

Employment Intensive Investment Programme

# LOCAL RESOURCE-BASED APPROACHES IN WATER WORKS



International Labour Organization





Employment Impact Assessment



Public and Private Sector Development

Green Works Community and LRB Approaches

Emergency employment







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### Foreword

To achieve the "Sustainable Development Goal 6 (SDG 6): Ensure Access to Water and Sanitation for All", investments in water infrastructure need to be significantly expanded. Particularly in developing countries, the management of freshwater ecosystems, the development and maintenance of water infrastructure, and the distribution of fresh water supply require improved infrastructure and better management.

The demand for water is growing fast and many countries and regions are increasingly experiencing severe water scarcity. Water is essential for human life. It is also necessary for the growth of plants and animals that supply our food. Access to safe drinking water is a human right. Yet the UN estimates<sup>1</sup> that 3 in 10 people still lack access to safely managed drinking water. The costs of such a lack of access are huge, both for people and for the economy. We need to do more and invest more to provide more households with year round adequate access to safe and reliable sources of water. The International Labour Organization's (ILO) Employment Intensive Investment Programme (EIIP) contributes to this objective. It works with countries and donors to increase the impacts of infrastructure investments on poverty and livelihoods. This includes investments in the water sector. It has worked with countries to introduce and promote participatory approaches to involve vulnerable groups, households and people in the identification, selection, implementation, and operation and maintenance of drinking water infrastructure and irrigation systems. Although this work has primarily taken place in the overall context of livelihood development and job creation, it has contributed to improved approaches to select, design and carry out water works.

This report captures some of these experiences. It describes how vulnerable groups can be involved in planning and implementation, how water supply projects can be identified and prioritized and how local resources can be optimized during implementation, operation and maintenance of schemes. The ILO is not a "water agency" but, as water affects almost every aspect of life including the world of work it is involved in water projects. In a small way, this report may contribute to sustainable development and in particular SDG 6. It is a living document and the EIIP hopes to improve it over time as more experiences from projects and beneficiaries become available.

Chris Donnges Head of EIIP



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# **Table of Abbreviations**

BAWASA	Barangay Water Association
СВО	Community-Based Organization
CDD	Community-Driven Development
CFW	Cash for Work
DFID	Department for International Development
DEVINVEST	Development Investment
EII	Employment Intensive Investment
EIIP	Employment Intensive Investment Programme
EmplA	Employment Impact Assessment
FAO	Food Agriculture Organization
GDP	Gross Domestic Product
HLPE	High Level Panel of Experts on Food Security and Nutrition
ILO	International Labour Organization
IRAP	Integrated Rural Accessibility Planning
ISPA	Inter Agency Social Protection Assessments
LED	Local Economic Development
LRB	Local Resource-Based
MDG	Millennium Development Goals
MDG-F	Millennium Development Goals Achievement Fund
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
NBS	Nature-Based Solutions
NGO	Non-Government Organization
NREGA	National Rural Employment Guarantee Act
OECD	Organization for Economic Cooperation and Development
O&M	Operation and Maintenance
PEP	Public Employment Programme
PPE	Personal Protective Equipment
PPP	Public Private Partnership
PWP	Public Works Programme
UN	United Nations
SDG	Sustainable Development Goals
SPWP	Special Public Works Programme
UNDESA	United Nations Department for Economic and Social Affairs
UNESCO	United Nations Educational Scientific and Cultural Organization
WASH	Water, Sanitation and Hygiene
WB	World Bank
WFP	World Food Programme
WHO	World Health Organization
WWAP	World Water Assessment Programme
WWDR	World Water Development Report



Ensuring productive and decent work remains a challenge to most countries and will likely impact on the unemployed and vulnerable groups, particularly those who are affected by climate change and conflicts. Under this context, EIIP will continue to provide community-based approaches in basic sectors including water, sanitation, and irrigation to support employment creation.

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Purpose and Target Users

The report is about ILO's work on local resource-based (LRB) approaches applied in water works – *water supply and sanitation services, small dams, irrigation systems, and adaptation works* at the community level in many countries covered by technical assistance and projects, either as response to pre or post-disaster and/or conflict, under the Employment Intensive Investment Programme (EIIP).

EIIP is part of the Employment Policy Department of ILO which provides support to member states in addressing employment issues through public infrastructure investments. The work is carried out through knowledge development, capacity-building, and advisory technical services at policy and operational level - aiming to support partners in the design, implementation, and evaluation of policy and programmes towards improved public infrastructures. One of the thematic areas of work of the programme is the use of local resource-based (LRB) approaches to support community infrastructure development and jobs creation. LRB approaches seek to improve access at the local level by optimizing and combining the use of local resources such as labour, skills, materials, equipment, technologies, and contractors without compromising costs and quality supported with appropriate technology and work methods in the delivery and maintenance of infrastructure assets. The approach has been utilized in basic access and social infrastructure investment sectors including natural resource management and climate change adaptation - with strategic focus on water.

The report aims to serve as a source of practical information to development partners and practitioners involved in the water sector and sustainable development on the potentials of LRB approaches for improving public investments, decent jobs, and inclusive growth. It is a small contribution to existing materials helping ILO in promoting its core values and international agreements.

#### Format and Scope

The production of the report has benefited from information culled from relevant materials including ILO publications, and external sources generated from years of work on the ground. The discussions are arranged in four chapters dealing with how water supply and sanitation projects can be identified and prioritized, how community and stakeholders can be involved in planning, implementation, operation and maintenance, and how local resources can be optimized during planning, implementation, operation and maintenance to support decent job creation and sustainable development. Specific projects illustrating actual application of approaches as well as lessons learnt are featured towards the end of each chapter.



## Local Resource-Based Approaches in Water Works

# Chapter 1

## **INTRODUCTION**





### **Chapter 1**

#### Key issue

Access to safe drinking water and sanitation is prerequisite to meeting basic human needs including realization of human rights, directly impacts on health and well-being, and affects people's ability to engage in productive undertakings.



Photo 1: Without access to safe, reliable and affordable water, daily household tasks take time for the women in the Occupied Territories.

