Block B

SUPERVISING BS/MS THESIS WITH FIELDWORK

B.5

Knowing the context and partners

1. Universities and international cooperation agencies partnerships: practical examples
2. Understanding the context differences
3. Understanding environmental conflicts
4. Interacting with different actors
5. Participatory approaches methods, tools and examples

GDEE GLOBAL DIMENSION IN ENGINEERING EDUCATION

B.5 Knowing the context and partners

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Front Cover Photo: Project identifying habitat issues in the suburbs of Dakar, Senegal. Carola Luna Torres

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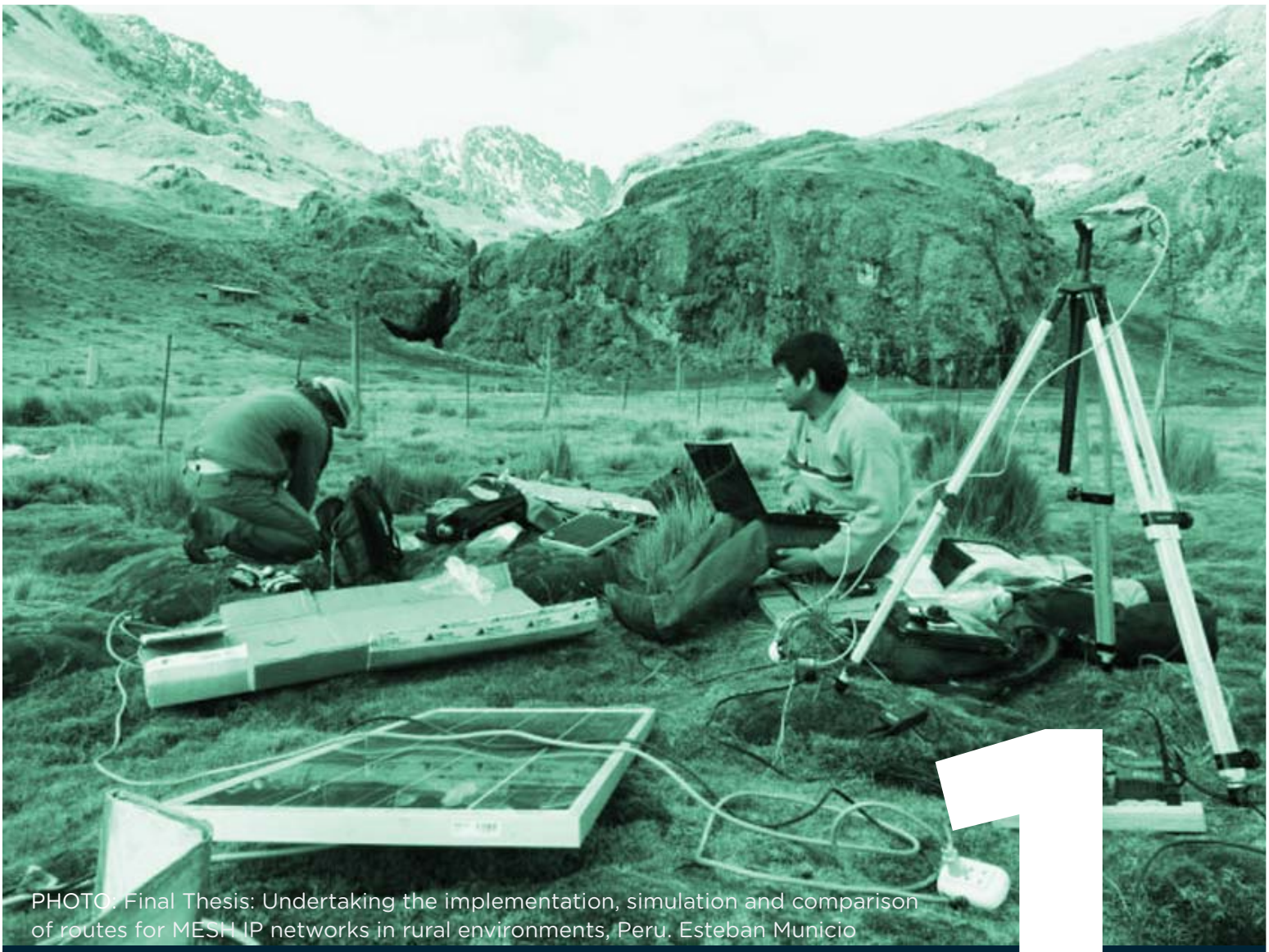

PHOTO: Final Thesis: Undertaking the implementation, simulation and comparison of routes for MESH IP networks in rural environments, Peru. Esteban Municio

CHAPTER 1

Universities and international cooperation agencies partnerships: practical examples

B.5 Knowing the context and partners

1

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1 UNIVERSITIES AND INTERNATIONAL COOPERATION AGENCIES PARTNERSHIPS: PRACTICAL EXAMPLES

María de los Llanos Gómez Torres, Centre for Development Cooperation, Universitat Politècnica de València.

EXECUTIVE SUMMARY

The relationship between universities and the other actors of the aid system, both governmental (European Union, international agencies, etc.) and non-governmental (non-profit development organisations, associations, citizen networks, etc.), is essential in today's global and changing world. Working together advances development and cooperation policies as they can be based on the actual dialogue between the actors and complimented by actions being undertaken. In recent years, many universities have formally incorporated development and declared their willingness to influence the development and fight-against-poverty agendas. They have also shown an interest in taking part in development and cooperation policies, as other actors do. This interest has been expressed in the institutionalisation of university development and cooperation policies and the creation of the appropriate instruments to implement them, managed by specific bodies. During this chapter, we will address the different types of collaborations that can be established between universities and the international aidorganisations, with a special emphasis on partnerships with international agencies and non-profit development organisations (henceforth NGDOs). Examples of partnership schemes between universities and these organisations will be provided aiming to provide teachers with tools to better understand activities that could be undertaken in the classroom or promoted within their universities.

LEARNING OUTCOMES

After you actively engage in the learning experiences in this module, you should be able to:

- Describe the potential opportunities for universities to establish partnership schemes with other actors of the aid system.
- Identify the essential features concerning the relevance of joint work between universities and other actors of the international development and cooperation system.

KEY CONCEPTS

These concepts will help you better understand the content in this session:

- University cooperation development
- NGDOs, international development aid agencies
- Responsibility of universities in the fight against poverty
- Complementarities between actors involved in the aid system
- Education in solidarity and development

GUIDING QUESTIONS

Develop your answers to the following guiding questions while completing the readings and working through the session:

- Describe the importance of joint work between universities and other actors of the international cooperation system.
- Describe potential ways of partnership schemes. Where do these collaborations originate?
- What is the role of the universities in boosting these collaborations?
- What could be the role of teachers in boosting these collaborations?

INTRODUCTION

In recent years, many universities have formally incorporated development cooperation. At the same time, the various groups within them (students, teachers, administration and services staff) have committed to solidarity with their own activities and with institutional support. Universities, therefore, are involved in the international development aid system and engage constructively with other actors on an equal basis. ***The main role of universities as actors involved in development processes includes training, awareness raising and research in the field of development and international cooperation, but also the provision of technical assistance and the implementation of development projects with a specific academic dimension*** (Unceta, 2004; Sebastián, 2004; CEURI, 2000).

The following table includes the most common types of action of university development cooperation within the framework of the particular functions of universities: teaching, research, knowledge transfer and social outreach. Thus, activities in the field of university and postgraduate education; actions in the field of research, such as technical assistances and development projects; knowledge transfer; social mobilisation and volunteer work; and awareness raising and development education are defined.

Table 1 *Instruments of university development cooperation.*

INSTRUMENTS OF UNIVERSITY DEVELOPMENT COOPERATION	
Development Education and Awareness Raising	Activities (formal, non-formal and informal settings) promoting an academic community which builds a culture of solidarity committed to fostering human development.
Research	Instruments using knowledge for the benefit of human development. The active role of research subjects in the co-production of knowledge with the beneficiaries of the research outcomes, and in promoting the contribution made by knowledge through their linkage with civil society should be noted. Research aimed at improving living conditions, economic growth and social equity .
Social Mobilisation and Volunteer Work	Active involvement of the academic community in the fight against poverty and the promotion of human development. Commitment of the academic community and their institution to engage in transformative social mobilisation. Networking for development cooperation and to promote volunteer work opportunities through strategic partnerships schemes university-NGDOs and with other actors.
Training	Integration of development education into university and postgraduate education. Specific training in development and international cooperation

	through postgraduate courses, master's degrees and specific training.
Knowledge transfer	Access by development NGDOs and other organisations involved in the aid system to knowledge produced in universities.
Cooperation projects	Institutional involvement of universities in cooperation projects in partnership with other actors.

The relationship between universities and the other actors of the aid system, both governmental (European Union, international agencies, etc.) and non-governmental (non-profit development organisations, associations, citizen networks, etc.), is essential in today's global and changing world. Working together advances development and cooperation policies as they can be based on the actual dialogue between the actors and complimented by actions being undertaken. In recent years, many universities have formally incorporated development and declared their willingness to influence the development and fight-against-poverty agendas. This relationship can be found in all areas of university development cooperation described in Table 1.

UNIVERSITIES AND OTHER ACTORS

International agencies play a crucial role in the fight against poverty, the promotion of inequality reduction, access to opportunities and environmental sustainability. They fulfil different tasks according to organisational goals, such as facilitating and coordinating governmental cooperation in the various fields of development, financing development aid or even promoting forums to reach agreements or promote negotiation (Koch, 2012). These organisations have a global vision of the problems since their interventions usually cover several countries. These factors lead them to preserve close links with most development actors with the aim of complementing their work and improving their knowledge on the issues under discussion. In this regard, universities appear as allies offering the possibility to work jointly in some fields not reached by international agencies.

Karns & Mingst (2010) emphasize that the most common collaboration between universities and international agencies is to provide knowledge to a complex and continuously changing world. This knowledge is thereby made available to people without access to information or skills, thus facilitating decision-making on key questions such as climate change or local energy alternatives, technical studies conducted by experts, technical assistance, etc. Furthermore, committees assisting international agencies are usually composed of university experts who provide their expertise to discussions or promote scientific solutions to problems.

In the non-governmental field, NGDOs play a notable role. Universities should mobilize the enormous potential provided by non-governmental organisations and, therefore, the grassroots initiatives which may support international cooperation activities (UNESCO, 1996). These relations include the work done by several NGDOs in supporting and promoting training on development

cooperation. In close collaboration with teachers, NGDOs participate in free-elective subjects of postgraduate and doctoral courses.

By providing the expertise from their projects or actions, NGDOs certainly contribute to enriching and improving the quality of educational programmes. NGDOs also conduct their own training programmes with the participation of university teachers and research staff, significant synergies between both groups being thus established. Universities also offer NGDOs their collaboration in non-formal spaces, such as lectures, discussion forums, campaigns, exhibitions, etc. These activities serve to encourage discussions within the academic community on issues directly affecting society that, otherwise, could be pushed into the background. Some organisations also conduct research and promote discussion on development and international cooperation, often with the support of university teachers. Their research and publication activity are very significant and, sometimes, exceed the efforts of universities. There are many examples of publications and researches conducted by NGDOs involving university teachers.

However, ***teachers and students may best engagenwith solidarity by the first-hand knowledge about the Global South illustrated by international agencies and NGDOs.*** This chapter will go through the possibilities for involvement and it will analyse the leverage factor of direct knowledge on the issues raised by these programmes. Engineering has a wide range of opportunities, particularly to collaborate with international organisations and NGDOs in development projects. On the other hand, this collaboration represents a source of human and technical resources for some organisations. In this regard, the field of cooperation and development services providers is wide open for universities.

Another important aspect to be considered is ***how universities encourage their students, teaching and research staff, and technical and administrative staff to participate in these institutions, thus contributing to strengthen development cooperation policies***. Certainly, this shared space opens new ways to participation in society and boosts the universal values of solidarity and justice.

When it comes to establish a partnership, a previous reflection by the stakeholders on the development and cooperation concepts that will be managed and promoted is required, as in other domains. This is also stated in the partnership agreements established by universities with these institutions, adding value to the work undertaken by both sides.

Finally, in recent years, ***universities are steadily internationalising with the aim of strengthening their international dimension*** in order to increase the quality of the educational system and to promote university competitiveness in the international field. For this, specific interventions are addressed to support student mobility and to promote the exchange of teachers, researchers and technical and administrative staff. In this regard, the potential contribution of this

type of collaboration should be considered. Figure 1 summarises the instruments of university development cooperation available to other actors of the aid system and the partnership schemes.

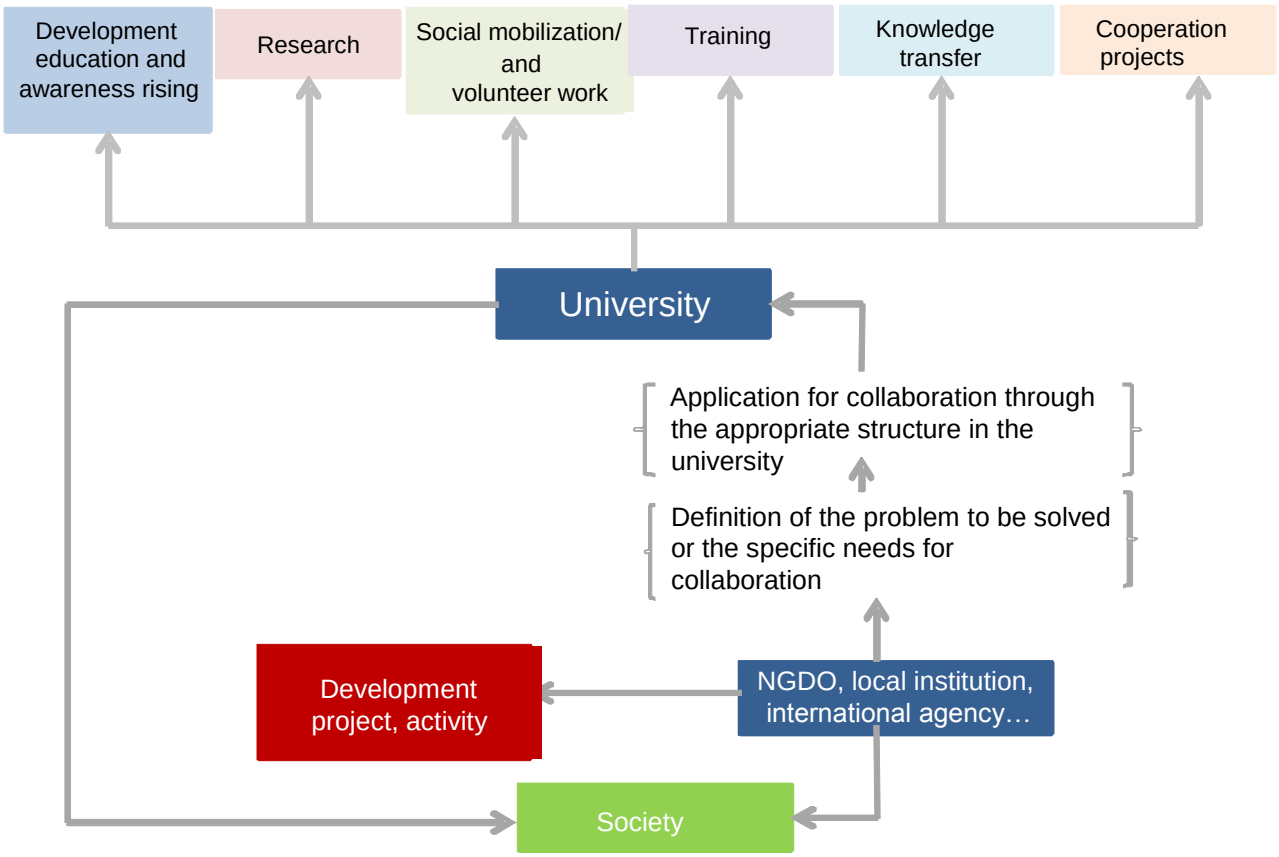

Figure 1 *Instruments of university development cooperation and partnership schemes with other actors.*

It is usual to bring students closer to the field of solidarity and international context through introductory courses on development cooperation, sometimes accompanied by internship programs and opportunities for volunteer work. Internship programmes, final degree projects and master dissertations will be further analysed as an example, since they are most often provided in formal technical training. These programs have been chosen by three reasons. First of all, they are one of the most consolidated activities in the formal setting of many universities. Secondly, teachers' participation is essential in these spaces. Thirdly and perhaps most importantly, because these collaborations lead to other formal and non-formal activities: research, technology transfer and awareness rising.

INTERNSHIP PROGRAMMES, PRACTICE, FINAL DEGREE PROJECTS AND MASTER DISSERTATIONS

Many technical universities in Europe offer development education programmes with the possibility of internships or final degree projects. There are experiences in differences universities showing similar objectives. In these programmes, students can get direct knowledge of the field work

carried out by international agencies and NGDOs. It is a mutual learning, where students can apply their academic knowledge into difficult contexts with high rates of poverty or vulnerability.

The experience of getting involved in development programs and projects allows the implementation of the technical knowledge acquired during the academic training and for getting better acquainted with the institutional arrangements established among development cooperation actors.

These programmes are usually accompanied by dissemination activities with the academic community as the target audience. These activities focus on highlighting how their knowledge may be applied to development cooperation and therefore, how society can best benefit from it. According to Smith and Yanacopulos (2004), a stay in the Global South can help citizens to catalyse changes in the North. ***These programs allow the creation of spaces for mutual exchange of technical skills, knowledge and cultural issues between students and cooperation institutions.*** Therefore, internships in the framework of these programs are considered an opportunity, in response to more critical views towards international volunteer work claiming that it can cause paternalism.

It is very important for universities to deeply ***know the host institutions*** and to point out to them that students need to properly ***understand the context*** where they are going to operate (poverty, inequality, relations North-South, aid system, etc.), which exceeds the mere implementation of the assigned tasks. For this reason, many such programs are also accompanied by a ***training programme previous to the stay in order to start breaking down prejudices***.

Finally, ***spaces for reflection can still be provided once students have returned***, so they can deeply analyse their learning and the way of implementing them at home. Multiple pieces of evidence have noted in the programme evaluations that staying in a country of the global South has preceded individual personal development of participants in such programmes.

With regard to teaching, ***these collaborations offer teachers a wider choice of options within the classroom, allowing students to satisfy their curiosities and to generate new ones***, in addition to assimilating academic content. On the students' side, academic recognition and prestige tied to their contribution to the activities of a development cooperation organisation are values to be considered, as they may represent a future field of professional activity.

In general terms, these are the objectives of the above programmes:

- To promote solidarity and the values related to development cooperation within the academic community.
- To make academic knowledge available to international development cooperation.

