HEIs, the other target groups that will benefit the project’s outputs are the **local enterprises** and the **private sector**.

Commercial and business companies will participate to the project events, and will be informed about the opportunities opened in North Africa on sustainable agriculture; they will also acquire and exchange knowledge from the HEIs and other businesses, initiating alliances with Academics and students. Professionals trained in HEIs who develop, lead, manage, teach, work in, and influence society’s institutions, will be informed on the phenomenon of CC and will be trained on how reduce and/or overcome CC, thus contributing to a more climate-neutral and sustainable society.

The project has a **36 months duration**: the activities started in **October 2017**, and will **end by October 2020**.

Keywords: .

PRACTICES FOR ENGAGING STUDENTS IN INTERNATIONAL DEVELOPMENT COOPERATION

PAVIA-ZIGUINCHOR PEDIATRIC EDUCATION PROJECT

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The project

The "*Pavia-Ziguinchor Pediatric Education Project*" is the result of a collaboration between the University of Pavia, the *Foundation IRCCS Policlinico San Matteo* of Pavia and the *Hôpital Regional* of Ziguinchor in Senegal, with the concrete support of the non-government organisation CPAS (*Committee Pavia Asti Senegal*) and the Order of Physicians of Pavia, actively supporting and financing the project since 2009. It is a stable collaboration, based on educational purposes, for the Pediatrics School residents who thus have the opportunity to carry out an international cooperation internship in *Casamance*, a strip of land along the shores and delta of Casamance river, in the southern part of Senegal.

Activities

Thanks to financial support from Regione Lombardia and from private institutions, since 2008 restructuring works have been carried out in many departments of the *Hôpital Regional*, namely Pediatrics, Maternal and child care, Imaging, Otorhinolaryngology, First Aid and Resuscitation. Since 2009, 41 pediatric residents were involved in clinical activities in the pediatric and maternal area; main purpose of this experience is learning about the local hospital reality in Pediatrics and Neonatology wards, as well as holding frontal lectures, in order to illustrate to local doctors and nurses diagnostic and therapeutic guidelines adopted in Pavia University Hospital.

During the internship other work activities are carried out: the health Project "*Piroga Medicale*", the cooperation with "*The Future au Present Association*" (FAP), the "*C.M.B.-AID Association*".

The "*Piroga Medicale*" project aims to reach the rural populations of the delta of Casamance region, an area made up of small islands connected by canals and hosting some 15 villages that can be reached only by river. There is no structured health care in this region, but only small territorial dispensaries called "*Poste de Santé*" (PDS), managed exclusively by nursing staff. The PDS are the "first aid" in the management of health problems in the area, but fail to respond adequately to the most serious medical needs. Patients with severe pathologies or those requiring urgent treatments must be directed to the nearest hospital facilities (Ziguinchor or Bignona Hospital), with all the ensuing economic and logistic problems. The project was therefore born from the need to improve access to the health services of these populations with interventions aimed in particular at children's health to enhance pediatric, neonatal and maternal-infant care.

Another healthcare working cooperation is established with FAP, founded in September 2012 by a Franco-Senegalese self-financed team that operates in Ziguinchor. Its priority objectives are: recover homeless children, offering them a reception center and adequate education; ensure a socio- educational path of growth for girls who are precociously directed to the world of work; provide social assistance to the elderly of the local community. From the health point of view, the Association uses the collaboration of a nurse and a social worker to identify potentially needy children in financial distress in the area and, subsequently, to refer them to a medical-nursing

support. The role of the pediatric residents is to perform a bi-weekly afternoon outpatient activity at the headquarters of the Association in *Boucotte*, aimed at solving any acute pathologies identified (mainly respiratory infections, dermatitis or skin lesions of various origin, etc.).

The Association has also a "*Maison de l'éducation*" in the Kandè district, where in the afternoon are hosted about 90 girls, aged between 6 and 12 years, with school difficulties. The girls are followed by a team of teachers and educators who offer remedial lessons, help in the performance of homework and leisure activities, aimed at teaching team spirit and mutual help, aiming to provide psychosocial support.

The "C.M.B. -AID Association" (*Fondation Colette Mathilde Badji, International foundation for the promotion of the women*) present on the territory of Ziguinchor since November 2017, organize health information meetings, open to the entire population, regarding topics such as the prevention of sexually transmitted diseases, HIV and prevention of marriages and pregnancies in girls under the age of 16. The health initiative carried out free medical examinations for the street children called *Talibè*, located in the *Lyndiane* neighborhood. The term *Talibè* (which literally means "student of the Koran") identifies children between 3 and 15 years of age, who are entrusted by families with scarce economic means to a Koranic preceptor named *Marabout*, inside the *Darasah* (Koranic schools).

These children live in situations of extreme poverty, left to themselves, without neither food nor health care, abused and plunged into disastrous hygienic conditions, forced to spend most of the day begging on the streets on behalf of their "preceptor".

Conclusions

The project is a paradigmatic example of how a cooperation initiative, initially limited to typical hospital-based activities, can broaden its horizon to include a wide array of collateral activities, aiming to take care of children welfare not only from the medical point of view but fostering educational and therefore preventive goals.

Keywords: Health, Children care

A.P.P.A.[®] PROJECT: READY TO USE THERAPEUTIC FOOD FORMULATION STUDY

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Background. *A.P.P.A.*[®] Project is the main activity of the non-profit organization Aid Progress Pharmacist Agreement (*A.P.P.A.*[®]) which is the result of the cooperation between the University of Turin and Italian Community Pharmacists and it operate in the field of International Health Cooperation.

The Project is structured in six phases, through which it is possible to obtain an efficient and functional Galenic Laboratory (GL) established in medical structures located in Developing Countries (DCs): preliminary study of local needs and a constantly and accurate quality control of the prepared galenics are performed in the laboratories of University of Turin. The pharmaceutical forms proposed are liquid preparations, capsules, ointments, pessaries, suppositories and multi-dose parenteral solutions. For each GL a specific handbook has been studied: each of them reflects the different local needs. Several Projects are working on, two in Angola and Madagascar, one in Chad and one in Haiti.

Against child malnutrition, which is one of the most widespread phenomena in the countries where *A.P.P.A.*[®] operates and more generally in DCs, World Health Organization (WHO) and UNICEF have provided specific guidelines for the preparation of therapeutic foods with high energy content and an easily administrable. Among these products, the Ready to Use Therapeutic Foods (RUTFs), peanut-based paste in a plastic wrapper, are used for the treatment of severe acute malnutrition and have shown many positive results. The present work focuses on tackling malnutrition in two GLs, particularly those of the Saint Georges hospital of Biobè in Chad and the Henintsoa hospital of Vohipeno in Madagascar, both located in rural areas in the south-east of their respective countries. In these situations, RUTFs show some constraints like the transport time and costs since it can take up to 19 hours drive to these villages from the Capital through roads that are mostly unpaved. This long journey involves a cost of around 2 euros for each package. Additionally, to this prohibitive cost, the inconstant availability of these foods cannot guarantee a continuous treatment.

Objectives. Given the premises against malnutrition, it has been necessary to set up a formulation study in order to introduce a therapeutic food in *A.P.P.A.*[®] laboratories located at the *Henintsoa* hospital and the *Saint Georges* hospital. At the Department of Drug Science and Technology of Turin a formulation study was conducted for the on-site introduction of a RUTF indicated in WHO's guidelines.

In particular the following steps has been developed:

- it has been conducted a feasibility study and cost analysis for the production of a preparation composed of local raw materials such as peanuts, milk powder, vegetable oil and sugar with the addition of mineral salts and vitamins;
- it has been settled up a standard operating procedure for the preparation of a ready-to-use therapeutic alimentary pasta, whose production could be sustainable by the requesting health structures and would allow affordable price for local populations in order to obtain a positive impact on the life of the community.

Results. Regarding the cost analysis, the total cost for the preparation of a 100 g sachet is between 0,30 € and 0,40 €. For both hospitals this cost generates a net saving compared to the cost to buy a

single portion of a similar product on the market. As regards the formulation study, the intake of micronutrients contained in local raw materials (peanuts, milk powder, vegetable oil and sugar) has been initially calculated, consequently the quantities of mineral salts and vitamins to be added to the preparation has been chosen, always following the WHO guidelines. A standard operating set-up procedure has been drawn up in order to guarantee quality and reproducible results.

Conclusions. During the travel of A.P.P.A.[®]'s volunteers held in March 2019, the procedure developed at the University of Turin for preparing the therapeutic paste has been introduced for the first time at the *Saint Georges* hospital of Biobè, in Chad. Local technicians of the galenic laboratory have been trained on the preparation of the RUTF specifically studied for local needs. The individual packs of this preparation were administered by the local physician to malnourished hospitalized children who have shown positive response regarding both compliance and health status. In the coming months, it will be desirable to start a follow-up of the treatment of hospitalized patients. In the second half of 2019 the preparation will also be introduced at the galenic laboratory of the Henintsoa hospital in Madagascar.

Keywords: Galenic medicines, developing Countries, falsified medicines, non-communicable-diseases, A.P.P.A.[®]Project, RUTF, therapeutic foods, malnutrition

PUBLIC HOSPITAL SETTING IN RURAL ANGOLA: MEDICINE QUALITY AND MEDICATION ADHERENCE

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Background. Aid Progress Pharmacist Agreement (*A.P.P.A.*[®]) is a non-profit association whose main activity is the *A.P.P.A.*[®] Project. The Project began in 2004 and is the result of the cooperation between the University of Turin and Italian Community Pharmacists. The Project focuses on Galenic Laboratories (GLs) established in medical structures located in Developing Countries (DCs). The aims of the Project are as follows:

- to set up GLs in DCs with the aim of preparing medicinal products which comply with adequate quality requirements. First and foremost, in order to fight the widespread use of falsified medicines in DCs;
- to tailor dosages and pharmaceutical forms according to actual patient needs;
- to employ local staff.

The Project is structured in different steps following which an effective and functional lab can be set up. These six steps are always preceded by a feasibility study (Step 0) that is essential to evaluate the needs of the new lab. The pharmaceutical forms proposed are liquid preparations, capsules, ointments, pessaries, suppositories and multi-dose parenteral solutions. For each laboratory, a specific handbook has been designed: each of these complies with the different local needs taking into account the medicinal products that, based on the studies that *A.P.P.A.*[®] performed on site, are more often falsified.

Over the last fourteen years, several GLs have been established, of which two are located in Angola. The first laboratory in Angola was set up in 2011 at the *Nossa Senhora da Paz* Hospital (NSPH), situated in a rural zone in the south of the country

Objectives. The objectives of the study carried out at the NSPH were:

- to update the handbook of the GL in order to meet the requirements of the hospital in view of the spread of endemic pathologies in the area (the updating of the handbook takes place periodically in order to ensure that it matches the real current needs) and, furthermore, to keep up with changes in the availability of industrial products on the local market as well as to prevent the infiltration of falsified products;
- to curb the use of falsified medicines at the health structure through the implementation of a monitoring programme for industrial products purchased locally and used in the various departments of the hospital with the goal of detecting immediately any falsified products;
- to identify an effective methodology for monitoring and increasing the medication adherence amongst patients affected by Non-Communicable-Diseases (NCDs) and treated in out-patients' clinics in a rural setting in a DC such as NSPH.

Results. The meetings to review the handbook of the GL created a useful dialogue between all the stakeholders involved in the production, prescription and dispensation of medicines at the NSPH. This permitted the *A.P.P.A.*[®] volunteers to assess rapidly and efficiently the current needs of the hospital and, hence, to review and purchase the necessary supplies of raw materials as well as, in

agreement with the laboratory staff, to draw up a monthly production schedule for galenic medicines.

In order to monitor the extent of medicines which were suspected of being falsified, a range of drugs was tested. The results obtained highlight the dramatic nature of the problem of falsified medicines in Angola. Compared to a study carried out in 2011, in the same area and employing the same study criteria, the situation has worsened drastically. In the 2011 study, 54% of the sampled medicines turned out to be falsified; by 2016, the figure had risen to 77%.