### 1. INTRODUCTION

### 1.1 Global Situation: Water

Water is important to life. It sustains animal and plant life, and supports the functioning of economies to create goods and services in order to meet a range of basic needs essential to human existence as well as contributes to the realization of human rights (i.e., right to life and dignity, right to health and well-being, and right to decent job). The role of water to life, to economy, and to environment is clear, and the benefits being derived from it are fully recognized. However, these benefits could be quickly undermined by rapid population growth, urbanization, industrialization, and extreme weather events - all of which could impact water supply and quality. Also, inadequate infrastructure, and lack of capacity and political will are contributory to this predicament.

By 2050, the world's population is projected to be at 9.3 billion<sup>1</sup>, the demand for food will likely

rise by sixty per cent<sup>2</sup>, and urban population to almost double to 6.3 billion<sup>3</sup>. Such population growth translates to a rise in water consumption due to the expected increase in domestic and industrial water needs, and requirements for energy and electricity generation.<sup>4</sup> OECD (2012) estimates for 2050 indicate that over forty per cent of the global population will be living in areas affected by severe water stress. The world demand for freshwater is projected to increase at fifty-five per cent due to rising demands from the manufacturing sector (400%); energy generation (140%), and domestic use (130%).<sup>5</sup> Agriculture sector accounts for sixty-nine per cent of annual water withdrawal. (FAO, AQUASTAT) The aggregate numbers paint an alarming picture. As demand for water increases, supply continues to shrink at an alarming rate because of stress and over-extraction, despite measures to recover and renew. This needs to improve. Otherwise, water scarcity which already is being felt by many countries could cause more burden to vulnerable groups and could adversely impact critical aspects of life including potentials for jobs and growth. Water resources



must be managed effectively and utilized efficiently, a responsibility by everyone in order to sustain the expected benefits to all including the next generations.

The total global active workforce is estimated at 3.2 billion<sup>6</sup>. Out of this, 2.5 billion jobs are found in eight water-dependent sectors such as agriculture, forestry, fisheries, energy, resource-intensive manufacturing, recycling, building, and transport.<sup>7</sup> By 2030, there will be over 600 million new jobs created to meet the demands of the growing working-age population.<sup>8</sup>

From the period 1991 to 2014, global employment registered an increased in jobs in industry and services sectors while the agriculture sector had a minimal decrease. The latter could be influenced by the occurrence of extreme weather events and other shocks being experienced by developing countries where agriculture remains the main contributor of the economy. In spite of the increase in global employment, there are still millions of workers that need labour rights





Figure 1: Global employment trend, from the period 1991 to 2014, by sector and by sex.

Source: UN-Water, World Water Development Report, 2016. p34.

protection. There are over 780 million women and men who receive dismal wage rates forcing them and their families to remain at USD 2.00 poverty.<sup>9</sup> Women participation remains at forty per cent<sup>10</sup>. The situations need to improve. Otherwise, these could impact on the quality of jobs and workers' well-being. The inaction on worker's rights protection could undermine the future of work, and hinder achieving the global development goals.



Photo 2: Agriculture

Photo 3: Fishery

Photo 4: Forestry



Photo 5: Recycling

Photo 6: Manufacturing

Photo 7: Transport



- <sup>2</sup> Alexandratos and Bruinsma (2012).
- <sup>3</sup> UN-DESA (2011).
- <sup>4</sup> World Water Assessment Programme (2014).
- <sup>5</sup> Ibid.
- <sup>6</sup> UNESCO, WWAP (2014).
- <sup>7</sup> Ibid.
- <sup>8</sup> ILO (2017).
- <sup>9</sup> ILO (2017).
- <sup>10</sup> UN-Water World Water Development Report (2016). *Photo 8: Energy*



Photo 9: Construction





Photo 10: Rice harvesting in Ormoc City.

### **1.2 Sustainable Development Goals**

The 2030 Agenda for Sustainable Development, signed in 2015, is a collective agreement among United Nations (UN) member countries to end poverty and protect the planet. The seventeen goals are interconnected and build on earlier gains of the Millennium Development Goals (MDG). Countries together with development partners have committed to mobilize resources to achieve the goals while ensuring inclusive growth and sustainable development. The UN-Water is an inter-agency body that coordinates the efforts of UN members on water and sanitation, and supports the new Sustainable Development Goals (SDG). In 2016, the group produced a world report titled "Water and Jobs" that examines the link between water and jobs, challenges, and opportunities for durable solutions to support sustainable utilization of water resources. The report's takeaway is that water is the biggest source of jobs - comprising almost eighty per cent of the total active global workforce, making the sector a potential con-

tributor to economic growth. The report recognizes that achieving the new goals will require strong political will, and concerted and decisive policy actions among stakeholders and governments towards sustainable utilization and protection of water sources at the same time addressing employment issues. The failure to act now could lead to negative consequences with wide-ranging impacts across sectors of the economy and society.

In 2018, same group came out with a world report that looks into practical solutions in addressing the issue of water scarcity by moving beyond the "business-as-usual" approach. The study explores the use of nature-based solutions (UN-Water, WWDR 2018) which involve the use of natural processes including local resources to enhance water availability, improve quality, and minimize costs and trade-offs. The approach tries to find an appropriate blend with human-built infrastructures to maximize benefits and system efficiency.





Figure 2: Decent Work and the 2030 Agenda for Sustainable Development Source: www.ilo.org

### 1.3 Decent Work Agenda

ILO is supporting the global goals, and is working together with the UN family to "deliver as one" through its decent work agenda embedded in the targets of the SDG. ILO is the lead on Goal 8 (productive decent work for all) which highlights the importance of decent work in achieving poverty reduction and inclusive growth. ILO defines decent work as the expression of the aspirations of the working people throughout their working life to achieve fair income, rights at work, social protection, and social dialogue, with equal treatment for women and men. Under the context of world of work. the ILO envisions to achieve decent work and social justice for all. ILO Director General Guy Ryder, who was the chair of UN-Water in 2016, stressed that "decent work is the chief locomotive of development and better standards of living, and combining these two have the potential to transform people's lives" (UN-Water, WWDR 2016).

The goals are interconnected. Goal 6 (water and sanitation for all) links to achieving decent

work (SDG 8). Access to safe, affordable and reliable water supply contributes to a healthy and productive workforce that may lead to economic growth. Studies show that people with less access to water and sanitation are those likely to have poor or no access to health care and stable jobs. This situation exacerbates their economic condition, and thus prolongs the cycle of poverty.<sup>11</sup> Loss of productivity to water and sanitation-related diseases costs many countries up to five per cent of Gross Domestic Product (WHO 2012).