- To implement the expertise acquired during their academic courses and to put their professional skills at the disposal of organisations carrying out cooperation activities in the field (unlike universities).
- To enrich training processes and practical skills of technical education students.
- To raise awareness and get teachers enriched by their close participation in these programs.
- To encourage and promote international mobility from a development education perspective.
- To provide students with an alternative to increase their personal and professional opportunities.
- To raise awareness among teachers of the role and potential of these programmes.
- To encourage teachers to carry out, apply and implement other projects in the field of development and to strengthen relations with cooperation organisations for other kind of collaborations (research and technology transfer, for example).
- To strengthen partnership schemes between universities and other actors of the development aid system.

Recently, the European Union has restructured its mobility programmes in the context of the internationalisation of European universities. The well-known Erasmus programme joins now –along with some others–a more ambitious proposal, giving universities the possibility of establishing relations with other actors (not necessarily universities). The outcome is the Erasmus+ Programme, whose main aim is to invest in education and training as key factors to unlock people`s potential. It contains three types of actions integrating all currently existing programmes:

- Mobility for individual learning, including mobility related to cooperation programmes.
- Institutional cooperation, including partnerships between educational institutions, youth associations, enterprises, Government and NGDOs.
- Support for advocacy work, proposing some policy-making tools and best practices exchange. These instruments are mainly meant for the academic community, but, in general, they allow partnerships under the principles of development cooperation and with the actors of the aid system.

Thus, there is here an opportunity for development education (Source**:** http://ec.europa.eu/education/erasmus-plus/index_en.htm)

The table below shows some examples of mobility programmes in the framework of development cooperation and from a development education perspective.

Table 2 *Examples of internships and final degree projects programmes in Spain.*

PROGRAMME	UNIVERSITY	DESCRIPTION
Spanish University Volunteers in United Nations facing the Millennium Development Goals Programme	Several Coordination: Universidad Autónoma de Madrid (Spain)	The Spanish University Volunteers in United Nations facing the Millennium Development Goals programme is run through a network of Spanish state-run universities in partnership with United Nations Volunteers (UNV). University students are sent to different UN programmes, projects and agencies in developing countries. During six months they participate in a volunteering project focused on any of the main aspects concerning the Millennium Development Goals. More information: http://www.uam.es/ss/Satellite/en/home.htm
Meridies Cooperation Programme and Cooperation Programme	Universitat Politècnica de València (Spain)	Programmes for internships or final degree projects in development cooperation projects in countries of the global South, through universities, NGDOs, international organisations, social entities and other actors of the international development cooperation system More information: http://www.upv.es
Call for final degree projects related to development	Universidad Politécnica de Madrid (Spain)	Programme to complete final degree projects in international contexts and in the specific field of development cooperation More information: http://www.upm.es/institucional/Estudiantes/Movilidad/Programas_Internacionales/ConvocatoriaPFCD
Solidarity Education Programme	Universidad Pública de Navarra (Spain)	This international mobility programme offers students the possibility to get acquainted with the values of international solidarity and the field of international development cooperation through internships or final degree projects in partnership with local universities and NGDOs.

CONCLUSIONS

- University cooperation plays an increasingly important role in cooperation policies.
- Collaboration between universities and other actors of the development cooperation system is essential for university development cooperation.
- Partnership schemes may be established within the framework of their own responsibilities at universities: research, training, technology transfer and social outreach.
- Development education programmes addressed to students are one of the most common forms of collaboration.
- Through cooperation programmes, students can become acquainted with the internal functioning of organisations connected to the aid system and, at the same time, this experience allows them to put into practice the knowledge acquired during their training in solving problems related to development.
- Partnership schemes allow organisations to have suitably qualified staff for their projects, research or systematization of results.
- These programmes provide universities with a framework to increase links with entities and institutions requiring technical collaboration to eradicate poverty and inequality and to promote local empowerment and sustainable environment management.
- These programmes allow students to focus their professional future on the field of development cooperation and international relations.
- Universities need to institutionalise these kinds of partnership schemes and add value to them through agreements, as in other domains.

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Smith, M., Yanacopulos H. (2004).*The public faces of development: an introduction*. Journal of International Development, 16 (5), pp. 657-664.

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SUPPLEMENTARY MATERIALS

- Guido Zolezzi et.al (2013).PARTNERSHIPS BETWEEN ACADEMIA AND NGOs IN TECHNICAL STUDIES IN ITALY.CUCSTorino2013 - Imagining cultures of cooperation: universities networking to face the new development challenges -III Congress of the Italian University Network for Development Cooperation (CUCS) - Turin, 19-21 September 2013. :
- Final degree projects on different knowledge areas related to development cooperation. Available on:http://www.upv.es/entidades/CCD/infoweb/ccd/info/796058normalc.html
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- http://www.upv.es/entidades/CCD/infoweb/ccd/info/U0588280.pdf
- Solidarity Education Programme. Universidad Pública de Navarra. Available on:http://www.unavarra.es/relacionesinternacionales/cooperacion-universitaria-al-desarrollo/movilidad-en-cooperacion-universitaria/programa-formacion-solidaria;jsessionid=D4320EAABBFA236D4DA0D6D5B6319C61.cercis?submenu=yes&languageId=1
- Observatory of University Development Cooperation. Available on: http://www.ocud.es/en/node/64

PHOTO: Active learning, Mozambique. Carme Seres Revés

CHAPTER 2

Understanding the context differences

B.5 Knowing the context and partners

2

CHAPTER 2. Understanding the context differences

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2 UNDERSTANDING THE CONTEXT DIFFERENCES

Nicola E. Greene, Humanitarian Engineering and Computing, Coventry University

EXECUTIVE SUMMARY

This session aims to present the importance of an appreciation of context in international fieldwork for higher education engineering programs; both for the academic and for the students involved. We will explore what we mean when we refer to context and will begin to understand it is fundamental role in the nature of design and project implementation. Case studies are provided to assist in communicating the importance of context to students.

LEARNING OUTCOMES

After you actively engage in the learning experiences in this module, you should be able to:

- Understand the importance of context in fieldwork (particularly in engineering).
- Communicate this importance to students.
- Evaluate the different contexts and adapt fieldwork/project plans accordingly.

KEY CONCEPTS

These concepts will help you better understand the content in this session:

- Scales and dimensions of context
- The importance of understanding contextual information before and during fieldwork and projects
- How to communicate this importance to the students embarking on fieldwork

GUIDING QUESTIONS

Develop your answers to the following guiding questions while completing the readings and working through the session:

- What questions do I need to ask in order to fully evaluate a context?
- Who might be the relevant stakeholders to approach be that would know this information?
- What are the potential online sources of information?
- How do I balance my students learning with benefits for the community we work with?

INTRODUCTION

Palmer et al. (2011) define the 'contextual competence' of an engineer as their ability to "anticipate and understand the constraints and impacts of social, cultural, environmental, political, and other contexts on engineering solutions". In this chapter we consider about how to enhance this contextual competence within our students, to enable them to design and implement sustainable, contextually relevant projects in their work during and post-University.

Due to the increased ease of travel, documented benefits of service learning (Johnson 2009; Rodriguez-Falcon and Yoxall, 2010) and internationalisation of University engineering curricula (Campbell et al, 2007; Hipel et al, 2003); an understanding of context is becoming more relevant for engineering students (Palmer et al., 2011).

When we consider understanding the 'context' of a thing, place or person, we are essentially evaluating a setting (as we do when we think about words "in context"). In analysing a context, we think about all the dimensions that make a setting unique; be they environmental, social, cultural, political, ethical, or a selection of the many of the other 'dimensions' of that setting. Of course, the overall 'context' of any area extends ad infinitum and thus we must consider a way in which we can frame how we evaluate a context to get the information we need i.e. enough to facilitate our students to safely and effectively implement appropriate, sustainable projects.

As an academic planning international fieldwork for engineering students, there are two primary 'Views' of context (at a minimum!) that we need understand. These will be referred to in this chapter as the 'organisational' and the 'project' view.

1. The Project View – the dimensions of context relevant to the effective implementation of the actual project undertaken by the students while in this location
2. The Logistics View - the dimensions of context that will affect our organisation of a safe and productive trip to an unfamiliar context for our students.

This chapter will primarily focus on the 'Project View' of a context. Some information is provided on the 'Logistics View'(see Appendix A), but for more information academics are recommended to get in touch with their University's International or Study Abroad Office. Case studies are provided throughout the chapter to illustrate key points. You are encouraged to use these case studies to explain the importance of context to your students[1].

[1]These case studies are largely biased toward failures to emphasise the importance of considering context and the risks. An optimum case study of a contextually appropriate project is provided in Appendix B.

UNDERSTAND PROJECT CONTEXT

To begin to understand context, it is important to realise that **the idea of 'normal' that you, and your students know, is shaped by your own surrounding context**. The study of phenomenology is "the empirical study of the differing ways in which people experience, perceive, apprehend, understand and conceptualise the various phenomena in the world around us" (Marton, 1981). Phenomenology helps us realise that, what you may know as normal, even in the most basic sense, may not apply in another area. Sometimes we must go to the other end of the world to realise assumptions that we never knew we had.
Derek Sivers presents an example of this in his 2009 Ted Talk **'Weird, or just different[2]?'**Sivers invites the audience to look at a location on a map showing building and streets (replicated in Figure 1). He describes how the directions you received to reach a destination may be different if you are in America or Japan.

Use Figure 1 as an example, where the blue sections are blocks of homes, surrounded by streets, and we want to access the hatch marked house, house 6 from starting point X. In America, we would be directed to travel down Bazalgette Road and told to take a left onto Morgan Street. To find home number 6 we would walk down the street and note that homes follow the order of odd numbers increasing on one side of the street and even numbers increasing on the other. Thus we would travel up the street on the right and arrive at number 6.

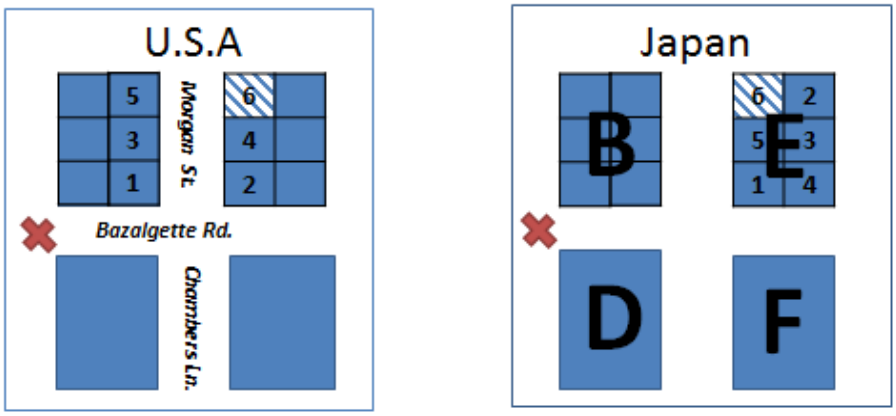

Figure 1 *Four blocks of buildings represented in USA and Japan*

In Japan we would by directed from point X using the names of the blocks of homes along our way. We would be told to pass between blocks B and D, and that the house we were looking for was in Block E, which would be on our right. Looking for house number 6 would not follow the same logic as in America. Homes in Japanese cities are numbered in the order in which they are constructed e.g. house 1 is the first to be constructed in the block, house 2 is the second, and where we want to go, house 6, is the 6th (and last) in this particular block to be constructed. In Japan, this is the 'normal' way to give directions.

[2]Accessed at http://www.ted.com/talks/derek_sivers_weird_or_just_different , April 2014

This simple example is used to demonstrate that what we know to be normal may not be normal elsewhere[3].

STUDENT ACTIVITY

Take a 'privilege walk[4]' with your students to understand how power and privilege can affect our lives and viewpoints even though we are not aware of it.

ACADEMIC ACTIVITY

Spend 10 minutes and consider your own privileges and how they affect your activities and priorities.

CASE STUDY 1: Outsider Driven Priorities: Lake Turkana Fishing Processing Plant

In the 1980s a large foreign investor donated 22 million dollars to construct a fish processing plant near Lake Turkana in rural Kenya. This huge lake was found to be teeming with fish but virtually unused. The plant was constructed and the Turkana's largely pastoral communities were trained in how to exploit the fish stocks in an attempt to bring cash to the poverty stricken region. 30 years later, the plant lies abandoned. Reasons for this include the 'top-down' priorities of the donors to work in an industry they were familiar with (fishing and fish processing), the failure to consider the lack of fishing tradition in the area, the nomadic nature of the population and the remote location of the plant and poor infrastructure surrounding it. In this case, the operational and cultural context was ignored and the donor's priorities and ideas were implemented.

Lesson: Even with the best of intentions, outsider priorities do not necessarily align with a community's priorities and interests. Just because you and your students know engineering, does not mean that an engineering intervention is the most appropriate. A focus on a solution is more appropriate (and challenging for your students) than a focus on a discipline.

[3] Another example from Japan which is in contrast to many other countries is that you pay your doctor when you are healthy – as he is responsible for keeping you in good health. When you are unwell, the doctor stops charging as their care has failed you!

[4] Please search 'Privilege Walk' for an abundance of resources on running this activity. A good example is provided by the University of Minnesota Duluth online at: http://www.d.umn.edu/ids/Just%20Us/Diversity%20Awareness%20Activity.pdf

DOMAINS OF PROJECT CONTEXT

It is impossible to provide a definitive list of all the relevant domains of context to consider when implementing a student project overseas. The following are some of the factors to investigate, particularly when adopting the 'Project View' to a context evaluation.

- **Political** e.g. strength and relationships between political parties, relevant departments and responsibilities, management structures.
- **Social** e.g. aspirations, social standing, language etc.
- **Cultural** e.g. gender roles, religion based customs etc.
- **Environmental** (natural, physical and infrastructural) e.g. resources, access etc.
- **Regulatory** e.g. protection, laws etc.
- **Economics** e.g. per capita income, willingness to pay for projects etc.

An investigation of all of these aspects is necessary to determine if your approach to working in a given area (both geographical and thematic) is suitable. AnuRamaswami from the Department of Civil Engineering in the University of Colorado explains that **"Unless local knowledge is taken into account, the outcome is not likely to be sustainable.**Even if a project has an appropriate goal, one may look back and find that the intended beneficiaries have not been served"(National Academy of Engineering, 2010). An evaluation of the context may lead to a number of opportunities and constraints for your work; some of these may overlap e.g. the local economic needs of the community may have to be reconciled with a project's effect on the wider environment.

Cultural aspects of an area are particularly important when adapting both our project and logistics view. When working in an area, dress, behaviour, body language, communication, male/female relationships, alcohol and drugs, punctuality, expectations, religion, holidays and even working days can vary from location to location. For projects, culture is just as important. Case Study 2 provides an example where failure to acknowledge cultural preferences results in the failure of a project.

CASE STUDY 2: Failure to Consider Community Cultural Preferences

An international NGO (INGO) arrive at an agricultural village in rural India which has no latrines. The INGO have funds to construct latrines for the entire community. They anticipate that this will help to alleviate the significant rate of deaths and illness due to faecal contamination of water sources in the area. They construct composting latrines so that the waste can be used as fertiliser on the farmer's fields in the hope of saving the community money on imports. An education programme is arranged which explains the benefit of this system to the community.

When the NGO return 6 months later, the latrines are blocked and the superstructures are being used for storage of crops after the harvest. The families have returned to openly defecating. It transpires that handling of human waste is a significant cultural taboo in the area and that spreading of waste on crops would not be acceptable (and indeed that the demand for fertiliser was not even that high!) Furthermore, sanitation is not a top priority as the area is rural and there is lots of outdoor private space behind vegetation to privately defecate. The education programme was not enough to change this ingrained cultural practice. Safe storage of crops post-harvest is a high priority for families and the well-constructed latrines have proven far more valuable in securing a family's food supply from rats and damage in the rainy season than for defecation.

Lesson: Cultural taboos prevented this solution from being adopted by the community. Traditional practices must be assessed and appropriate solutions developed in collaboration with the community. Outsider priorities may not align with community priorities.

The main source of contextual knowledge should come from extensive preparation and reading, communication with local people, and advice (and preferably collaboration) with organisations working in the area. A local partner is highly advisable in all stages of project design and implementation to highlight potential issues and ensure sustainability after your student's departure. The choice of local partner is among the most crucial in the contextual understanding process. Decision making processes such as those shown in Figure 2 must be avoided.

Figure 2 *Involvement of the community is important at every step* (WSP, 2000)

Be aware that understanding different points of view can be a time consuming task, particularly when working with people with different world views and perspectives. Even the most basic terms must be examined e.g. one person might think of clean water as water free from debris, another might think in terms of 'invisible' bacteriological or chemical pollution e.g. arsenic.

There is also the fundamental issue of language barriers and the additional challenges faced when entirely dependent on a translator to convey your thoughts and responses in the vein with which they were intended.

SCALES OF CONTEXT

It is important to recognise that all of the specified 'contextual dimensions' are multi-layered and will exist in a different form at different scales; your priorities and views are likely to differ from your neighbours. The range of scales is presented in Figure 3.For example, at the global level perhaps you are mostly influenced in your choice of project by national security and political stability, at the national level you may be influenced by government level priorities, you may need to consider regional ethnic relationships to determine who you work with, locally you may need to lookat existing NGOs or GOs working in the area and their strengths, and you may need to be strong consideration into which individuals you decide to work with.

Figure 3 *Scales of Context*

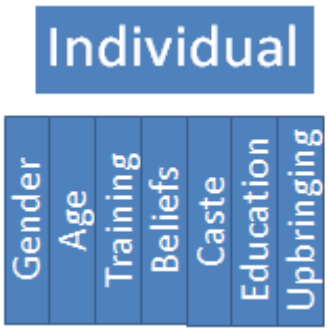

Figure 4 *An individual's context*

Do not stop at the scales presented in Figure 3 - be aware of the varying status and perceptions of individuals (Figure 4). It is not a fair assumption to assume in a low-income community that all community members have the same perceptions, priorities and beliefs. Beware of charismatic community, government or organisation leaders!

The cartoon from the World Bank shown in Figure 5 shows a scene in which a community meeting about water is being undertaken about water with the men of the area. In this example, while it is positive that this community consultation is taking place, in many cultures it is the women who collect water so decisions with regard to water supply and its improvement should not be made in their absence.

Figure 5 *The importance of gender in community meetings* (WSP, 2012)

Different genders may have different priorities for projects. This can be true for every characteristic shown in the base of Figure 4.

CASE STUDY 3: Gender Specific Priorities

A group of civil engineering students from a UK University travel to rural Nepal to work on increasing access to water in a remote community. They do some provisional interviews with community leaders and discover that the women of the community are currently walking 45 minutes each way over steep terrain to collect water from a spring.