In order to monitor in the out-patients' clinic the levels of medication adherence amongst patients affected by NCDs in a rural setting of a DCs, an observational study was conducted involving all adult patients who were examined at the out-patients' clinic at the NSPH in the months of March and April 2016. Despite the low number of subjects enrolled (82), it is still possible to draw some interesting considerations from the observational study conducted at the NSPH. Given the widespread presence of NCDs, even in areas such as Cubal and its environs, and taking into account the results obtained, it is clear that a fundamental priority is the development of a health education program for the local population, which, in view of the low educational levels, lacks an understanding of chronic diseases and is unable to conceive an asymptomatic disease.

Conclusions. Thanks to the close co-operation between the hospital staff and the *A.P.P.A.*[®] team, the handbook of the GL was updated in accordance with the requirements of the hospital. Furthermore, checks on industrial medicines are ongoing and ensure the timely identification of falsified products. Concerning medication adherence over the course of coming missions, it is essential to work towards providing patients affected by NCDs with adequate counselling services and, in this light, it will be interesting to evaluate its effectiveness in a population which is availing of this service for the first time.

Keywords: Galenic medicines, developing Countries, falsified medicines, non-communicable-diseases, A.P.P.A.[®] Project

Capacity building for Cultural heritage. Italian experience to preserve architecture, archaeology and landscape in Quang Nam Province (Vietnam)

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The contribution wants to present an experience conducted in Vietnam starting from January 2017. The program “Vocational Training Centre for the Restoration and Conservation of Cultural Heritage – Quang Nam Province” was born to answer an explicit demand from the Quang Nam Province and the Vietnamese Government: the need to provide a strong supply for the improvement of the management skills of the World Cultural Heritage, and to train experts and technicians who, at different levels, will be appointed to design, implement, and manage the conservation and the enhancement of the cultural heritage.

The project is funded by the Italian Agency for Development Cooperation, the People’s Committee of the Province of Quang Nam and the Department of Architecture and Urban Studies of Politecnico of Milan which is responsible for developing its scientific contents and activities. The technical partners of the project are: the Lerici Foundation, which for years has been working to preserve the archeological heritage in South East Asia and the Institute for conservation of Monuments of Hanoi. The project owner is Vocational Training College in Tam Ky.

The project focused on education and training activities in the field of cultural heritage conservation and is the natural prosecution of twenty years of presence and experience of Italian experts on this territory.

The goal is to establish a School to train human resources on restoration, conservation, preservation and management of archeological and cultural heritage sites.

The project is articulated and complex and presents different activities for two years:

- Preparation of infrastructures of the schools in Tam Ky inside the Quang Nam Technology College (classroom, computer room, a meeting room and an office);
- Two training for fresh university graduates, civil servants and professionals with curricula in Archeological Technologies, Architectural Restoration, and Management;
- Training for workers in Archeology excavation and Architectural Restoration;
- Training course for future teachers called “Training of Trainers”;
- Practical training activities at My Son archeological site;
- The creation of a laboratory for the restoration of mobile works in Quang Nam Museum of Tam Ky.

The course for fresh university graduates, civil servants and professionals has 2 months of theoretical classes with Italian and Vietnamese professors in the school of Tam Ky.

After that, four-months of practical didactic in the site of My Son are envisioned. During these months the students begin to follow different curricula (Archeological Technologies/ Restorers of objects – Architectural Restoration and Management).

Two monuments are been selected on the site: one for the restoration works (G4 of the Group G) and one (Group L) for the archeological research and excavation.

In these months the students begin to apply the theoretical method on the field because in this project the teaching is also based on the principle of learning by doing, and sees students working alongside experts in carrying out studies, surveys and interventions.

The idea of training that this program would like to promote is based on the principles of many of the national and international bodies dealing with development cooperation. First of all the training and the transfer of knowledge in the field of conservation and enhancement of cultural heritage are fundamental. The cultural heritage is a “trigger” for sustainable development.

The ICOMOS “Principles for Capacity Buildings through Education and Training in Safeguarding and Integrated Conservation of Cultural Heritage” confirm that the Education and Training should now be seen in the more general framework of Capacity Building.

The document indicates that is necessary to involve a variety of skills and disciplines, to carry out relevant actions.

The conservation and management of cultural heritage require a multi-disciplinary team, ranging from professional urban planners, architects and engineers, conservation technicians, archeologists, craft persons, managers ... all these professions must receive relevant training and education to be able to approach the complex tasks and to be able to communicate properly.

Only by managing this complexity can we recognize training as a connection between places and communities, able to create durable relationship over time, effectively bringing the issue of capacity building into the conservation and management of cultural heritage activities.

Through the establishment of a Vocational Training Centre for Restoration and Conservation of Cultural Heritage, the following outcomes will be achieved:

- specialized human resources: new professionals and skilled workers will address the need for highly qualified labor force, becoming available to relevant institutions;
- dissemination of standards for conservation and restoration work: training on best practices in monumental restoration and conservation will allow competent departments of the Ministry of Culture, Sports and Tourism to set technical and administrative procedures complying with international standards;
- monitoring of the conservation status of archeological areas: by using geographic information system (GIS) and other information technology, it will be possible to timely identify the remains at risk and intervene with conservation work before collapses or deconstructions.

Keywords: Capacity Building, Cultural Heritage, Training, learning by doing.

THE MULTIDISCIPLINARY AND INTERDISCIPLINARY APPROACH OF THE CISAO OF THE UNIVERSITY OF TURIN FOR DEVELOPMENT COOPERATION

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Established in 2004, the Interdepartmental Centre of Research and Technical - Scientific Cooperation with Africa (CISAO) of the University of Turin was born from the need to group under a single centre the various cultural, scientific and technical competences available in some Departments of the University of Turin. From the very beginning, the departments (that are currently the Departments of: Chemistry; Culture, Politics and Society; Economics and Statistics “S. Cognetti de Martiis”; Law; Agricultural, Forestry and Food Sciences; Earth Sciences; Veterinary Sciences; Inter-University Department of Sciences, Project and Territorial Policies; Humanities Studies) had as main objective making effective collaboration with African partners in the field of research, education and training, in coherence with the Millennium Development Goals.

This objective is totally included in the internationalization mission of the University of Turin. Specifically, the activities of CISAO aims to support local “capacity building”, coordinating and encouraging the meeting not only between the academic and research world, national and international public and private institutions, but also NGOs, the businesses and civil society.

Since 2016 the CISAO has expanded its area of intervention to all Africa, and now it boasts consolidated collaborations in Senegal, Cape Verde, Mali, Burkina Faso, Benin, Niger, Chad, Mauritania, South Sudan, Tanzania, Uganda and Tunisia on issues concerning the agricultural and food sector, production and animal health, water and renewable energy management, waste management and waste reduction, but also on social, economic and development strategies.

In these specific sectors, the CISAO was one of the main actors for the execution of the decentralized cooperation projects of the Piedmont Region, of the MAECI-AICS calls and of the European Union programs. The education and training activities carried out by the Centre aim to satisfy the growing demand for advanced education, which in many African countries is still insufficient in terms of quantity and quality. This is the case of the project CLICHA (Climate Change in Agriculture) implemented in the ERASMUS+ programme (Key Action 2 - Cooperation for innovation and exchange of good practices - Capacity Building in Higher Education) that aims to create qualified scientists who will contribute to the development of an environmentally friendly and sustainable agriculture, with a climate change adaptation and mitigation approach. The project activities are being developed by ten Partners from four Countries: Greece, Italy, Latvia and Tunisia.

As part of the third mission of the University of Turin, the CISAO has favored and encouraged the contact between the demand for local development and the offer of specific calls through collaborations with local public bodies, NGOs and companies on training issues, research and sustainable technological innovation. All this involves the dissemination of information to educational institutions and universities, through the organization and participation in conferences, seminars and informative events.

In this case we can cite numerous projects implemented by CISAO as partner of NGOs or public institutions:

- *Reduction of agro-pastoral vulnerability and improvement of resilience in Hodh el Chargui* (Mauritania), funded in an European Union programme (2015). Leader: Terre Solidali Onlus.

- *New technologies and ancient jobs for youth employment in Niger*, funded by the Italian Ministry of the Interior - programme on Migrations (2016). Leader: NGO CISV.
- *Innovative creative and future paths for Senegalese and Ivorian youth*, funded by the Italian Ministry of the Interior - programme on Migrations (2016). Leader: Piedmont Region.
- *Women empowerment and sustainable agricultural development for achieving food security in South Sudan (WOSA)*, funded by the Italian Agency for Development Cooperation (2016). Leader: VIDES Onlus
- *Support program for social enterprise and migrant initiative in the Saint Louis, Louga and Thiès regions of Senegal - PAISIM*, funded by the Italian Agency for Development Cooperation (2016). Leader: NGO CISV.
- *Integrated Support for the Right to Water, Hygiene and Nutrition in Central Tanzania (SANI)*, funded by the the Italian Agency for Development Cooperation (2016). Leader: NGO LVIA.
- *YOUTH AT THE CENTER: territorial partnerships for policies, services and youth entrepreneurship in Burkina Faso*, funded by the Italian Agency for Development Cooperation (2017). Leader: Piedmont Region.
- *Milk & Honey: two high value-added supply chains as a response to food and economic insecurity in urban and rural areas in Niger*, funded by the Italian Agency for Development Cooperation (2017). Leader: NGO Africa '70.
- *Harmonization of peri-urban dynamics for a participative ecology of communities Sam Notaire, Ndiareme Limamoulaye, Whakhinane LanzatNimzatt and Yeumbeul Nord - ECOPAS*, funded by an European Union Programme (2017).

All these projects strengthen the role of the University of Turin in supporting the production of new scientific knowledge in Africa and their transfer to civil society with a sustainable approach to increase the exchange of technical and scientific knowledge.

Keywords: Africa, Universities.

Students internship in Dominican Republic: facing conventional problems with unconventional solutions

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The possibility to take an internship in developing countries offers a great opportunity for academic students to improve their soft skills, having acquired the basic competences for facing a problem related to their academic studies. Indeed, the distinctive socioeconomic and cultural features of emerging contexts goad students into finding unconventional solutions when coping with conventional problems.

This problem-solving methodology is especially important in case of environmental concerns, looking for an adequate solution for a sustainable socioeconomic growth of an emerging context. Here we present the so-called SeeD programme (Summer Course in Environmental Engineering for Development), a training opportunity for young environmental engineering students offered by the UNESCO Chair of the Civil, Environmental and Mechanical Engineering Department of the University of Trento (Italy) since 2006.

More precisely, we discuss the soft skills acquired by twelve students during the 2016 edition of SeeD, which took place in the Caribbean context of the Distrito Municipal de Boyá, Dominican Republic (Central America).

The overall goal of the project was the improvement of water resource management for the rural village of Boyá, through a twofold action: the enhancement of the existing aqueduct and the design of an irrigation system for a neighboring farm, known as Finca. These objectives were planned to ensure water supply and basic livelihood provision for the Boyá community.

All the activities were carried out in collaboration with several partners. Specifically, the project manager of Progetto Esperanza Italia Onlus and six geology students of the University of CIBAO Oriental jointly worked on the project: the former provided the networking with both public and private local entities, while the latter participated in the fieldwork activities.

Thanks to this cooperative and multisectoral approach, a large variety of soft skills were developed by the Italian students: problem-solving, teamwork, adaptability, time management, attention to detail, creativity, interpersonal skills.

This SeeD experience has proved how academic world can face an international cooperation project. This approach can be seen as an opportunity from three different point of views. Firstly, it is a training course for students, Italian and local, who develop both technical and soft skills and learn how to work in an international team through fieldwork activities. Secondly, it is a chance for local partners to get a preliminary technical consultation about an environmental issue which takes into account the three meanings of sustainability (the proposed solutions should be addressed in a deeper way by experts). Eventually, it is a chance for the local administration to increase awareness about sustainable development.