The goals are reviewed, country-level reviews are encouraged, to track progress. A recent global review, United Nations High-Level Political Forum on Sustainable Development, held last 8-19 July 2019 in New York, where ILO has reported that many countries are way behind achieving the targets of SDG 8. The ILO study concludes that decent work deficits "would impede towards eradicating poverty, reducing inequalities, promoting peace and order, and achieving gender equality". ILO recommends "an urgent acceleration of efforts to bring about transformative change in support of the goal"<sup>12</sup>.

<sup>11</sup> WWDR 2016). <sup>12</sup> ILO (2019).

Page 1-6

Chapter 1-Introduction

# **1.4 Contributing to the SDG through infrastructure development**

The ILO through the EIIP is working together with its tripartite constituents (i.e., governments, worker's groups, and employer's groups) towards realizing the goals (i.e., SDG 6.B and SDG 8.2) through infrastructure development to support decent work. EIIP recognizes that inadequate infrastructure affects the ability of communities, particularly the most vulnerable groups, to meet their basic needs (i.e. water and sanitation, food, shelter, health, schools, mobility, etc.), to engage in productive activities, and to respond to natural shocks and conflicts. The provision of adequate and improved infrastructure may contribute to reducing social and economic barriers, particularly in rural areas where majority of the working poor are located, and "where lack of decent work opportunities are pervasive"<sup>13</sup>.

Under the LRB approach, combined use of labour-intensive methods and community participation in the delivery of infrastructures support SDG 6.B: "Support and strengthen the participation of local communities in improving water and sanitation management", and SDG 8.2: "Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors" (www.un.org/sustainabledevelopment).

The table below explains how the promotion and use of employment-intensive methods like local resource-based approaches may lead to realizing the goals:

#### Box 1: Possible contributions to SDG 6 (linking-up to SDG 8).

• Green works are public works that consider in the design adaptation schemes which address environmental issues. Green works and LRB approaches reinforce each other as both support creation of jobs through technology-appropriate solutions to address inequality, availability of water and food security for the most vulnerable, and indigenous and tribal populations<sup>14</sup>, as well as encourage participation of communities and most vulnerable groups in inclusive design, implementation, and monitoring of the impacts in using traditional and local appropriate technologies<sup>15</sup>. In the Asian Region<sup>16</sup>, the priority need for soil and water conservation measures is a good opportunity for promoting the use of local resources. Soil and water conservation measures tend to be labour intensive - with labour forming seventy per cent of total investment cost.

• Public Employment Programmes (PEP) have the potential to absorb surplus labour in countries where there is a structural problem and insufficient jobs. One of the approaches for jobs creation is Public Works Programmes (PWP) and guarantee schemes – based on Universal Social Protection like the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) in India, where more than fifty per cent of the interventions address natural resource regeneration works such as water supply development, irrigation and adaptation works.

• Employment Impact Assessment (EmpIA) on improved infrastructure of sanitation has established that infrastructure investment could make a significant contribution to addressing employment challenges. The contribution is through the direct employment in the infrastructure, and indirect employment created in the supply chain (i.e., availability of local suppliers, local materials and manufacturers). The induced effect is significant since infrastructure projects with high intensity unskilled workers with low incomes tend to consume local goods impacting in the local economy by household consumption. Sanitation projects have higher potential if projects and programmes are more labour-intensive (Gutierrez M. 2016).

<sup>13</sup> EIIP, Creating Jobs through public investments (2018).

<sup>&</sup>lt;sup>14</sup> United Nations Office for South-South Cooperation. Good Practices in South-South and Triangular Cooperation for Sustainable Development.

<sup>&</sup>lt;sup>15</sup> ILO, Local Resource-Based Approaches to Infrastructure Investment, Source Book, Sub Regional Office for Southern Africa, (2010).

<sup>&</sup>lt;sup>16</sup> ILO, Regional Office for Asia and the Pacific. Local Investments for Climate Change Adaptation: Green Jobs through Green Works, (2011).

Local Resource-Based Approaches in Water Works

### 1.5 Local Resource-Based Approaches

LRB approaches refer to the combined use of work methods and technologies where the utilization of local resources is preferred and optimized in the planning, construction, operation, and maintenance of infrastructure investments without compromising cost-effectiveness and quality. Local resources include but not limited to: labour, materials, skills, knowledge, technologies, contractors and service providers, institutions (local government authority, training centres, workers' organization, employers' organizations, non-government organizations, community-based organizations), tools and equipment, and social capital (traditional structures, solidarity and trust).<sup>17</sup> The approaches have been applied in various sectors in rural roads, irrigation, water and soil conservation, and forestry. Field experiences have shown that these approaches are effective in building skills, addressing poverty reduction, and sustaining the created assets while building resilience for climate change.



Photo 11: Maximising available local resources to provide safe water to typhoon-affected communities in Coron, Palawan (Philippines).

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The diagram below illustrates the ILO strategy for job creation using LRB approaches.



<sup>&</sup>lt;sup>17</sup> ILO, Local Resource-Based Approaches to Infrastructure Investment, Source Book, Sub Regional Office for Southern Africa, (2010).

The combined use of local resources and local participation from planning up to implementation, operation, and maintenance, has proven to be technically efficient and economically viable way to local infrastructure works in developing countries. Besides optimizing the socio-economic returns, the approach contributes to ensuring that these investments are directed to the local economy thereby creating job opportunities, stimulating the market, improving skills, entrepreneurship, and addressing local needs while safeguarding social and environmental, cost-effectiveness, and maintaining quality and asset delivery.

Successful application of LRB approaches hinges on full cooperation of government both central and local units, and stakeholders including the private sector and civil society. There is a need to capacitate key member staff in all these organizations as well as beneficiary community to ensure they have the right knowledge and skills on LRB approaches to ensure successful implementation and beyond the project duration.



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# Local Resource-Based Approaches in Water Works

**Chapter 2** 

## PLANNING WATER NEEDS AT THE LOCAL LEVEL





## **Chapter 2**

### Key issue

Effective community participation for planning water needs including sanitation and irrigation needs is a precondition to ensuring an inclusive needs-based identification and prioritization process including increasing opportunities for employment impacts of investments and promotion of gender equality and labour standards.



Photo 12: Mother and son share daily task of water collection in Paraguay.