The students work to design and deliver a project to pipe water from the spring to the community to save the women time each day. A successful project is delivered and an opening ceremony is arranged for the village to celebrate the improved access to water.

A month later, the students here that the water pipeline has been vandalised and broken – even more surprising, it is rumoured to be the women from the community who have done it. It transpires that while it was very difficult work, collecting water was actually quite a social time for the women. Now that collecting water was more convenient, the women did have more 'free' time, but this time was spent on increased agricultural duties as there were no activities for the women to do in 'free' time – which was a new concept to the community entirely!

Lesson: Consequences of a project may reach beyond the predictable. Speak to other organisations working in the area and ask about previous projects to ascertain the risks affecting the sustainability of yours. Context affects the impact of your solution as well as the design.

ACADEMIC ACTIVITY (10 minutes)

Consider the areas surrounding your University and the great diversity of economic status, culture, beliefs, political affiliations and priorities that exist for development and improvement.

ACADEMIC/ STUDENT ACTIVITY (20 minutes)

A Chinese engineering organisation come to your community and offer to spend €50,000 on any project of the community's choice that will improve livelihoods. Due to budget constraints the money must be spent in one month and the implementation must centre around 10 of their staff who wish to gain experience of project management.

Consider the diverse range of opinions they would be presented with depending on who in the community they spoke with. Spend 20 minutes considering the 'contextual' briefing you would give this organisation if they chose to work in your area. Who they should speak to? Who should they avoid? Would they government permission, and at what level? How should they maximise their impact? How can they make a sustainable impact with such a quick visit?

Note 1: The process of understanding context is not one simply of asking questions, it is about asking questions and getting answers that you can work with.

Note 2: The community should be seen as a collaborator, not as a customer in overseas projects. In the majority of instances, work should be done with the target community, not for them. Do not bypass local capacity.

Note 3: Evaluating context is no simple task. When evaluating context, it is hard to take lessons from Country A and apply them to Country B – in fact it is difficult to transfer lessons from Community A to Community B. It is a struggle post evaluation to combine, what is often qualitative information and opinions, with technical design criteria.

WHAT DO OUR STUDENTS KNOW ABOUT CONTEXT?

Despite increased national attention on contextual competence for engineers, studies have found that engineering students were generally lacking in key aspects of this skill (Karnov et al., 2008; Palmer et al., 2011).

Understanding context as an engineer, may mean letting go of the faith that "engineering analysis is an objective truth" (National Academy of Engineering).As shown in Figure 6, Kerns et al., (2013) from the Olin College of Engineering suggest that we need to expand our definition of engineering to include the basics of people and the current problems, rather than starting with pre-conceived specifications.

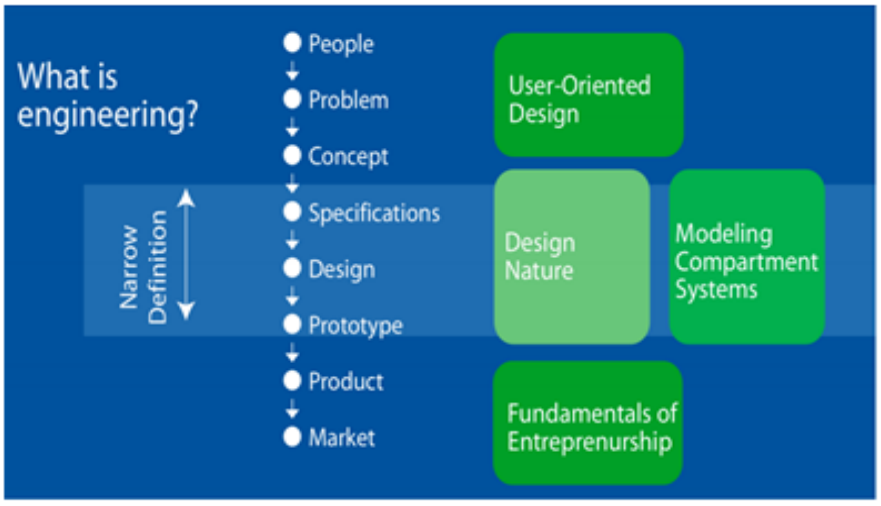

Figure 6 *Expanding the definition of engineering* (Kerns et al., 2013)

In a context in which we live and understand, perhaps this early stage is intuitive and not recognised; however in an unfamiliar context, introducing to this step is of critical importance.

As Lucena (2013) describes “Since context fundamentally determines what are considered to be desirable engineering goals as well as what is possible to achieve (organizationally, politically, financially), stripping social dimensions form ‘engineering’ knowledge renders it powerless in responding to unjust outcomes”. **Within engineering, contextual constraints are certain to interact with technical constraints, and vice-versa – with the most appropriate solution considering both.**

To integrate the qualitative contextual information with technical design criteria can be a challenge.The constraints imposed by people, societies and the surroundings are often ambiguous and shifting which poses serious challenges for decision making (Strobel et al, 2011).

Figure 6 also shows the importance entrepreneurship skills in engineers in getting solutions to market. Again, in developing countries, these skills may be demanded of the engineering students as they are likely to be responsible for the full project cycle. Failing that, **it is vital that local partners have the skills for project continuation upon departure of the students**.

CASE STUDY 4: Playpumps Achieving Sustainability with Appropriate Technology

In the late 1980s, a billboard executive visiting South Africa was struck by the great struggle to obtain water he observed. He had an idea: to link water with play. In the next years, he developed Playpump. A Playpump is essentially a merry-go-round system attached to a water pump. The spinning motion pumps groundwater to a large storage tank raised above the ground. This water can be access via a tap. The storage tank is covered in advertising boards, with the revenue contributing to the operation and maintenance costs of the pump itself. The boards also show public service announcements and educational messages about topics such as AIDS prevention and hygiene.

From 1999 to 2010, 4,000 Playpumps were installed across South Africa. However, a number of issues with the pumps began to emerge.

1. Addressing the wrong problem? Playpumps provided a novel way of pumping groundwater but did not address the fundamental issue of the vast majority of communities lacking uncontaminated groundwater sources.
2. Poor business case– the pumps were primarily installed in rural communities where space for advertising is abundant and positions on water tanks were not necessarily desirable.
3. Culturally appropriate– apart from the ethical concerns of having linking children and availability of water, issues emerged when children were at school, resulting in mothers having to rotate the merry go round to fill the tank.
4. Operation and maintenance – the failure of any component of the system required contacting a distributor for replacement parts. This slow process meant that the process of

obtaining spare parts was slow and the pumps often fell into disrepair.

Thus while the Playpump is still in use successfully in some contexts (primarily primary schools close with spare parts available), as an 'en masse' solution, it was a failure.

Lesson 1: Appropriate varies from place to place, social group to social group and even community to school

Lesson 2: Local partners are vital to ensure business plans are appropriate and that repair work and access to spar parts is achievable

It can be very difficult as an educator to set the balance between a preconceived, planned trip that enhances your student's knowledge in their subject area, and the flexibility involved in allowing your project to be determined by the community you are working with. Some excellent examples of programmes which do this are the Massachusetts Institute of Technology's D-lab, Colorado School of Mines Humanitarian Engineering Programme and Purdue's Engineering Projects in the Community. To introduce students to context early in their engineering studies, it is worth investigating the Engineers Without Borders Challenge Programme implemented across Universities in the UK, Australia and New Zealand. A list of further recommended reading and materials to help you to illustrate context are provided in the suggested material for reading.

CONCLUSION

Engineering is often defined as "the application of science and mathematics by which the properties of matter and sources of energy in nature are made useful to people" (Engineering, 2012). This definition emphasise that science and mathematics are fundamental, but that the end result must be "useful to people". **While solutions to engineering problems must be technically sound (e.g. the bridge must not fall), the solutions must also be practical and desirable in light of contextual constraints on the problem** (Palmer et al., 2011). Context based learning in engineering has been found to communicate the rationale for, meaning of, and relevance of what students are learning. It increases retention of knowledge and skills, and interconnects concepts and knowledge that build on each other (Crawley, et al., 2008). With the increase inter-connectedness of our planet, contextual competence can no longer be the goal of a few elite programs. It is a necessity in today's increasingly interconnected society (Palmer et al., 2011).Context should not be a marginal consideration in devising engineering projects – it is the key to success.

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FURTHER/SUGGESTED MATERIAL

The Human Centred Design Toolkit by IDEO, available at:
http://www.ideo.com/work/human-centered-design-toolkit/

Engineering Solutions for the Base od the Pyramid. Produced by the ASME. Available at:
https://www.engineeringforchange.org/static/content/Learning/ASME+Engineering+Solutions+for+the+BoP.pdf

Massachusetts Institute of Technology Development Lab. More information at: http://d-lab.mit.edu/

The Appropriate Technology Handbook, available at:
http://www.videa.ca/resources/ATSF.pdf

Ted Talk – Amy Smith, Simple Designs to Save a Life:
http://www.ted.com/talks/amy_smith_shares_simple_lifesaving_design

Ted Talk – William Kamkwamba,, How I harnessed the wind:
http://www.ted.com/talks/william_kamkwamba_how_i_harnessed_the_wind

Emily Baucher - Navigating cross-cultural differences on international development projects

https://www.youtube.com/watch?v=znaNqanT8_0&index=24&list=PLFC2D8180DF11AAAA

Admitting Failure, Engineers Without Borders Canada:
http://www.ewb.ca/ideas/admitting-failure-0

Engineers Without Borders UK Training Resources:
http://www.ewb-uk.org/programmes/training

APPENDIX A – The Operational Context

Some issues to consider in an assessment of the operational context

- Visa – their cost, duration, processing time and if they are relatively straight forward to obtain for each nationality in your group
- Ethics – are your intentions ethical? Are there any potential breaches and how can they be alleviated? e.g. is it ethical for your students to take photos which will be used for promotional purposes?
- Regulations, legal and statutory requirements - do you need inform any government groups of your arrival and intentions? Does your project need planning (or other) permission?
- Arranging and payment methods for third party providers e.g. for catering, transport, accommodation – consider transfer mechanisms, charges and time
- Language and translators – who will accompany you to translate? What is their background (e.g. particular social group, organisation) and will this impact your working relationship with the community?
- Local partners – who should you work in partnership with? What is their reputation? Have they examples of successful projects?
- Safety – Is the area perceived to be safe? Does your University insurance cover you to be there?
- Access to medical care – If there is an accident is appropriate medical care available nearby?
- Health Risks/Threat Analysis – what are the greatest threats to safety and health
- Transport in the area – what will be the logistics of travelling in the area? Are all sites accessible and populated year round? Do your students need vaccinations before travel?
- Accommodation – is there somewhere for your group to stay?
- Communication networks – will there be phone/internet access in case of emergency or for students to send messages home

APPENDIX B – Successful Appropriate Technology

The Pakistan micro-hydro energy project

Case Study Obtained from 'Tandem Use of Hard and Soft Technology: An Evolving Model for Third World Village Development'

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International Journal of Applied Engineering Education.Vol. 2, No. 2 pp 127-137, 1986.

In response to the 1970's energy crisis, the Appropriate Technology Development Organization(ATDO) of the Pakistan government began a program to use small hydro technology and installmicro-hydropower plants in the isolated rural villages of northern Pakistan. These villages are very poor, the small populations are generally illiterate, and there are few income-generating enterprises. Village residents are mostly employed in agriculture and on government projects. Villagers have some skill in masonry and carpentry, but they are not trained or experienced in installation or operation of machinery. For lighting, the villagers use kerosene, which must be carried long distances, or burn firewood, thereby contributing to deforestation of the woodlands.

Project activators believed basic needs could be satisfied by a modest level of electricity, and their objective was to create appropriate hydropower designs whose technology and cost for construction, operation and maintenance could be provided in the main by the villagers themselves.

Dr. M. Abdullab of the North-west Frontier Providence University of Engineering and Technology in Peshawar, Pakistan, provided technical consulting and support services, and was, in fact, the prime designer and mover of the endeavour launched the project by holding discussions in villages where it appeared there was water-power potential. Villagers were informed of the possibilities for development that the waterpower offered, and the ones expressing interest were chosen as demonstration sites. The ATDO had assumed that outside technical experts would be needed to put the scheme in place, but because of enthusiasm of the villagers and their ability, though illiterate, to learn the skills necessary for construction, the agency was able to move to a stance of providing only minimal financial subsidy for the initiation of the projects, technical assistance on the installation, and longer-term minimal technical consultative backup for the more difficult problem situations.

Usually an individual or a small group in the village takes the initiative in requesting assistance. The ATDO approves the project only if it is apparent that the entire community will share somewhat equally in the benefits of the electrical technology, and will supply power to public facilities such as schools, dispensaries, religious sites and shops. While the community decision-making structures are not comprehensive- women are excluded, for example- there is community involvement in the initiation, implementation, management, operation, and maintenance of the schemes.

Certain specifications relating to the appropriateness of the technology were written in the original project design. For example, the turbine had to be simple enough to be built in a small regional workshop, with a design contributed and tested by the ATDO, from materials and components available locally; it had to be substantially cheaper than imported turbines, and be within the financial reach of the individual village; it had to be easily portable; it had to be repairable in a local shop; and had to be fairly reliable and fairly efficient. There was no emphasis on a “perfect design”, but the design of each turbine was adapted to the village site for which it was intended.

Costs, both capital and recurring, are minimized by the fact the villagers contribute all the labor, maximum use is made of local materials, equipment is fabricated locally where possible, the design is appropriate to the economic and social situations in the individual villages, there is no emphasis on maximizing efficiency, and local people manage the maintenance and operation of the system.

The power is used primarily for lighting, with 80-90 percent of the villagers having electricity in their homes. In one village, an electrically driven thresher/corn sheller is operated in the field and is shared throughout the community. The ADTO has encouraged other end users that generate income, and at some sites, cottage industries have been established. Some banks have advantaged loans to farmers for agro-processing equipment.

Forty villages had operating plants by 1983, with many other villages, who had observed the results of the project, requesting the opportunity to be included in similar development schemes. The schemes have brought several changes to the villages [26]:

1. A sense of accomplishment and pride through participation in development efforts;
2. A greater awareness of the need for continued development;
3. An increase in the number of hours available for study and work;
4. A healthier environment through smokeless lighting;
5. A reduction in tree cutting;
6. The introduction of small-scale industrial activity; and
7. The creation of jobs and an increase of income.

PHOTO: Assessment of a WASH program in Mangola, Tanzania. Grupo de Cooperación UPM Sistemas de agua y saneamiento para el desarrollo

CHAPTER 3

Understanding environmental conflicts

B.5 Knowing the context and partners

3

CHAPTER 3. Understanding environmental conflicts

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3 UNDERSTANDING ENVIRONMENTAL CONFLICTS

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EXECUTIVE SUMMARY

This chapter aims to present a path from the definition of an environmental conflict (seen as a specific moment of confrontation) to identifying a range alternative projects on land and resource use. An examination of the theoretical models generally used to explain environmental conflicts is based on three approaches: scarcity and environmental security; negotiation; eco-citizenship and environmental justice. The relevant aspects to focus on for observing and understanding an environmental conflict are then presented: the evolution of the conflict through the stages of latency, visibility and, in some cases, transformation; dynamic mapping of the participants involved in a socio-environmental conflict and the environmental issues dispute. The chapter closes with some operational guidelines about living in socio-environmental conflict, focused especially on the role of planning conflict prevention through the use of tools that could complement the professional tasks of the environmental engineer: Peace and Conflict Impact Assessment.

LEARNING OUTCOMES

After you actively engage in the learning experiences in this module, you should be able to:

- Recognise a conflicted situation as being a creative and expressive opportunity for the plurality of projects presented in a territory.
- Identify conflicts already in the latency stage before waiting for triggering situations which lead to visibility or to destructive growth.
- Know some tools to prevent conflicts along with design and programming tools generally used by the environmental engineer.

KEY CONCEPTS

These concepts will help you better understand the content in this session:

- Socio-environmental conflict
- Territory and plurality of projects
- Social opposition and role of citizenship
- Citizenship, justice and participation
- Latency and visibility of socio-environmental conflict
- Resolution, management and transformation of socio-environmental conflict
- Tools to prevent socio-environmental conflict

GUIDING QUESTIONS

Develop your answers to the following guiding questions while completing the readings and working through the session:

- What provokes socio-environmental conflicts? The scarcity and loss of environmental resources? The inability to negotiate and reach agreements? The search for greater justice and participation in environmental decision-making processes?
- How to prevent finding yourself in a conflict? How to proceed in a conflict? How to prevent environmental conflicts?

INTRODUCTION

The decisions about the environment and natural resources often go beyond a question of technique, because it is not only necessary to choose the best project with the best technology, or to define a long term policy or plan for managing the territory or establish the best location to act. The knowledge of the techniques and design and programming procedures learnt during university studies must interact with the capacity to discover the territory about to be used.

Since it is a “discovery”, not everything is registered on the maps, and integration of the environmental engineering guideline legacy is necessary to manage the decision-making processes characterised by scientific uncertainty and evolving rule systems. Above all, it requires knowing how to face the social dimension of the territory, that is who are the stakeholders, what are their interests and the values each assigns to the environmental issue and to the decision-making process. This situation of uncertainty, complexity, ambiguity, conflict of interest, alternative projects, proposals of methods and techniques in competition, is a rich terrain for the growth and development of conflicts.

It can be simplified by assuming that **any physical or regulatory intervention done in a territory is likely to arouse conflicting behaviours** in relation to the upcoming proposal. Conflict refers to a situation in which two or more parties believe they have conflicting interests and act to limit the rival’s action and ensure the achievement of their own objectives. Apart from the perception of an incompatibility between objectives, the conflicts are generated and reinforced by other elements such as: **divergent interests, a history of past relationships that showed situations of abuse, resources considered to be scarce, ambiguous rules in the allocation of resources and the relationships between the parties**. This is a very general definition of conflict which will try to be limited only to the environmental conflict.

CORE: GUIDELINES TO THE SOCIO-ENVIRONMENTAL CONFLICT

Conflicts are an essential part of social relations as are occasions of changing and redefining the rules of social parties’ relations, and those between society and natural resources and the environment. The conflicts on environmental, territorial or landscape issues regard public work (or public decisions) or private investment (productive settlement) that are not acceptable for some of the social groups. Mobilisation and opposition can be about proximity, when the intervention is judged to be too close and able to affect the daily life or the place of residence, but also upper-local and global: for example the mobilisation against European policy on GMOs or against oil extraction in Amazon.

