



# RECOMMENDATIONS FOR THE APPLICATION OF AN INTERCULTURAL APPROACH IN RURAL WATER AND SANITATION PROJECTS

---

## Foreword

The present document is one of the results of the joint research initiative “Transcultural Transparency” focusing on how to overcome sociocultural clashes between communities, service providers, development cooperation actors and local authorities, particularly in indigenous areas.<sup>1</sup> It poses recommendations to be borne in mind by the different stakeholders when working on water and sanitation with indigenous peoples in Latin America. The recommendations made in this document are applicable to any intervention for water and sanitation in rural areas, but with special emphasis on the cultural contexts indigenous and ethnic minorities in relation to which the socio-cultural differences matter greatly for the definition and implementation of successful projects.

This initiative arises from the demand on behalf of development programmes working with water and sanitation in rural indigenous communities, expressing the need for more systematic information about issues to keep in mind and how to deal with the different worldviews of the various actors involved, and what would be the most efficient way to intervene in these areas.

The recommendations are based on the results of two coordinated research processes: 1) a literature review of over 100 project documents, evaluation reports, policies, strategies and thematic studies, and 185 scientific articles published on water, sanitation and indigenous populations and ethnic minorities; 2) the research conducted on site regarding the different socio-cultural barriers associated with service provision, with six communities of indigenous peoples, Afro-descendants and mestizos on the Caribbean Coast of Nicaragua.

This is a joint research initiative between the Millennium Development Goals Achievement Fund (MDG-F), the UNDP Water Governance Facility at SIWI (WGF) and the University of the Autonomous Regions of the Nicaraguan Caribbean Coast (URACCAN). The WGF also managed the knowledge management strategy for the documentation, analysis and dissemination of innovations and experiences of the joint programmes of MDG-F’s thematic window for Democratic Economic Governance of water and sanitation.<sup>2</sup> The field research, with six communities on the Nicaraguan Caribbean Coast, has been led by URACCAN.

Even though the focus of this particular document is not public policy and interculturality is it essential to recognize the interconnectedness; a water and sanitation project with an intercultural approach is more probable to be sustainable if there are public policies which recognize and support the implementation of initiatives which are respectful to the rights and aspirations of indigenous peoples. One of the central obstacles to appropriate sector policies is often the lack of knowledge and information on the situation of indigenous peoples as disaggregated data is scarce.<sup>3</sup>

At the same time, the attitude of those in the implementing the project and of partnering institutions is key if they are to engage in a respectful way with the indigenous peoples. Experiences from both MDG-F programmes and the Transcultural Transparency research project has shown that even if the enabling legislation might be in place the effects of it can be substantially hampered by lack of understanding or disrespect for it. To counter these attitudes public awareness raising campaigns

---

<sup>1</sup> <http://www.watergovernance.org/TTT/en>

<sup>2</sup> <http://www.mdgfund.org/content/democratieconomicgovernance>

<sup>3</sup> For some of the Latin American countries disaggregated data for indigenous and afro-descendant peoples can be found at CEPAL’s website [http://www.cepal.org/cgi-bin/getprod.asp?xml=/celade/noticias/paginas/0/36160/P36160.xml&xsl=/celade/tpl/p18f.xsl&base=/celade/tpl/top-bottom\\_ind.xsl](http://www.cepal.org/cgi-bin/getprod.asp?xml=/celade/noticias/paginas/0/36160/P36160.xml&xsl=/celade/tpl/p18f.xsl&base=/celade/tpl/top-bottom_ind.xsl)

and the facilitation of spaces for public dialogues between indigenous peoples and e.g. governmental officials can be instrumental.

## Contents

<b>Indigenous Peoples' Access to Water and Sanitation Services .....</b>	<b>4</b>
Institutional and leadership challenges among indigenous peoples .....	5
Towards an Intercultural Approach in Water and Sanitation .....	6
<b>Fundamental Principles of the Intercultural Approach .....</b>	<b>8</b>
Dialogue.....	8
Respect and trust .....	9
Flexibility and Inclusion .....	9
Long-term Supportive Relations.....	10
<b>Including the intercultural approach in the project cycle.....</b>	<b>11</b>
1. Start of Project .....	11
2. Planning phase .....	13
3. Implementation Phase .....	16
4. Project Finalization .....	18
5. Sustainability .....	19
<b>A specific look at sanitation .....</b>	<b>21</b>
<b>Final Considerations .....</b>	<b>22</b>
<b>References .....</b>	<b>23</b>

## Indigenous Peoples' Access to Water and Sanitation Services

*"Water as well as the earth is our mother, why the quality of life depends on her."* (Testimony from the community Saklwas, Nicaragua in Campos & Zamora, 2009, p. 17)

Most indigenous peoples have a close relationship to and deep knowledge about their territories and the natural resources within them, including the different forms of water (Peña, 2004). Indigenous peoples' relationship to water is also strongly connected to the spiritual world and water is often seen as a sentient being, fundamental for the survival and wellbeing of the earth and its people. (Anderson et al., 2011, Finn and Jackson, 2011, Mooney and Tan, 2012, Nash, 2007, Toussaint, 2008, Singh, 2006).

Throughout the world, there are disparities in water and sanitation services coverage between indigenous and non-indigenous peoples (UNDP, 2006). Low access to sanitation and water supply in indigenous areas can be attributed to a range of physical and economic challenges but also to cultural and political barriers. It is much more likely for indigenous peoples to suffer the multi-dimensional factors of poverty, including under-nutrition and other deprivations related to health (Eversole, 2005). It is estimated that the indigenous peoples compose some 5 % of the world population, but represent 15 % of the persons living in poverty (IFAD, 2009).

As minorities, the marginalization of indigenous peoples is worsened by their weak participation and lack of significant representation at higher political levels (Carling, 2001). Indigenous peoples' marginalization can partly be explained by hierarchical structures inherited from colonialism, as well as by the current political systems and electoral processes, which may conflict with indigenous authorities' governance systems. As a result of this social, economic and political marginalization, the indigenous peoples benefit less from national development opportunities, including their lower access to water and sanitation services (Mikkelsen, 2001).

The indigenous peoples' right to equitable access to services and resources stands out in several international conventions and agreements, including the International Labour Organization (ILO) Convention N° 169 and the UN Declaration on the rights of indigenous peoples (UN, 2007). The right to prior, free, informed consent is one of the key components promoted in the Convention N° 169 for any intervention in indigenous communities. Most countries in the world have also ratified the Human Right to Water and Sanitation, entailing an obligation to progressive realization of universal access without discrimination.

Even though most interventions in water and sanitation advocate for an 'intercultural approach' as a cross-cutting element of interventions in indigenous areas, few of the programs reviewed for this document specify how this should be done from a practical point of view. Projects are, in general, not well adapted to the local reality of the indigenous communities. The most common trend is to build programs with a standard approach to providing rural water services, with different degrees of sensitivity toward indigenous peoples.

*"The intercultural approach is oriented towards the recognition of the coexistence of diverse cultures in the current societies which should live together, based on the respect for each other's worldviews, human rights and rights as peoples."*  
(UNFPA et al., 2012, p. 24)

The standardized approach toward service provision, does generally not allocate sufficient time and resources to achieve a shared understanding and definition of the goals. This has contributed to a low level of ownership and a lack of sustainability in many initiatives.

### Box 1. Rights Based Approaches to combat inequalities

Human Rights Based Approaches (HRBA) aim to identify and analyse violations of the basic Human Rights, both in relation to liberties and access to services and resources, in defines of the autonomy and dignity of all peoples. As the Human Rights are interdependent a HRBA entails interventions to look for integrated strategies to combat discrimination and meet the needs of the most marginalized and vulnerable groups. Five of the most common problems for marginalized groups, both in the development of policies and in programming, are: lack of visibility; lack of representation; low level of participation in spaces for decision-making; lack of access to services and resources and; lack of recognition of their rights. The application of a HRBA on projects working with indigenous peoples can be used as a tool to visualize the multiple structural inequalities they face and to put pressure on the government to change its practices and policies to target the reduction of these inequalities (UNFPA et al., 2012).<sup>4</sup>

The recognition of the Human Right to water can also be used to support indigenous peoples' claims for access to safe water and sanitation as it entails governments to take "deliberate, concrete and targeted steps" (p. 23-24) to progressively realize universal non-discriminatory access to water services. Even if this does not oblige the states to provide access to free water, it should be physically accessible, have an acceptable quality and be affordable (de Albuquerque, 2012).