Keywords: Student internship, soft skills, environmental engineering, SeeD, Dominican Republic

INNOVATION FOR DEVELOPMENT: BEING GLOBAL INNOVATORS

Participatory Analytic Hierarchy Process for resource allocation in agricultural development, dioceses of Goma, Nord Kivu, DRC

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In the framework of 2030 Agenda sustainable agriculture plays a central role. The transition towards more sustainable agricultural sectors is a transversal challenge worldwide and it implies the shift towards renewed approaches to the planning of policies and specific interventions. The problem of choosing the best path towards sustainable development in the agricultural sector is nowadays supported by wide literature in terms of Decision Support Systems. Agri-environmental and generally landscape-scale issues are the typical target of participative decision-making procedures as they involve local community resources planning. To successfully solve the complex real-world problems multi-criteria group decision-making approaches are recognized as reliable and effective. This kind of tools are asked to inform more evidence-based and shared choices, from the ground technical level to the top policy level.

Building on several background well-known theories such as the Social Innovation Theory, the rational and irrational Choice Theory the Socio-ecological System Theory, and keeping in mind that MCDM methods are bound together with evaluation processes, the present paper investigates the use Participatory Analytic Hierarchy Process (PAHP) as a tool for choice criteria elicitation and resource allocation in the framework of an operational planning for agricultural development in the Dioceses of Goma (D.o.G.), Nord Kivu, Democratic Republic of Congo (DRC).

Analytic Hierarchy Process (AHP) is one of the leading techniques in the wide family of Multicriteria Decision Making or Aiding (MCDM or MCDA) methodologies. One of the main benefits of AHP, especially if implemented as PAHP and during the planning phase, is that it optimizes project multi-ownership which in turn, leads to better performance from project managers, management and participants in general.

In our experience, PAHP was useful to identify and discuss the main criteria and subcriteria behind the choice of suitable interventions in the agricultural sector which turned to be both accepted by the local decision makers and confirmed by more general guidelines from other international organizations working in the region. The participatory work produced detailed information on priorities among the criteria which constitute a solid base for the drafting of a new proposal for intervention and the whole process was able to guide and solve the resource allocation problem with participatory approach.

Keywords: Common goods, Environment, Sustainability, Partnership and Projects, Participatory approach, Analytic Hierarchy Process.

Boundaries, rights, citizenship and sustainable territorial development: a case study in the West-Nile Region, Uganda.

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Access to rights is key in defining trajectories for sustainable urban development in line with global agendas and UN Sustainable Development Goals. How to match the related narrative with spatial phenomena to shape decision making, planning and design tools at a proper scale? Mapping and visualizing the complex and often incoherent overlapping of boundaries, borders and patterns of accessibility to those rights could be a first step to foster an improved awareness of these correlations, questioning the concept of common good and citizenship in the culturally diverse contexts of the Global South.

These issues are discussed moving from research activities on a case study in the West Nile Region, Uganda, carried on in the framework of the cooperation between the Measure and Scale of the Contemporary City Research Lab at Politecnico di Milano DASTU and MetroHUB at UN-Habitat, Urban Planning and Design Branch.

In Ugandan West Nile Region, political boundaries are quite recent, and they rarely correspond to local cultural ones. Ethnic groups traditionally inhabiting this region found themselves split across different national modern states, regions or districts with different laws and languages. Moreover, current migrations (more than one million refugees in the whole region) and globalization are challenging the status quo. Formal and customary borders, tenure systems, norms and rights inconsistently overlap in a tangled interlace that tends to produce conflicts and turns difficult to be tamed. Expanding, growing and including refugees the main regional towns are facing urbanization processes that are already threatening existing socio-ecological assets and need broader integrated territorial and urban scenarios to foresee their role and envision a sustainable future. However, appropriate planning and governance tools to address the complex transformation of these territories are lacking, as well as local human resources to develop and implement them. Overviewing the rights/borders/urban-development relations at different scales, two interlinked research pathways are discussed, with preliminary findings: the role of mapping and visualizing spatialized data through innovative tools and methodologies and the potential of capacity development programs facilitated by academic institutions. Rising awareness and enhancing specific skills trace a pathway to trigger agonistic pluralism among urban actors improving urban resilience and supporting better inclusive socio-political common grounds to address spatial development.

Keywords: Common goods, Citizenship, Sustainability, Research and innovation, Partnership and projects, Global south, International cooperation, Sustainable territorial development, Innovative mapping, Capacity development.

SOCIAL INNOVATION SYSTEMS APPROACH FOR SUSTAINABLE DEVELOPMENT IN AN AFRICAN URBAN INFORMAL SETTLEMENT

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Seeking innovative approaches to address social problems demands innovative activities that are different to those identified with improved financial processes and the introduction of technologies to industrial ventures mainly intended for economic spinoffs. However, some innovations intended for social transformation through collective action are still related to technological and entrepreneurial initiatives. Other ways to seek improved social and economic prospects and development activities in disadvantaged communities have resulted in a greater population shift to urban areas. This tends to result in socioeconomic challenges such as over population, poor access to social services (housing, electricity and water) and employment. The social complexities that result from migration into urban areas demand radical, innovative solutions and methods that can cut across the adverse effects of development on the environment, while also addressing socioeconomic challenges in complex communities such as informal settlements. In 2016, the United Nations (UN) identified sustainable development goals (SDGs) as one of the radical approaches to address socioeconomic challenges in complex communities such as informal settlements. This study argues that, in order to achieve sustainable development goals in African urban informal settlements, the actors involved in the process should function as social innovation systems. The literature reviewed for this work advised a framework that focused on the spatial, economic/entrepreneurial, interactive and firm or industrial level aspects from which innovative activities stem in theory and in practice in urban informal settlements. Findings from the literature reviewed demonstrated that objectives of social innovation systems resonated with sustainable development goals in African urban informal settlements. Empirical evidence gathered through interviews, focus groups, observations, documentation and archival records that informed the iShack Project social innovation system case study. The iShack Project was identified as a social innovation initiative whose main function was to provide energy in the form of renewable energy (solar panels) at Enkanini informal settlement in Stellenbosch, Western Cape Province. Findings of the empirical evidence revealed that the social innovation system established through the iShack project occurred in different phases: initiation, intermediary and stability phases. The top-down intervention was instrumental during the initiation and intermediary phases. The initiation and intermediary phases predominantly relied on research development, availability of science and technology, interaction and trust established between the organizations and institutions at local, regional and national level. The ease of access by Enkanini community members to resources and services of the iShack project ensured sustainability of the social innovation (iShack Project) to the community. Institutional bottom-up intervention was also instrumental during the initiation phase, the intermediary and stability phases. Perceptions gathered from the beneficiaries and the providers of the innovation further revealed that addressing a social problem could simultaneously result in a long-term and temporary solutions. Literature on the social innovation system revealed the importance of breaking even for the social innovation initiative. However, the findings of this study revealed that income generation for the iShack Project was mostly necessary to take care of financial obligations (such as salaries). Lastly, findings revealed that the social innovation system established through the iShack Project was instrumental in addressing social challenges, which resulted in the realization of more sustainable goals that were beyond the scope of providing energy. This work contributed to existing literature by identifying a social innovation system that

can be applied to address sustainable development goals in a typical African urban informal settlement.

Keywords: Sustainability, Partnership and Projects.

FOOD IN COMMONS: CIVIC PARTICIPATION AND LOCAL FOOD POLICIES

Home family gardening in Bosnia Erzegovina. what kind of common good

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According to FAO dates, rural areas are an important part of Bosnia and Herzegovina (B-H), due to the fact that they cover 85.1% of the territory of Federation of Bosnia and Herzegovina and 95% of Republic of Srpska, where lives 49.5% of the total population of Federation of B-H and 83% in Republic of Srpska. The economic situation in rural areas is not satisfactory, most have poorly developed transport, social and economic infrastructure. The quality of life in rural areas is low, with limited employment opportunities and spread poverty.

Agriculture, which is one of the major activities in rural areas, generally occupies an important place in the economic structure of families. The paradox of B-H is that although more than half of rural households are engaged in some form of agricultural production, less than 10% of them generate revenue from this source. Most deal with agriculture for their own needs, and therefore agriculture often contributes to sources of livelihood in the rural areas but not to rural income and rural development.

In B-H prevails the production of natural type, as well as small mixed farms with no clear signs of specialization. This significantly affects the level of ability of the sector to improve efficiency and modernize the mode of production and business. Inadequate access to the market reduces the motivation of farmers to specialize production and to improve its performance, but also to the wider manufacturing.

The strategic plans of the entity institutions (Federation of B-H has specified in its Medium-term Strategy of Development of The Agricultural Sector in the Federation) for period 2015-2019 had as priority goals the development of rural areas through the creation and implementation of rural development policy measures that will improve the competitiveness of production, and create opportunities for additional income within agriculture and related activities. An important focus of these measures was to stop the negative demographic trends, by supporting the creation of new jobs for young people.

Bosnian town Zavidovići, in between three rivers, surrounded by green hills and former Yugoslav furniture manufacturing center, is a very interesting case study. The town was created as a consequence of wood trade from all over Europe, and rapidly became an industrial city with well defined social profile. At the end of XIX century the Habsburg empire started the exploitation by different companies of the huge wood resources all around Zavidovići (Lydall, 1989) and the wood industry shaped quickly the urban structure of the city and the social relationships, using more than 12000 workers, but it could not survive to the war in the '90. The "Ambasciata della democrazia locale a Zavidovići" (ADL) - member of ALDA, the European Association for Local Democracy - is present in the region for more than 20 years and it conducts decentralized cooperation activities.

In particular we will present and discuss a multiyear (since 2014) rotating project/process in the Local Communities of the Municipality, "Orti familiari", supporting women engaged in agriculture on a small scale in order to increase production and product quality covering own needs for food. The

main goal is incentivating home family gardening, being aware to the terroir and the products quality, through a participated training along all the growing steps. In particular the project/process is focused to spreading around a productive and “clean” home family gardening and to improve women earning.

The sociodemographic data carried out over the time by Adl surveys, highlight a specific vulnerability condition among women (Kako Ste? Alcuni dati da un questionario: <http://185.99.1.71/publications/category/7-women-zavidovici>; Obradujem baštu... Coltivo un orto ... e altri dati da un questionario: <http://lda-zavidovici.org/activities/economy-and-local-development/item/252-obradujem-bastu-coltivo-un-orto-e-altri-dati-da-un-questionario>), according to general socioeconomic situation of Bosnia Herzegovina. At micro level (Local Communities level) “Orti Familiari” enhances traditional storage skills as an important tool to food safety, especially of the single women who are increasing due to a massive new emigration. The variety of the species of the fruit trees noted (<https://www.lda-zavidovici.org/activities/economy-and-local-development/item/289-basta-sok-marmelada-orto-succhi-marmellate-e-altri-dati-da-un-questionario>) has to be appreciated and developed by a generational transition of knowledge and skills.

Keywords: women – Bosnia Herzegovina – family garden- decentralized cooperation

Redefining food systems from the local to the global level: the examples of Peliti seed network and the Open Source Seed Initiative

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Agricultural development throughout history has been based on farmers' collective systems of innovation and conservation through seed-sharing and use. As a subsistence strategy, smallholders have maintained a high genetic diversity of plants (and animals), as well as different location-specific bodies of traditional knowledge and farming practices. Such traditional varieties serve as reservoirs of agricultural biodiversity, providing a much required safety valve in the face of pests, diseases and environmental stresses; they also constitute the resource base of 'modern scientific' varieties. The industrialization of agriculture, the professionalization of plant breeding and the consolidation of the commercial seed sector however have led to the uniformization of crop varieties, the erosion of agricultural biodiversity due to lack of use, and the marginalization of customary farmer practices and varieties. These trends were accompanied and reinforced by the establishment and application of intellectual property rights, mainly plant breeder rights and patents, which created the first wave of enclosure to customary systems of exchange.

The privatization of plant varieties through intellectual property rights resulted in rising justice-related concerns, which provided the context for the emergence of the principle of national sovereignty over natural and genetic resources. Creating a second, defensive enclosure, the principle of national sovereignty aimed to defend the rights of countries providing such resources. On this basis, a series of multilateral environmental agreements established legal systems of regulated access to genetic resources and fair and equitable sharing of the benefits arising from their use.