DEFINITIONS AND VOCABULARY

Within the professional work of the environmental engineer, three types of environmental conflicts can be recognised. **The first category of conflict includes social opposition towards interventions seen as dangerous to the environment and to health**. An example is the local mobilisation against the implementation of infrastructure works, installations for the treatment of waste (from incineration to composting plants), production plants with hazardous working, just to mention a few of the infinite cases. These choices imply environmental impacts focused in one place, in which “a few” suffer as opposed to the benefit obtained from “many” who live far away from the impacted place. However, these conflicts are not only derived from a proximate point (the highway behind a home), as mobilisation can consist in environment conflicts “far away” and global, as the mining in Brazil, the use of pesticides in the agricultural crops in Ecuador, the depletion of mangroves to feed the shrimp’s world market (Paul and Røskaft, 2013). In these cases the environmental conflict takes the charge of a preventive approach, showing an active civil society that is not willing to wait until the environmental damage is done to ask for restoration.

A second category of conflict concerns the decisions which should ensure environmental or landscape protection: think of the buffer zones around springs, landscape constraints, limiting the mining of resources or emissions into the atmosphere, or the limitation of the duration of the hunting season for hunters. A typical example is the institution of protected areas. In addition, this also includes mobilisations that are generated from the perception of limiting activities that were otherwise carried out until the moment at which – and , in some cases, especially in developing countries - subsistence economies were endangered by environmental protection aimed at the marketing of eco-tourism (Adams and Hutton, 2007; Castro and Nielsen, 2003; Liu et Al, 2010).

Finally, there is a **third typology of conflict regarding opposing the implementation of infrastructure** such as for the production of renewable energy, in particular wind energy, but also small hydroelectric productions or cogeneration from biomass. In this type of conflict, environmental protection (through the development of the renewable energy) is confronted with environmental damage production (in the wind case, in particular to the landscape and the avifauna), provoking a sort of conflict between alternative environmentalists (Breukers, Wolsink, 2007; Van der Horst, 2007).

Ultimately, are these three typologies of conflict so different or have they got something in common? **In the first case of the prevention of environmental damage, is the refusal of industrialisation that works at the expense of the environment** a sort of conflict between the environment and the economy. **In the second case of protected areas, limitations on mining and on the use of land, it seems that the economic interest prevails over the**

environmental one. In the third case of renewable energies, there is a confrontation between two different models of environmental management.

To answer this question an operational definition can be included to the three different typologies of environmental conflict: **environmental conflicts are precise moments of confrontation between alternative projects of use of land and resources that show the difficulties and weaknesses of the decision-making procedure in how to include participants in complex decisions.** The environmental conflict, more than an opposition to any decision, represents a growing demand of citizen involvement towards a territory lived in and built collectively (De Marchi, 2004; 2009; 2011; De Marchi, Natalicchio, Ruffato, 2010). Hence, the environmental conflict is not reduced to a dispute over resource only in quantitative and qualitative terms, but over the value and the significance this resource has to the different social groups in the building process of the territory.

In fact, from this moment it is called socio-environmental conflict, adopted from the Latin American approach to highlight the indissoluble relationship issue that links each territory between social relations and the ecologic component of the site. Moreover, a second element is introduced regarding the vocabulary used to describe the socio-environmental conflicts and, in particular, the stakeholders.

Generally, in scientific literature two terms are used: “proponent” and “opponent”. **The proponent represents the public or private entity holder of a design and regulatory project proposal that is “challenged” by the opponent** of one or more “opponents” groups. For example, the proponent could be a company that decides to build a big wind plant in an area with natural features and fittings, and the opponent could be the residents committee of the fraction of land near the plant, a hunters’ association, etc. **The proponents could get support from the local administration and from the local construction companies who would see some of their problems solved, while the opponents could find a consensus with the citizens of the town site of the plant and on one or more environmental associations.** On the other hand, if the conflict was seen in the Latin American approach in research and practices on environmental conflicts (De Marchi, Natalicchio, Ruffato, 2010), the citizens’ committee which mobilised against the plant would be called “the main actor” while the company would be “the antagonist”.

According to this last approach, the role of citizenship which challenges the plans designed for a territory is emphasised, while using the term “proponent” is recognised to describe the action to change by the public and private initiative and the citizenship – as described by “opponent” by a hindering in comparison. Hence, it needs to pay attention to the terms used in the analysis of the environmental conflict, precisely because the words are not neutral and are likely to strongly influence what you are observing. It is the case of the NIMBY syndrome (Not In My Back Yard). This syndrome could impact any citizen which lives near a public

works proposal site. It could be a simple problem of proximity to generate environmental conflict. Actually the syndrome does not explain a thing; it in fact creates a distorted view of the processes, not allowing finding a constructive and creative way within the management of conflict. If proximity were the trigger of the generation of environmental conflict, nothing could be done but to make the citizen accept the proposal, maybe trying to demonstrate that it will not cause any damage.

However, the NIMBY syndrome represents the first stage of a more complex one which could be evolved into NIABAY (Not In Anyone's Back Yard), to reach the "final stage" where the syndrome would turn even into NOPE (Nowhere On Planet Earth) (De Marchi, 2011).

In some cases, the conflict rouses ideological and root dimensions. This brings out local interests and selfish visceral views contrary to the industrial model embraced by the whole planet. It is clear though that decision-making processes, in which the opposition boils as if it were sick of an "against a proposal" syndrome, creates tautologies which cannot explain nor help to understand and face the conflict in a constructive way.

ENVIRONMENTAL CONFLICTS BETWEEN SCARCITY, NEGOTIATION AND CITIZENSHIP

What is an environmental conflict? The blind opposition to any change near home or the participation in the choices regarding the place you live in? Mechanical answers to environmental loss, an ideological battle against modernity and change, or a project about new territories? Essentially, is it about resource flow such as environmental goods and services, or the relationship between society and sites? Research and practices, which have been working for years in conflicts, highlighted the existence of one out of the three following aspects (De Marchi, 2004):

- Scarcity of resources and the need to launch paths of environmental security.
- Negotiating skills of the parties involved in the conflicts.
- Citizenship and environmental justice.

In a conflict each one of the parties use behaviours to block and avoid the other to reach the objectives, and these behaviours are reinforced by the perception that resources are scarce. In fact, **according to theorists of scarcity and environmental security, the environmental conflicts are generated mostly because of the resource scarcity**, by a quantitative decrease, hence, less arable land, less fishery resources, less forest area; or more often, because of the loss of it, for instance, by the aggravation of the air and water quality following pollution (Dabelko, 2008; Ullman, 1983).

Consequently, scarcity could create rather violent conflict between individuals, groups, organisations (States), to which should be replied to proactively, identifying signs of risk, or by investing in more police (for internal conflicts) or in strengthening military force (for a conflict between States). The environment would act as an independent variable that would push automatically the social groups to confrontation/dispute (Homer-Dixon, 1991; 1994)(Figure1).

Figure 1 *Scarcity and environmental security model by Homer-Dixon (1991). The deterministic model requires that the environmental effects are a consequence of the seven categories of scarcity /loss: greenhouse effect, degradation of the ozone layer, acid rain, deforestation, degradation of agricultural soils, consumption and water pollution, dwindling fish stocks. The environmental effects could generate four typologies of social effects: decrease in agricultural production, economic decline, displacement of the population, disintegration of the traditional relationships. This path gives rise to three types of conflict: simple scarcity, group identity, relative deprivation.*

This theoretical model has recently collected new interest and consensus regarding what could be the impacts on climate change. Ecological battles between States or internal conflicts caused by the resource scarcity because of the climate change would make the States redefine their security agendas and introduce the environment as the most relevant issue, putting in place the alleged environmental security (PPPC, 2014). The model of scarcity and environmental security update the Malthusian catastrophe model, and is based on an environmental determinism that seems to leave no space for human action (De Marchi, 2004).

In contrast with the catastrophic environmental security approach, the negotiation models believe that environmental conflict is caused by the incapacity of parties to manage the breaking of existing agreements to make new suitable ones to the current situation, but even more to respond to the future changes.

These negotiation models are used when managing public environmental dispute in the United States and have by now a codified intervention mode which allows to (Menkel-Meadow, 2012; Susskind et al., 1999; White, 2009):

- Use mediators to ease the process.
- Have dialogue and build a climate of trust and respect between parties.
- Build a shared path between parties to face the dispute in a constructive way.
- Conclude the path by ratifying the agreement between parties.

However, the required process to build a climate of collaboration eased by the mediator must be productive, that is it must lead to the achievement of an agreement that ratifies the end of the conflict. The agreement assesses the mediator's capacity on future opportunities, the client's ability to launch a negotiation process (public administration, company) and the parties' satisfaction.

Yet, the priority of the agreement hides two critical elements: the first of a theoretical nature and the second of a practical one. From the **theoretical point of view it is presumed that all the stakeholders are equals**, and so they can sit down easily in a negotiating table offering the same cognitive resources. In fact, the job of the mediator is focused to the negotiating method, with the purpose to make the parties acquire knowledge of two aspects: the necessity to build beneficial agreements for everyone and not only for a single party, the need to measure the difference between the advantage created by any kind of agreement and the lack of agreement called BATNA (Best Alternative To a Negotiated Agreement) (Bobbio, 1992).

Therefore, it is assumed that all stakeholders are equal and have the same negotiating power. The diversity of power between parties is not only expressed by the cognitive abilities (which are, in fact, often "level off" in a way during the process) nor by other resources: temporary, informative, economic, etc., which some stakeholders have greater power and so they can influence the modality of the dispute's development. For example, a group of citizens that must sit in a negotiating table with a powerful company engaged in fracking, or a group of indigenous people with an oil company. Lots of mediators reflect on the difference of power of the participants around the negotiating table (Gensberg, 2003), but there is not yet a formalized procedure to respond to these situations, as the final agreement is still the crucial element to assess each negotiation process.

A second critical aspect of the negotiation models concerns the conclusion of the conflict and the possibility to build long-term agreements which ensure fair and equal solutions to all stakeholders. There are many intractable conflicts which are difficult to get into an agreement (Asah et al., 2012) and agreements that are too fragile because they were built by the lack of in-depth reading about the power dynamic at stake (Engel and Korf, 2005; Griewals and Rauschmayer, 2014; Temper and Martinez-Alier, 2013).

The third approach, the environmental justice and eco-citizenship, shares with the negotiation models the centralisation of action and social responsibility in environmental issues and conflicts. However, the central question is not to build an agreement to recompose interests but to face the stakeholders' rights of resource access and management, and of inclusion in the decision-making (Buchanan, 2013; Buijs et al., 2011; De Marchi, 2004; Reynaud, 1984).

The starting point is that societies and the environment do not relate directly but through the mediation of the territory, that is a group of physical works built by men and rules which ensure the social reproduction in time and at the same time the reproducibility of resources (sustainability) (Shmueli, 2008; Vallega, 1995).

The loss of a resource or the regulation which ensures its quality and leads to the access and use of resources and sites, are the typical social product that does not depend so much on the resource nor the society. For instance, public goods such as health and school, in some social contexts are completely public and in others completely private, with all the variations in between. This works also for environmental issues, where, for example, simple societies have also rules for hunting and fishing, with rules for crop rotation or priorities and sequences for harvesting precise forest products. **Industrialised or post-industrialised societies define the rules relative to the use of land (from the public parks to the productive areas), to resource quality (as the limitation of emissions into the atmosphere).** This group of operations that control the method of use among individuals, groups, institutions can be called “governance” and consists in the non-visible part of the organization of a territory, see Figure 2.

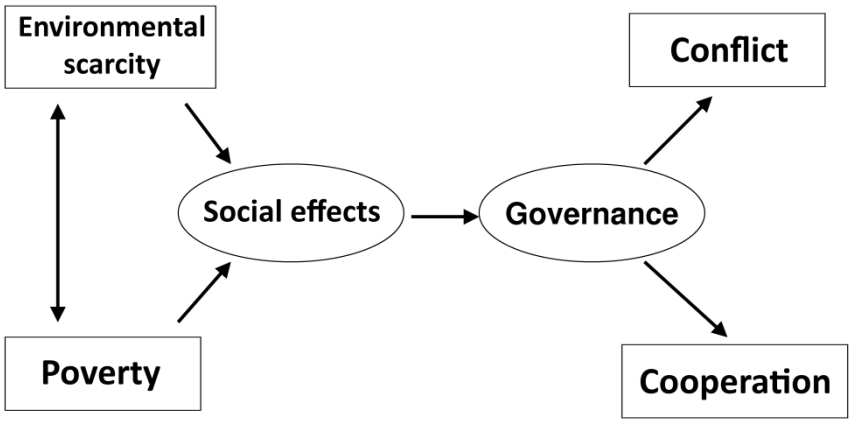

Figure 2 *Peace Research Institute of Oslo model (PRIO) for explaining environmental conflicts, see the governance’s role and the coexistence of conflict and cooperation (from Rønnfeldt C.F., 1997; Smith e Østreng, 1997)*

Therefore, between resources and social groups there are rules: the governance (see Figure 3), and conflicts and cooperation are behaviours that coexist in the context of social relations with environmental resources. According to the eco-citizenship approach, conflicts are not caused by resource scarcity but by a crisis in the rules and management of rights on use of resources. It can happen that the rules are not adequate for social change or to the change in the conditions of a resource, or that the rules are violated (environmental injustice), or that the unstable long-term situations of cooperation ask for a redefinition of the rules (Hjort-af-Örnas, 1996; 2008).

Eco-citizenship and environmental justice works also in territories with plural projects created in conflicted situations. That is because often there is no room for confrontation when it comes to alternatives on territorial development: only great participants (States, companies, and public administration) have the capacity to employ a visible planning power that can, however, let the weakest projects develop through the stages of conflict. Environmental conflict does not represent much of a confrontation/dispute of a work nor its significance and decisions in a context of plural projects to restore the territory (Figure 3).

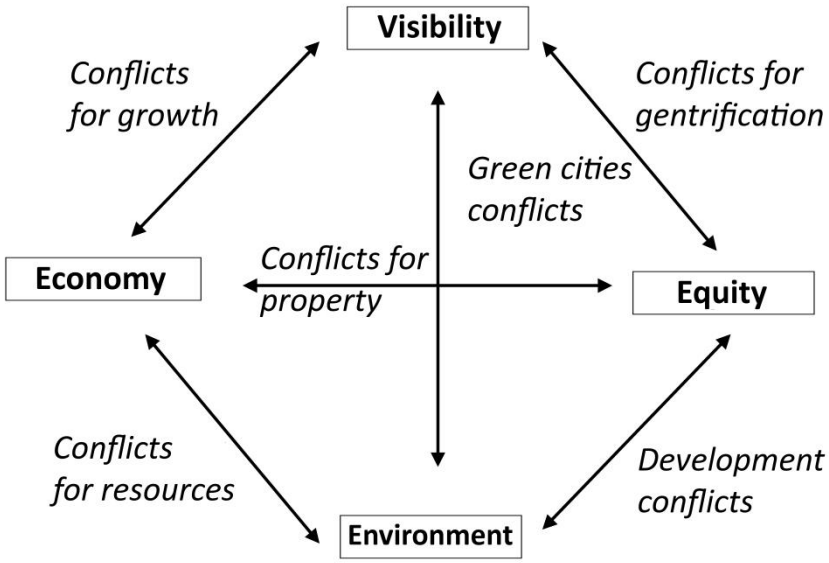

Figure 3 *Typologies of urban conflicts in relation to the prism of sustainability (economy, environment, equity, livability). Conflicts for gentrification emerge when plans for urban regeneration act in central districts for attracting high-income population and moving the low-income one to the suburbs (adapted from Sze e Sovacool, 2013)*

OBSERVING THE ENVIRONMENTAL CONFLICT: MOMENT AND COMPONENTS

So how do you prevent conflict? How do you act in a conflict? How do you use conflict in a participatory planning workshop? The first aspect to examine to understand the practice in environmental conflict is that conflicts move according to the timeline which we can identify three moments (De Marchi, 2004):

- Atency.
- Visibility.
- Transformation.

Latency is the "present not present" of the conflict that is the moment in which only the conflict experts can feel that something is breaking up in the existing cooperation. Occasionally stakeholders are conscious that something is breaching but have no intentions to see the process; sometimes parties are not aware that they are close to the rift point. However, working in a territory requires paying attention to the existing strength or weakness of the rules of cooperation. A community that agreed years before the implementation of a waste dump could not agree to accept its expansion. The acceptance could have occurred with difficulty but also with the conviction that the limited net volume would have been used in a few years, reducing the number of heavy vehicles in the zone. It is crucial to read the latency period in-depth for planning an intervention, so one does not find themselves in conflict by the lack of reading more than by the lack of arising from truly unpredictable circumstances.

Visibility is the moment in which conflict between stakeholders is notorious and it results in the rupture of continuity with previous practices. Therefore, it is necessary that the parties aware of the existing conflict situation decide to mark the end of the cooperation, or that one of the stakeholders acts convinced that the decision could be acceptable and in the end they face an unexpected conflict.

If there is an intervention in the visibility moment it is reasonable to ask two questions. One is about the need to understand the path that led to the conflict, and above all, the distinctive elements of conflict/cooperation situations. The other question is related to the necessity to know how to act in an existing conflict: to avoid any intervention using the escalation or waiting for causality; or launching programs on negotiation to reach an agreement between stakeholders.

Taking the previous example, there is a group of citizens in the location where the waste dump is installed that wants to block the gates to prevent the entry of trucks. At this point it could be evident and known at a regional or national level that an extension of the dump is planned since the net volume is reaching its capacity, and that this new stage is totally unacceptable for the citizens.

How to proceed? Call the security forces and clear the area? Let it go and do nothing, suspend the vehicles and locate another dump while waiting for the protestors to get tired? Or assess another suitable site and cancel the existing expansion of the dump? Or try to find a way to the next moment of the conflict, the transformation?

Transformation is the third moment of conflict and does not happen frequently in a theoretical perspective of conflict management nor in practice. More often is referred as resolution of conflict, which is a sort of agreement that eliminates its visibility. On the other hand, transformation means putting attention not only to the environmental conflict but also

to the conflicting atmosphere, and rewrite new rules based on an inclusive process. Hence, new rules between parties, society and the environment are involved.

Supposedly to resolve this conflict; which regards both, the municipality of Moreira dos Pantanais and also the whole region of Alto Pantanal; there is an overall picture about waste management, typology and localisation of a list of projects, and modalities to recognise the different weights borne by its nearby community. There is no resolution insurance, it could be a long process, but there will be a way for a constructive and creative modality for managing a complex decision.

After assessing the timeline and when to observe the conflict, it is time to highlight who and what to observe in a socio-environmental conflict (De Marchi, 2004) focusing on three elements:

- The dynamic map of stakeholders in conflict.
- The interaction mode of stakeholders in conflict.
- The environmental issues subjected to controversy.

The map of the stakeholders involved in the conflict cannot be seen as a picture taken in the visibility moment but as a cinema take that comes along with the development of the conflict from the latency moment until the eventual transformation moment (Figure 4).