For guidelines on the integration of the human rights-based approach in water and sanitation development work, see WaterLex toolkit (in construction) <http://www.waterlex.org/waterlex-toolkit/>

### Institutional and leadership challenges among indigenous peoples

Indigenous peoples and ethnic minorities face major institutional and leadership challenges affecting progress and sustainability in water and sanitation interventions. Indigenous authorities are under great stress from external forces whose values and norms clash with those of the indigenous peoples.

Migration for work or studies in urban areas, or even abroad, and new influences brought by information and communication technologies, are among the principal sources of stress to the foundation of the indigenous authorities. The exposure of the people to other social values and lifestyles, based on individualism instead of community, affect and compete with the traditional lifestyle and undermine the culture of collective values that many indigenous peoples maintain.

Conflicts over territories and the right to natural resources with external settler groups, private interests and governmental policies cause long-term and profound social and cultural disruption. Moreover, drug trafficking and abuse tend to increase the levels of violence and crime, creating far-reaching family and social conflicts, along with the unequal and unsustainable influx of illicit currency in to the local economy.

It is also necessary to recognize that development projects in themselves have great impacts on the dynamics and traditional lifestyles. For example, development projects often create new management and decision-making structures, commonly without involving or respecting existing indigenous authorities. Contact with the modern political system has also changed internal power relations and generated party polarization within indigenous structures that previously were based on decision-making by consensus.

This situation of multiple stresses generates intense internal processes of cultural and institutional renegotiation – sometimes resulting in extensive conflicts – and profoundly affects the functioning

---

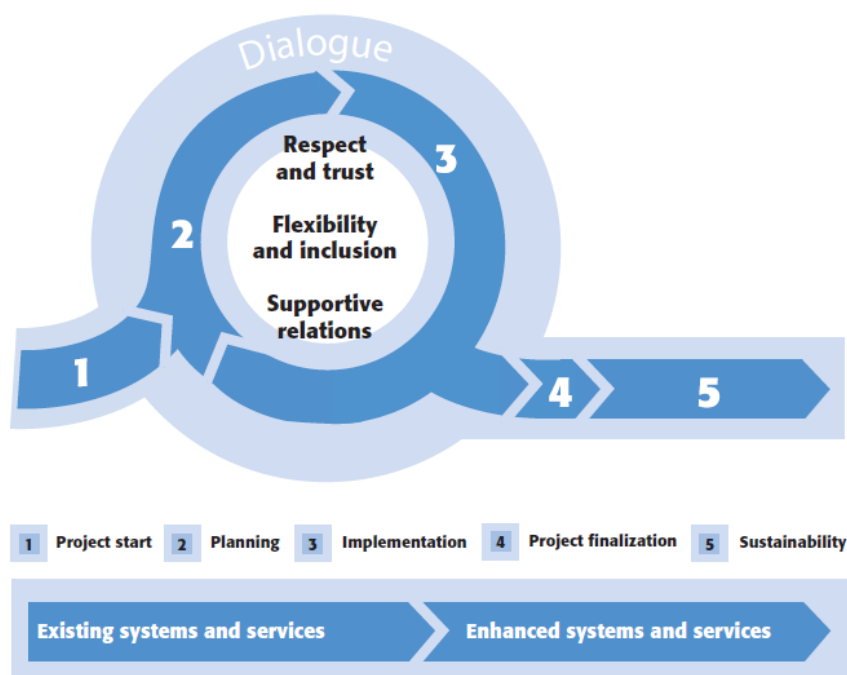
<sup>4</sup> For more on how to work with HRBA, interculturality and gender equality in the situation analysis, definition of strategies and evaluation in development programmes see the document *Ampliando la mirada* (<http://www.cladem.org/noticias/Ampliandolamirada.pdf>).

and legitimacy of indigenous authorities. There are also inter-generational tensions, where youths exposed to the new influences demands changes to the traditional lifestyles, while the more adult parts of the population requires greater identity, unity and respect for their culture.

## Towards an Intercultural Approach in Water and Sanitation

Below we present recommendations for a practical inclusion of an intercultural approach in rural water and sanitation interventions. To make them easier to apply they are presented according to the project phases – 1) starting up, 2) planning, 3) implementation and 4) finalization, as shown in Figure 1. The “Elements to consider in the different phases of the intervention” will be presented subsequently, according to their corresponding project phase. The values that are considered to be “Fundamental Principles of the Intervention” have been put in the centre of the figure and will be presented further in the next chapter. A section on sustainability is then presented, followed by a special note on sanitation and the conclusions.

Figure 1 – The Project Cycle and the Fundamental Principles



The majority of the elements and activities to be considered during the project cycle could be applied with equal benefits in water and sanitation projects in rural non-indigenous communities. There are, however, elements of particular importance for projects working with indigenous communities:

1. Indigenous peoples' worldviews, relationships and knowledge related to water and sanitation. As mentioned previously, indigenous peoples often have strong and close relationships with the water resources. These values and relationships affect the solutions that are considered desirable.
2. Involvement of indigenous authorities. Most indigenous peoples and communities have their own governance structures that correspond to rules and norms that sometimes diverge from

those of external institutions. This can include for example a focus on consensus decision-making and collective solutions which require more time for dialogue and discussion.

3. Establishment of a relationship between indigenous authorities and governmental institutions. Due to the historical marginalisation of indigenous peoples they generally have a weak relationship to the government, and the indigenous authorities are frequently not adequately recognised. To establish a relationship based on mutual trust and respect is imperative for long-term sustainability.
4. Tariffs and monetisation of water. Introduction of a tariff system is one of the aspects of water and sanitation projects which generate most resistance in indigenous communities. The perception of whether it is correct or not to pay for water and water services is closely interrelated with worldviews and cultural values, and in addition economic resources available in indigenous communities are often scarce.

## Fundamental Principles of the Intercultural Approach

### Dialogue

An on-going dialogue between stakeholders is the channel for the processes of the intercultural approach and the basis for creating mutual respect and understanding. A non-hierarchical dialogue, where different perspectives and aspirations are considered equal, is fundamental to generate respectful relations between the actors. A horizontal dialogue is also required for an 'epistemological encounter' which enables the integration of the communities' knowledge and the scientific knowledge throughout the project. This allows the project to respond to complex problems in a holistic and contextually appropriate way, as the solutions are formulated together with those who are the most affected by the problem and have most knowledge about the specific setting (SENSABA, 2011). According to the Committee of Experts of the ILO Convention No. 169 will a "permanent dialogue at all levels, as required by the Convention, [...] contribute to preventing conflict and building an inclusive model of development" (ILO, 2009, p. 38).

*"Applying the intercultural approach is not a question of training people in their own language, but of creating the spaces for cultures to really meet." (OPS and GTZ, 2006)*

To facilitate an effective intercultural dialogue, the following factors should be borne in mind:

- i) To generate trust among the stakeholders is essential to the success of any intervention. This is achieved by respecting autochthonous customs, cultures and authorities. In practice, to recognize the time that this process requires is vital. It is also important "to open up channels for communication" for an initial process of getting to know each other, via local mechanisms and traditions, using adequate spokespersons or authorities who are recognized by the

community. In general, indigenous leaders are designated the ambassadors and spokespersons of the community because they are fluent in Spanish or are well educated. This does however not always mean that they are able to represent the interests of the community as a whole, nor do they substitute for other indigenous authorities or spaces for decision-making, see Box 2.

#### Box 2. Indigenous Authorities

The structures of authority of indigenous peoples can look quite different in different settings. In the miskito and sumu-mayangna communities in the research project *Transcultural Transparency* the fundamental authority was the community assembly, where the authorities such as the Elders Council, the community arbitrator/judge (Whita) and the supervisor of natural resources (Síndico). In addition there was the Territorial Government, which had been more recently instituted, responsible for the governing of one indigenous territory.