# 2. INTRODUCTION

#### 2.1 Overview situation

In spite of many investments provided to support the provision of water supply and sanitation services, still there remains a wide global deficit particularly in developing countries. There are more than 663 million people that still lack access to safe drinking water (World Bank 2017), 2.3 billion people still have no access to basic sanitation services (WB 2018), 842,000 people die annually caused by unsafe water and inadequate sanitation (WHO 2012), and majority of them are living in rural communities.

Agriculture where most of rural poor are engaged in, is still depending on "rainfed irrigation systems, which account for about eighty per cent of the global cropland, and sixty per cent of the global food supply is produced on rainfed cropland". Additional irrigation facilities in these croplands are projected to double or triple yields per hectare for crops. (HLPE, 2015) Under this context, the provision of adequate infrastructures is a significant step towards improving the living conditions of communities particularly those vulnerable groups who experience the most adverse challenges in life.

Aside from **household consumption** (Photo 12) and for **sanitation** purposes (Photos 13 and 14), water also supports agricultural, industrial, commercial, institutional and environmental uses. In agriculture, the provision of an adequate supply is a prerequisite to livestock and vegetable production. Agricultural support facilities, e.g., **small dams** (Photo 15) and



Local Resource-Based Approaches in Water Works

**irrigation systems** (Photo 16) are required to provide adequate supply of water to optimize production capabilities. However, water provision is dependent on available sources that could be compromised to due to "increasing temperatures, variable rainfall and the rise of sea levels"<sup>18</sup>. The presence of extreme weather events claimed to have been affected by global warming poses long-term adverse impact on the supply of water and quality. If the situation continues, provision of water supply could stifle economic growth - affecting job creation and poverty reduction. Adaptive measures or **adaptation works** (Photo 17) are needed to allow the supply of water to recharge and renew. These sub-sectors have the potential to maximize the use of LRB approaches and influence public investments and job creation.



Photo 13: Woman fetching water in Malawi.

Photo 14: Handwashing facility in Coron, Palawan.



Photo 15: Pit latrine in Nicaragua.

Photo 16: Small dugout in Ghana.



Photo 17: Irrigation canals in Kesra, Tunisia.

Photo 18: Rainwater collector in Paraguay.

<sup>18</sup> ILO, Regional Office for Asia and the Pacific. Local Investments for Climate Change Adaptation: Green Jobs through Green Works (2011).



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### 2.2 Participatory planning

The shift towards participatory planning approaches in community-based infrastructure development is widely recognized. It supports an enabling environment that allows individuals or groups from the community, people from the public and private sector and civil society to express their needs and preferences, and contribute ideas towards reaching a solution. The key during the planning is effective and inclusive participation to ensure everyone's opinions are considered, encourage everyone to participate, and decision-making is consensus-building. At the end of the day, the objective is to induce a sense of ownership over the proposed infrastructure investment.

Participatory planning is not always an easy task. Many key factors have to be taken into account. Two factors that easily come to mind are the level of expected participation from the community and stakeholders and the capacity of key staff to implement the participatory process. Below is a checklist of some principles and practices that could be helpful in determining the optimal mix of participatory techniques in planning.

Box 2: Key principles and practices in participatory planning

- Building inter-personal trust. Creating an environment for mutual learning is very important. Listening skills, creating a rapport with stakeholders, and integrity in information sharing are very important aspects in this context.
- Incentives to participate. People will participate if they are well informed and after consultations to believe it is in their interest to do so.
- **Clear communication**. The selection of types and methods of communication should also take into account the purpose of the communication and the characteristics of the stakeholder groups (e.g. literacy levels and local language). Feedback mechanisms also need to be incorporated in the communication system.
- **Consensus Building**. Consensus building through a social dialogue with stakeholders is essential to ensure local ownership of a project<sup>19</sup> and increases the chances of success of implementing participatory approaches.
- A Stakeholder analysis (SA). An SA provides important information about stakeholder groups, and it also facilitates a determination of the role of stakeholders, possible participation approaches/techniques, and levels of required participation<sup>20</sup>.
- Levels of influence. It is important to guarantee legitimacy of representation to distinguish levels of influence in the participatory process; key stakeholders should have more influence than secondary stakeholders and external stakeholders<sup>21</sup>.
- Limit information collection: Collect data or information that is required<sup>22</sup>.
- Social invention and social learning. Stakeholders themselves formulate solutions to problems through a learning process. Facilitators should play a catalyst role only.
- **Commitment**. A firm commitment from the different stakeholders needs to be ensured<sup>23</sup>. It should be understood that this includes more than a contribution in kind or cash.
- Iterative planning. This concept allows for the incorporation of progressively changing insights and views.
- Level interaction. Level interaction ensures that all stakeholders can contribute effectively to the process.
- **Credible and neutral facilitators.** Facilitators who have no stake in the project (e.g. competent NGOs), together with subject specialists, should be used to guide and facilitate the participation process.
- **Sufficient resources and time.** Adequate resources and time are needed to implement participatory processes effectively and to enable stakeholders to build their organizational, administrative and technical skills.
- A clear linkage between consultations (the participatory process) and decision-making. Such a linkage (which is central to the participatory process) increases the probability of successful participation.
- **Procedural rules that promote power sharing, information sharing and capacity building.** Such rules, among and between participants and decision makers, increase the changes of successful participation<sup>24</sup>.
- **A group approach**. A group approach where common needs or interests are addressed by working through already established and well-functioning (small) groups increases the probability of successful participation.

Source: EIIP Local Resource-based Technical Options and Design Solutions for Agriculture Related Climate Adaptation and Mitigation Measures in the Fields of Irrigation, Soil and Water Conservation, Forestry, and Flood Protection, ILO. pp 8-9 Ensuring effective participatory planning can contribute to the development of more inclusive community-based interventions while having a greater impact on poverty reduction and sustainability. It also promotes social dialogue with stakeholders and partners during the planning

### 2.2.1 Participatory tools

Identifying water needs including sanitation and irrigation should be an integrated approach to ensure that the infrastructure investment promotes water conservation and sustainability. The ideal setting suggests planning should be consistent with national priorities, socio-economic conditions including legal framework (i.e., water rights, land ownership, right of way, etc.), and reflects the expressed needs of the target beneficiaries particularly the vulnerable groups. Under LRB approaches, effective planning and identification of infrastructure investment requires the use of tools to support strategic and sectoral development goals, at the same time ensuring that relevant mandates, linkages, mechanisms, resources, and capacities are in place so that effective implementation and sustainability is addressed. One tool developed and pioneered by ILO since the 1980's was the Integrated Rural Accessibility Planning (IRAP) applied in twenty-three (23) countries: Bangladesh, Bolivia, Brazil, Cambodia, Ecuador, Egypt, Ghana, Guatemala, Haiti, India, Indonesia, Laos, Madagascar, Mali, Nepal, Nicaragua, Panama, Paraguay, Peru, Philippines, Somalia, South Africa, and Tanzania.<sup>25</sup> The approach though varies from different countries.

process. In this context, LRB approaches are consistent with the decentralized shift toward a needs-based identification and prioritization process including increasing opportunities for employment impacts of investments and promotion of labour standards.