The international law concept of fair and equitable benefit-sharing concerns the fair and equitable allocation of benefits arising from the use of genetic resources among providers (countries rich in biodiversity and genetic resources and indigenous peoples and local communities holding related knowledge) and users (companies and institutions using such resources to develop marketable products). Benefit-sharing was thus conceived as a tool for ensuring equity and sustainable development given the asymmetries in terms of power, information and finances that often persist between States providing and those using genetic resources. The idea was quite simple: developing countries host most of the world's biodiversity and thus genetic resources; commercial products developed on the basis of these genetic resources mostly benefit companies and consumers in developed countries; some of these benefits should flow back to the countries of origin of genetic resources and to their peoples and communities who have contributed to their conservation. However, its international law applications show that the concept has failed to inject fairness and equity in agricultural research and development, or promote agrobiodiversity conservation and farmers' rights. Although the concept was developed as a defence against the enclosures caused by the industrialization and professionalization of agriculture and related research, its success in protecting natural resources- and knowledge- commons-based systems has been limited against the political power and legal enforcement potential associated with trade interests and intellectual property rights.

In this context, the international community needs to move beyond current understandings of benefit-sharing. The sharing ethos of grassroots communities globally could serve as a source of inspiration, and offer ideas for institutional and legal innovation to potentially enrich international law. Among many examples, this contribution focuses on the Peliti seed network in Greece; and the Open Source Seed Initiative.

Identifying themselves as a community, Peliti is a network of local groups working on the conservation and exchange of traditional agricultural varieties in Greece. It was established in 1995 as a non-profit organization under Greek civil law. Its aims include: the collection, conservation and distribution of traditional agricultural varieties; the non-monetary exchange of goods and services; and the creation of a community focusing on conserving traditional varieties, including the preservation of seed saving-related knowledge. It unites both experienced food producers, who are responsible for seed collection and preservation, and amateurs with an interest to the aims of the community.

The Open Source Seed Initiative (OSSI) is an attempt to apply the open source principles and practices of the software realm to plant breeding. The main rationale was that in a legally defined space in which sharing is unimpeded by intellectual property rights, farmers can continue to apply their local knowledge, in equitable cooperation; and public researchers can continue with scientific plant breeding in the face of global challenges. Composed of public and private plant breeders, farmers, and NGOs' and indigenous groups' representatives, OSSI developed open source licenses preserving the right to use material for breeding and farmers' right to save and replant seed.

Keywords: agriculture; food security

Promoting social inclusion and intercultural communication between refugees and locals through agriculture

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The UN's Sustainable Development Agenda for 2030 includes "Zero Hunger" as one of its goals, targeting malnutrition and promoting sustainable agricultural practices. In the era of climate change, sufficient and sustainable food production is a global concern; at the same time, food has never been as global as it is nowadays, being transported and exchanged across the world, a tangible sign of the movement of people and the coexistence of cultures. This paper discusses methods for thinking sustainable food production on a global scale, while using it to promote intercultural dialogue.

The case study is Tamat, an Italian NGO with a history of using agriculture as a tool for economic development in African countries, and that lately is implementing similar agriculture-based methods for the social inclusion of refugees and migrants in Italy. These activities have come in contact with a research project developed in collaboration with the National University of Ireland (Galway), which investigates methods of language-learning and intercultural communication skills for refugees in Italy.

Tamat launched Urbagri4Women in 2016. Funded by the EU's Asylum, Migration and Integration Fund, the project provides migrant women in 7 European countries with language courses and agriculture training, as well as basic business training. Tamat also started an Urban Agricultural Lab in Perugia (Umbria, Italy) where they could practice what they had learned and socialize with members of the host community. Working mainly with asylum seekers and refugees from different west African countries, Tamat used their expertise working with agro-ecological methods in Burkina Faso to help the trainees develop an African vegetable garden. In particular, the Urban Agricultural Lab included okra, which is a staple of African cuisine but is not easily found in Italy. Thus, not only the asylum seekers and refugees helped regenerate an abandoned area, but they also managed to provide the local African community with fresh, locally and sustainably grown okra.

As a follow-up to this project, Tamat launched Coltiviamo l'integrazione in 2018, with support from the Italian Ministry of Internal Affairs. The goal of this project is to build on the results of Urbagri4Women, replicating the Urban Agricultural Lab with the addition of other Italian and non-Italian vegetables, involving a network of local producers and helping the development of an association named Lambé (from the Mandinka word for "dignity") which intends to provide guidance and support to recently arrived migrants. In both projects, Tamat has been able to use their experience with agro-ecological African agricultural methods to create opportunities for social inclusion for African migrants, asylum seekers and refugees. Food acts here as an important element for personal well-being, cultural belonging and personal and professional development, with a significant impact both in the asylum seekers' self-confidence and in their relationship with the local community.

The projects also provided indications with regards to methods of language learning and intercultural communication. Dr. Andrea Ciribuco from the National University of Ireland Galway closely followed Tamat's food-related integration activities, as part of a research project funded by the Irish Research Council and Marie Skłodowska-Curie Actions. In particular, the research has underlined the communicative gap that exists between asylum seekers/ refugees and the local community, and what specific linguistic and communicative competences are needed to

bridge that gap, both on the part of the asylum seekers and on the locals' part. Food in this sense acts as a catalyst for intercultural communication, a tangible object which comes with its own specific language and its culture-related rituals. It is therefore possible to build a model for intercultural communication that centers on food, on learning the language of food and learning how to communicate food.

Food sociologist Krishnendu Ray observed that “there is no guarantee that eating another’s food makes us more tolerant toward him”, but at the same time “it can be guaranteed that if I am filled with disgust and disdain toward another’s food, there is a greater probability that I will not accommodate him within my framework of civic toleration” (2018, p. 159). Food has the potential to generate diffidence, but also to act as a tool to overcome diffidence. One of the challenges of the next decades will be how to create a conversation about food, and through food, that positively impacts health, the environment and intercultural communication. In this sense, collaboration between disciplines and sectors is crucial.

Keywords: refugees, Africa, food, sustainability, intercultural communication

Interpreting food waste for common goods and education

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Our concern for the planet and the need to take appropriate action inevitably involve investments in human capital, which in turn encourage well-being and social development. This means talking about 'education' and taking action where necessary: education should be seen as a common good and an area for research and action; it is an area where values, choices and behaviors can be molded.

The multidimensional nature of the issues related to sustainability calls for a new interpretation of the diverse relations between civil society, the public and private sectors, research and training in accordance with a variety of criteria and methods, in order to include environmental, socio-educational and politico-economic approaches. The many national and international conferences and documents in recent decades (see Agenda 2030, Rio +20, Horizon 2020) show that sustainability is not just an indisputable value in itself, but also an indicator of performance and one that can no longer be ignored.

The issue of food waste is linked to anthropological, ethical and educational questions: the food is loaded with different meanings related resources and impacts that it generates, implies the reasons for the gift and for fully sustainability, imply some environmental, economic and social costs.

The most recent estimate (FUSIONS, 2016) found that 88 million tonnes of food waste are generated in the EU each year with associated costs estimated at 143 billion €. FAO calculates that every year 1,3 tons of food are wasted, equivalent to 1/3 of total production destined to human consumption.

All actors in the food chain have a role to play in preventing and reducing food waste: educators, teacher, directors should involve the younger generations in a circular process, of action and reflections to generate a deep shift of lifestyles.

The action named 'think, eat don't waste' explores meaning, opportunities and boundaries about food education. The action will bring pupils, and their parents, attending kindergarten and primary schools in Brescia and the surroundings to explore and rethink the attitude to waste food during the meals at schools.

The research is a tool to plan school programs focused on understanding the plural faces of human solidarity through a process of developing healthy eating habits and prevention of food waste.

The research project:

focuses on the issue of sustainability in the context of schools and children education

sets out to develop a scientific model of educational and social sustainability for schools based on a careful analysis of their needs and then to identify specific and significant areas for action. The aim is to describe the procedures needed to ensure that educational and social sustainability values permeate school life and to discover how to improve their efficiency and effectiveness;

The project proposal is based on a mainly laboratory methodology, aimed at research action in the perspective of learning by scientific discovery, a direct experience according to "Learning by doing", and finally to cooperative learning in large groups. This methodology can be read within a first approach to Service Learning.

Green and Food educational planning makes it possible to involve students, teachers and technical staff in order to effect a real change starting with the local area providing identity to promote human values.

Keywords: Food Education

Urban gardens in South Tyrol: just a social innovation experience?

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For some years, urban gardens have established themselves in the most highly urbanized contexts as experiences of social sharing useful for consolidating relations, including intergenerational ones, between different individuals (Cattivelli, 2014; Ruggeri et al., 2016). Their diffusion has had important consequences: it has contributed to change the consumption and leisure habits of the local population and has favoured the sharing of healthier lifestyles (Scheromm, 2015). In the same way, it can reduce the pressure of anthropic activities on natural resources and constitute an alternative to the urbanization of vacant spaces (De Zeeuw et al., 2015). However, their role in the restructuring of local food systems is still marginal: they contribute only in part to meet the demand for basic food needs of gardeners and part of their families by activating initiatives of gift economy (McMillian, 2008).

These situations are also ascertained in contexts with higher rurality such as mountain areas. In these territories, the number of urban gardens is lower because of the greater extension of green areas or the availability of part of the local population of a private garden. However, the reasons that lead to the experimentation of these initiatives by administrations are similar to those found in contexts with greater urbanization: desire to cement social relations, support intergenerational cohesion and social innovation initiatives in favor of social and territorial justice at the local level, reduce cementification. On the contrary, the implications on local food systems and in particular on the choices of gardeners are scarcely analyzed, as well as the contribution in reducing the so-called food desertification. The depopulation of some mountain areas can in fact lead to the closure of supply centres (mostly small shops), forcing the remaining population to travel long distances to reach the nearest shop.

The aim of this contribution is to:

- *to present a map of the urban vegetable gardens in a mountain context such as that of South Tyrol
- *analysing the motivations that have induced local administrations to favour their diffusion
- *analysing the motivations of the market gardeners with particular reference to the implications that the cultivation has had with regard to their choices of purchase/production and may have on the structuring of the local agri-food system
- *to verify the risk of food desertification and the possible contribution of the gardens to its reduction

- Cattivelli, V. (2014), L'esperienza degli orti urbani nel comune di Milano, *Agriregione Europa*, anno 10, n.39, Dic. 2014.
- de Zeeuw, H.; Drechsel, P., (2015), *Cities and Agriculture: Developing Resilient Urban Food Systems*, Routledge, London.
- McMillian, T., (2008). *City Farmers' Crops go from Vacant Lot to Market*. New York Times.
- Ruggeri, G., Mazzocchi, C., & Corsi, S. (2016). Urban gardeners' motivations in a metropolitan city: the case of Milan. *Sustainability* 8(11), 1099.
 - Scheromm, P. (2015). Motivations and practices of gardeners in urban collective gardens: the case of Montpellier. *Urban Forestry & Urban Greening*, 14(3), 735-742.

STUDENTS AS PROTAGONISTS

WarmiPura: recovery of ancestral techniques for dyeing wool and natural fibers in North-West Argentina

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WarmiPura is the name of a group of women belonging to the Calchaquies indigenous community located in Tafi del Valle - Tucumàn Province - Argentina, which produces handcraft tissues made of sheep wool and colored with natural dyes. The founder, Liliana Pastrana, has been working for the past fifteen years toward a recovery of traditional textile methods based on the extraction of natural dye from wild plants (<https://www.dagri.unifi.it/vp-477-warmi-pura-ita.html>).

During the colonial period, in Argentina there was a strong textile activity carried out by indigenous people and some of them (the most isolated groups) have maintained their methods until today; Liliana Pastrana collected this information in her book: "Volver a lo nuestro... Rescate y preservación de las técnicas ancestrales sobre tintes naturales" in which dyes extraction and dyeing techniques are explained.