In the Bolivian ayamara people the highest authority is the *mallku* who governs several communities that together form an *ayllu*. Yet, decisions are taken in the *ayllu* assemblies. Second to the *mallku* is the *jilaqata* followed by the *alcaldes comunales*, which holds specific tasks related to their respective neighborhoods.

Source: Choque, 2001

- ii) Ensure culturally adequate settings for the dialogue. General meetings are not always the most suitable way to generate open communication, since there can be cultural restraints on the free expression of certain groups. This is especially important to consider when seeking gathering the impressions of social groups that may be less powerful in the community, such as women or youth.

- iii) To use appropriate language. Working with facilitators who are fluent in the local language, and if possible, recognized within the community, is key to establish smooth communication among the parties.



## Respect and trust

Respect and trust are fundamental values for an effective intercultural approach. Lack of respect toward local culture is a recurring theme highlighted by indigenous peoples regarding problems associated with water and sanitation interventions. The abuse that indigenous communities have suffered on numerous occasions, as well as a history characterized by multiple conflicts, wars and situations of marginalization and lack of respect for their human rights, have resulted in low levels of trust in external institutions. Further, the long history of development assistance based on short interventions, without continuity or sustainability, has also contributed to eroded credibility and trust for development organizations.

Lack of knowledge regarding cultural and social values associated with water and sanitation poses the greatest obstacle for the appropriation of initiatives and making interventions sustainable. Imposing solutions, both technical and management solutions, that are not culturally and socially suited and acceptable will condition the intervention's success.

Therefore, it is necessary to take the history of interventions and their results into account and the relationships that stakeholders have had at the time of approaching a community, and in selecting the means and instruments for their involvement. A

long-term commitment to communities by development agents and government authorities builds relationships of trust and understanding, which are especially valued by indigenous peoples. Respect for indigenous peoples and ethnic minorities are shown at various levels, for example through the official recognition of their rights and structures of authority. But it also entails taking into account their values, interests and aspirations under equal conditions.

*"Often [projects] come in and imposed ideas and ignore the opinions of people living there"  
(Testimonial, Orinoco, Nicaragua)*

## Flexibility and Inclusion

Flexibility, understood as the will to change the scope, methodology and outputs associated with an intervention, is essential to create an appropriate and effective application of an intercultural strategy.

Although most projects provide for participatory instruments to enable communities to express their needs and concerns, this does not necessarily admit the communities the capacity to take decisions and to influence substantial aspects of the project. On many occasions, participation exercises are mainly processes of informing the community, geared to justify the intervention, and persuade them to accept and approve it. Communities often accept, either because they are afraid of rejecting an investment opportunity into the community, or because they expect to obtain some benefit from the intervention, even if it does not exactly meet their needs. This frustrated dialogue is manifested on many occasions in community testimonials about projects that have failed.

The inclusion of the community in a position to substantially influence all phases of the project cycle, from its formulation through its implementation and monitoring, contributes to empower and capacitate the communities as managers of the project interventions and beyond. As mentioned above, it is important to be aware of the diversity of interest and perspectives within a community,

*"The miskito worldview has not been taken into account much; why? Because I see that the projects only come in, execute and leave."  
(Municipal Water, Sanitation and Hygiene Unit. Waspám, Nicaragua)*

*"It is time for us to be respected and for our culture, beliefs and worldview to be taken into account." (Testimonial, Marshall Point, Nicaragua)*

and to understand the internal tensions and power dynamics of the leadership and representation of the community. It is important for the success of the project to find ways to involve and reach the diversity of groups within the community, and to not be limited to the most accessible contacts of the leaders and official representatives. This also

helps to avoid reinforcing potential systems of corruption and abuse of power.

To manage the different interests inside the community within the limitations posed by time tables and budgets is no easy task. However, the final cost of not including the communities in the different processes, or not adapting solutions to the local conditions, is much greater; as shown by the numerous cases of lacking sustainability, malfunctioning of water and sanitation services, or even their sabotage or complete disuse.

### Long-term Supportive Relations

It is commonly recognized that community water management cannot be sustainably carried out in isolation, without regular, structured backing by authorities, who are the duty-bearers of obligations for service provision. Indigenous communities commonly face difficulties in their relations with administrative structures and State authorities. In many cases there is mutual mistrust about intentions and capacities.

*"They come to our community to take concrete actions and then never come back again". (Testimonial, Nicaragua)*

The presence in the community of support agents, beyond specific actions, and beyond mere construction of infrastructure, is a fundamental factor for the sustainability of interventions (Lockwood and Smits, 2011). This calls for long-term institutional relationships between local organizations and the responsible institutions (e.g., municipalities) as a mechanism for continuous

backstopping, see Box 3. It is very important to avoid the tendency of abandonment after the period of intervention.

#### Box 3. Long-term Partnership

Significant success has been noted in the intercultural approach of the Joint Program of Democratic Economic Governance in Panama.

In this context, WHO/PAHO, along with UNICEF and ILO, have worked together with the Ministry of Health (MINSa) to maintain a relationship over many years with the indigenous communities in the Ngäbe Buglé area. A dialogue has developed and reinforced indigenous structures.

As a leader of a local water committee told his community; "Another institution, MINSa, works with us, advising us and we report to them monthly. We are not alone – they are with us, and we are with them."

Documented by video:

<http://www.watergovernance.org/sa/node.asp?node=1659>

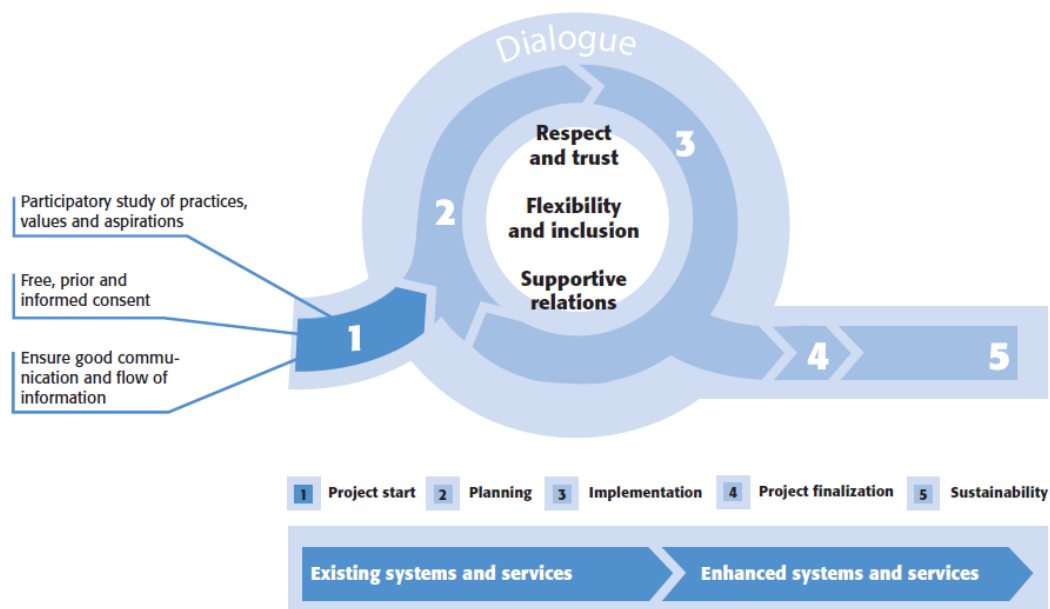
The engagement by State authorities beyond the infrastructure construction is essential in view of their importance throughout the life cycle of the services. Therefore, elements to foster are:

- i) The effective involvement of authorities throughout the project as well as in the continuous operation of the service,
- ii) Capacity-building and communication regarding the State's administrative structures, obligations and the rights of the citizens,
- iii) Spaces for continuous dialogue between indigenous communities and government authorities.