#### Main Features of IRAP Tool

The tool is widely applied for planning and identifying basic needs including water supply and sanitation, for its simplicity, user-friendliness, low-cost application, and immediate outputs. The tool adopts a multi-sectoral and participatory approach to determine the access needs of rural people, and is designed for use at the local government level to assist planning agencies to improve access of households to basic services and facilities. The tool optimizes the use of local resources in the identification of priority needs and implementation of appropriate interventions and maintenance of created assets. Local participation and gender are mainstreamed at all stages of the application ensuring inclusive needs identification and consensus-building in decision-making. The target users are local authorities in order to build their capacity to:

- Identify local access problems
- Prioritize needs and identify appropriate interventions
- Formulate action programs to address prioritized access problems
- Identify funding possibilities

<sup>&</sup>lt;sup>25</sup> ILO Rural Development through Decent Work, Guidelines on Integrated Rural Accessibility Planning, Maria Teresa Gutierrez, ILO, Geneva, 2011.



<sup>&</sup>lt;sup>19</sup> Negotiation and consensus-building techniques are therefore important tools in the participatory process.

<sup>&</sup>lt;sup>20</sup> Ranging from low to high, the following participation levels can be distinguished: a) information; b) consultation (without commitments); c) con sensus building; d) decision-making; risk sharing; e) partnership; f) self-management.

<sup>&</sup>lt;sup>21</sup> This importance principle requires careful considerations in deciding on the techniques that will be used, as it often happens that the key stake holders have little influence/power whereas secondary or external stakeholders often have much influence/power.

<sup>&</sup>lt;sup>22</sup> Often a wealth of information is collected, of which only a small fraction is actually needed in decision making. Collecting unnecessary information is cost-ineffective and puts an extra burden on the people from whom the information is being collected.

<sup>&</sup>lt;sup>23</sup> Commitments should be of people's free choice, they need to be made in public, people should fully understand consequences of commitments and people should have or believe that they have the means and competencies to fulfil the commitment.

<sup>&</sup>lt;sup>24</sup> This may require that safeguards are put in place to ensure that local leaders are accountable to the group members. It also requires flexible procedures that support participatory processed aimed at capacity building instead of (quick) service delivery.

The diagram below shows the sectors that the households require access to in order to meet their basic, social and economic needs, to live a productive life.



The IRAP tool facilitates the examination of the relationship of the household in terms of its access to a particular service or facility. The tool is helpful to identify and target priority communities, including vulnerable groups, with the use of an accessibility indicator (AI), a numeric expression on the ease or difficulty of accessing a particular service or facility. The ranking of communities will then serve as input to planning agencies in targeting and allocating available resources efficiently. The result is a comprehensive information on the location, condition and use of existing water and sanitation-related infrastructures and services and a list of identified priority needs and investments. The tool enhances decision-making at local level by providing a common set of information as basis for deliberations among stakeholders and community to better allocate local investments.

To improve accessibility, the tool suggests two complementary ways, either through i) better siting or distribution of services and facilities, and ii) enhancement of people's mobility through rural transport system. Both interventions are designed to maximize the use of local resources in a cost-effective way that would address constraints on local economic development and the improvement of living conditions in the rural areas. Cross-cutting concerns such as environment, gender and community (inter-cultural) involvement are mainstreamed in the application to ensure an integrated approach while ensuring inclusiveness in the entire process.



To apply the tool, there are eight fundamental steps involved to complete the process consistent with: needs analysis, data collection (processing and preparation of accessibility indicators and maps), prioritization (data analysis and interpretation), defining targets and objectives (matching needs against resources), project identification (design of interventions), implementation, and monitoring. Detailed application steps are explained in the guidelines, "*Improving Access in Rural Areas*".

Aside from the IRAP tool, below are other participatory techniques for planning together with communities commonly used particularly for water works including access infrastructure and social sector investments:

# Improving Access in Rural Areas



Photo 19: IRAP Guidelines

Box 3: Other participatory techniques commonly used for planning together with communities

- Transect walks: The planning team walks with community leaders and members along a particular area within the community, such as water sources, agricultural field, river banks, existing water and sanitation facilities (if available), schools and residential settlements, etc. During the walk, an assigned staff ensures recording of proceeding including specific characteristics mentioned by the community group. Also, the observations during the transect walk may include environmental problems, social and cultural characteristics that could be helpful during the deliberations afterwards.
- **Problem tree:** This involves the analysis of a problem, to identify its causes and results. Diagrams are helpful to illustrate the problem and how the solutions are linked to address the issues.
- **Community mapping:** This requires the preparation of a map of the environment based on the observation of the knowledge of the community group.
- **Resource inventory / analysis:** Listing of all resources of a community can be a first step to identify problems and solutions.
- Wealth ranking: Involving data collection of local indicators to help in understanding the socio-economic differences or inequalities in the community. Local indicators may include but not limited to: size of houses, type of housing materials, asset ownership (land, animal, etc.)
- **Seasonal calendars:** These enable the engineers and planners to see what services and facilities are important or come under strain at what points of the year, and why.
- **Focus group discussions:** open discussions with specific community groups, such as female headed households and unemployed youth.

Source: Community Infrastructure in Urban Areas: Creating Jobs While Improving Low-Income Settlements, ILO Regional Office for Asia and the Pacific, 2007. p 70.

These tools can be applied independently or combination with any of these tools or other existing approaches, depending on the level, scope and objectives of the project.

A set of guidelines on water and sanitation was produced under the ILO project, Joint Programmes for the Millennium Development Goal (MDG)-Fund, in Latin America (Paraguay, Nicaragua and Panama). These guidelines illustrate the step-by-step process in applying participatory approaches including IRAP tool, Community contracting, and combination of other techniques (with gender and cultural context) while working with indigenous communities. The project results and experiences are discussed in the specific case towards the end of the chapter.