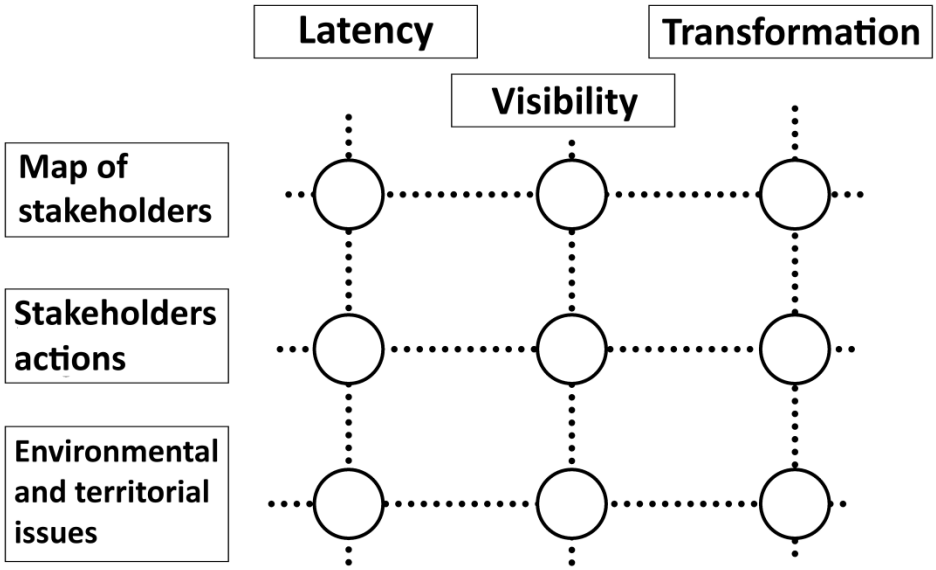

Figure 4 *Observation of environmental conflict: moments and components (from De Marchi, Natalicchio, Ruffato, 2010)*

During a conflict some stakeholders can be present the whole time (from the latency to the transformation moment), some intervene only in limited moments, some drop off and others will get in, and, above all, the conflict can generate new participants. Taking again the

example before, it is necessary to follow in a dynamic way the different stakeholders (citizen, municipal administration, companies engaged in waste management, etc.) to mark their presence or absence in the different moments of the conflict, and to understand when they drop off and get in.

The second aspect to examine is the interaction mode of the stakeholders, analysing the way the territory and the conflict are read in connection with themselves and the other parties in stake, the projects they are willing to create through the conflict, the establishment of alliances, the resources they can mobilize, the action modes (charges, disinformation, mobilisation, boycott, pressure on politicians and administrators, etc.).

Among the stakeholder aspects in the environmental conflict it is extremely important to note that the environmental and territorial issue may be subject to controversy, the resource flow put at risk, the rights to access these resources, the potential health and environmental risks, and the local or international level of the environmental issue.

In the example analysed, it could have intervening elements of environmental risk related to water pollution caused by the waste dump, to a significant impact produced by noise and vibrations of vehicles, to a public intolerance to odour emissions, to the loss of the affected area of the dump. Apart from conditioning the resources put in risk, the alternatives and the transformation would act for a complex environmental regeneration and for the creation of alternative projects on development in the region.

CONCLUSIONS: LIVING IN SOCIO-ENVIRONMENTAL CONFLICT

As a conclusion these are the indicative guidelines for “living” in environmental conflict, focused on two fundamental moments: creative management and prevention. **Managing the conflict means to intervene in an existing conflict situation, that it is in the visibility moment.** In this case it is necessary to overtake the exclusion processes that generated the conflict, suggesting room to confront alternative projects and redefine a new decision-making process that learns from mistakes and permits the development of a new stage of solid and fair cooperation based on the transformation of the relations that lead to conflict.

However, the transformation cannot be seen as coming from the bottom, but it is necessary to adopt a complex perspective described as “popular diplomacy” (Sharoni, 1997) that sees the transformation of the conflict through the combination of interventions, from the bottom, from the above and from the outside.

In the example given, that is the outburst of conflict followed by the proposal of an expansion of the waste dump, it is clear that there is no sense to let the dealing of the conflict come from the bottom, hence, that the community deals directly with the company responsible for

the waste management or with municipality administration. Interventions that comes from outside (e.g.: facilitators, environmental associations) and from above (e.g.: Region) that redefine a new policy to waste management are fundamental for the transformation of a conflict.

A creative management of a conflict requires the capacity to combine the visions from the bottom, from above and from the outside, precisely because social, institutional and environmental relations of a site do not end in the place but continue in the network that links it with other realities. It is in practice a more and more multipart thought in complex contexts where “the same things” can have different point of view, and where “everybody is right, even the one that says that not everybody is right” (Sclavi, 2003).

Finally, is it possible to prevent the arousal of a destructive conflict in the moment in which a territorial decision is about to be made by using the participatory and inclusion tools from different stakeholders in the decision-making process to the full; along with the planning, programming and assessing tools commonly used by environmental engineers, which are specifically elaborated to prevent conflict. In fact, environmental conflict can be generated when the decision excluded some territorial stakeholder or when the participatory intervention was not correctly managed. However, the intervention occurs often in the latency moment without an accurate and complex territorial analysis, and not realizing the existence of conflict and therefore, sometimes without wanting it, it is likely to increase the destructive size of the conflict.

In a preventive way, to investigate the latency of conflicts and carry out a complete territorial analysis, here are three available tools: Social Impact Assessment (SIA) is the first tool that most of the time cooperates with the well-known Environmental Impact Assessment (EIA) and assesses the impacts and manages the implications of the programmed interventions (Barrow, 2010; Esteves et al, 2012; Persson, 2006; Prenzel and Vanclay, 2014; Vanclay, 2006).

SIA involves a complex interface between society and the environment and the different chains of impacts: whether in direct social impacts, meaning the influence of a plan or project on various social components of a territory, or in indirect social impacts, hence the social consequences of an environmental impact. Except in some Countries, an SIA is not a mandatory tool like an EIA. However its voluntary use, even if not expected, could ease the analysis of the direct and indirect social impacts, allow the social feasibility assessment of interventions and recognise forms of inclusive participation and management in the decisions (Figure 5).

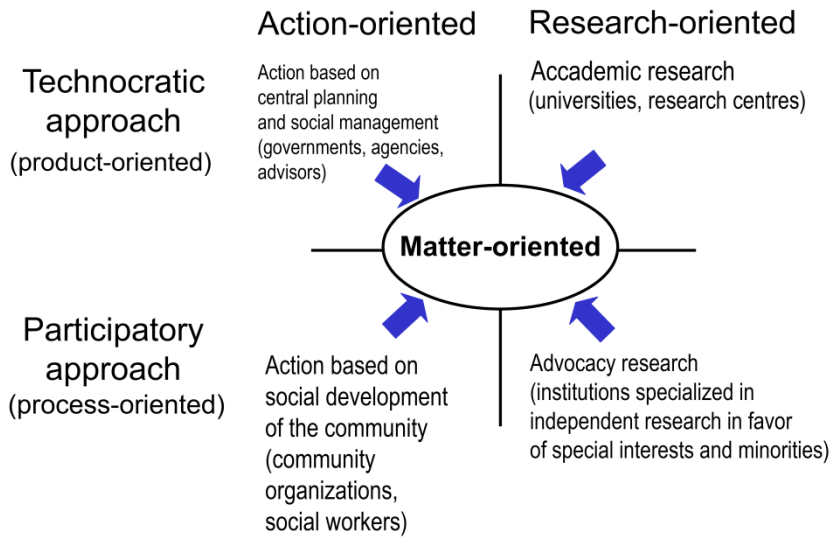

Figure 5 *Four approaches in the conflict Impact Assessment, and a combined "matter-oriented" approach in the middle (from Barrow, 2010).*

For example, when there is an intervention in indigenous territories it is mandatory to use the free, prior and informed consent procedure from the articles 10, 19, 29, 32 by the United Nations Declaration on the Rights of Indigenous Peoples (06-51207) and from the Convention concerning Indigenous and Tribal Peoples in Independent Countries, 1989 (No. 169) by the International Labour Organization. In many Countries where there are indigenous peoples, the free, prior and informed consent is mandatory and regulated by national law. However, often the procedures for reaching the Prior consent are carried out only to legalize the regulatory requirement but have no substantial power for territorial analysis and for information and achievement of the free and prior consent of indigenous peoples on the proposed interventions. This way the risk to generate even more destructive conflicts grows and obliges to appeal in both, national and international court (for violation of human rights) and some years later (court timing processes) can lead to the block of the existing interventions for incorrectly the path of the free, prior and informed consent.

The third tool is the Peace and Conflict Impact Assessment (PCIA) (Austin, Fisher, Wilson, 2003) or "Do No Harm" (Anderson, 1999). These are tools made in the scene of humanitarian action and of post conflict interventions based on the knowledge that some interventions, proposed with aiding aims in a post conflict situation, revealed unexpected effects, maintained high levels of uncertainty and declined the possibilities to build an effective peace. Not only humanitarian activities, but also development cooperation experienced difficulties to obtain results capable of promoting an equitable development and ensuring the empowerment of the weak stakeholders.

PCIA is group of tools which try to make an ex-ante assessment on the impact on the local context for different parties and on the intervention adequacy to promote cooperation and peace or maybe generate new and even more critical ones (Bush, 1998; 2005).

"Do No Harm" (Anderson, 1999; Austin, Fisher, Wilson, 2003) can be used in an ex-ante assessment during the preparation of the intervention program and as a support to the design (also participative) and it is structured in 7 stages (Table1).Considering that latency of conflicts can be identified and analyzed before elaborating and working in a program or project, an extended and consolidated use of a SIA, free, prior and informed consent and a PCIA can ease the dialogue between the decision-maker and the local participants by reducing the arousal of destructive conflicts.

Table 1 *Do No Harm approach in 7 stages (by Anderson, 1999; Austin, Fisher, Wilson, 2003)*

STAGE	DESCRIPTION
1. The conflict context	In this first stage it is verified if the geographical scale on the analysis suits the tolerance of relations between social groups, conflicts and proposed interventions. Afterwards it is necessary to analyze the past and current territorial history to recognize the elements that are still significant.
2. The conflict and sources of tension (*Dividers*)	It consists in paying attention to all angles of the conflict: the moments of latency, visibility, the level of generated violence; the stakeholders involved, the resources at stake, the causes and history of conflict; observe how conflict is used to reach other aims by some of the parties.
3. The collaborative processes and the cooperation capacities on local peace (*Connectors*)	Notice the ongoing collaborative processes despite violent conflict present along latent and visual ones; recognize the institutions that are carrying out or have carried out management actions in the conflict and their capacity to reactivate after violent moments.
4. The project	Examine according to the territory and latent and visual conflict: consistency with the objectives of the project; the location activity; the relevance of the proposed methodologies; the staff's mode of selection; the project's organizational and decisional structure.
5. Projects impacts in the conflict situation	Examine how resources and communication activated by the project influence collaborative or conflictive processes.
6. The alternatives to intervention	Recognize the alternatives that reduce conflict dimensions and reinforce collaborative capacities.
7. Project alternatives and redefinitions assessment	Revaluate stages 4, 5 and 6.

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PHOTO: Transporting bricks on the island of Ourong, Senegal. Jasmina Arregui

CHAPTER 4

Interacting with different actors

B.5 Knowing the context and partners

4

CHAPTER 4. Interacting with different actors

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4 INTERACTING WITH DIFFERENT ACTORS

Marianella Sclavi, Politecnico di Milano.

EXECUTIVE SUMMARY

This session aims to present and describe what the Active Listening Approach is and how to become an active listener. Being an active listener means to recognize the difference between changing a point of view from within an assumed framework, and changing the framework itself, and between moving inside a taken for granted framework or stepping out of it. The ability to change frameworks of perception requires certain characteristics and actions that are explained during this session. You will learn how the humoristic perspective can help you understand and make changes in perception and rooted thoughts. Such approaches can be used for building consensus around a common solution within a community with divergent positions and ideas, putting aside traditional means of settling disputes and embarking on a more creative and productive path. In order to create this “self–generative learning community”, within a turbulent and complex system, some conditions need to be in place and are going to be explored at the end of this session.

LEARNING OUTCOMES

After you actively engage in the learning experiences in this module, you should be able to:

- Active listen and understand different stakeholders.
- Use active listening tools to keep multiple options alive.
- Change rooted habits of perception-evaluation.
- Create the enabling environment for the establishment of “self –generative learning community”.

KEY CONCEPTS

These concepts will help you better understand the content in this session:

- Active Listening
- Consensus Building
- Creative Confrontation
- Approaches for active listening
- Debate vs. Dialogue
- Self–Generative Learning Community

GUIDING QUESTIONS

Develop your answers to the following guiding questions while completing the readings and working through the session:

- What are the conditions that have to be in place to reach consensus or common solutions?
- How can we take into account multiple views and multiple knowledge situations?
- What are the main advantages to using the Active listening approaches to build consensus?
- What are the main obstacles for the use of the active listening approach?

INTRODUCTION

Participatory Governance tools, such as facilitating the active political involvement of the citizenship and forging political consensus through dialogue; general capabilities of active listening and constructive conflict management are required for the design and implementation of public policies that ensure a productive economy and healthy society.

Two approaches to Participatory Governance can be identified: the conventional one and Empowered Participatory Governance (EPG). EPG is grounded in the theory and practice of consensus building in the negotiation and mediation phases. It attempts to advance three general principles in social sciences and democratic theory: 1. Focus on specific and tangible problems; 2. Involvement of ordinary people affected by these problems and officials close to them; 3. The Deliberative Development of solutions to these problems.

The ***"Consensus Building Approach"*** (CBA) is a methodology designed to bring people face to face where they could begin to educate each other about their real interests and search out mutual gains. This approach grew out of Alternative Dispute Resolution (ADR), and it is actually an application of ADR to public dispute resolution (Fisher et al, 1991, Susskind and Cruikshank, 1987). CBA gained legitimacy mainly in English speaking countries in the late 80's and since then it has been applied to a number of fields and in many countries all over the world. Environmental disputes provided one of the first arenas in which individual practitioners began exploring the applicability of CBA to propose resolution techniques and processes (Susskind and Weinstein, 1980).

However, not all consensus seeking activities are equal and not all should be labelled "consensus building". ***A number of conditions need to exist for a process to be labelled consensus building***. Consensus building is based on a number of conditions, summarised as follows:

1. Including all possible stakeholders, with their concerns and points of view related to the topic under discussion.
2. The chosen topic needs to be meaningful to participants and with a long-lasting impact.
3. Participants must build the ad-hoc rules related to their behaviour and decision-making process to implement action plans.
4. The process needs to start from an understanding of mutual interests and not from trading positions.
5. The dialogue needs to take into consideration all interests, concerns and desires underlying positions which will lead to the creation of new common projects considered best by the largest possible number of participants.

6. The process needs to lead to the invention of new joint projects considered best by the largest possible number of participants.
7. Search for a shared outcome recognised by all as a creative work, where even less enthusiastic people do accept the results since it is something they contributed to.
8. Understanding the fact that consensus is achieved only when all interests and viewpoints have been explored and all efforts have been made to meet specific demands.

Consensus Building aims to produce: joint learning, intellectual, social and political capital, innovative problem solving, sharp understanding of issues and other players, skills in dialogue, capacity to work together, shared heuristics for action. In addition to that, second order effects such as spin-off partnerships and building societal and institutional capacity can be produced.

Typically, a skilled and trained facilitator is needed to achieve the conditions required for “consensus building”. In some countries and languages the literal translation of “Consensus Building” reminds us of a process where somebody is looking for consensus in favour of a taken position. Another name for this process (for ex. in Italian) is “Creative Confrontation” which means that many clashing interests and ideas are engaged in looking for a common creative solution.

COMMUNICATION SKILLS: ACTIVE LISTENING

Active Listening (AL) is at the very foundation of any Creative Conflict Management and Creative Confrontation process. AL is a counter-intuitive capability, similar to judo, aikido and other oriental martial arts. One effective starting point to understanding the active listening is the **parable of the wise judge**. Here is how the story goes: two litigants bring their case before a judge who listens to the first litigant with serious and considered attention before delivering his verdict: "You are right." He then listens to the second with the same considered attention and pronounces: "You are right." Someone from the gallery stands up and objects: "Your honour, how can they both be right?" The judge pauses for a minute before responding: "And you too are right."

One of the more fundamental changes in modern society concerns the **dynamics of communication**, and it is a consequence of the growing social fragmentation coupled with a deepening sense of communal interdependence. In this context, the parable of the wise judge is not just an amusing anecdote but a very real reflection of the structural dynamics underlying any successful communication.

Among the "Seven rules of the art of listening" (Sclavi, 2003) in Table 1, the one that best conveys the idea of what is meant by active listening is the following: **"In order to understand what another person is saying, you must assume that he/she is right and ask him/her to help you understand why it is so."** Active listening involves a shift away from the "correct-mistaken", "I'm right, you're wrong", "friend-foe" attitude to a frame of mind where reciprocal disagreements instead of being used to rush to conclusions are used to formulate questions aimed to understand the premises which the other person takes for granted.

Table 1 *Rules for the active listening* (Sclavi, 2003)

THE SEVEN RULES OF THE ART OF LISTENING
1. Never be in a hurry to reach conclusions. Conclusions are the most ephemeral part of your research.
2. What you are seeing depends on your point of view. In order to see your point of view, you have to change it.
3. In order to understand what another person is saying, you must assume that he/she is right and ask him/her to help you to understand why it is.
4. The emotions are basic tools of knowledge if you understand that they speak a language of analogies and relationships. They don't tell you what you are looking at, but how you are looking at it.
5. A good listener is an explorer of possible worlds. The signals which he or she finds most important are the ones that seem both negligible and annoying, both marginal and irritating, since they refuse to mesh with previous convictions and certainties.
6. A good listener is happy to accept the self-contradictions that come to the fore in personal thoughts and interpersonal communications. Misunderstandings are accepted as occasions for entering the most exciting field of all: the creative management of conflicts.
7. To become an expert in listening you must follow a humorous methodology. But when you have learned how to listen, it is humour that will follow you.

TWO HABITS OF THOUGHT

Systematically teaching and learning the art of listening is particularly difficult by two kinds of obstacles. First, every culture inevitably tends to inculcate into its members a form of ***ethnocentrism.*** Each culture presents its own point of view and set of alternatives as unique and best. Second, western culture promotes an attitude that equates ***"context blindness"*** *with the engine of progress*. In such a context, anyone who wishes to produce a sound,

authoritative description of an event spontaneously relies upon a set of criteria of “objectivity-subjectivity” which are in fact valid only when the larger context can be taken for granted, but they are the opposite of the criteria and dynamics one needs to adopt when the contexts themselves are to be explored.