It is easy to imagine that this kind of textile work is strictly linked to the environment. Aliso del cerro (*Alnus acumita*), Yerba mate (*Ilex paraguariensis*), Jarilla (*Larrea cuneifolia*) and Pacarà (*Enterolobium contortisiliquum*) are some of the autochthonous species involved in the dyeing process and each plant gives different colors and characteristics to the products.

The harvest of raw vegetal material for extraction is a gathering activity that threatens the stability of the natural environment. Wild plants grow spontaneously so if the harvesting becomes too intensive they can soon become insufficient to face the production or even extinct.

This and other constraints such as the lack of basic infrastructures, the lack of high skilled competences and the absence of technological support undermine a greater and sustainable development of this group. In order to overtake them, since 2018 WarmiPura is "evolving" into an international venture with different stakeholders:

1. *WarmiPura group, San Miguel de Tucumán (Argentina)*
2. *Universidad de Morón, Buenos Aires (Argentina)- Plant physiology team - UM - CONICET*
3. *Università degli Studi di Firenze, Florence (Italy) - Department of Agriculture, Food, Environment and Forestry - DAGRI-UNIFI*

The debate among these three actors led to planning some possible future actions which include:

- the establishment of *in-situ* and *ex-situ* collections of endangered local species;
- the definition of a propagation protocol and the installation of a plant nursery;
- the establishment of a cultivation field to provide raw materials for extraction;
- building a basic infrastructure for extraction, dyeing, tissue drying and production;
- the formal constitution of a cooperative to further develop local handicraft;
- the development of a business plan focused on the economic, environmental and social sustainability.

Since many aspects of this project like biodiversity preservation, social and environmental resilience, micro-economy and sustainable cultivation are related to agriculture and cooperation, WarmiPura represents an interesting case study about sustainable agriculture and scientific research focused on the rural world.

We, as students of the School of Agriculture at the University of Florence, are promoting this cooperation with WarmiPura and we are deeply involved in the following points:

- managing a crowdfunding campaign aimed at sustaining the future cooperative by using social media and other typologies of communication;
- creating a team of students coming from different sectors (agriculture, cooperation, marketing, communications, etc.) capable of giving a multilateral approach to the project;
- carrying on research both on the field and in a laboratory.

Research activities will focus on i) morphologic and genetic characterization, identification of the species and assessment of genetic resources; ii) ethnobotany, soil and environment, plant resistance and system-resilience; iii) plant reproduction and propagation; iv) cultivation techniques and management strategies for the production of raw material; v) dye extraction techniques; vi) environmental (CO₂ emission, water consumption) and economic sustainability.

The WarmiPura project represents a rural community that tries to organize itself and uses its own know-how to be resilient and increase its autonomy. Nevertheless, the traditional approach needs to be reviewed by taking into account "global changes" in order to develop new visions and strategies. Hence, students can play a key role in being an active part of the research, promoting a precious exchange of knowledge with the Calchaquies community and so, being a witness of the global-local approach at the academic level.

Keywords: Biodiversity, Resilience and Sustainability

THE “SCALABRINI MODEL” IN UGANDA

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Since time immemorial, the religious institutions play an important role in the non profit sector, in terms of solidarity, international cooperation and sustainable development.

The dissertation takes into account the relevant aspects of the Italian regulation L. Act 117/2017 on the non profit sector and its impact on religious entities. The following part aims to investigate a special model of cooperation founded in Uganda by father Giovanni Scalabrini, through an in-depth analysis of several assets of the organization. Starting from the key role of the founder, the study has outlined the underlying issues raised after his demise in terms of management and human resources. The survey focuses on the legal structure of the Trust and the balance of power of its three partners, trying to identify the strengths and the weaknesses of the trust legal form in the international cooperation sector.

In conclusion, it can be affirmed that the research shows a development model able to consider central the community and its needs, through the placement of the community itself in the workforce, guaranteeing education, medical treatment and professional training thanks to the business and fundraising activities. To do so, the article reviews key structural features of the most important institutions of the organization such as the hospital, schools and the workshops.

The project has been funded by the fellowship programme called Fund for Cooperation and Knowledge by University of Pavia.

REFLECTIONS ON A TEACHING EXPERIENCE OF AN ITALIAN PROFESSOR IN THE CONTEXT OF RWANDAN CIVIL ENGINEERING EDUCATION

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The number of students in Civil Engineering in Rwanda is strongly increasing. Current efforts to educate civil engineers in Rwandan higher education institutions, however, are hindered by the lack of local qualified teachers. The educational potential of a European teacher seems to be very useful to a big number of students in a country where qualified teachers are scarce.

During a journey in Rwanda, one of the authors, who is an Italian professor in the field of Civil Engineering, visited the Institute of Applied Sciences INES – Ruhengeri in Musanze District, Rwanda. From this visit arose the proposal, by the Rector of that University, to give the availability to spend a short period at INES, in order to teach a module inside the undergraduate program in Civil Engineering. A bilateral cooperation agreement between the Italian and the Rwandan institutions (University of Parma and INES-Ruhengeri, respectively) was established at first. Thereafter, a three weeks teaching activity of the module of “Soil Mechanics” to the students of the third level of Civil Engineering was organized. The first experience proved to be extremely positive both from the teacher and from the students. Therefore, a second cycle of teaching activities in the Rwandan institution was planned within the same year.

As regards the specific contents of the course, dealing with the basic concepts of Soil Mechanics, they were of paramount importance, due to two main reasons: 1) the great amount of problems connected to soil mechanics affecting Rwanda, from the construction of new infrastructures to the frequency of different kinds of landslides, and 2) the lack of local experts in this field of knowledge. Beyond writing a report of the activities done during the teaching experience, this contribution aims at explaining the lesson learnt, under both human and professional viewpoint, by the teacher. Moreover, results obtained from an evaluation questionnaire on the perception by the students are reported in detail.

Among the students of the three classes who attended lessons, a survey was carried out on the evaluation of the learning experience. A total of 114 students were interviewed through an anonymous questionnaire at the completion of the module. The questionnaire included 20 questions.

The main topics of the questionnaire were:

- Education background, in order to understand if the module fitted the previous students' preparation;
- Use of English as vehicular language, in order to assess the level of difficulty due to the use of a foreign language;
- Methodological approach, in order to evaluate if it was perceived similar or different with respect to other modules and if it was considered more or less difficult with respect to others;
- Different parts of the module, in order to understand what the students considered attractive and useful for their education;
- Teaching methods, in order to evaluate if the used techniques were more or less appreciated and effective;

- Students' involvement, in order to compare the teacher's perspective with that of the students;
- Expectations, in order to evaluate the appreciation of the learning experience;
- Experience with a foreign teacher, to evaluate the effectiveness of the educational action carried out by a teacher with a different culture.

If it is rather difficult quantifying the lesson learnt by the Rwandan students, it is much more difficult measuring what the teacher gained by this experience. The most impressive gift he received was the human relationship and a great motivation. This had the power to give a new and deeper sense to his profession. Moreover, it was astonishing to observe how the didactic approach that can be considered "usual" for a European teacher was considered of a much higher level by the local students. In this sense, it could be considered European professors can assume an important role with respect to a real improvement of higher level education in the African context, especially in the field of applied sciences, including Civil Engineering.

Nor should we overlook the question of academic responsibility, especially of universities in developed countries, for the role they can play as a driving force for higher education institutions in developing countries. It will be difficult for this role to be automatically entrusted to the richest universities by those with the lowest economic means, if not taken up autonomously, as a moral, cultural and institutional commitment.

On the basis of this rich experience from a human and professional point of view, a question arises that perhaps should concern all university teachers: Which is the added value of such a kind of experience in terms of collective good? Perhaps it would be useful to start a joint reflection on this issue in the academic world.

Valorizing the cultural competences of the international students for the purpose of social research

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The University of Parma has set up a working group aimed at valorizing the presence of international students. The working group has identified in the international students a valuable resource to “build bridges” with the countries of origins and to favor collaboration with other students living similar experiences.

A way of valorizing this resource has been attributing a Togolese student a research aimed at investigating the main features of new transnational migrations. For the student, the research has represented also the object of this degree thesis, for the professors it has represented an important source of knowledge unmediated by a dominant culture, but instead facilitated by the commonality of the theme and the life story of the student and of the other people subject of the study. The student has indeed interviewed other international students, originating from Sub-Saharan countries, with the aim of re-constructing their migration paths. The analysis has focused both on the networks of support at the departure and on those having favored the arrival, the inclusion and the prosecution of the experience. Further, it has investigated the reasons having triggered the migration path, the favoring factors, the modalities of creation of relations between migrants and their perspectives. The analysis, conducted with the support of professors, has highlighted that these migrations for study purposes are shaped by transnationalism, as the interviewees maintain relations with their countries of origin and, at the same time, they live new experiences in the hosting country, favoring the development of a global citizenship.

The thesis conducted by international students represent also an important way of valorizing their language and cultural skills for the purpose of social research, of creating networks between universities and other involved stakeholders (migrants, associations..), and of internationalizing knowledge.

Keywords: migration

Promoting awareness among professionals: a definition of Citizen Engineer

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Ingegneria Senza Frontiere Italia - ISF (Engineering Without Borders) is a network of local ISF associations established in fifteen Italian Universities since 1996, when the first branch was created in Turin. The main aim of the network is promoting the vision of an engineer as a proper member of the society, who is responsible and aware of her/his own choices and their externality in the socio-ecological, as well the political sphere. This concept, named "Citizen-Engineer" emerges as an innovation and a re-conceptualization of the "reflexive engineer" definition, shifting from the sole development and cooperation vision, to a more political role, being critical to her/his context of action, but acknowledging the impact of the context itself. The definition of "Citizen-Engineer" is here presented, and it is further illustrated with examples from the network of volunteering associations of the ISF-Italy network, as well as the everyday practices of ISF associates in their field of work. The comprehensive awareness of the new generation of engineers about the many impacts of a technical solution actually translates the definition of sustainable development into practice. Lastly, we argued about how a "Professional-Citizen" definition can be extended to other professions, in an encompassing framework that can help shifting society and especially work from the sole profit- oriented, to a more ethical vision.

Keywords: Engineers Without Borders, Student Association

Thesis Experience: a bridge for new partnership

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The experience of doing thesis in different context takes multiple values. First of all, it is an opportunity for the student to prove and improve his ability and also, it's an opportunity for the different partners, who take part of that, to increase his ownership.

This work is the result of a thesis of master's degree conducted by an engineer's student of University of Trento and presented in January 2019. The general topic of the thesis is the waste's management in Dominican Republic. The study was developed thanks to three months of field work done by the student in Dominican Republic.

It is possible to considerate this work as a bridge between the University of Trento and the local organizations. In this way, the thesis made possible the creation of a new collaborations between the partners allowing the development of new projects.

The overall aim of this thesis is to study the current management of solid waste in Dominican Republic. In order to achieve the goal, three different contexts have been carried out. The first one is the urban context of Santo Domingo, the second one is the tourist context of Punta Cana (Verón) and the third one is the rural context of Distrito Municipal de Boyá. The choice was dictated by various factors. Santo Domingo was elected because is the capital of Dominican Republic and the seat of the *Servicio Geológico Nacional*, which is a partner of this project. Punta Cana was selected because is the most important tourist attraction of the Country. Futhermore, here a student of University of Trento conducted his master's thesis. And then, Boyá was chosen thanks to precedent contacts established during an internship in 2016, when a group of students of University of Trento conducted a development project on water management.

The principal partners of this project were: University of Trento, Servicio Geológico Nacional, Progetto Esperanza Italia Onlus, Ministerio de Medio Ambiente y Recursos Naturales and Universidad Autónoma de Santo Domingo.

All the contact with the partners were taken during the field work done by the author and allowed the collection of several data necessary for the final study.

Concerning the general context of this work, it is important to considerate that in Dominican Republic there are more then 350 open dumps without any systems of environmental control and there is no deep awareness of different problems connected with a mismanagement of waste. But, in the last few years, many projects born and have been developed by different organizations, private and public, with the purpose to improve the waste management. Thus, it is a complex and, at the same time, proactive context and it can be seen as a fertile scene to establish new project and new partnership. Once more, this work can be considered like a starting point for news collaborations. In fact, after the presentation of this thesis and of the project conducted in Punta Cana by the student of University of Trento already mentioned, a new project proposal started in collaboration with the University of Trento and the Servicio Geológico Nacional for the Fondo Nacional de Innovación y Desarrollo Científico y Tecnológico (FONDOCyT) offered by the Ministerio de Educación Superior, Ciencia y Tecnología.