#### Box 4: IRAP and Community Contracting Guidelines for Indigenous Communities

- Guide No.1: Conceptual Guide for Integrated Rural Access Planning and Community Contracting in the Water and Sanitation Sector: With An Approach on Gender and Inter-Culturality.
- Guide No. 2: Guide to Develop Integrated Rural Access Planning in the Water and Sanitation Sector: With A Gender and Inter-Cultural Approach.

# 2.3 Community and Stakeholder Participation

Stakeholders refer to "persons or groups of institutions with an interest in the intervention being planned".<sup>26</sup> They should be identified through a stakeholder analysis (SA), to be conducted in a participatory manner. Full participation of stakeholders is central to the delivery of infrastructure works. Not understanding their specific needs, roles and how they will fit into the overall plan could lead to failure – or aggravate conflict situations.

Community participation in planning is essential, and leads to greater efficiencies because the preferences of potential users (or those to be adversely affected by the construction) including stakeholders of the facilities are taken into consideration in the type, location and design of appropriate water, sanitation and irrigation interventions including operation and maintenance issues, to address priority needs. For instance, some communities have cultural beliefs and practices connected with water – locating an intervention not acceptable to the community could result to underutilization of



Photo 20: Community consultation in Pinabacdao, Samar.

the facility thus, undermining the benefits of the investment. It may also lead to disagreements among community members and leaders. Also, in situations of crisis and fragility such overlook could impact on resilience and peace-building. Under this context, here are some ILO international instruments which could be helpful to key staff responsible for said exercise:

<sup>&</sup>lt;sup>26</sup>How to Guide No. 2: Stakeholder Analysis, Development Cooperation Manual, ILO.



Box 5: ILO international instruments for Indigenous and Tribal Peoples, and Employment and Decent Work for Crisis Settings

- Indigenous and Tribal Peoples Convention, 1989 (No. 169). "ILO Convention No. 169 on indigenous and tribal peoples is an international treaty, adopted by the International Labour Conference of the ILO in 1989. The Convention represents a consensus reached by ILO tripartite constituents on the rights of indigenous and tribal peoples within the nation-States where they live and the responsibilities of governments to protect these rights. It is based on respect for the cultures and ways of life of indigenous peoples and recognizes their right to land and natural resources and to define their own priorities for development. The Convention aims at overcoming discriminatory practices affecting these peoples and enabling them to participate in decision-making that affects their lives. Therefore, the fundamental principles of consultation and participation constitute the cornerstone of the Convention. Further, the Convention covers a wide range of issues pertaining to indigenous peoples, including regarding employment and vocational training, education, health and social security, customary law, traditional institutions, languages, religious beliefs and cross-border cooperation." (ILO. 2013. Understanding the Indigenous and Tribal Peoples Convention, 1989 (No. 169). Handbook for ILO Tripartite Constituents, International Labour Standards Department (Geneva) )
- Recommendation No. 205 Employment and Decent Work for Resilience and Peace. "Recom 2015 offers guiding
  principles for taking measures to generate employment and decent work in crisis situations, and presents a phased
  multitrack approach to promoting peace, preventing crises, enabling recovery and building resilience. The Recommendation also provides guidance on international cooperation, coordination and coherence, and calls on the ILO to play
  a leading role in crisis response centred on employment and decent work, focusing on employment promotion, labour
  market access and integration, capacity development and institution building, in close cooperation with regional and
  international institutions." (ILO. 2017 Recommendation 205 Employment and Decent Work for Resilience and Peace.
  International Labour Organization, Geneva.)

Community participation encourages sharing of local (indigenous) knowledge, providing counterpart contributions, building local capacity to undertake operation and maintenance responsibility. In irrigation, local knowledge about the drought pattern, sources and level of groundwater are invaluable inputs in determining and designing appropriate interventions including adaptation works, to mitigate climatic changes. In this context, community participation induces development of sustainable irrigation systems including small dams and adaptation works while having greater poverty reduction impact.

The impact of adaptation works can be increased through sustainable water resource management and restoration including land management and climate change adaptation. Studies indicate that the extreme weather events being experienced worldwide, which brought immense damage to lives, properties, and economies, can be attributed to the effect of climate change. Infrastructure investment could substantially contribute to mitigating and adapting to the adverse impacts of climate change. The efficiency of water users is amplified by community participation in instilling a sense of responsibility toward a shared interest. Water users in affected communities have first-hand knowledge of existing conditions (i.e. water-borne diseases, reliability of source, etc.) as well as the impact of climate change in their area. Their stock knowledge about the terrain, rainfall patterns, and water levels could be helpful in the identification and design of adaptation works well suited to their needs and capacities.

Full participation of community and stakeholders in planning translates to optimizing the use of local resources (i.e., local knowledge, skills, structure, cultural beliefs etc.) to be part of the discussion and decision-making. LRB promotes an environment for such interaction – "the greater the participation in planning, the greater the potential in implementation and maintenance, and the greater the potential direct impact on living and working conditions"<sup>27</sup>.

#### 2.4 Targeting beneficiaries

Targeting which group in the community to benefit from the proposed infrastructure investment is a challenge. Below are targeting mechanisms (ISPA Public Works tool, 2016) commonly used to determine potential beneficiaries:

• **Geographic.** This targeting provides the first step to identify priority locations based on prevalence of poverty, food insecurity, water scarcity, incidence of water-borne diseases, and affected by natural disaster or conflict.

• **Community-based**. Using participatory approach to identify those eligible based on agreed criteria.

<sup>&</sup>lt;sup>27</sup> ILO, Local Resource-Based Approaches to Infrastructure Investment, Source Book, Sub Regional Office for Southern Africa, (2010).



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• **Self-selection**. This method allows the beneficiary household or individual to decide whether to participate in the infrastructure work by considering a set of criteria previously stated in the national public employment programme. This method is used in public works as part of a large social protection (guarantee scheme) or as response for crisis situations where, the wage rate is lower than the market rate (or minimum rate).

• **Categorical**. Specific groups such as ex-combatants, indigenous communities, women, agricultural communities, fisher folks, urban poor, etc. -depending on the objectives of the project.