The point then is not to supplant the dominant habit of thought, which is perfectly adequate when the context is simple and the implicit premises can be taken for granted. Instead, we need to supplement it with a second and more complex habit of thought. But watch out: the two different habits of thought are not at the same level: while the transition from the complex to the simple is relatively smooth, because it boils down to a reduction of frames of reference, the other way around, the transition from the simpler habit of thought brings more easily towards the complicated (the multiplication of variables) rather than to the complex. The usual approach must therefore be turned upside down: it is the complex pattern that explains the simple and not vice versa. Table 2 (Sclavi, 2003) summarizes the main differences between the two "habits of thinking”:

Table 2 *Two habits of thought*

SIMPLE SYSTEM (EMPATHY)	COMPLEX SYSTEMS (EXOTOPY)
The "same things" have the same meaning	The "same things" have different meanings
Same implicit premises (frames of reference)	Different implicit premises (frames of reference)
What we take for granted helps us to communicate	What we take for granted prevents us from communicating
I'm right, you're wrong (and vice versa) not everyone can be right	Everyone is right, even the person who says not everyone can be right
First-degree control (ability to foresee the range of possible expected reactions)	Second-degree control (ability to transform the unexpected reactions into knowledge)
Mono-cultural world	Pluri-cultural world
Uni/verse	Pluri/verse

When we move within a "simple system" (shared frames of reference, the same assumed premises), the most appropriate habit of thought is that of classical logic—analytical and linear reasoning plus empathy. But when the system is "complex" (characterized by communication between different frames of reference), one needs a different habit of

thinking, one guided by active listening (exotopy), which considers the observer as an integral part of what is being observed, both circularly and self-reflectively.

The diversification of society is making Active Listening an ever more essential basic skill, a skill that is likewise indispensable within the compass of the "same culture." **To become a good listener/ observer, in this complex world, we must knowhow to recognize the difference between changing a point of view from within an assumed set of alternatives, or frame, and changing the frame itself, between moving inside a taken for granted frame or stepping out of it**. Those simplifications that cause one to ignore the possibility that the same “facts” may have different interpretations which must be seen as equally legitimate, create a crisis in the dynamics of establishing open communication and common ground.

The connections between the forms of understanding and the modalities of co-habitation, and hence between knowledge and creative conflict management, thus become explicit, problematic and intrinsic to both communication and comprehension. The concept of **"double-loop learning"** (Argyris and Schön, 1996) is a very effective way to describe the dynamics we are talking about. Double-loop learning (Figure 1) is a learning process in which the governing variables, the values and assumptions that underlie our understanding, are themselves considered and questioned.

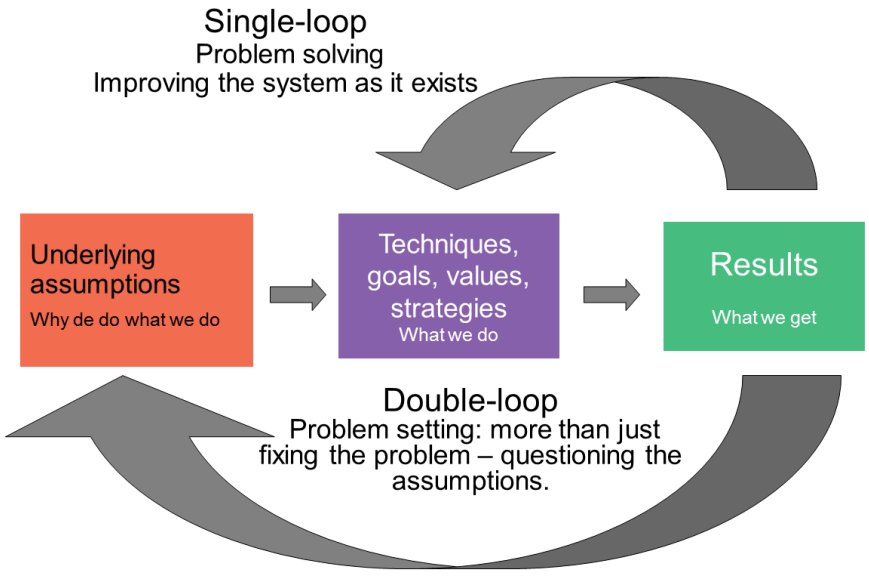

Figure 1 *Double-loop learning*

LISTENING AND INTERCULTURALITY

Good intercultural communication in contingent situations provides the most effective illustration of active listening because it makes it easier to understand three aspects of any complex communication:

1. An identical behaviour pattern may have an antithetical and, at the same time, an absolutely legitimate meanings. For example, looking an authority figure in the eye may be a mark of respect in one culture and a lack of respect in another.
2. Empathy may not be enough in seeking to understand the experience of the other person. Understanding here requires stepping out of the taken for granted cultural frames, to see as important aspects we are accustomed to regard as negligible or had never previously taken into consideration, a process which was called “exotopy” by Mikhail Bakhtin.
3. Misunderstandings, frustration, embarrassment and conflict are intrinsic to communication and the main problem is not to avoid them, but to transform them into opportunities for reciprocal learning.

In general, the correct attitude to adopt as an active listener is the direct opposite of what is conventionally expected on the part of a good observer: impassive, neutral, self- assured, heedless of his own emotions and ready to conceal or ignore his own reactions to what he hears. In intercultural communication, it is easier to understand that to get things into perspective, we need to learn something new and surprising, something that pushes us out of our "certainties" and enables us to view things in a way not previously foreseen. We must be prepared to feel "awkward" and appreciate it. The arrogance of the know-it-all is replaced by an acceptance of vulnerability, together with the pleasure that comes from being someone who learns and grows, who changes with others instead of opposing them. **An intercultural dialogue is not primarily concerned with right or wrong behavioural patterns, but with perceptive and evaluative habits that are ingrained and difficult to change.**

HUMOUR: THE HUMOURISTIC CHRONOTOPE

The ability to change deeply rooted habits of perception-evaluation require a sense of humour and poetry and an acute sensitivity to "the pertinence of context to meaning" that in the Western world it is seen as a skilfulness or competence that is artistic rather than "scientific”. Because these abilities are not reducible to a rational or to a technical habit of thinking, in the past we had a tendency to abandon attempts to explain them, and consequently, for instance the social sciences avoided investigating their formal dynamics, which relate to change, culture and identity. It is mainly thanks to the trans-disciplinary field

of Alternative Dispute Resolution (ADR or creative conflict management) that these views are beginning to change. Now we are getting almost ready to ask the fatal question: “How much of what in the past was called "scientific approach" was a way to disguise the embarrassment of a parochial and ethnocentric scholar who didn't know how to deal with alterity?”

The initial point, of course, is Gestalt psychology: **what we see depends on our point of view; to see our point of view, we must change it**. But, spatiality in cognitive studies used to be seen as a disembodied abstract dimension and mental faculty. **The humoristic chronotype is displacement with a body and emotions**, not only as a conceptual sudden switch; spatiality is seen as the result of social systems of contingency cooperatively learned. Thus displacement becomes more similar to steps of a dance, a *passo-doble*, perhaps. Here is how it works: Let’s take that famous quip by Mark Twain: “It’s not true that it’s hard to stop smoking; I stop every day.” That “every day” suddenly reverses the meaning, which at first we gave to the verb “to stop,” undercutting our expectations — or out-manoeuvring our expectations — and because the whole story is embodied into a “this is a play” frame, it takes us aback and it makes us laugh (Sclavi, 2007).

Actually in the interpretation of any joke we can identify three different phases. They are:

1. Bewilderment and annoyance in the face of a proposition or verbal construct that appears to be flawed, out of place, and to make no sense.
2. Illumination, with the understanding of another possible interpretation that we had not considered.
3. A second illumination in the form of the recognition that a little, ingenious verbal trick was able to take us in.

This second illumination is the one characteristic of a humoristic attitude in contrast with one marked by a purely comic, hilarious frame of mind. When we laugh humorously we laugh mainly at ourselves, at our former rigidity. We realise that we have let ourselves be hypnotised by one of the many possible ways of ordering events.

Ludwig Wittgenstein (1984) wrote that “humour is not a mood, but a way of looking at the world.” It is a question of growing aware of a broader field of possible points of view. But we cannot accept a different perspective if we do not relinquish the certainties of the way in which we commonly view events. ***A humour-based style of observation and self-reflection opens our minds to otherwise “impossible” matrices of perception and evaluation***. On the contrary, attitudes of unimpeachable seriousness lead us to cling to our original perceptions, they deafen us to “other possible worlds” of dialogue.

What can be called a **"humoristic style of observation"** is nothing but the application to daily life of the same three phases, most of the times in the same order (bewilderment and annoyance, looking for other possible interpretations, overcoming our former rigidity) which characterise the understanding of a witticism. **For this type of observation to function we must set out with certain light-heartedness, much curiosity and a first-hand acquaintance (by "full immersion") with the social problems which we want to study.** And of course we must be wary of missteps. Not to avoid them, on the contrary, to observe them with special care: in a humoristic perspective they are the highway to understanding.

FROM DEBATE TO DIALOGUE

The countries and peoples that are heading into the XXI century must focus on one main question **“How can we take into account multiple views and multiple knowledge situations?”**

The possibility for a group or organisation starting from a number of divergent positions and ideas to reach a new common solution or common project, which is liked and cared for by all the participants more than their original ideas. This possibility is strictly connected with a process which allows every participant to put aside traditional means of settling disputes and to embark on a more creative and productive path. In order to achieve this, we must overcome a number of wrong assumptions. The most widespread and dangerous assumption can be synthesised in the saying: "It is through the clash of differing opinions that the light of truth shines". Together with the belief that argumentation and debate is the main path to understanding, come two other **wrong** assumptions:

1. That no particular skill is required to do dialogue: “Dialogue does not require a special discipline, but only content knowledge”.
2. Knowing how to “dialogue”: having “debate skills” and using them in a soft, non-antagonistic way.

To understand why the theory and practice of Consensus Building requires an understanding of the nature of dialogue as differentiated from debate or ordinary discussion (Isaacs, 1999;Yankelovich, 1991, 1999), let us start from the following comparative prospect, a hand out of the Dialogue Group of the Boston Chapter of Educators for Social Responsibility (Table 3).

Table 3 *Summary of differences between Dialogue and Debate.*

DIALOGUE vs DEBATE	
Dialogue is collaborative: two or more sides work	Debate is oppositional: two sides oppose each

together toward common understanding.	other and attempt to prove each other wrong.
In dialogue, one searches for basic agreements.	In debate, one searches for glaring differences.
Dialogue causes introspection on one's own position.	Debate causes critique of the other position.
In dialogue, one searches for strengths in the other positions.	In debate, one searches for flaws and weaknesses in the other positions.
Dialogue opens the possibility of reaching a better solution than any of the original solutions.	Debate defends one's own positions as the best solution and excludes other solutions.
Dialogue reveals assumptions for re-evaluation.	Debate defends assumptions as truth.

Debate is essentially confrontational and while it brings rigour to analysis, it is misleading and counterproductive - part of the problem - when there is a need to build ideas and to seek creative solutions interdependently. When people gather to engage in a dialogue, there is a totally different spirit released - a spirit of listening with attention and of latent creativity. Now the purpose is to build ideas together, acknowledging and honouring the difference of opinion. (Alan Stewart, 2011).

Three main distinctive features of dialogue that differentiate it from discussion, debate, argumentation or other forms of talk (Yankelovich, 1999) are:

1. Equality and the absence of coercive influences: Dialogues become possible only after the higher ranking people have, for the occasion, removed their badges of authority and are participating as true equals.
2. Active Listening: The ability and motivation to respond empathically/exotopically to opinions with which they disagree or that they find uncongenial.
3. Bringing assumptions into the open: within the safe confines of the dialogue, others can respond to them without challenging them or reacting to them judgmentally.

By adopting an active listening attitude people soon discover they do not share sufficient goals or worldviews for the argument to be effective. Instead, they ask each other questions, learn about each other’s problems and views. They tell stories to describe their interests, to imagine what will happen if nothing is done. They search for a future scenario where all their interests are at least better than they would be if they had not come together.

CONCLUSIONS: FACILITATION TOOLS AND TECHNIQUES

At the beginning of the 70s, studies about group dynamics in complex environments carried out at the London Tavistock Institute of Human Relations and at the MIT Group Dynamics Laboratory of Boston – each with branches in other universities and research centres in different parts of the world – had discovered that order, within a turbulent and complex system, is achievable only if the subjects that take part in it change into a **"self –generative learning community".** In order to bring about a group identity that will subsequently support group learning, **it is necessary to create a non-threatening situation** where:

1. There is no risk of 'losing face', where mutual acceptance can be taken for granted as to allow individuals to feel comfortable.
2. Members can identify a framework of shared values and beliefs that is broad enough to encompass the areas of probable disagreements and that can be subsequently discussed in an atmosphere of basic cooperation and mutual trust.
3. The process allows the participants to give notice to the others of their presence as individual persons.

These scholars had also devised a range of methods and procedures to reach good and effective decisions in complex environments. The methods and procedures were tested in offices and factories, in schools and in urban planning projects, with the most brilliant leaders of corporations, public institutions, in local administrations and at national levels. The main obstacle the researchers were well aware of and were experiencing on an almost daily basis was that, as Aristotle asserted, changing the kind of government implies changing the underlying authority that is taken for granted. This means, the main obstacle is changing deeply rooted habits that are related to the sense of self and of others. The results were, therefore, not long-lasting even when the researchers had achieved extraordinary success. As soon as the experimentation atmosphere dwindled, everyone was back to their old habits.

Here is a lovely story of how such things work, told by anthropologist Edward Hall, the inventor of intercultural proxemics. Once, while visiting a home for the elderly people, he had noticed that the chairs that were in the meeting rooms where all lined up against the walls and that the guests, who hadn't dared move them, would sit for hours, next to each other silently, their gaze lost in space. Upon Hall's suggestion, the chairs were arranged as to create lots of small sitting rooms and, as a result, the guest's behaviour changed completely. The guests held conversations that would extend into the garden, at the dinner table and beyond, and the doctors and attendants were enthusiastic about the change. However, in the following day the chairs were back against the walls. The answer as to why had they been put back was: "Public places can't be left untidy".

Nowadays, thanks also to the Internet, organisational approaches based on the three principles listed above have multiplied and spread in many parts of the world. This is especially true where problems that relate to organising environments dominated by rising differentiation and interdependency, have become more serious. More and more organisations and institutions, public and private, feel the need of relying on active listening and creative confrontation, but to fully grasp the meaning of this approach and make it repeatable, facilitators are needed to help put into practice "self–generative learning communities" and create moments of collective reflection on their theoretical basis.

In a Consensus Building process, the main steps that need a facilitator's help are the following:

1. Facilitating Group Problem Setting and Solving: this is about generating mutually advantageous proposals and confronting disagreements through the "Active Listening" approach (which is much more than "a respectful way"); a joint exploration and enlargement of the range of possibilities: the process draws upon the best available information and ensures that a range of solutions, including some that no one had thought of before, and previously seen as "impossible", are considered.
2. Reaching Agreement: "Deciding" is not as simple as "voting". Deciding is about coming as close as possible to meeting the most important interests of everyone concerned and documenting how and why agreement was reached.
3. Holding People to their commitments: This is more than each person simply doing what they promised. It's also about keeping the parties in touch with each other so that unexpected problems can be addressed together.

The activity proposed in this session is to help the participants to find out how Alternative Dispute Resolution (ADR) works and how and why the steps of active listening and creative conflict resolution are tight together and consequent.

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- Stacie Nicole Smith, David Fairman: Normalizing effective conflict management through academic curriculum integration: The example of Workable Peace, in NEW DIRECTIONS FOR YOUTH DEVELOPMENT, NO. 102, SUMMER 2004 © WILEY PERIODICALS, INC.
- Active Listening: Katie Owens at TEDxYouth@Conejo. http://www.youtube.com/watch?v=WER63AY8zB8
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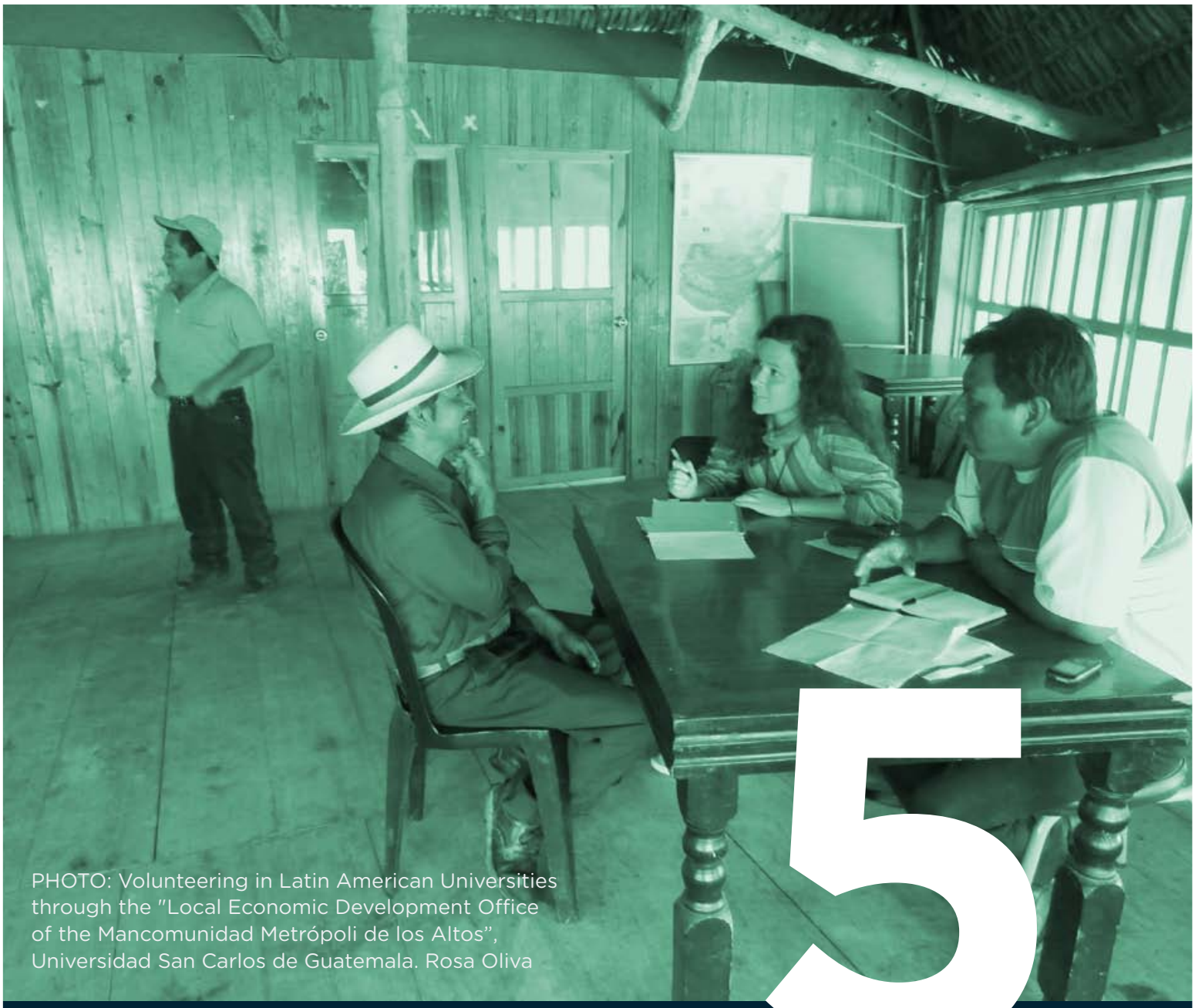

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CHAPTER 5

Participatory approaches methods, tools and examples

B.5 Knowing the context and partners

5

CHAPTER 5. Participatory approaches methods, tools and examples

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5 PARTICIPATORY APPROACHES METHODS, TOOLS AND EXAMPLES

Gerardo de Luzenberger, Università di Trento.