Keywords: Waste Management, Cooperation, Environment, Dominican Republic, Thesis, Master's Degree

The “Pappa di Parma” evolution: decreasing malnutrition and encouraging community engagement

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Malnutrition is the primary cause of death in infants and children according to WHO. Malnutrition is very common in individuals aged from 6 to 60 months due to the lack of high quality protein and to deficiencies in the intake of vitamin A, D, thiamine, riboflavin, niacin, calcium and iron (UNICEF, 2017). In low-income countries the nutritional approach to treat child malnutrition is mainly based on RUTFs (ready-to-use therapeutic foods). Being produced by donor countries, RUTFs do not solve the problem of malnutrition at source; in fact, production is limited and covers only 3% of children suffering from malnutrition. Furthermore, RUTFs are expensive for low-income communities and are distant from their local tradition. Indeed, the use of ingredients not locally available and the passive participation of the community are the main cause of RUTFs failure among mothers of malnourished children.

The Pappa di Parma project was carried out in Tanzania thanks to the agreement between the University of Parma and the St. Joseph University in Tanzania and the collaboration with Golfini rossi ONLUS. The project aimed to create a hyperenergetic and nutritional balanced meal, tailored on children from 6 to 60 months suffering from severe/moderate malnutrition; beyond this, the Pappa di Parma was developed with the purpose to enhance families’ awareness about the importance of a balanced nutrition in developing age and to improve good hygiene practices. Hence, in consideration of the Tanzanian socio-cultural context, the Pappa solely included affordable local ingredients and technologies, providing a potential long-term solution to decrease malnutrition.

The project was run out in the framework of OVERWORLD PROGRAMME ACTION 1 – International Collaboration Projects - Academic Year 2018/2019 by the Department of Food and Drug of the University of Parma; three students from MSc Degree of Food Science and Technology and applying the Erasmus Overworld Scholarship were enrolled. The activities were divided into consecutive action phases.

At the first step of the project at the Human Nutrition Unit of the University of Parma, students created a nutritional food database of Tanzania, based on Tanzanian Food Composition Tables (2008), and identified the nutritional needs for malnourished children, according to FAO and WHO standards references.

In the second phase at the Laboratories of Food Science and Technology of the University of Parma, different recipes of Pappa were developed, considering only accessible-to-families ingredient added fresh or processed, and local technologies, such as a pestle and a mortar. Pappa recipes included boiled tubers and vegetables, rehydrated flours, toasted cereals, soaked pulses and palma or sunflower seeds oil. Each preparation was a homogeneous and semi-solid meal with a creamy texture and a good taste to meet children-pleasing local flavour. Assessments in terms of nutritional composition, lipid oxidation, microbial safety and physio-chemical properties were conducted to verify product’s quality and safety. At the end of the technological phase, six nutritional balanced formulations were obtained, different in ingredients and methods: 3 including water in the preparation, 3 without adding water.

Last phase took place at the Mvimwa Abbey, located in the Rukwa region, one of the poorest of the country, where the students spent three months in order to test the Pappa recipes in the real setting. After verifying the availability and the affordability of the raw materials, only 4 of the 6 formulations were locally produced because of lack of few ingredients. Recipes were provided to malnourished children at the abbey’s dispensary, during medical visits, with the support of the local monks.

Anthropometric data (weight and height) and nutritional status of 140 children were registered. In order to implement the recipes, a liking questionnaire about the taste and acceptability was administered: all the Pappa versions were approved by the majority of children interviewed, that expressed an excellent level of satisfaction. Furthermore, mothers were asked their willingness to prepare the Pappa di Parma by themselves, according to their economical availability: all of them were agree to buy the ingredients, except for the formulation including milk powder because not economically affordable. In addition, a survey on food habits, with regard on weaning and nutrition during evolutionary age, was administered after the medical visit. All the information was collected and used to create educational materials addressed to children and families, such as graphical posters and games, aiming to promote good hygiene practices and to enhance awareness about the importance of a balanced nutrition.

Thanks to the local experimentation by the students and the strong community engagement, the Pappa di Parma project represents a virtuous case of how the cooperation among universities may favour the improvement of the use of common goods and to promote better health and social condition.

ONE HEALTH: MULTI-SECTORAL AND MULTI-STAKEHOLDER APPROACH TO PROMOTE HEALTH AND SUSTAINABLE DEVELOPMENT AT LOCAL AND GLOBAL LEVEL

PEDIATRIC SURGERY and INTERNATIONAL COOPERATION: CASE STUDY at MALINDI SUBCOUNTY HOSPITAL, KENYA

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Aim of the study

Purpose of the study is to analyze the activities in the field of Pediatric Surgery in an African rural hospital, the Malindi Subcounty Hospital, in order to better understand the needs of the pediatric population and to address the planning of possible future cooperation projects.

Specific question the study would address: 1. Which are the most common requests to surgery in the pediatric population of the Malindi region; 2. What is the percentage of septic surgery and how can be decreased; 3. What is the incidence of girls <18 who received a C-section; 4. Average length of stay in the hospital; 5. Mortality incidence and causes.

Materials and methods

The study was performed retrospectively on the clinical reports of the Operating Room and of the Pediatric ward of the hospital from the 1st of March 2017 to the 24th of May 2019, added to an active cooperation with the hospital staff from the 1st of March to the 24th of May 2019. Research population includes: 1. All the patients ≤ 12 years with surgical diagnosis in the Pediatric ward; 2. All the surgeries performed in the Malindi Subcounty hospital on patients <18. Data come from 2 handwritten registers, unfortunately sometimes containing different information about the same patient. In addition, patients aged 12 to 17 years are not registered in the pediatric ward, as well as those requiring emergency surgery. A database was realized including for each patient: sex, age, diagnosis, length of stay (LOS), outcome/postoperative condition, date of operation, procedure performed, category (major/minor), type of anesthesia, emergency/cold case. Data of 1018 patients were recorded: 861 ≤ 12 years, 225 of them operated upon (26.1%) and 636 treated conservatively, and 156 between 13 and 17 years, all of them undergoing surgery.

Moreover, the research included interviews with the hospital staff, in order to provide an idea of the context and of some of the social issues that may influence patients' decisions. Main topics: 1. Total population served by the Malindi General Hospital; 2. How the referring system works and which pathologies cannot be treated in Malindi; 3. Availability of surgical instruments and hygiene conditions in the OR; 4. Anesthesia issues; 5. Opinions about what could be improved in the hospital; 6. Costs that the patients requiring surgery need to face.

Results

In the study period 225 children ≤ 12 years underwent surgery, the 6.5% of the total number of operations performed (3440). M:F ratio = 152:73, mean age 5.48 years ($9 < 1$ year), 140 major procedures (62.2%), 85 minor; 120 cold cases (53.3%), 105 emergency; average LOS: 9.3 days, median 6 days, range 1-76 days. The most common surgical procedures performed were: 36 adenotonsillectomy, 25 herniotomy and hydrocelectomy, 21 orthopedic surgery for fractures, 20 ingested foreign bodies removal, 19 abscess incision and drainage, 13 cut wound suture, 9 cryptorchidism, 9 pleural effusion, 6 acute appendicitis, 5 hypospadias, 4 intestinal obstruction. No intraoperative deaths recorded. Of the 156 patients 13-17 years of age operated upon (33 M, 123 F), most represented operation is by far the caesarean section (76 cases, 61.7% of the total in females), in 7 cases on girls 15 years old, one of them dying during the procedure.

In the pediatric ward, most frequent surgical pathologies treated conservatively were: 113 burns, 94 abscesses, 71 fractures, 61 other trauma, 29 snake bite, 20 heart problems, 18 transient intestinal obstructions, 15 septic wounds. Average LOS: 9.9 days, median 6 days, range 1-121 days (a case of severe burns). 14 cases were referred to other hospitals (2.2%), while 12 children died (1.8%), all of them because of overwhelming septicemia complicating abscesses. Of particular interest the problems secondary to traditional uvulectomy, especially in children < 3 years.

Discussion and conclusions

The results of this study, on top of strictly epidemiological data, highlight how deep is the connection between pediatric surgical pathologies and society. Pediatric surgical problems can describe children daily life and are often the very first signs of wrong habits, secondary either to traditions or poverty; is the case on one hand of the far too many pregnancies in adolescent girls, or the high number of burns in children - whose average age is 2.5 years - on the other hand of the exceedingly high number of septic cases (14.8% of the ≤ 12 year cases), possibly related to unbearable delays in seeking for expert hospital advice, in turn possibly ascribable to economic worries (children < 5 years old receive free healthcare, while for the others it is not possible to know in advance the overall price, not even for elective surgery). A sustainable development strategy in this area may lead to a great impact on families and therefore to economical growth. Children's health is a "collective good", because it leads to a healthy society and to improve the wellbeing of everyone.

Keywords: Health, Pediatric surgery

The role of social capital for health care accessibility: evidence from rural Uganda

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In Low and Middle-Income Countries, access to health care is seriously hampered by financial, geographical, and cultural obstacles at the time of service utilization. Major health shocks constitute an especially adverse event for the household well-being given the unpredictability and the cumbersome burden they imply both in terms of material and immaterial resources (Alam & Mahal, 2014). Illness may lead to multidimensional impoverishing consequences: first, health problems among family members have a “negative and statistically significant effect on consumption or income” (Islam & Maitra, 2012, p. 232). Second, obstacles to access health care are likely to negatively affect households’ health seeking behaviours: for example, many households tend not to utilise services rather than become poorer and the delay in seeking care may exacerbate the burden of disease (Gilson, 1997; Xu et al., 2003). Third, impoverishing consequences of illness are likely to hold in the long run in case productive assets are sold or educational investments are reduced (Gotsadze et al., 2009; Wagstaff & Manachatphong, 2012).

In resources-constrained settings, local communities often face very limited government resources devoted to health and need to rely on informal networks and collective capabilities to access services (Hollard & Sene, 2016; Ibrahim, 2006; Biggeri et al., 2012). Informal Risk Sharing Arrangements, such as savings and credit associations, burial societies, and friends’ groups, are very frequent in these contexts (Ndiaye et al., 2007), where they represent the only mean for rural households to secure their livelihoods (Cecchi et al., 2016; Townsend, 1994; Udry, 1994; DeWeerd & Fafchamps, 2011). As argued by Amoah and colleagues (2017), social networks are critical for many people not only to ensure material resources but also to provide knowledge and information to make decisions about accessing health services. Several studies indicate that social networks influence demand for health services. For example, close social acquaintances can provide financial, informational, and emotional support for the most vulnerable (Amoah et al., 2017, Derose et al., 2009; Deri, 2005; Hendryx et al., 2002; Devillanova, 2008). increasing collective and individual capabilities (Greco et al, 2016; Biggeri, Ferrannini & Arciprete, 2017). Many authors also indicate that social connectivity and access to information tend to shape social learning and health-related behaviours (Liu et al., 2014; Kawachi et al., 1997; Kawachi et al., 1999; Kennedy et al., 1998; Hollard & Sene, 2016; Ensor & Cooper, 2004; Jyotsna & Somanathan, 2008).

The present study aims to explore the role played by social capital and households’ connectivity to access health services within a community in rural Uganda. The country constitutes a key example of low-income African country where impoverishing effects due to health care access and utilisation are critical for the well-being of local population. The district of Oyam, in the Northern region, is the case study for our analysis. We performed a household survey involving 320 households (approximately

1850 individuals); the data on Social Networks, collected in March-April 2019, are georeferenced and provide detailed information at the individual and household-level about connectivity links and dependence structures within the community, health-seeking behaviours and accessibility outcomes.