These tools can be used independently or in combination with any of these tools or other existing approaches, to ensure the benefits of the infrastructure investment reach the correct group. The key is to ensure the tools to be used are acceptable to the partners and stakeholders. Link to further reading: *Box 4: IRAP and Community Contracting Guidelines for Indigenous Communities* 

#### 2.5 Defining the intervention

Once priority areas and beneficiaries are identified, the next step is to determine the type of infrastructure interventions to address the expressed needs. While in determining the type of intervention may require some technical inputs from key staff from the local government unit or subject-matter experts, the participation of the community and stakeholders is essential to ensure local knowledge, needs and capacity are taken into account.

Under this context, the results will then feed in the formulation of design of selected infrastructure. Also, it will guide the planning team to determine the cost estimates which include construction materials and supplies, labour requirement (skilled and unskilled), tools and equipment, and other costs (e.g., safety gears, supervision, etc.) as well determine the delivery options to realize the proposed intervention.

Below is a checklist on water and sanitation sectors developed during the application of LRB approaches in countries in Southeast Asia:

#### 2.5.1 Water Supply

This refers to provision of water for domestic and household use. The purpose is to provide safe, reliable and affordable water services to households in the community in order to fulfil their needs, e.g., drinking, cooking, personal hygiene, laundry, dishwashing and cleaning including improved health.

Box 6: Checklist of factors to consider when identifying infrastructures for water supply:

Site information	<ul> <li>What existing water supply in the area is in operation?</li> <li>What water sources are being used? Are the rivers perennial or ephemeral?</li> <li>What is the nearest water supply in the area?</li> <li>Are there difficulties with water quality, pressure and reliability?</li> </ul>
Design Parameters	<ul> <li>Direct households supply based on 100-150 litres per person per day.</li> <li>Standpipe supply based on 40 litres per person per day.</li> <li>Standpipe to be no further apart than 200 (approximately 100m furthest household to the standpipe)</li> <li>The minimum standard for a tertiary main is 75mm diameter.</li> <li>Quality of water for bathing, cleaning and laundry is less critical than drinking and cooking.</li> <li>How many standpipes are needed? As a rule of thumb, the number of people served by a single tap should be limited to 125.</li> <li>Where should they be located?</li> </ul>
Design Choices	<ul> <li>Knowledge of the water source and operator: beneficiary community, local government, and private agency.</li> <li>The design is influenced by the water source and water supply in the area.</li> <li>Where the supply in the area is inadequate, increasing access taps will not address the community's problem. The problem lies at a higher level</li> </ul>

Design Choices	<ul> <li>Where the municipal water supply does not reach the community area. Shallow wells and boreholes are options, but both sources of water need to be tested to see if they are safe.</li> <li>Systems served by a single tube well should be avoided as they fall completely in the case of a pump breakdown.</li> <li>Will the water be supplied to households or communal water points?</li> <li>Water kiosks.</li> <li>Install apron or soak away to drain spill water from the well to avoid unhygienic conditions.</li> <li>Care should be taken to lay pipes away from the drains as intermittent water supply is prone to contamination from back siphoning.</li> <li>There should be sufficient cover to avoid breaking of the buried water mains (main access roads 900mm and roads mess than 3m wide 600mm).</li> </ul>
Construction Tochnique	Water supply systems lend themselves to labour-based methods
Dealing with Services in the Ground – or Planned	<ul> <li>Water mains or major supply pipes should be placed away for any drains or planned drains.</li> <li>If they are placed in a planned roadway, they must have sufficient cover to ensure that once the road is constructed the traffic will not damage the pipes.</li> </ul>
Operation and Maintenance	<ul> <li>The maintenance depends on the water ownership.</li> <li>If the community owns or operates the water supply, they must manage the operation (or contract a small enterprise with enough profit to allow for maintenance and repairs).</li> <li>Even if an agency or the local government unit manages the water supply, the beneficiary community need to ensure that someone has a budget for maintenance and repair. If the budget of the local government unit is limited, then it is in the interest of the community to have their own maintenance nance committee and plan.</li> </ul>
Safety Considerations	<ul> <li>Examine soil conditions and provide adequate support against the possi- ble collapse of the walls during excavation and construction when exca- vating shallow wells.</li> </ul>
Employment Potential	<ul> <li>The excavation and laying of pipes, kiosk and house connections provide employment opportunities for skilled and unskilled workers.</li> <li>Requirement for maintenance and repairs of water supply facility provide regular source of employment to skilled workers – those who have been trained by the project and beyond project duration.</li> </ul>
Suggested interventions for potential LRB methods	<ul> <li>Community-level facilities: water distribution schemes, storage tanks, water kiosks, wells and public washing facilities</li> <li>Distribution: public-private partnerships (PPP), modifying regulations to permit communities to lay secondary pipes, standpipes, and household connections, while the Water Authority deals with the main pipes and the capital investments</li> </ul>
Source: Community Infrastructure in Urban	Areas: Creating Jobs While Improving Low-Income Settlements,

ILO Regional Office for Asia and the Pacific, 2007. pp. 90-91



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### Examples:

<image>

Photo 22: Communal elevated water tank in Balanga City.

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Photo 23: Wind-powered community water tank in Paraguay.



Photo 24-25: Laying pipes on the ground to extend coverage of water supply.



Photo 26: Communal deep well

Photo 27: Artesian well



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Employment Intensive Investment Programme

### 2.5.2 Sanitation

The provision of sanitation facilities is to provide hygienic and cultural acceptable toilet facilities and safe disposal of human excreta and to reduce health risks associated with the transmission of disease through contact with excreta. Improved health of household members and communities is the primary social and economic benefit of investing in sanitation facilities, either at individual, household, or community level.