## Including the intercultural approach in the project cycle

### 1. Start of Project

Figure 2 – The Project Cycle and the Considerations at the Project Start



**Participatory study of practices, worldview and aspirations associated with water, sanitation and hygiene:** Lack of prior knowledge about indigenous peoples' beliefs and values related to water, sanitation, health and hygiene helps explain a large part of the failures of many interventions. Often studies have been done *a posteriori*, seeking explanations to the resounding failures of some projects, above all in sanitation. Currently, Sanitation Marketing<sup>5</sup> approaches are developing more studies prior to interventions, attempting to understand people's values, practices and expectations regarding these services (Jenkins and Scott, 2007; Baskovich, 2011). They use social and commercial communication to increase both the demand and the supply of sanitation services, but are foremost based on formative studies of existing practices and needs. It is important that such prior studies become normal practice, necessary for working with indigenous peoples. The present research focused on determining the role of different actors, using participatory methods, see Box 4.

Above all, people must be involved as subjects in research, not as objects, throughout the intervention, to initiate the process to generate trust, mutual understanding and dialogue among the

#### Box 4. Participatory methodologies and the identification of actors

The research project on *Transcultural Transparency* used several participatory techniques (participatory mapping, de Venn diagrams, etc.) to, jointly with the communities, analyze their problems with water and sanitation, stakeholders in the sector and suitable solutions.

A stakeholder analysis need to consider all types of actors, since government agencies, international organizations, local civil-society and religious organizations, associations, and private companies all can play an important role in the sector.

For further information on participatory techniques, please see: <http://www.sswm.info/category/planning-process-tools/decision-making/decision-making-tools/deciding-community/participato>

<sup>5</sup> For more information on Sanitation Marketing approaches see <http://www.wsp.org/toolkit/toolkit-home>

#### Box 5. Free, Prior and Informed Consent

Consultation and participation are crucial components of a consent process. They require time and an effective system for communicating among stakeholders, to reach an understanding or consent.

- Free implies no coercion, intimidation or manipulation.
- Prior entails sufficient time in advance of any start of activities, respecting the time requirements of indigenous consultation/consensus processes.
- Informed means that the information provided covers all aspects of the project.

The process needs to include the option of withholding consent or retrieve it if the conditions for the agreement change. For more information see the Pro169 toolbox <http://pro169.org/>.

Source: Guidelines on Indigenous Peoples' Issues, UNDG, 2009 page30

parties. In this context, different actors may play complementary roles, involving academic institutions and non-governmental organizations.

**Free, prior and informed consent:** Both the ILO Agreement N° 169 and the UN Declaration on the Rights of Indigenous Peoples recognize indigenous people's right to own and control their land, and to own, use and manage the natural resources on that land. The UN Declaration on indigenous peoples' rights calls upon States to consult with indigenous peoples to obtain their free, prior, and informed consent before approving any project affecting their land and resources, see Box 5. The cost of participatory processes with indigenous peoples must be included as part of the planning process, taking into account potential differences among community decision-making processes, which may be quite different from decision-making in society at large, which is based on

#### Box 6: Integrated Planning of Rural Access

Local governments and development agencies cooperated with indigenous communities in the planning and prioritization of interventions in the Chaco area as part of the MDG-F programme on Democratic Economic Governance in Paraguay. The process of 'integrated planning of rural access' starts with a visit to the communities, interviews with key actors, and then develops details about needs, resources and desired solutions. The information collected is presented in larger meetings with several communities, where decisions about priorities on the construction plans are made.

The process takes some three months, and respects the time frames of the communities. As women were in many cases not comfortable in expressing their ideas at larger meetings, their concerns could be informally worked into the men's proposals between the meetings. However, in a community with female leadership, it was less complicated to engage with the women than in the others led by men. Moreover, the opening up of dialogues may also lead to many other community issues not directly related to water and sanitation being brought into the process.

For more information visit: <http://www.fimi-iiwf.org/odmdg/ventanas-tematicas/gobernanza-economica-democratica/59-fortaleciendo-capacidades-para-la-definicion-y-aplicacion-de-politicas-de-agua-y-saneamiento>

representation, delegation of power and/or decision by majority vote (UNDG, 2009), see Box 6.

#### **Ensuring good communication and flow of information:**

Indigenous communities, like any other, are not free of internal conflicts or of the risks that community elites might monopolize project benefits. It is not unusual for indigenous peoples to complain of a lack of representativeness and commitment from their leaders. For proper project implementation, it is essential to be aware of communities' internal tensions, calibrate them in dialogues with the

*"They share training workshops only with their relatives... most leaders don't inform us about their new knowledge, so this is a failure for the community: there is no development"*

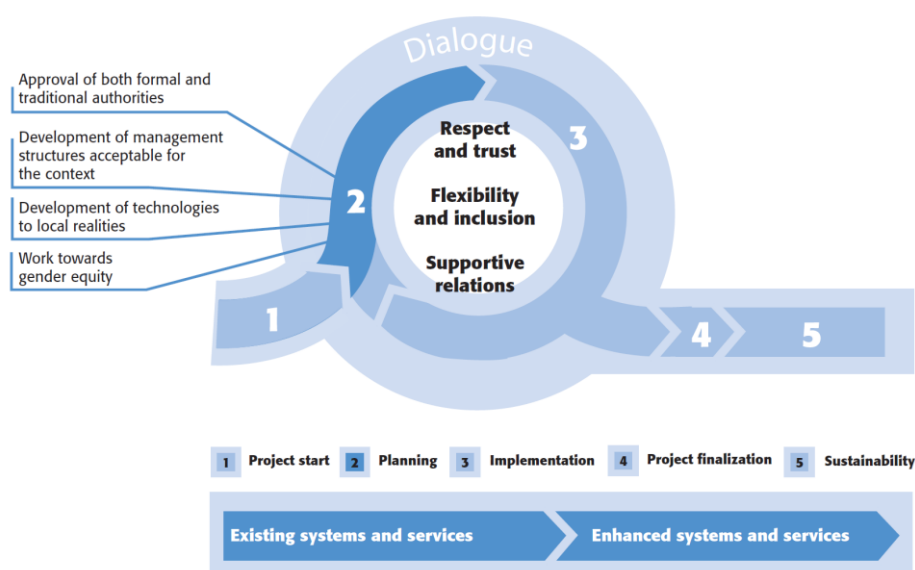
*(Testimonial, Uhry, Nicaragua)*

communities and to assure that there is equitable and inclusive participation in decision-making – this is the only way to ensure that water and sanitation services are constructed on peoples’ true needs, priorities and aspirations.

In many cases, projects assume that indigenous leaders express the voice of the whole community. As this is not always the case, it is necessary in this context to create meeting spaces like community assemblies, focus groups (men, women, youth), and other tools to elicit priorities from a broader representation of the community.

## 2. Planning phase

Figure 3 – The Project Cycle and Important Considerations for the Planning Phase



**Approval by formal and indigenous authorities:** Indigenous communities often have several types of authorities. There may be administrative structures for the territories, alongside other indigenous authorities with specific competences. The work and permission of these authorities is an important factor for all parties to begin the project with a positive attitude. On occasion, insufficient knowledge of the specific institutional fabric in indigenous territories, or the contradictions between mandates of different authorities, results in institutional misunderstandings that can seriously affect the project’s success.

Further, other institutions that may be important in the community should be involved, to act as project promoters, rather than blocking it. It is necessary to work with the structures and institutions recognized by the community as their own – for example religious institutions, see Box 7 – to ensure the community's social change towards sustainable

### Box 7. The importance of religious institutions

One particular dimension that arose from the field work of the research project was the Church’s importance in leading interventions in the communities – which means that they must be involved in project development.

*“The existing community leadership is always included, respecting and working with the community, religious and ancestral authorities.”* (Acción Médica Cristiana, Laguna de Perlas).

*“when doing the field visit one must contact the leaders such as the church and try to create a relation with them to be able to go into the community”* (Municipality of Bluefields, 2013)

water and sanitation services is backed by the main local actors.