The level of social connectivity enjoyed by the household is analysed as a capability that has the potential to improve accessibility to health services both individually and collectively. In this sense, we interpret the role of citizenship, community empowerment and ownership at the local level as key aspects for addressing barriers to access health care in a sustainable perspective. A descriptive social network analysis is intended to shed lights on the relevance of social connections with respect to accessibility outcomes and perceptions about health care. In addition, we test whether being part of Informal Risk Sharing Arrangements affects the household's behaviour in case of illness and the level of resilience to health shocks.

Preliminary findings indicate that analyzing social structures at the local level can provide a significant contribution to achieve a deeper understanding about health-care coverage in poor rural settings. The study results have the potential to inform policy design to expand services coverage in a sustainable perspective.

Keywords: Health Care Access, Social Networks, Social capital, Uganda.

Global Health Security Agenda (GHS) and its role in public health

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The Global Health Security Agency (GHS) was established in February 2014 to promote a safer world, protected from the risks of infectious diseases. G7 approved the GHS in June 2014.

The GHS recognizes the need for a multilateral and multisectorial approach to improve the global and national capacities to prevent, identify and face the threat of infectious diseases such as Ebola, MERS, other severe infectious diseases and bio-terrorist attacks.

Over 50 countries signed the G7 proposal. The GHS is coordinated by 10 countries, including Italy, and by international institutions such as WHO, FAO and OIE. Aim of the GHS is the design of multidisciplinary work packages and guidelines that could be agreed upon and adhered to at international and global level.

Italy has a pivotal role: besides being one of the 10 countries coordinating the GHS, it leads the working group on 'immunization', with the task of developing strategic plans of implementation, communication and monitoring of vaccinations in different parts of the world. Italy is also the facilitator of dialogue and collaboration across the Mediterranean area countries.

GHS pursues 5 goals, whose accomplishment shall be measured by 31st December 2023:

1. Promoting international patterns of health safety
2. Increasing the financial support of national and international partners to strengthen and secure the capacities to prevent, identify and manage outbreaks of infectious diseases, including the reinforcement of health systems
3. Supporting multi sectorial actions and commitment towards health safety and security
4. Better sharing of good practices and lessons learnt, and supporting the use and development, if needed, of appropriate tools and processes
5. Increasing the responsibility of all GHS members.

In the Ebola case, the capacities of Health Ministers were fundamental: they provided rapid and effective response when they could develop sound surveillance systems and set-up laboratories and programs to promptly manage public health emergencies. However, in many countries health systems still lack both trained-staffs able to identify diseases, and adequate laboratories and surveillance systems.

In case of emergencies such as Ebola, rapid diagnosis, prompt vaccination and efficient medicines are essential. The poor availability of resources during the outbreak of Ebola fueled the outbreak of other epidemics and of isolated cases in the world. A debate has been started on equity in health, which has highlighted several critical points: a major problem is the fact that pharmaceutical corporations do behave according to market principles meant to generate the greatest incomes possible. Further, medical research and drug development processes do not align with health safety and security priorities: the target is too narrow and countries have little or no control on drug production processes. In case of protracted conflicts and natural disasters, an increase of the burden of diseases among the affected populations has been observed. In these situations, public health systems do often collapse. Conflicts often burst in Low and Middle Income Countries, already suffering from poor health policies. This results into the spread of infectious diseases such as Marburg Hemorrhagic Fever in Angola, cholera in the DRC and the recent resurgence of Ebola in the same DRC.

GHS is also concerned on the effect of NCDs and aging. NCDs are the first cause of death in the world, affecting 40% of the population under 70 years and accounting for the greatest cost to public

health systems, investing mostly in care. Investment in primary prevention and health promotion is still very low due to the long time needed to make an impact. Working on lifestyles means not only influencing individual choices but also (and foremost) encouraging action at policy level (e.g. urban planning, social policies, market regulations). However, a common and comprehensive policy aimed at promoting healthy lifestyles could be result into relatively fast improvements.

Migrations and health safety are another topic the GHSA focuses on.

During Ebola outbreak, many countries harshly stopped migrant flow (e.g. Australia introduced a flight

and sea interdiction). However, data show that some diseases can spread through sporadic movements and rarely through migratory flows. On the other hand, preventing/limiting peoples' movements resulted into a decrease in the number of health professionals deployed in the Ebola affected areas, compromising the capacities to contain the outbreak.

GHSA is also an effective instrument to develop health systems ready to face outbreaks. In the case of Ebola, the preparation to face the emergency was crucial in many countries; the lack of preparation had dare effects in other countries. GHSA should drive a process of enforcement of global infrastructures meant to address acute events overcoming the capacities of single nations.

The One Health approach is a key link between GHSA and the Global Alert and Response Network (GOARN).

Keywords: Global Health Security Agenda; infectious diseases; health safety; One Health

SUSTAINABILITY, EDUCATION, ROBOTIC FOR HUMANIZATION OF MEDICINE AND CURE

C. Righettini

Alta Scuola per l'Ambiente

This research proposal focuses on the increasing need of personalized and humanized educational paths according both on medical-scientific evidence and ethical-social needs. For achieve this goal is necessary connect in a moral transdisciplinary alliance: medical sciences, technological innovations like artificial intelligence, large database, humanities knowledge and an ethic, integral and sustainable approach. A personalized medicine method focuses on the uniqueness of person considering subjective characteristics of the patient and his unique variables (physical, social, ethnic, psychological, of value and existential). Educate in humanized training paths means bond scientific and methodological strictness with humanistic knowledge, integral ecology empowerment and progress of human civilization. This research proposal aims to identify practical and heuristic elements who connect education, medical sciences and robotic, to achieve knowledge and skills in order to improve humanization approach in care and medical sector. This research tries to elaborate a scientific approach in order of ethical, relational, educational, social, cultural, psychological, aesthetic and spiritual needs of patient and identify appropriate methodology and tools for an education of medical staff that build a net of different experience in humanization of medicine. It is important to connect large database data with medical knowledge, potentiality of artificial intelligence and robotic, and an integral approach to person to elaborate tailored educational paths on humanization of medicine and cure, with a particular sight on communication of good sustainable practices. It is appropriate to reflect on the ethical and educational value of the culture of relief, to be able to consider the integrity of the person in disease, pain and end of life situations; build effective communication strategies to spread existing good practice of humanization of medicine not only in Gemelli ART center but in the different departments of Policlinico Gemelli. Pedagogical prospective involved a detailed study of theoretical foundation about education, humanization of medicine and ethic of cure. Similarly, is necessary consider the scenario of personalization of treatments, robotic potentiality and artificial intelligence opportunity. Part of my research path include organization and implementation of educational courses for medical staff focusing on valorization of good practices, meetings of privileged testimonials, empowerment of soft skills, promotion of a net of humanization places and culture of relief. All this aspect contributes to improve the quality of life and the perception of wellbeing of the patient in treatment. The approach of this study is characterized by methods and tools of social research and human sciences, like analysis of national and international literature (scientific publications on education in medical sector, ethical dimension of disease, sufferance and relief), analysis of existing good practices in observation context (programmatic documents, ethical codes, educational paths), direct and indirect observation in educational and medical context (observation grids), feedback information gathering at the end of the educational path (questionnaires, structured and semi-structured interviews) and quali- quantitative methodologies tailored on different needs emerged during the research and calibrated on web site data flow and on line platform. This research is characterized by a pedagogical and multi-professional approach using qualitative and hermeneutic methodology based on analysis of contexts and data observed, surveys and interviews. In order to achieve a better personalization of educational paths this approach will be narrative. Founding hypothesis of this research proposal based on educational promise to reach an integral development of the human person. A true ethical - educational demand for those who want to develop their soft skills to approach to the patient with a humanized medical path. Plan and reflect on educational path contribute to personalize and humanize medical care in order to connect technology and humanities. Systematize good practices of humanization improve the quality of life of the patient in treatment,

actively involving staff and caregiver building a positive communication alliance, developing environmental and social sustainability for an authentic integral ecology. A hermeneutical and ethical path for a technology at the service of the person, for the patient wellbeing.

Keywords: humanization, ethics, education, medicine, sustainability

Towards a mapping of “City of relief” (Città del Sollievo)

E. Zane

Alta Scuola per l’Ambiente, Brescia

The object of this paper is the project of mapping Italian municipalities who are committed to share the culture of relief with action and social intervention, in the respect of law 38/2005 who guarantee for terminal patients support and cure to reduce unnecessary pain.

People who live with chronic pain, or are in the difficult condition of end of life, calls into question the need of an ethical approach for welfare reality and municipalities that are involved in health system. There is a moral call to consider fragility of diseased, to help and protect those subject who are living in pain and educate community and citizens to an ethics of responsibility. This project wants to valorize people, professionals, volunteers, institutions that act in various way to embrace and reduce unnecessary pain.

Alta Scuola per l’Ambiente, in collaboration with Fondazione Ghirotti and A.N.C.I., want to contribute to create this ecological cure of everyday life effectively mapping initiatives and structure connected with Relief. The project provides to build a survey to investigate municipalities, health centers, local realities that are committed in the cure of person-patient. First step of the project involved the Thirty cities that are already honored by the title of city of relief to investigate and identify good practices and create a model of operative answers to different territorial needs. The survey consider numerous contexts, public and private, professionals and volunteers, investigating different macroareas in order to entirety of human and environmental well being. First macroarea focus on procedures and action build to mitigate suffering and relieve unnecessary pain, respecting human dignity and corporeal integrity. The second investigated area focus on how much a setting that is social and environmental sustainable influence the quality of life of patients, encouraging well-being despite illness. The third macroarea inquire the amount and variety of people who dedicate free time, energy and dedication to spread the culture of relief through voluntary activities with patients, raising awareness of citizenship, communication of good practices again unnecessary pain. Fourth macroarea focus on all the economical action build for support services and action of relief, like fundraising and crowdfunding projects. The last but not the least area is the one that investigate all the aspects connected with the dignity of human beings also in the moment much more near to the end of life like: education, well- being, aesthetic and nature contemplation, existential awareness and moral legacy.

This investigation, to involve more realities possible, especially the little municipalities that represents territorial excellences, it’s composed by two type of survey. The “light” version of the first survey was built to create a net of small territorial realities that responds to the need of culture of relief also if there isn’t big health care reality active on the small municipalities. The macroareas investigated by this surveys are: environment, art and beauty; health and well-being, human dignity. Being a “City of relief” means translate values and meanings in concrete actions of relief, generating participation and involvement of active citizenship, a genuine true “strength in fragility”. Map, educate and communicate good practices of relief is necessary to create a “net of relief” to really put person in the center of the health care system despite the illness and in this way building a careful and empathic citizenship.

Keywords: City of relief, relief, well being, human health, human dignity

Is Plasmodium falciparum malaria incidence and severity in holo-endemic areas affected by gender?

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Background

Malaria is a debilitating and deadly disease that threatens 40% of the world’s population, causing 438.000 deaths every year and resulting in untold suffering and human misery around the world – predominantly in Africa. It has been suggested that malaria has a different impact on women and men. Both social and biological factors contribute to this difference. Therefore, a gender perspective is essential for substantial reduction and elimination of malaria. The term gender refers to the economic, social and cultural attributes and opportunities associated with being male and female. In many developing countries health services are often male-biased which mean that they are not designed to meet the full needs of women. A gender approach contributes to both understanding and combating malaria. Therefore, gender and malaria issues are increasingly being incorporated into malaria control strategies in order to improve their coverage and effectiveness across contexts. The sexes differ in the severity, prevalence, and pathogenesis of infections caused by viruses, bacteria, parasites and fungi, with males generally more susceptible to these infections than females. The fact of the matter is that sex-based immunological studies should be still investigated, and especially about malaria there is a huge gap.

Methods

The study enrolment was conducted between June and October, 2018 at the Hopexchange Medical Centre (HMC), located in the suburbs of Kumasi (Ghana), part of the Bantama sub-metro, the second biggest sub-metro area in the Ashanti Region. This study highlighted the importance of approaching malaria management from a gender perspective, which includes looking within the household at how the social and economic factors might affect decision making. A sequential mixed-methods design comprising qualitative (Focus Group Discussions and In-Depth interviews) and quantitative methods was used. Qualitative research was carried out in order to get an in-depth understanding of the research context and explore community perceptions and practices in malaria prevention and exposure, with emphasis on gender related issues.