EXECUTIVE SUMMARY

This session aims to present the pros and cons of new approaches to planning based on participation and the involvement of local communities. According to these approaches, planning should not be approached as a merely technical issue – in which case it is very likely to be questioned and rejected by the population - but rather as a participatory process where the voice of the community is heard with respect to the projects to be implemented. Effective communication on the technical aspects of projects to a wide variety of stakeholders is important to enable the options and solutions available to be understood. An aware community can provide input and feedback that will help technicians coming up with a technical solution meet the needs of the local population. The dynamics underlying participatory planning approaches, the importance of the learning dimension in these kind of processes, the level of participation and representativeness are discussed and presented in the framework of a case study that shows how participatory planning has been applied in a real situation.

LEARNING OUTCOMES

After you actively engage in the learning experiences in this module, you should be able to:

- The evolution of participatory planning.
- The basic rules of participatory planning and its dynamics.
- The critical role of communication between technical experts and people in the community throughout the decision making process.
- The participatory techniques and approaches.

KEY CONCEPTS

These concepts will help you better understand the content of this session:

- Participatory Planning
- Mutual Learning (knowledge sharing)
- Stakeholders engagement
- Participatory techniques and approaches

GUIDING QUESTIONS

Develop your answers to the following guiding questions while completing the readings and working through the session:

- What is the technical solution that fits best with community needs?
- What is the technique or strategy that fits best within a given context to drive a participatory planning process into a positive, virtuous cycle of change?

PARTICIPATORY PLANNING: A PARADIGM SHIFT

Planning has been considered for many years to be a purely technical issue. Limited available resources and budget constraints made it necessary for technical experts to identify and develop the best possible solution in order to promote the general interest of the people who would benefit from such projects. The underlying approach was quite deterministic in its nature: the idea was that in any situation there is one best “technical solution”, therefore building infrastructure was nothing more than a purely technical issue, for which the voice of the experts was the only one that counted.

Projects developed according to this strategy were supposed to be welcomed by the people involved since they would bring clearly identifiable benefits to the local community and the overall society. Moreover, if by any chance a project would have met in the course of its implementation some forms of resistance within the local community, this opposition would have probably been not against the project itself, but against the decision of implementing it in a specific place. This phenomenon is referred to as the **NIMBY (Not In My Back Yard) syndrome**. This eventual opposition would have been overcome by giving reasons to the population for the construction of such infrastructure, or by providing to the community some “compensations” in order to balance the disadvantages created by the project. In environmental conflict management this strategy was called **DAD: Design the project, Announce it to the public and, if needed, Defend it** by explaining the benefits that it brings to the community.

In recent years a new form of opposition to projects has appeared and consolidated. In fact projects have been in many cases slowed down or even blocked by a growing opposition from local communities. An opposition that is radically different from the past. In fact while the NIMBY syndrome referred to a local community that was contending the implementation of a project or infrastructure in its territory – but was not against the infrastructure itself, nowadays in many situations the opposition also aims to discredit the intrinsic value of the technical solution in itself, and most of the times it suggests an alternative solution. Such opposition is often based on the assumption that while there is no evidence of the benefits that a given infrastructure brings to the community, there is, on the other hand, a strong feeling that it can have a negative impact on the local communities, and even worse on the living conditions of people, by reducing the quality of life and increasing health problems. What is interesting about this new form of opposition to technical solutions is that it is based on the belief that there is not just one best solution, but it is always possible to find different alternative solutions to the same problem.

What we are experiencing, in fact, is a real paradigm shift. The technical approach has been severely undermined on a variety of different grounds which are often interrelated. Societies have radically changed and that has greatly affected the whole planning system of infrastructure building: the level of education has on the overall increased, and with that the ability of people to

meet, self-organise and express their ideas and concerns; at the same time the needs of the population have become more complex and diversified as societies have increased in complexity. For these reasons, **the "one-size-fits-all" approach adopted by technical experts has become more and more unbearable to local communities**: the technical solution, if not confronted with the cultural and environmental context in which it is to be implemented, is necessarily going to fail, since it is now obvious that what fits in a place does not fit automatically in another. That is to say, the assumption that there is only one possible solution to a given situation is completely discredited; instead, an approach that guarantees different, alternative solutions are discussed, considered and evaluated before decision-making to take place is favoured. **Any solution may work in one place and not in another**.

More and more often projects meet the opposition of local communities that do not recognise the intrinsic value of what is carried out through a certain plan, or recognise the problem but challenge the solution suggested. These issues are extremely relevant in the field of development cooperation. Whenever a team made up of technical experts is working in a community whose culture is very different from their own, it is of the utmost importance not to take for granted the different cultural frames where it intervenes and carefully consider what the real concerns of the local population are.

MOVING BEYOND TECHNICAL ISSUES

The basic assumption behind **participatory planning** is that the implementation of **any project needs to go through the involvement of a large variety of different stakeholders**. Opening a dialogue on a given project, providing the community with all the information needed to assess its costs and benefits, explaining the technical solutions envisioned in the project and finally, and most importantly, assessing if those solutions are really able to meet the community needs, all this is part of a new paradigm whereby technical solutions are evaluated in public discussions to see whether or not they fit with the needs expressed by the community. **This in practice means working on two dimensions: first by communicating with different stakeholders, sharing information and data; and second by discussing what would be the proper design of the infrastructure**.

Communicating complex projects is not easy, especially when it is necessary to inform a wide and diverse audience of stakeholders. Sometimes people who oppose to a given project do so because it is not entirely clear why and how the project is going to be implemented. And this often occurs due to lack of proper communication by the ones proposing the project. Information is therefore often missing and people come to know about the project through informal networks rather than official communications. In other cases information is provided, but in a way that is not understandable by the people in the community. Project leaders communicate in a very sophisticated way, using technical language that is not easily understandable by people; in

addition, different experts involved in the project tend to explain it in different ways, increasing the level of confusion and misunderstanding. All of this amounts to a growing mistrust in the project, which is often not due to a real opposition of the project itself, but that eventually undermines the possibility for its implementation.

There are a whole range of activities that can be designed to make the project comprehensible to the large public, with all its complexities and technicalities: they are very useful in order to improve the capacity of the local population to understand why and how the project is going to be implemented. **At the heart of them there is the active involvement of technical experts within communication activities**. Specialists such as engineers and designers are coached and trained to be able to relate to the local population effectively, thus becoming protagonists of communication activities. **Through such approaches technical experts learn how to manage an effective dialogue with different stakeholders in the community, being able to explain the project clearly, actively listen to other people's perspective and accordingly redefine the characteristics of the project that is going to be implemented.**

At times opposition to a project or initiative is due to the fact that the population does not recognise any benefit from its implementation, or otherwise thinks that the way in which the project is implemented does not meet the needs of the community. Whether it is about developing a project for a public space, renewing a road, building a civic centre, a dam or a museum, adopting a participatory approach provides a completely different approach to planning.

At the basis of participatory planning there is the idea that by involving different stakeholders in the design and implementation of a project not only it is likely that a higher degree of consensus will be reached around it, but most significantly the outcome will reasonably be improved, since more people will have contributed to it. **Participatory planning is about activating the collective intelligence by putting together different points of view and creating consensus around a project that is ultimately the best of what stakeholders who participated in the process have come up with, and therefore which will most likely be a technical solution that meets the needs of the local population.**

PARTICIPATORY PLANNING: THE BASICS

Working with participatory approaches has to do with changing the way in which you develop and manage projects. In order to better understand them in this paragraph we focus on some of the basics and fundamental rules of working with participatory approaches:

1. Participatory dynamics
2. Learning dimension
3. Levels of participation

4. Representativeness

The participatory dynamics

An example taken from an article by Marianella Sclavi (2004) about the construction of an incinerator in Bolzano illustrates what could be the added value of a participatory planning approach (Figure 1B).

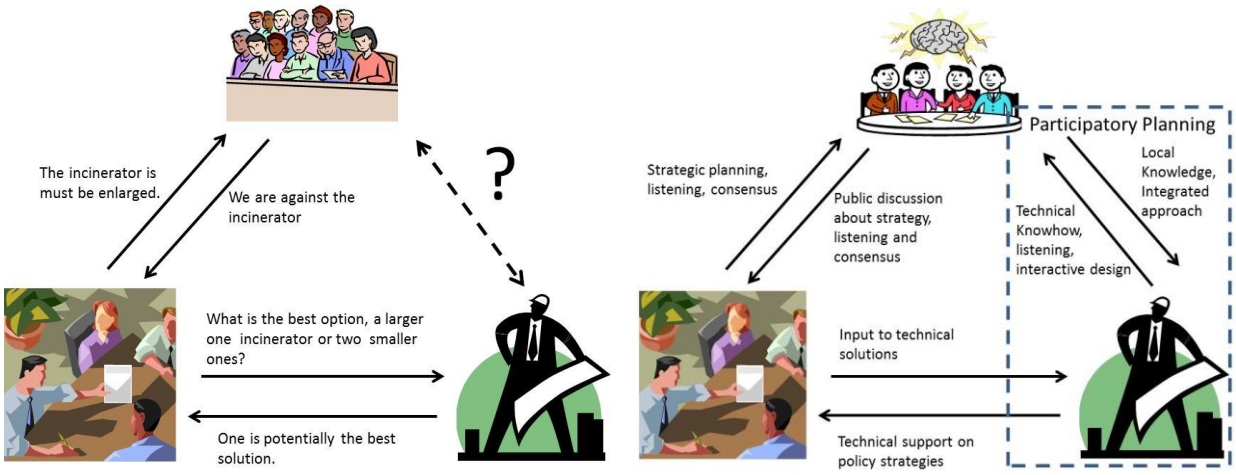

Figure 1 *Decision making before and after the use of participatory approach* (Adapted from Sclavi, 2004)

When tackling complex problems, what normally happens is that **community leaders have a strong mediating role in the communication between technical experts and the local community**. Most of the times community leaders do so by talking with both parties and then taking a decision based on the most significant information they found. The adoption of a participatory approach can guarantee a new channel of communication in the decision making process, by opening a dialogue between technical experts and the community. **Participatory planning contributes to enhance the decision making process, since on one hand the community has the chance to understand the rationale behind the strategy adopted by experts and on the other experts have the chance to better know and understand what community needs are.**

Adopting a participatory approach entails broadening the dialogue between different actors, activating a channel of direct communication between technical experts and citizens; this with the advantage of helping the former better understand the context in which the project is situated, and helping the latter to investigate the nature of the proposed solutions together with their feasibility in the local context, and most importantly understand the constraints and opportunities under which decisions are taken.

Learning dimension

Learning is one of the fundamental dimensions of a participatory process. In fact, participatory planning can be seen as a process of mutual learning, where all participants, experts included, share what they know, bring into discussion their knowledge and learn from others. **The basic idea is that only by sharing knowledge can possible solutions to complex problems be identified**. People in the community need to learn from experts what is feasible and what is not according to the characteristics of the context, together with the technical constraints, advantages and disadvantages of the solutions suggested; experts on the other hand need to be aware of community needs and priorities and be open to adapt the project accordingly. **The keyword in such process is mutual learning.**

Levels of participation

For analytical purposes participation can be subdivided into four different levels according to the degree of intensity. Such levels are not mutually exclusive, but they might appear in the same context at different stages of the process, or at the same time different stakeholders might act following different levels of participation (Figure 2).

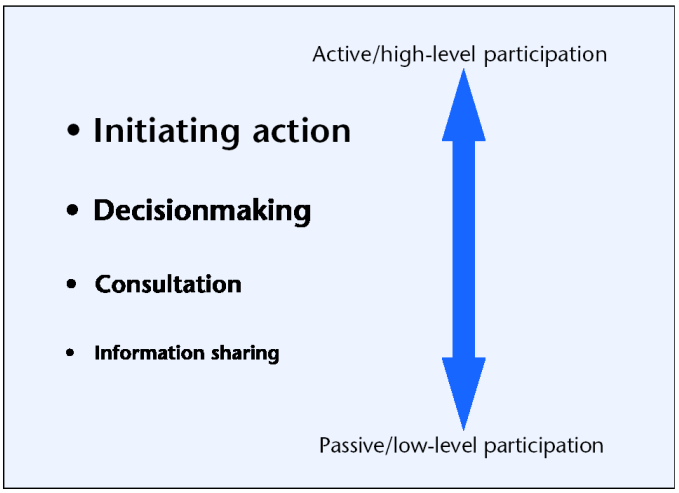

Figure 2 *Levels of participation*

From the lowest level of participation to the highest, they are defined as follows:

- **Information sharing.** This is the minimal level of participation and often consists of little more than keeping people informed – i.e. a one way flow of information.
- **Consultation.** Consultation means that there is a two-way flow of information; in other words, a dialogue. However, it is a dialogue that may not necessarily impact on decision making.

- **Decision making.** Participation reaches a higher level when it involves individuals or groups (particularly those who are usually excluded) in actually making decisions. They have the authority and responsibility to take action.
- **Initiating action.** The highest level of participation is achieved when people take it on themselves to initiate new actions. To do so indicates a significant level of self-confidence and empowerment and the establishment of organisational and management capacity.

A similar typology that stresses the degrees of control over what is actually decided is well described by Arnstein (1969), who points to the kind of relationship that is established within different stakeholders:

- **Information.** The least that can be done is to tell people what is the project about.
- **Consultation.** At this stage a number of options are offered and people in the community have the chance to express what they feel about those options.
- **Deciding together.** Here stakeholders are encouraged to provide some additional ideas and options, and join in the decision making process to decide the best way forward.
- **Acting together.** At this stage not only do different stakeholders decide together what is best in their interest, but they form a partnership to carry it out.
- **Supporting independent community initiatives.** At the highest stage stakeholders take the lead by deciding themselves what to do and how to do it, and that often takes place within a framework of grants, advice and support provided by the resource holder.

Representativeness (who should attend?)

Just as there are different levels of participation, there are different criteria to figure out who to involve in a participatory process. Obviously, at least in theory, the decision of whom to involve depends heavily on the argument that is being discussed, and as a consequence of that, on the degree of influence that participants can exert on the subject discussed. But the choice of who to involve depends on a number of very different factors. ***Traditionally, participation aimed at consultation/information of stakeholders was carried out trying to respect the maximum criterion of representativeness of the sample; in other words, by trying to put the whole system in one room***. This criterion, which theoretically is of course very important, has in practice encountered a number of problems.

Representativeness has always been a difficult topic, being almost impossible to achieve; it is almost a given, in fact, that there is no way to compose a sample which ensures the statistical representativeness of a population. And this, of course, threatens to overshadow the legitimacy of

the choices that are made in a participatory way. Secondly, the role of technical experts is undermined, given the paramount importance that everyone needs to be in the room; this way the decision making process runs the risk of lacking the technical expertise to efficiently manage a project. Technical knowledge is in other words excluded from the discussion which is predominantly focused on community needs. Finally, the attempt at being representative might produce the opposite result and lead to a lack of participation. The presence of the community solicited through a statistical mechanism rather than through their own choice to be part of a decision making process may increase the risk of having people in the room who are poorly motivated towards what the project is about itself.

Recent trends suggest a different approach to the identification of the participants. What is important according to this new perspective is not their representativeness, but their will to participate: **it is their interest for the issue at hand that is the driving force that moves the process of change.** This is a completely different approach to selecting participants, so what criterion should be used for this process? As opposed to the technical approach, what matters now is not the degree of representativeness, but the interest and desire to take action: be involved in a new, collective and at times difficult environment where uncertainty rules and outcomes are no more a given but something to build together. Rather than selecting participants, then, the process is left to members of the community and their own freedom, and responsibility, to decide whether or not they want to attend the meeting, according to their own interests and passion.

In other words the promotion of engagement and direct involvement of those who have an interest in the project regardless of the position they occupy is a precondition and fundamental criterion of this new approach to decision making; in such an environment it is no more relevant whether you are an expert or simply a member of the community: what ultimately counts is the will to take action. According to this new way of thinking participation is entirely dependent on the will of the people. **The idea is very simple: anyone who has a real interest can join the process.** It doesn't matter whether that person is representative or not, what matters is that he or she is ready to contribute to the development of an inclusive decision-making process. On the question of equal opportunities the new approach offers quite a simple and strict view: all participants have the same opportunity to speak, no matter whether they are experts, administrators or ordinary citizens. Equal right to speak does not mean equal skills; having said that, room is always given for people to say what they really want to say, thus contributing to the decision making process, this way solving the question of equal opportunities.

THE DIFFERENT PHASES OF A PARTICIPATORY PROCESS

A process of participatory planning is based on a very different approach with respect to the traditional decision making process. Sam Kaner (1998) has provided an excellent description of how it works. Traditionally decision making processes are described in a linear sequence (Figure

3), where first comes the identification of the problem, and then the design of a proper solution for the case.

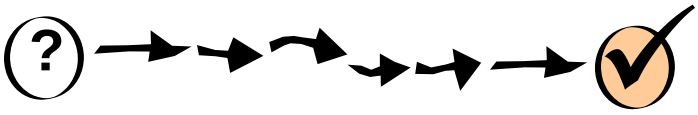

Figure 3 *Decision making as a linear process*

In this kind of process most of the attention is focused on the solution; it is not by chance such an approach is also called problem solving. Very limited time is devoted to explore the problem, as well as all possible solutions. In a participatory approach the logic is radically different: adopting participatory approaches requires first of all to accept that there is not one solution; therefore from one question the discussion moves towards an open ended, non-linear flow of conversation where the decision making process is characterised by the so called phase of divergence.