***Development of acceptable service management structures:***

The values of indigenous communities regarding individual rights and governance models may diverge from the values promoted by water and sanitation projects. These contradictions add complexity to the challenge of taking advantage of existing governance structures. Community water management structures must be designed with, and accepted by, the indigenous peoples. This may entail, at least in the short term, to suspend some standard principles of good governance for water committees, like gender equity, etc. Principles considered to be fundamental for the proper operation of these systems can only be introduced through dialogue between the parties. Imposing a certain type of management body has not infrequently led to inactivity and even dismantling shortly after the end of the project.

***Adaption of technology to the local context:*** When predetermined types of infrastructure are imposed by projects, this may be a reason for failure, either because the technologies are poorly adapted to the local context, or because the potential users do not accept them. The special relationship that many indigenous communities have with their land is associated with a profound knowledge of its ecology, the local water resources (amount, seasonality, quality, etc.), and local practices that may be very effective for issues such as drinking water treatment (e.g. using native plants to filter water) and personal hygiene (e.g. using plant by-products, ashes or other elements for hand-washing, instead of soap). This includes also the use of different water sources for different purposes, and how to reuse water. This cumulative body of knowledge generally referred to as Traditional Ecological Knowledge (TEK), passed on through generations, should be respected and built into any project when designing improved services – as seen in Box 8. Box 9 includes a list of examples of sources regarding alternative technologies in the area of water and sanitation.

**Box 8. Using local knowledge**

In the Paraguayan MDG-F programme people from the communities of intervention with extensive knowledge about the local environmental conditions were named ‘empirical experts’ and/or brigade leader as a way to recognise and highlight the value of their knowledge. Their expertise related to soils and the location of fresh water reserves in the dry Chaco landscape was essential to the implementation of the programme.

Source: Maria Teresa Gutierrez, ILO Paraguay

**Box 9. Alternative Technologies**

There are many different accessible sources on technological alternatives:

The “Smart Solutions” series, published by the International Research Centre (IRC), in collaboration with UNICEF and other organizations, for Water, Sanitation, Rain Water Collection, Hygiene and Disinfection.

Accessible through: <http://washresources.wordpress.com/tag/netherlands-water-partnership/>

A compendium of sanitation technologies has been compiled as a collaboration among Eawag, Water Supply and Sanitation Collaborative Council and the Water Alliance;

[http://www.eawag.ch/forschung/sandec/publikationen/compendium\\_e/index\\_EN](http://www.eawag.ch/forschung/sandec/publikationen/compendium_e/index_EN)

There are also organizations devoted to researching and promoting alternative technologies, such as the Practica Foundation (<http://www.practica.org/>); or the Sustainable Sanitation Network

(<http://www.susana.org/>).

The Technical Cooperation Agreement between the Pan-American Health Organization (PAHO/WHO) and the Swiss Development Cooperation Agency (SDC) to improve sanitation in rural areas of Peru generated over 130 technical documents from 1997 to 2008 (accessible at [http://www.bvsde.ops-oms.org/tecapro/index\\_pre.html](http://www.bvsde.ops-oms.org/tecapro/index_pre.html)).

They include a compendium of water and sanitation technologies, accessible through <http://www.bvsde.paho.org/bvsade/e/fulltext/tecnologias/tecnologias.pdf>



**Working for gender equality:** In most cultures women bear the main responsibility for managing water in the home, why it is important to ensure that their knowledge, perspectives and interests are included and considered in decision-making. Moreover, studies by for example the International Water and Sanitation Centre (IRC) and the World Bank has shown that community water and sanitation projects designed and implemented with women's full participation are more sustainable and effective (UN-Water, 2006; Van Wijk-Sijbesma, 1998). The promotion of non-discrimination is common practice in development programmes, especially in relation to gender inequality. Yet, as discrimination exists also within indigenous communities and organisations, as in all societies, a great deal of sensitivity needs to be applied when working towards increased equality.

The MDG-F programme in Ecuador decided to concentrate its gender activities at the local level on communities where openness to changes in the gender roles or already established women leadership existed previous to the programme implementation, as the promotion of gender equality met with strong resistance in some of the communities where it was active. The conclusion was that a specific intervention to raise the general awareness on women's role and gender equality was needed before water, sanitation and gender could be implemented integrally. At the same time, other MDG-F programmes refer a lot of their success to their strong profile of promotion of female leadership and women's capacity building – as the Panama case described in Box 10.

These different experiences show the importance of being sensitive to how, in what spaces and to what extent equality – including age, capabilities, sexual orientation and gender – can be promoted. Nonetheless, the need of sensitivity should not be taken as an excuse to not work to combat discrimination in community organizations and partnering institutions. The least that can be asked from any intervention is that it ensures to not aggravate existing inequalities.

#### **Box 10. Strengthening of Women's Leadership**

Among the success factors to the work on women's leadership in the MDG-F programme on Democratic Economic Governance in Panama the following can be highlighted:

- The involvement of women in the whole process of program implementation, from the start, ensured the empowerment of this group.
- Ensuring women the opportunity to benefit in equal conditions as men from the potential to generate economic income in connection to the construction of infrastructure
- The integration of men in household work facilitated the incorporation of women in all the project activities
- Women's traditional work was recognized as equally important as the men's, generating confidence and better self-esteem

This has resulted in:

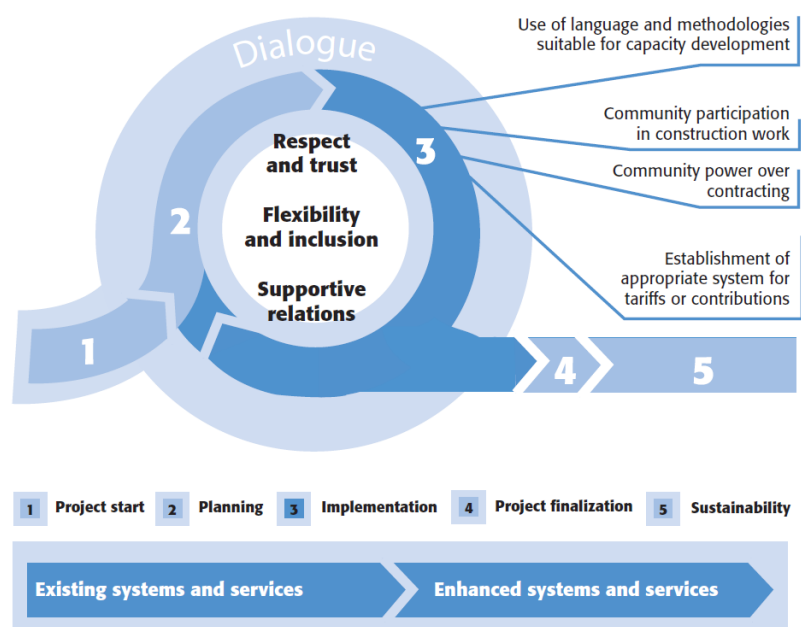
- Local organizations currently being represented by both men and women and the Administrative Board of Rural Aqueducts in Bisira having been chaired by a woman for the last two years.
- Men appreciating and recognizing the participation and leadership of women, thus improving their basic skills.
- Women have earned their place within Ngäbe society structures that were traditionally ruled by men. Today they are recognized as leaders and entrepreneurs

Source: Bonilla Cáceres (2013), Case Study of Women's Leadership, page 31.

### 3. Implementation Phase

The implementation phase includes physical construction and upstart of the management structure.

Figure 4 – The Project Cycle and the Important Considerations for the Implementation Phase



**Using appropriate methodology and language for training and education:** Working with indigenous communities, it is common practice to translate materials into the peoples' own languages. However, experience shows that translating is not enough; the translators must be able to transform the technical jargon into the way the community speaks. But also to reflect on how messages and knowledge are conveyed within the community, not thinking exclusively of printed materials as the only way to transmit information (Heising, 2002). As much of the knowledge of the indigenous peoples is transmitted orally, and illiteracy often is higher than the general average, visualization of information and the use of oral presentations are important. As mentioned above, the realization of numerous meetings and talks, with diverse community groups and institutions, is crucial to ensure a mutual understanding of the values, priorities and practices that should be supported.