Incidence and severity of clinical and laboratory confirmed *P. falciparum* malaria in adults according to gender was assessed.

Results

During the study period, 203 adult patients have been diagnosed with malaria at HMC, among them 178 individuals were enrolled. Noteworthy, 80% of the reported Parasite Density (PD) fell below 10 000/ μ l, among those only 42% ranged between 1000/ μ l and 10 000/ μ l. Additionally, all admitted malaria cases were recorded with a PD much lower than 100 000/ μ l.

Among enrolled malaria cases, 63% had fever, in a comparable ratio between men (65%) and women (62%). In the course of clinical examination, patients complained also of headache (43.26%), chills (38%), general malaise (28%), vomiting (25%), body-ache (15%), dizziness (11%) and diarrhea (10%). Among the 178 enrolled malaria cases, a questionnaire inspired by malaria toolkit materials

and other publications on malaria and gender in Africa or specifically in Ghana has been administered to 124 subjects (77 female, 47 male). Overall, female participants registered of having the percentage of no education (18%) higher than male. In this study 32% of malaria cases declared to have taken antimalaria drugs in the last month. The patients were also questioned about the mosquito bites preventive measures. Approximately half of the bed nets' users admitted to sleeping under it just sometimes, and 27% of them declared that the nets are not well maintained. To investigate the undertaken activities around dusk time, some questions focused on investigating socializing outdoor activities and the need to carry out household chores in the evening. Most respondents, in equal male- female ratio, admitted spending time in open space after the sunset (74%), often specifying for church activities, work related issues or house chores. Out of 124 interviewed patients, 102 were examined in the case-control analysis. Research Field Workers (RFWs) overall interviewed 159 household members (controls), defined as people not diagnosed with malaria (by the time they were interviewed), who had lived in the last 30 days in the same household of the case and aged over 17 years. Moreover, a separate questionnaire was delivered to 181 female respondents, aiming to investigate the type of household chores, which might expose to mosquito bites, and the decision-making scenario concerning health seeking service. A total of four focus group discussions (FGDs) had been conducted in the HMC surrounding communities. Consistently, fourteen In-Depth Interviews (IDIs) were carried on among administration staff and health-care personnel of HMC, o regard of homemade remedies and preventive measures for malaria; their exposure behaviors and malaria awareness have been discussed too.

Conclusions

This study showed the efficacy of a mixed methods design study in describing malaria and gender. The gender scenario urge to be approached by different perspective and methods (quantitative and qualitative) to better investigate multiple factors which might influence data. Malaria policies and research studies should consider examining people's behavior and practices for deeply understanding and fighting this deadly disease.

Keywords: Malaria, Gender, Parasite Density, preventive measures, exposure behaviors

The cascade of HIV Care in three different settings in Morrumbene, province of Inhambane, Mozambique

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Introduction

According to the last estimates, 37 million people live with HIV infection worldwide. About 70% of these lives in Africa. Mozambique estimates that 2 million people are HIV positive, where the province of Inhambane has a prevalence of HIV infection among adults of 14.1%.

Material and method

This is a retrospective, observational study. We collected data on patients with diagnosis of HIV infection performed during the period between the 1st of January and the 31st of December 2017 in three health centers of the district of Morrumbene, Mozambique, namely: Centro de Saude de Morrumbene (CSM), TARV Movel service (TM) and Centro de Saude de Mahangue (MAH). Data on age, sex, education, number of cohabitants, pregnancy, breastfeeding, date of HIV infection, date of entry to care, site and center of diagnosis of HIV infection, CD4+ cell count and WHO status at baseline, date of antiretroviral therapy (TARV) prescription were retrieved. The follow-up period lasted until the 31st of December 2018. We took data on presence at visit, CD4+ cell count, death, transfer and adherence to TARV regimen at 6 and 12 months. Data were stored in excel and analysed by Epi-Info 7. Descriptive statistics, in particular counts and proportions, were obtained for all variables; for group comparison, for categorical variables chi square test or exact Fischer test, for numeric variables ANOVA test, when appropriate, were applied. Two tailed tests were used. Only p- values <0.05 were considered statistically significant. Uni and multivariate analysis were performed by logistic regression.

Results

A total of 1029 patients were diagnosed with HIV infection in 2017 (Table 1). Overall, females represented the 73% of the population, where 14% of women were pregnant. Children <13 years old were 75. Median age was 35 years old (28-45 I-III IQ), CD4+ cells at baseline were 309 cell/mmc (155-

506 cell/mmc), while patients with a CD4+ cell count <200 cell/mmc were 282 (32%). A count of CD4+ cells <200 cell/mmc was independently associated with diagnosis in the TM services (OR 11.47, CI 13.2, p=0.05) in comparison to CSM, where the opposite trends was observed for pregnant women and elder patients.

In the adult population, 53% of patients received TARV within one week from the diagnosis of HIV infection. At 6 months, 454 patients (48%) were present at the clinical visit. Of these 144 (41%), were adherent to TARV. At 12 months, 353 patients were on follow-up, where 290 were present at both 6- and 12-month visit. Overall, only 62 patients have been adherent to TARV over one year.

Discussion and conclusions

In 2013, the UNAIDS set the ambitious target of 90% of people with HIV worldwide being diagnosed, 90% of these being on TARV and 90% of these being on sustained viral suppression by 2020.

Our study, although still on progress for what concerns the statistical analysis, shows that so little such as 37% of adult patients were still on follow-up after one year from HIV diagnosis, where only 62 over 1029 patients were reported to take their medications every month over one year of observation. Although our study may have some limitations about lack of data on lost on follow-up patients, it shows that still much needs to be done to address the HIV care continuum in our area of observation, where more data need to be retrieved in similar settings.

Keywords: HIV, cascade, TARV, Mozambique

Waste Management in Urban Healthcare Centres: the case of Beira, Mozambique

I. Rama

Consorzio Associazioni con il Mozambico (CAM)

Beira is the capital of the Province of Sofala, central Mozambique, and the second most important city in the country; it covers an area of 633Km² and, according to the Recenseamento Geral da População e Habitação, and has 592.090 inhabitants (INE, 2017).

Beira is at the head of the Trans-African Highway No. 9 and its port represents access to the sea for countries like Zambia, Malawi, Zimbabwe. Beira has been protagonist, since the last decade, of a strong urban development due to both natural growth and immigration phenomena from rural areas. The latter in particular contributed to the transformation of areas of the city from peri-urban to suburban areas: it is in these areas that the majority of the population lives and the greatest needs are concentrated. Problems relating to Municipal Solid Waste in Beira are complex and common to major cities of the country, given the quantity, diversity and distribution of waste. Accelerated growth of cities, increase in consumer goods, poor dissemination of the collection service and low technical and managerial capacity are some of the factors that show the need for urgent and systemic interventions aimed at mitigating the impact on the environment and on public health.

Beira is facing great challenges at institutional, financial, technical level. With a highly qualified international partnership, CAM is active since 2016 in a multilevel program focused on technical assistance as well as some direct interventions in the improvement of the sector, such as characterization study of Urban Solid Waste and Healthcare Waste (HW) management.

The offer of public health services in the city of Beira is based on the coexistence of the Hospital Central da Beira (HCB) and of aprox. 15 Urban Healthcare Centers (UHC). The first, serves as point of reference for the entire Province of Sofala offering specialized wards. The Health Center are of various sizes, each serving an average of 40,000 inhabitants. The Health Center of Chingussura, located in the northern suburbs of the city, serves about 70,000 inhabitants and hosts an important maternity that performs aprox. 500 births a year. In addition to infectious, dangerous and cutting waste, the one produced at the US in Chingussura is characterized by a high percentage of urban waste, given the high turnout, and anatomical waste, given the presence of the maternity.

Often in Mozambique adequate management and segregation of HW is limited Central Hospitals. However, about half of the HW produced in the municipalities comes from the network of UHC. At the Chiungussura Center, CAM has carried out diverse project activities since 2017 with the aim of improving the hygienic-sanitary conditions of the UHC, lowering the risk of infection in favor of the population that uses the health unit. In particular, CAM implemented diverse activities: (i) initial and continuous training of auxiliary personnel and health specialists (doctors and nurses) on proper handling and primary deposition of HW (hazardous, anatomical/infectious, perforating, urban); (ii) a first segregation testing phase that allowed project staff and Chingussura personnel to design a tailor-made definitive system; (iii) the construction of the temporary storage structure of the UHC that hosts HW from the rooms to the final disposal at HCB incineration;

(iv) the distribution of definitive plastic-bins in the UHC rooms that separate the already mentioned different waste categories; (v) a 4 weeks awareness campaign targeting UHC users on the correct deposition of urban solid waste inside the facility; (vi) design and implementation of transportation system from all UCHs to the HCB for final incineration; and (vii) a repeatability program of the activity in other health units of Beira and of the country.

Segregation and correct management of HW at UHC level is a simple action that shows immediate positive impact on public health, sanitary conditions of the facilities, reduction of transported waste and incineration quantities. The implemented project also shows of the importance of a wide-view approach, not limited to training or equipment, but that considers the life-cycle of waste generated in the facilities and links it to the specific Municipal Waste Management system running in the context. Importance of intense training sessions as well as piloting phases before final implementation is also considered an important finding.

Keywords: Solid Waste Management, Municipal Solid Waste, Healthcare Waste, Technical Assistance

The National Emergency Medical Service (NEMS) Project: implementing the first prehospital emergency medical system in Sierra Leone

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Background

Sierra Leone is one of the least developed low-income countries, slowly recovering from the effects of a devastating civil war and the Ebola outbreak¹. The health care system is characterized by chronic shortage of skilled human resources, equipment and essential medicines. Moreover, the referral system is weak and vulnerable, with 75% of the country having insufficient access to essential health care². Consequently, Sierra Leone has one of the highest maternal and newborn mortality rates in the world, and life expectancy at birth is just 50 years³. With seed funding from the World Bank, the National Emergency Medical Service (NEMS) project aims to create the first emergency medical system in the Country. A Joint Venture of Doctors with Africa CUAMM (CUAMM), Veneto Region and Research Center in Emergency and Disaster Medicine, Università del Piemonte Orientale (CRIMEDIM) was developed to support the Ministry of Health and Sanitation in designing, implementing and managing the NEMS system.

Methods

The operational and logistical aspects of the NEMS project are supported by CUAMM, with technical and administrative resources, and Veneto Region, in charge of assisting the day-to-day operations of a complex and large EMS system. The in-service training program for NEMS prehospital healthcare providers is developed and delivered with the support of CRIMEDIM, with the goal to provide theoretical knowledge, practical skills and attitudes required to work proficiently and effectively for the NEMS system

Results

In October 2018, the first training sessions were delivered in the district of Pujehun. Progressively, in a timeframe of six months, all the 14 districts have been trained and subsequently made operational. Starting from the 27th of May 2019, the NEMS system is operative at national level, with 80 ambulances dispatched on the ground and 439 paramedics and 433 ambulance drivers trained and recruited. A total number of a total number of 11035 emergency calls, 10675 missions and 9353 referrals have been handled by the NEMS service.

Reference

1. World Health Organization data 2019, available at <https://www.afro.who.int/countries/sierra-leone>
2. Gubta et al., 2015, Surgical care needs of low-resource populations: an estimate of the prevalence of surgically treatable conditions and avoidable deaths in 48 countries, Lancet 2015
3. World Bank data, 2017, available at: <http://data.worldbank.org/country/sierra-leone>

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Franco Conzato (DG-DEVCO, Deputy Head of Unit 'Evaluation and Results', European Commission)

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Mauro Marsili (Head of Unit, Directorate for International Cooperation, Italian Ministry of Foreign Affairs)

Liviu Matei (Provost of Central European University and Professor of Higher Education Policy)

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Alberto Piatti (Executive Vice President - Impresa Responsabile e Sostenibile, ENI)

Silvia Stilli (Spokesperson of Association of Italian NGOs, AOI)

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