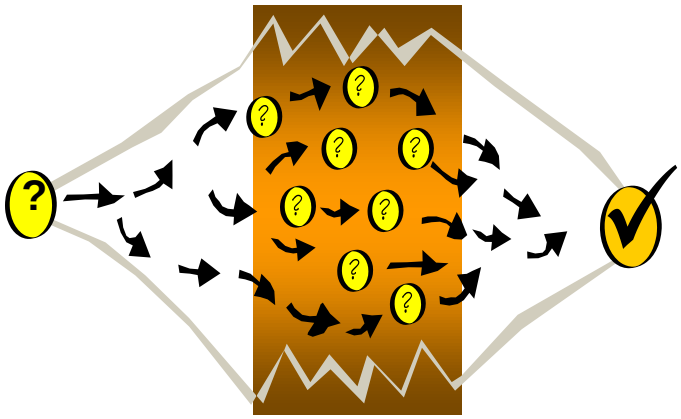

Figure 4 *Creative decision-making in participatory planning*

During divergence people explore the different dimensions of the problem and its possible solutions. **To do that they need to understand the different perspectives of the actors and stakeholders involved, and use them to compose a more complex picture of the context in which they are called to work**. The skill required in order to do this work is the so called “Active Listening”, the ability to listen without judging the different ideas and positions involved in the situation at hand.

Only after having explored this complexity can you slowly move towards convergence, where strategies of action on what to do and how to do it are developed. This path is not linear at all, and should not be, especially when the project aims to address complex issues with respect to which there are several possible solutions. **Often times such process leads to a sense of confusion, and the feeling that it is only time-consuming and useless talking; participatory planning is based on the fundamental assumption that only by trusting people and their ability to**

explore different possible options, work in complex and chaotic conditions, it is possible to find innovative and sustainable solutions.

Courage is a necessary precondition in order to take the risk to go through a divergent phase, lose control of the process and follow different points of view, this way reaching perhaps unexpected conclusions that can be the real solution to a given problem. Such an approach requires to go to the edge of the local community, gather new ideas and insights from the knowledge that everyone has in order to contribute to the definition of a given project. **Patience is another key characteristic to carry out a proper participatory process**; in fact, one of the most common mistakes is to quickly go through the divergent phase and rush to conclusions without taking the proper attention to the process that is being put in place; similarly, this also means to renounce following a technocratic approach where there is one best solution that is better than others. Once one accepts the fact that such a solution does not exist, then it is easier to let yourself be guided by the process and explore what comes as it comes.

PARTICIPATORY TECHNIQUES AND APPROACHES

Since there are different degrees of participation, there are also many different techniques and approaches that can be used in the framework of a participatory process to enhance the involvement of different actors and create some space for their contribution to the final decision. It is important to note that there is not one technique that works all the time. It is better to think in terms of results, and result-oriented strategies; therefore a good attitude is to wonder what could be the best strategy to attain a certain goal, given the situation at hand: **in other words techniques and approaches need always to be context-based, and that is why there is not one answer that fits all the times.** For this reason it is recommendable to know more techniques, since that gives the project manager or facilitator the possibility to choose among different options.

What follows is a brief description of some of the most widely used techniques and approaches in the field of participatory planning. They differ for many reasons, but they do agree on one point: that is, participatory planning is about giving the tools and conditions for people to take action themselves, rather than imposing something on them. Such techniques and approaches all move away from the more traditional meaning attributed to participation, which refers to the very limited time available at the end of seminars and conferences, which consist most of the times in a unidirectional flow of information where people are told about things, rather than offered the possibility to speak out their view and take part to the project management. **Since there is not one and only answer, participatory planning techniques and approaches are there to facilitate the interaction among stakeholders in order to favour the design and implementation of a project that carries the voice of many different actors.**

Focus Group

Focus groups (Morgan and Krueger, 1997) enable a working group to focus on a specific theme or topic. Developed in the 1950's, based on social research by Merton (1946), **it aims to build on the direct experience and expertise of the participants to undertake qualitative research**. In this sense, it is very different from other participative methods described here. It can be very useful in situations in which the project team has to investigate an issue – for example at the beginning of a participatory process to understand how to design it in a way that can really bring to the involvement of stakeholders.

Brainstorming

Probably the most widely known technique in participative workshops; the approach was developed by Alex Osborn in the 1930's (Kaner, 1998). The technique works by separating the divergent phase of generating ideas from the convergent phase of analysis and decision-making. **Suspension of judgement in the brainstorming phase is essential, in order to allow free flow of ideas (stream of consciousness).** There are many different ways of implementing the brainstorming technique, and it is a fundamental tool in most of the methods described here. In a participatory process can be very useful to investigate and develop new possible solutions.

Consensus Building

Consensus building is one of the most important approaches in participatory planning (Susskind et al., 1999). It is a decision-making strategy **that aims at reaching the best possible decision within a given group of people**, one that ideally finds everyone satisfied. It is an approach based on greatly expanding the (active) listening phase and joint exploration of new ideas and possibilities, which in the democratic processes are sacrificed by an emphasis on arguing and counter-arguing, thus giving limited time to really pay attention to what the other is saying, and of course on majority voting. **It is an approach that avoids judgement of someone's ideas and opts for considering any idea, especially if isolated, significant for what it contributes to the final decision, since it might contain useful information**.

Creative Problem Solving

Creative Problem Solving helps to find innovative and unconventional solutions to problems (Di Donald et al., 2005). **In a four-step process, participants avoid jumping directly from problem to solution so that new ways of looking at their problems become available**. People explore ways of "breaking out of the mould" to discover creative ways of tackling the issues they face. The four steps are:

1. **Problem analysis**: "mess finding" and "hot spots"
2. **Problem definition**: "ladder of abstraction" and "testing the statement"
3. **Idea generation**: "forced relationships" and the "C-box"
4. **Action planning**: "the "Magic Lamp" and "Reflect-adjust-plan" cycle.

Each step consists of a distinct divergent phase in which new perspectives are generated and shared among the participants, and a convergent phase in which choices are made on the areas on which to focus next.

Project Cycle Management (PCM)

Project Cycle Management (PCM) and its associated techniques, Goal-Oriented Project Planning (GOPP) and Logical Framework Approach (LFA), are widely used today (European Commission, 2004). The methods have been used successfully in many different settings, across Europe and elsewhere in the world to support programme and project design, planning, management, monitoring and evaluation. ***PCM pays special attention to the definition of the objectives and results which a project intends to achieve.***

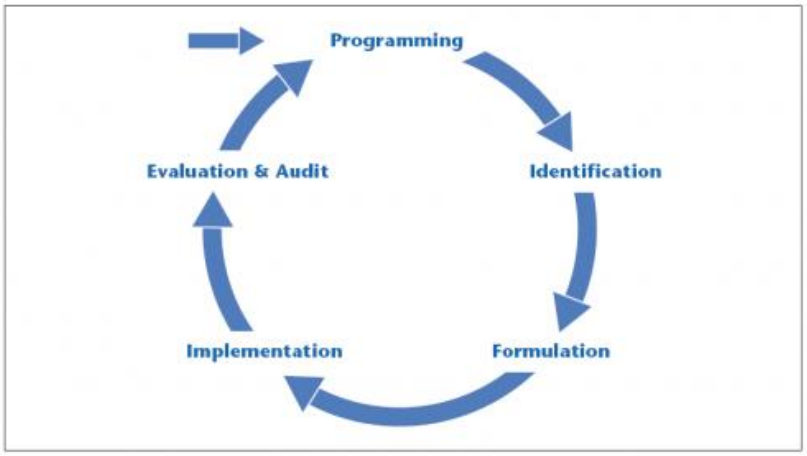

Figure 5 T*he project life cycle* (European Commission, 2004)

It focuses on meeting the real needs of the beneficiaries of the intervention. The European Commission strongly promotes the use of this approach in the management of its programmes and projects, especially those in the field of development cooperation.

Technology of Participation

Technology of Participation (ToP) is a series of related methods and techniques used in participatory planning for generating and building awareness (Stanfield, 2012). Developed in the

1970's and 80's by associates of the ICA - Institute of Cultural Affairs- it offers a rich set of tools for facilitators to manage workshops and reflective sessions. ToP Strategic Planning workshops follow a five-step sequence to guide groups in: future vision → current contradictions → strategic directions → concrete plans → immediate actions. It is used in groups, organisations and communities who wish to develop a dynamic approach to action planning, with regular 90-day reviews of immediate actions, and annual or bi-annual planning meetings.

EASW – European Awareness Scenario Workshop

The European Awareness Scenario Workshop (EASW) (Andersen and Bilderbeek, 1992) is a method promoted in the early 90's by the European Commission to facilitate social participation in local communities. **It enables participants to discuss issues and topics related to community development in a perspective of desired change.** Participants make use of their knowledge and expertise to develop concrete and sustainable solutions for the problems they face, by addressing the constraints as well as the potential for change they experience in everyday life. EASW is a tool to manage workshops whose ultimate goal is make an impact in the life and needs of people in the community. It allows participants to exchange information and discuss processes that govern local development, stimulating the ability to identify and plan practical solutions to existing problems.

EASW is built on two main activities: vision making and idea generation. During vision making participants are invited to describe possible scenarios related to the theme of the meeting, which they regard as desirable future scenarios; from there through a number of steps they develop a desirable common vision. During idea generation participants are asked to propose ideas on how to achieve the shared vision, and in doing so, they need to show how individual aspects of the common vision are going to be realised and most importantly who will take responsibility for their implementation. EASW is a powerful tool to understand community needs and define long-term goals and strategies of intervention.

World Café

Cafés have historically been a place where people talk and communicate. Today the coffee machine in most of working environments is the place where people communicate better, in a direct and informal way. World Café is a technique that creates an inspiring working environment where participants are invited to have free and passionate discussions around questions that matter (Brown et al., 2005). **Its special feature is to leave the discussions self-managed by participants within a common framework and under the guidance of "coffee host" who is in charge of launching the discussion and collecting its outcomes.**

Town meeting

Town meeting (TM) came into being long time ago, about four hundred years, in the region of New England, United States and it sprung up in the early colonial villages in the north-east of the USA (Frank, 2003). From the outset it was used as an expression of direct democracy, through meetings that were held to discuss the needs of the people and the policies of the country. **It is a tool that in its original form was well suited for the construction of public policies in small-scale urban realities, and it is still used in many small towns in the U.S.**

There are various types of TM: the open TM rely on the involvement and direct participation of all inhabitants, while in the representative only some citizens take part, selected from the population, discuss and vote for the community they represent. Undoubtedly, the experience of town meeting that took most media exposure was “Listening to the City”, an event that brought together about 4,300 people in New York to discuss the priorities to be followed in the project of reconstruction of the World Trade Centre after the attacks of September 11, 2001.

Appreciative Inquiry

Appreciative Inquiry (AI) offers an approach to participation which is significantly different from traditional ways of working: **it focuses on the positive aspects without ignoring the problems people face. There are four phases in this approach: discovery → dream → design → destiny** (Cooperrider and Whitney, 1999). During the discovery phase, participants focus on what is good and positive in their current working environment. In the dream phase people are invited to imagine the future reality which will build on the positive elements in their current situation. How they will work to achieve this future is the subject of the design phase. Concrete actions to implement the changes are agreed in the destiny phase.

Future Search Conference

Future Search Conference (FSC) was developed in the 1980's by Sandra Janoff, Marvin Weisbord and their colleagues (Weisbord et al., 2010). **By building on stakeholders’ common ground FSC gives everyone involved the possibility to work on improving the whole system which they are part of through a number of semi-structured dialogues**. If participants open up old issues and begin to quarrel against each other they are kindly invited to accept the different opinions and work on what they have in common as well as on what they wish to achieve together in the future. Such approach fosters and enables creativity and commitment.

Open Space Technology

According to Harrison Owen (2008) who developed this technique, passion and responsibility are the two fundamental characteristics of any process of change. Without passion, no change can be achieved; and without responsibility, nothing will be accomplished. **The basic idea, then, is to encourage the emergence of passion and responsibility**, and Open Space Technology (OST) is a participatory planning technique that has envisioned a very simple but powerful way to do so. It has been extensively used by private companies, government and non-profit organisations for the management of workshops from 5 to 2000 participants; **OST allows the creation of a situation where participants are given the freedom to self-organise according to what they mostly care of, given a certain topic.** Everything then works in an open, simple and straightforward way: each participant is free to join the discussion he or she has a passion for and discuss what he or she thinks is most important about that given topic. OST is particularly suited to promote large-scale participatory planning initiatives. In particular it can be especially useful in the early stages of a process, where stakeholders need to identify what the community needs are, as well as what priority actions are to be implemented. It is also useful in the final stage of a process when it is necessary to come up with a common decision for which there is a high degree of consensus.

A PROJECT EXAMPLE: CONTROLLED FLOOD DIVERSION AREA OF BOZZENTE RIVER, ITALY

The context

Nerviano is a middle-size municipality (approximately 18.000 inhabitants) located 15 km northwest of Milan, Italy. Its territory is crossed by the Olona river, the Bozzente torrent and the Villoresi canal. In the recent past the Bozzente torrent has been flooding several times, threatening the houses of many people living in the surroundings. Recent episodes occurred in 1996, 2002 and 2009 causing the break of levees with consequent flooding and considerable damages. In 2007 Lombardia Region and the Ministry of Environment agreed on funding with 10.5 million euros a project aiming at reducing the risks of flooding of the Bozzente river in the area of Nerviano, San Martino and Biringhello in the town of Rho. The Basin Authority of the Po river (AIPO) has identified some solutions to reduce the hydraulic risk of Bozzente, such as enabling, or rather restoring the natural flooding of the creek in the woods of Uboldo and building some rolling tanks along the waterway, one of which in Nerviano. The rolling tanks are areas of controlled expansion that contain temporary flood waters. After the phase of greater intensity, the water flows gradually back into the river without causing any damage.

The project

Although in recent times some of these infrastructures have been put in place, most of them are very difficult to implement due to the so-called NIMBY syndrome which results in strong opposition from local communities. In this situation it was very likely that some kind of resistance against the

infrastructure from the local community of Nerviano will occur. For this reason the Basin Authority of the Po river (AIPO) and the Government of Lombardia Region decided to work on higher degrees of public participation. Since there is no national guideline on public participation, and a public debate process (what in France is called *debate publique*) is not yet mandatory, this project became a pilot participatory project. It worked on three inter-related structural levels:

1. Political level (decision makers).
2. Technical level (experts).
3. Communication level (citizens).

It integrated two different approaches, project communication and participatory planning, dealing with three related working areas:

1. Improving internal communication skills within project staff through ad-hoc training.
2. Public and institutional relations.
3. Public debate and participatory design.

It adopted both indirect information tools such as announcements published in local newspapers, advertised through radios, websites or leaflets and direct information tools where citizens took active part in walking tours or exhibitions.

1. Internal communication and staff training

This is a fundamental part of the integrated approach. Experts and decision makers, who normally act behind the curtain, took part to the communication process since direct contact between them and the local community seems to greatly improve project management. Joining technical and communication experts was necessary in order to train technicians to become more effective in participating to meetings with citizens and be able to communicate technical issues in a non-technical way. Another strong point of the integrated approach was the improvement of information coherence: that is to say, the capacity to keep under control the information flow on the project, given the fact that many people were working on it. Information on big public project is complex since it comes from many different sources: media, associations, public administrations, citizen committees etc. It is essential that all of these channels show a considerable degree of coherence: for such purpose a website was created so that technical and communication experts could work together in order to facilitate information sharing among staff members and the main stakeholders involved. This way any piece of information regarding the project, from documents to maps, was stored.

2. Public and institutional relations

This is a more traditional activity which includes public, media and community relations. In this case a relationship was developed with local associations working on the territory dealing with environmental and agricultural issues as well as citizen committees. Meetings were organized both individually with single organisations and collectively. In this phase it was very important to stress to all stakeholders the fact that the project was still open to changes and there was room to suggest how to go about it, offering a real possibility to interact and make an impact on the project design.

3. Participatory planning

The participatory planning process was divided into three phases.

Phase 1. Understanding the problem and possible solutions (divergence)

The first part of the project aimed at exploring different views on the problem and collecting suggestions on how to go about it. A wide range of different activities were developed including:

- Meetings and interviews with opinion leaders.
- Interviews to different stakeholders to gather information and suggestions, this way involving the local community.
- Reconstruction of the history of the river and its floods dating back 500 years.
- Collection of best practices in Italy and worldwide regarding similar projects.
- Field - visits along the river with people living in the surroundings of the area subject to the diversion basin to assess the present situation and community needs.

In order to share all the information gathered in this phase a website was set up.

Phase 2. Launching and discussion of proposals on how to realize the tank

During this phase a number of workshops were organised with the local community and technical experts to collect proposals, discuss them and analyse their impact. The activities developed are the following:

- Meetings and discussion groups with example of multiple use of other diversion areas (i.e. agricultural and hydraulic).
- Gathering of ideas and proposals, large meetings with citizens and stakeholders, debates using techniques of consensus building and conflict management.
- Small thematic groups to discuss specific situations.

- Selection of the contributions and building of the final proposal.

Phase 3. Fine tuning of the final design (convergence)

Technical staff analysed the results and contributions gathered and developed a final proposal. The proposal was discussed and fine-tuned with different stakeholders. The final design was presented to citizens and stakeholders and submitted to the EIA.

The whole procedure of public consultation including every different phase of participation took approximately two years. Each meeting counted about 100-120 participants: citizens of *Nerviano* municipality, owners of land interested by the controlled flood diversion area, environmental bodies, civil servants belonging to the Municipality of *Nerviano*, and other municipalities of the area, experts and engineers belonging to the Basin Authority of the *Po* river (AIPO), experts of the Lombardia Region, the Mayor of *Nerviano*. The project benefits due to the public participation were an improvement of the technical aspects of the project and a shared solution acceptable by the citizens and the land owners.

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FURTHER/SUGGESTED MATERIAL:

- Process documentation of housing strategies in Juna Vadaj (Ahmedabad) by students of housing, School of Planning, CEPT University, Ahmedabad. Available on: http://www.youtube.com/watch?v=hPvzDJ2raQo
- Six Creative Ways To Brainstorm Ideas. Available on: http://www.youtube.com/watch?v=yAidvTKX6xM
- Mapping Dialogue, Pioneers of change associated, 2006 - http://pioneersofchange.net/library/dialogue/
- The IAF - International Association of Facilitators methods database http://www.iaf-methods.org/
- Techniques and approaches
    - Open space technology: www.openspaceworld.org
    - PCM : http://ec.europa.eu/comm/europeaid/reports/index_en.htm
    - Town Meeting: http://americaspeaks.org/
    - Appreciative Inquiry: http://appreciativeinquiry.case.edu/
    - Technology of Participation: http://www.ica-usa.org/

- World café: http://www.theworldcafecommunity.org/
    - Future Search Conference: http://www.futuresearch.net/

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