*"the long historical memory of the Andean peoples has generally been preserved in narratives, called legends...[that] maintain the principles, values and logics of their worldview" (SENASABA, 2011, p. 17)*

**Community participation in constructing water and sanitation infrastructure:** There are different degrees of possible community involvement in the construction process. At the basic level, community members can be trained, in order to later be hired as part of the construction crew. This generates skills in the community, and in some cases pride, as a miskita woman, trained as a brick mason, put it: "Now we are skilled workers ... we used to be the community counterpart; now we can be contracted" (ILO, 2012, p. 50).

**Community contracting:** Another possible methodology entails the community to supervise infrastructure and give the final approval (prior to acceptance and final payment), ensuring their involvement in and control over the infrastructure that has been installed, see Box 11. There are



experiences with community management of contracting, whereby the community itself is responsible for the entire process of contracts for and supervision of the infrastructure.

**Establishment of an appropriate rate system:** When using a drinking water system it is the cost of the service, and not of the water itself, that is being charged for. Nevertheless, the fact that a resource can be captured and its provision commoditized is a huge cultural change, which not all people are willing to accept. Moreover, there are many peoples without continual cash income, for whom having to use money to pay any fee becomes a major obstacle. The establishment and recollection of fees are among the greatest difficulties encountered in the programs that were reviewed for this document.

In this context, two types of alternatives stand out:

- i) Flexibilization of payment, allowing payment in kind (animals, harvested produce, etc.) which the water management body can then sell or exchange for the goods and services it needs, or the possibility of paying by providing community work counterpart in kind, see Box 12;
- ii) Collaboration with government authorities to design a level of subsidy and support for communities according to their socio-economic situation. This way, some countries have set up systems to subsidize some of these services, see Box 13.

#### **Box 12: Alternative rate payment methods**

Modern drinking water supply systems require some user payment to maintain the system. At the same time, many indigenous peoples do not handle currency.

In communities on the Nicaraguan Caribbean coast maintenance work on the systems has been accepted instead of payments as a way to give families with a low level of income access to drinking water.

Source: Inés Hernández, RAAS Regional Government, Nicaragua

#### **Box 11: Community empowerment to manage construction work**

In the Panama MDG-F programme indigenous communities were trained to implement "community contracting". In the community contracting the community negotiates a contract, generally on infrastructure construction, with a governmental institution, private company or a development programme. As the community negotiates the contract the traditional relationship of provider-recipient is changed to a partnership, empowering the community by increasing the self-esteem and generating greater social cohesion. It also ensures a strong sense of ownership of the project and the infrastructure, while retaining many of the skills needed for maintenance in the community. The social auditing exerted by the community also ensures the quality of the infrastructure. However, as all participatory processes community contracting requires substantial time and support.

For more information see:

[http://www.ilo.org/public/english/employment/recon/eiip/download/community\\_contr.pdf](http://www.ilo.org/public/english/employment/recon/eiip/download/community_contr.pdf)

Source: ILO, 2001

#### **Box 13: Stratified subvention of basic services**

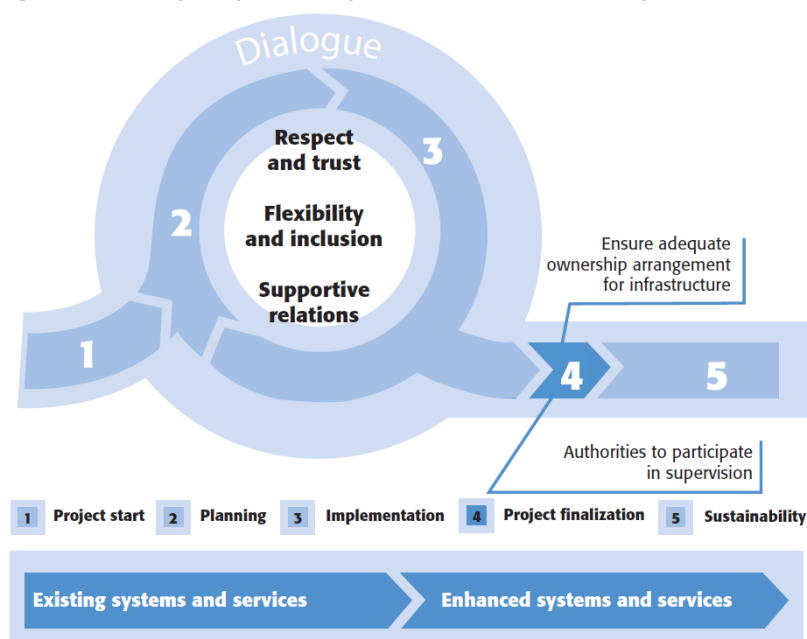
In Colombia the government has instituted a national system of subsidies of basic services, such as electricity, gas, drinking water, sewerage and solid waste disposal, based on the socioeconomic level of the household. Rural communities are generally within the subsidised areas, whereas richer households (often urban) pay higher rates to finance the system.

The system has brought economic and health benefits to the most disadvantaged sectors of the population.

Source: Gómez, 2007

## 4. Project Finalization

Figure 5 – The Project Cycle and Important Considerations at Project Finalization



**Ensure an adequate system for ownership of infrastructure:** Problems with ownership begin with the perception that initiatives are “actions by outsiders”, for which no responsibility for subsequent maintenance is perceived. Along with the problems with the sense of ownership of the project, which must be worked on from the very beginning of the project, comes the issues of the formal ownership of the infrastructure. Indigenous peoples have generally had difficulties in acquiring formal recognition of land ownership, and collective ownership. Many indigenous peoples’ ownership systems are based on collective property, and this is important to keep in mind when siting the infrastructures as well as in determining the management structures and the distribution of responsibilities. Failure to manage these aspects may compromise project results. It is particularly important to have clarified these aspects at the time of handing over infrastructures and initiating the services.

**Supervision with participation of the authorities:** As indigenous communities often are remote and face obstacles managing outside contracts, they lend themselves to abuse and low-quality of construction. This makes it important to provide adequate supervision of the process, despite logistical difficulties, and to include the local authorities who will ensure that the service carries on in the future. At the same time, the involvement of the community as regulators and overseers throughout the process of intervention is of equal importance. On more than a few occasions, a well-defined project, even with important elements of

### Box 14. Continuous presence

The Miskito communities of Klampa and Bum in the Northern Atlantic Autonomous Region, Nicaragua, participated in a water and sanitation program with collaboration by UNICEF and ACRA (Association for Rural Cooperation in Africa and Latin America).

A great success of this project was in much a result of the programme personnel residing in the community, sometimes for several weeks in a row.

These stays enabled the team to learn about existing practices and values regarding hygiene, sanitation and water supply.

The project constructed rain water harvesting systems and raised toilets adapted to the community’s existing houses.

Documented by video:

<http://www.youtube.com/watch?v=SLZH5y2l6VY>

community decision-making and participation, has ultimately failed due to a lack of supervision and deficient implementation. The use of ‘community contracting’, see Box 8, can be one way to engage the community in social auditing and monitoring, but it is also recommendable to include specific objectives, resources and time within the project for post-construction support.

Box 15. Integrity

Corruption implies breaching society’s expectations regarding adequate behavior. For this reason, it is important to take the cultural perspective into account when analyzing this issue.

Integrity refers to the need for representatives of the public, private and civil-society sectors to perform their duties honestly, resisting extortion and fighting corruption. The main lines of work in this direction are promoting participation, transparency and accountability.

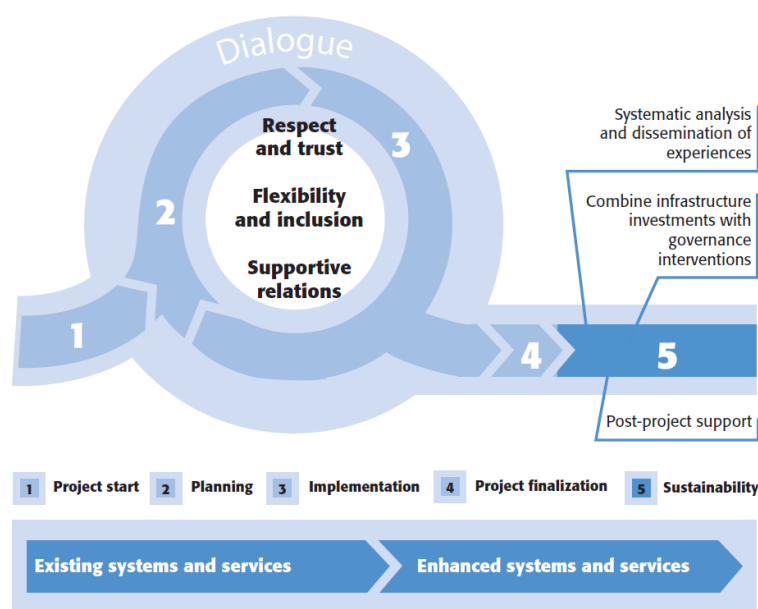
The Water Integrity Network (WIN) offers a wealth of resources and tools for use in this field. For further information, please see <http://www.waterintegritynetwork.net>.

Different initiatives for water management integrity are being applied locally, such as in Costa Rica.

This has been documented by video; see *UNDP (2013) ASADAS Primer Corte* <http://vimeo.com/67035096>.

## 5. Sustainability

Figure 6 – The Project Cycle and Important Considerations for Sustainability



The sustainability of services will largely depend on proper implementation throughout the project cycle, affirmed through continuous monitoring and evaluation of the intervention. This document will not discuss all the aspects influencing sustainability. However, we highlight three fundamental elements in this context:

**Post-project support:** It is internationally recognized that support from authorities and service providers for community water management must continue, for any type of community (Jiménez & Pérez-Foguet, 2010; Lockwood and Smits, 2011). Since indigenous peoples cope with the same technical, management and leadership challenges and problems as any other communities they also require support.

**Combine infrastructure investments with governance interventions:** One general finding in the MDG-F governance programs in the water and sanitation sector is the advantage gained by combining investments in infrastructure with broader support to the governance of the services and the support structures (Kjellén and Cortobius, 2013). This generates organizations with the capacities to maintain their services, ensuring sustainability and appropriation of these systems.

**Systematic analysis and transmission of experiences:** The shortage of systematic analyses of experiences from projects working with indigenous communities has stood out in this research. The lack of systematic information is partially the result of a general tendency to highlight only successes, combined with the political sensitivity of certain aspects of the interventions in this field, which limits the possibilities for learning from prior experiences.

## A specific look at sanitation

Sanitation and hygiene are closely related to perceptions of pollution and dirt, and with the associated concepts of cleanliness and health. This implies that there is no universal definition of what is dirty, per se, but rather a socio-cultural construct within each society (Douglas, 2002). Personal values and beliefs are fundamental for the societal system of maintaining order and cleanliness. Therefore, solutions for sanitation and hygiene need to be based on existing values and established practices in each population, and must also meet their aspirations.

For that reason, cultural values related to sanitation systems and preferences must be explored, understood and taken advantage of. Lack of knowledge about the values associated with hygiene and sanitation has caused more than a few failures in project implementation, for reasons detected by subsequent socio-anthropological studies. Providing latrines or health education will not in itself change sanitation and hygiene habits.

Recent approaches of sanitation marketing explore community perspectives in order to stimulate or alter the preferences relating to hygiene and to promote the demand for sanitation and healthy environments. Experiences in this field usually bear no specific relationship with indigenous peoples (Jenkins and Scott, 2007; Baskovich, 2011; Mehta and Knapp, 2004), but their methodologies may prove quite useful.

The hygiene habits of indigenous peoples may differ from those of many Western cultures. It is therefore important to generate a mutual understanding among all actors involved in a project before designing any solutions. There are studies that show that the hygiene habits practiced by indigenous peoples in their native context may be more effective than those practiced by outsiders. Briones-Chávez *et al.*, (2013) for example, showed how the practice of many indigenous peoples of constructing elevated dwellings effectively protected them against soil-transmitted helminthes.

### Box 16: Sanitation and crowding in Rama Cay

The Rama Cay community suffers from severe overcrowding. By tradition, the Rama people have built latrines over the water, around their two islands. The community's elders say: *"Our ancestors always used them, and nothing happened to them"* and they also consider it favorable to be free of odors, with the ocean's fresh fragrance.

Composting toilets were introduced in this community, but with little acceptance, as it was considered that people should not 'play' with feces (it is necessary to stir the contents of the latrine periodically to produce fertilizer). Even so, some women and youth showed interest in the advantages of obtaining fertilizer for their crops. The crowding also makes it difficult to find an on-land sustainable solution that will be acceptable, since the people give priority to building homes on what little land they still have left.



## Final Considerations

This document aims to gather principles and recommendations for working with rural water and sanitation projects with indigenous communities in a respectful and sustainable way. The recognition of the human right to water and sanitation compels us to work for universal access to these services, with a participatory approach and avoiding discrimination. This is particularly important in relation to indigenous peoples, who for reasons of social and economic marginalization have been prevented from enjoying equitable recognition of their needs, perspectives and rights in relation to water and sanitation service provision. A fundamental part of respecting the values of indigenous peoples is the formal recognition of their authorities and rights to lands and resources.

As mentioned in the introduction many of the recommendations in this document could be applied with equal benefits to rural water and sanitation projects with non-indigenous communities, yet there are specificities that affect the sustainability of an intervention. These are indigenous peoples' worldviews, relationships and knowledge related to water and sanitation; the need to involve indigenous authorities and to establish a relationship between indigenous authorities and governmental institutions; cultural values and economic possibilities related to tariffs setting and monetisation of water.

The dialogue is the basic tool to generate long-term relations of mutual trust and support between the indigenous communities, the responsible authorities and development agencies. For this dialogue to be fruitful it requires adequate resources and sufficient time, with the necessary flexibility to change work plans according to community demands. It is also essential to accompany the process well beyond the construction and management of services.

However, the recommendations in this document should not be taken as a recipe of activities to follow, instead it is important to stress that an approach based on respect, openness and flexibility that is fundamental. Thus *how activities are carried out*, rather than which activities, should be at the heart of the intercultural work.

## References

- ANDERSON, K., CLOW, B. & HAWORTH-BROCKMAN, M. 2011. Carriers of water: aboriginal women's experiences, relationships, and reflections. *Journal of Cleaner Production*, doi:10.1016/j.jclepro.2011.10.023.
- BASKOVITCH, M. 2011. Sanitation Markets at the Bottom of the Pyramid A Win-Win Scenario for Government, the Private Sector, and Communities.
- BONILLA CÁCERES, R. 2013. Case study on strengthening women's leadership.
- BRIONES-CHÁVEZ, C., TORRES-ZEVALLOS, H., CANALES, M., STAMATO, C. M., O'RIORDAN, T. G. & TERASHIMA, A. 2013. Differences in prevalence of geohelminth infections between indigenous and settler populations in a remote Amazonian region of Peru. *Tropical Medicine & International Health*, n/a-n/a.
- CAMPOS, H. F. & Zamora, D. P. 2009. *Cosmovisión Indígena Relacionada al Agua, Higiene y Saneamiento*. Managua: European Union & United Nations Development Programme.
- CARLING, J. 2001. Indigenous People's Involvement in National Politics. In: WESSENDORF, K. (ed.) *Indigenous Peoples' Involvement in National Politics*. Copenhagen: International Work Group for International Affairs.
- CASTRO, D. M. 2006. Estrategia Sectorial de la Cooperación Española con los Pueblos Indígenas. Ministerio de Asuntos Exteriores y de Cooperación. Secretaría de Estado de Cooperación Internacional. Dirección General de Planificación y Evaluación de Políticas para el Desarrollo. AECl.
- CHOQUE, M. E. 2001. *La reconstitución del ayllu y los derechos de los pueblos indígenas*. Quito, Ecuador: FLACSO. <http://www.flacso.org.ec/docs/sasintchoque.pdf>
- DAUDELIN, J., VAN ROOY, A. & WHITEMAN, G. 1998. Evaluation of the Norwegian Program for Indigenous Peoples. In: FERRAZ, I., POOLE, P., ROTHENBERG, D., SCHWARTZMAN, S., WHIST, E., BARREIRO, J. & BRUNEL, G. (eds.). Oslo: The North-South Institute. NORAD.
- DE ALBUQUERQUE, C. with ROAF, V. 2012. *On the Right Track: Good practices in realising the rights to water and sanitation*.
- DOUGLAS, M. 2002 [1966]. *Purity and Danger. An Analysis of Concepts of Pollution and Taboo*, London, Routledge.
- EVERSOLE, R. 2005. Overview - patterns of indigenous disadvantage worldwide. In: MCNEISH, R., EVERSOLE, A. & CIMADAMORE, D. (eds.) *Indigenous Peoples and Poverty: An International Perspective*. London: CROP International Studies in Poverty Research, Zed Books.
- FINN, M. & JACKSON, S. 2011. Protecting Indigenous Values in Water Management: A Challenge to Conventional Environmental Flow Assessments. *Ecosystems*, 14, 1232-1248.
- GÓMEZ, R. M. 2007. *Pobreza y servicios públicos domiciliarios*. Colombia: MERPD. [http://www.dnp.gov.co/Portals/0/archivos/documentos/DDS/Pobreza/En\\_Que\\_Vamos/SERVICIOS%20PUBLICOS.pdf](http://www.dnp.gov.co/Portals/0/archivos/documentos/DDS/Pobreza/En_Que_Vamos/SERVICIOS%20PUBLICOS.pdf)
- HEISING, K. 2002, Informe Final al 20. De Marzo de 2003 de Contrato en el marco del Proyecto Piloto Ayamachay. GTZ/OPS.
- IFAD 2009. Engagement with Indigenous Peoples, Policy. Rome: IFAD.
- ILO. 2001. *COMMUNITY CONTRACTS IN URBAN INFRASTRUCTURE WORKS: Practical lessons from experience*. Geneva: International Labour Office.
- ILO. 2009. *INDIGENOUS & TRIBAL PEOPLES' RIGHTS IN PRACTICE*. Geneva: International Labour Organization
- JENKINS, M. W. & SCOTT, B. 2007. Behavioral indicators of household decision-making and demand for sanitation and potential gains from social marketing in Ghana. *Social Science & Medicine* 64, 2427-2442.
- JIMÉNEZ, A. & PÉREZ-FOGUET, A. 2010. Building the role of local government authorities towards the achievement of the human right to water in rural Tanzania. *Natural Resources Forum*, 34, 93-105.
- KJELLÉN, M. & Cortobius, M. (Eds) 2013. JP Synthesis: Review of Achievements, Lessons Learned and the Contribution Towards the MDG Targets. Stockholm, Democratic and Economic Governance – Knowledge Management. UNDP Water Governance Facility at SIWI.
- LAND AND WATER BOLIVIA. 2006. Estudio antropológico sobre el uso de letrinas ecológicas en el área rural Andina. La Paz/Cochabamba: UNICEF
- LOCKWOOD, H. & SMITS, S. 2011. Supporting rural water supply; moving towards a service delivery approach. UK: Practical Action Publishing.
- MHETA, M. & KNAPP, A. 2004. The challenge of financing sanitation for meeting the Millennium Development Goals. Available at [http://www.wsp.org/sites/wsp.org/files/publications/af\\_finsan\\_mdg.pdf](http://www.wsp.org/sites/wsp.org/files/publications/af_finsan_mdg.pdf)
- MIKKELSEN, C. 2001. *The Indigenous World 2013*, Copenhagen, International Work Group for International Affairs.



- MOONEY, C. & TAN, P. L. 2012. South Australia's River Murray: Social and cultural values in water planning. *Journal of Hydrology*, 474, 29-37.
- NACIONES UNIDAS 2007. Declaración de las Naciones Unidas sobre los derechos de los pueblos indígenas. *Adoptada por la Asamblea General 13 de septiembre de 2007*
- NASH, J. 2007. Consuming interest: Water, rum, and coca-cola from ritual propitiation to corporate expropriation in Highland Chiapas. *Cultural Anthropology*, 22, 621-639.
- OIT 1989. Convenio 169 sobre pueblos indígenas y tribales en países independientes. *Adopción: Ginebra, 76ª reunión CIT (27 junio 1989). Entrada en vigor: 05 septiembre 1991.*
- OIT 2012. Memoria. Seminario - Taller Cooperación Sur-Sur Sobre Gestión de Agua y Saneamiento en Poblaciones Indígenas y Afro-Descendientes de Comunidades Rurales y Dispersas, Desde la Perspectiva de Género y Enfoque Intercultural, Managua y Laguna de Perlas, Nicaragua. 71.
- OPS & GTZ 2006. Enseñanzas de una experiencia de fortalecimiento de capacidades en salud ambiental en comunidades indígenas de América Latina. *Proyecto Regional "Mejoramiento de las Condiciones Ambientales (Agua y Saneamiento) en las Comunidades Indígenas"*. Lima: Organización Panamericana de la Salud/Organización Mundial de la Salud (OPS/OMS), Cooperación Alemana al Desarrollo (GTZ).
- PEÑA, F. 2004. Pueblos indígenas y manejo de recursos hídricos en México. *Revista MAD*, 11, 20-29.
- SENASBA. 2011. *Dialogo de Saberes: Una experiencia de investigación-acción participativa del uso y manejo del agua y el territorio de la comunidad de Cohana*. La Paz: Servicio Nacional para la Sostenibilidad.
- SINGH, N. 2006. Indigenous water management systems: Interpreting symbolic dimensions in common property resource regimes. *Society and Natural Resources*, 19, 357-366.
- TOUSSAINT, S. 2008. Kimberley Friction: Complex attachments to water-places in Northern Australia. *Oceania*, 78, 46-61.
- UNDP 2006. Human Development Report 2006. Beyond Scarcity: Power, Poverty and the Global Water Crisis. New York: United Nations Development Programme (UNDP).
- UNDG. 2009. Guidelines on Indigenous People's Issues. Geneva: United Nations Development Group. United Nations.
- UNFPA, PNUD, UNICEF & ONU MUJERES. 2012. *Ampliando la mirada*. Santiago de Chile: Naciones Unidas.
- UN WATER. 2006. *Gender Water and Sanitation: A Policy Brief*. Interagency Task Force on Gender and Water: UN Water. [http://www.un.org/waterforlifedecade/pdf/un\\_water\\_policy\\_brief\\_2\\_gender.pdf](http://www.un.org/waterforlifedecade/pdf/un_water_policy_brief_2_gender.pdf)
- VAN WIJK-SIJBESMA, C. 1998. *Gender in Water Resources Management, Water Supply and Sanitation: Roles and Realities Revisited*. Delft: International Research Centre for Water and Sanitation.
- WHITEFORD, L., LASPINA, C., TORRES, M. 1996, Environmental Health Project, Activity Report No.19: Cholera Prevention in Ecuador: Community Based Approaches for Behaviour Change. EHP
- WORLD BANK 2012. An anthropological view of sanitation issues in rural Bolivia : a summary. Washington D.C.: Water and Sanitation Program.
- WORLD BANK. 2001. *Saneamiento y cultura: síntesis de un estudio antropológico sobre saneamiento en el área rural de Bolivia*. Washington D.C. The Worldbank.

## Acknowledgements

This document was written by Alejandro Jimenez, Moa Cortobius and Marianne Kjellén from UNDP Water Governance Facility at SIWI, with support and input from Mercedes Tinoco, Serafina Espinoza, Marta Anderson, Ileana Solorzano and Orlando Salomón from URACCAN and Regina Gallego from MDG-F.

Important observations and comments were also provided by Laura Calle Alzate (Universidad Nacional de Colombia), Celia Bedoya del Olmo (MIF), Francisco González (Oficina del Fondo del Agua AECID), Inés Hernandez (Regional Government RAAS, Nicaragua), Isabel Martinez (UNEP), Jordi Sánchez (MIDUVI, Ecuador), Maria Teresa Gutiérrez (ILO), Mirian Mancuello (SENASA, Paraguay), Piedad Martín (ONU México) and Rolando Marín (CLOCSAS).

Figures designed by Elin Ingblom, SIWI.