Box 7: Checklist of factors to consider when identifying infrastructures for sanitation:

Site Information	Location of shallow wells.
Site information	<ul> <li>Is there a sewerage system in the area?</li> </ul>
	Density of housing and space available for the facility.
Design Parameters	What type of latrine is commonly used?
	• Pour flush can only be used where water is used for cleaning rather solid objects
	such as leaves, sand, and stones.
	• Water needs to be available to operate the pour flush system (1 to 6 litres per
	flush).
	<ul> <li>In areas prone to flooding, the whole pit may have to be raised to avoid it filling</li> </ul>
	with water and contaminating the area during floods.
Design Choices	Pit latrines and venter improved pit latrines.
	• Pour flush pit latrines are more commonly used in Asia. They allow for a more flexible
	positioning of the pit as it can be constructed off to one side.
	Flush toilet with septic tank
	Connection to sewerage system
	<ul> <li>Communal latrines (only for areas with acute space shortage)</li> </ul>
	• Pit linings can be made from concrete rings, brickwork, blocks or stone, cast in -
	situ concrete or ferro cement
	The pit slab can either be reinforced or cast in a dome shape to take the weight of a
	large adult.
	Piped sewage systems require relatively sophisticated design and need to be
	compatible with the local government system into which they flow.
Dealing with Services in	<ul> <li>Latrines should be at least 15m away from the nearest water source.</li> </ul>
the Ground	Water supply pipes should always be above the level of the porous elements in the
	pits and any piped connections.
Operation and Maintenance	A pour flush system with two pits is more hygienic than one pit, as the pits can be
	sealed off for a period before emptying. The pits can be shallower as they do not
	need the same capacity if they can be regularly emptied. Regular safe emptying of
	pits is needed in all cases.
Safety Considerations	<ul> <li>Excavation of pits should be shored from a depth of 1.2 metres, Concrete rings lend</li> </ul>
	themselves to shoring up the soil during excavation.
Employment Potential	<ul> <li>Depending on the technology of choice for the sanitation, the employment potential var-</li> </ul>
	ies. Extensive sewer works provides a lot of opportunities for unskilled workers as will the
	excavation of lining of pits.
Suggested interventions for	<ul> <li>Community-level facilities: public toilets, sewerage schemes, pit latrines,</li> </ul>
potential LRB methods	sedimentation ponds
	Excavation works
	Drainage works

Source: Community Infrastructure in Urban Areas: Creating Jobs While Improving Low-Income Settlements, ILO Regional Office for Asia and the Pacific, 2007. p. 92 Examples:



Photo 28: Construction of Toilets in Coron



Photo 29: Construction of septic tanks in transitory shelters

#### 2.5.3 Small dams and dugouts

The purpose of the infrastructure is to store water collected during the rainy season to be used during the dry season<sup>28</sup>, for domestic water supply, livestock watering, small-scale irrigation, aquaculture, soil and water conservation, and flood control. Some suggested interventions for potential LRB methods include but not limited to: gravity-fed surface water resources: small dams, shallow wells, and rainwater harvesting or collecting; excavation works; drainage works. Technical guidelines, *Small Earth dams and dugouts: Technical Guide and Reference*, produced under EIIP provides a comprehensive discussion on the design, construction and maintenance of these types of infrastructures.



Photo 30: Small earthdams and dugouts: Technical Guide



Photo 31: Small dugout

Photo 32: Dam in Zuarungu, Ghana



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### 2.5.4 Irrigations Systems

The purpose of the infrastructure is to ensure adequate supply of water to maximize agriculture production. While central government provides irrigation support to farmers, the scope of irrigation systems cover a wide-range of areas and involve large-scale works that are often capital-intensive and "usually characterized by many problems"<sup>29</sup>. Experiences have shown that the most successful small-scale irrigation

facilities are those which are developed, operated and managed by the farmers. Suggested interventions for potential LRB methods include but not limited to: holding ponds, tanks and channels, gravity irrigation systems and non-motorized pumps; involving farmer's / water users' associations in the design and construction, operation, and maintenance of minor irrigation works



Photo 33-34 Construction of irrigation canals

Photo 35: Small irrigation intake box

### 2.5.5 Adaptation Works

This refer to interventions that mitigate the potential threats of change in climatic condition, and the interventions include reactive and pro-reactive measures. Some recommended interventions include: <u>Water resources</u>: groundwater / rainwater harvesting and storage facility, desalination, reforestation. <u>Agriculture</u>: flood/ erosion control and protection (e.g., contour farms, gabions), dam construction, orchards. <u>Coastal protection</u>: mangrove plantation or reforestation, flood controls.



Photo 36: Construction of anti-erosive ditches in Haiti.

Photo 37: Gabions for river protection in Tacloban City.



Photo 38: Construction of rainwater collector in Coron, Palawan.

Photo 39: Establsihment of terraces in Iligan City.

 <sup>28</sup> ILO Training Guide Technical Reference, Labour-Intensive Works Programme (LIWP) for Small Earth Dams and Dugouts (1988),
 <sup>29</sup> EIIP Local Resource-based Technical Options and Design Solutions for Agriculture Related Climate Adaptation and Mitigation Measures in the Fields of Irrigation, Soil & Water Conservation, Forest, and Flood Protection,


#### 2.6 Local government involvement

Under the tripartite approach of ILO, governments including local units are part of its traditional partners. The organization recognizes the key role of local governments in promoting decent work through public investments and public employment programmes to support employment generation and poverty reduction. Local governments have a key role in basic needs and services delivery since they are entrusted with mandate to ensure general welfare including peace and security within their geographic area. While they have comparative advantage over central government agencies in terms of understanding the preferences and needs of the population they serve, local governments are often faced with lack of resources and capacity limiting their potentials to create an enabling environment to pursue broader development objectives. Under the LRB approach, by supporting local governments in the design, formulation, implementation and monitoring of public investments, improves local capacity to address development issues, mobilize communities and resources, facilitate implementation of infrastructure investments and provide support to communities in sustaining the created assets.

#### 2.7 Gender equality

The incorporation of a gender dimension in the planning process promotes inclusive needsbased identification as it removes the veil that hides the many distinctions among community residents. This could be achieved by revisiting gender considerations<sup>30</sup> in planning which include but not limited to:

• **Equity**. Who performs roles and responsibilities related to water and sanitation needs and income-generation? Why should women have an unequal burden particularly when women contribute equally to economic activities?

• **Economic**: Savings in travel (i.e. collecting water, irrigating the fields, etc.) could be better utilized in other productive endeavours – learning new skills for income generation and/or to access employment opportunities.

• Welfare: Savings in travel could be allotted for improving health and education.

• **Demographic:** Incidence of female-dominated household (widowed women, divorced, single, etc.) is increasing.

• Efficiency: Exclusion could result in under-utilization of infrastructures and lack of commitment to operate and maintain.

Integrating gender in the planning discourse promotes equity and inclusion for both women and men to influence the discourse, articulate their needs and aspirations and induce informed decision. The access-improving interventions should then be able to address concerns of the community, at the same time provide both men and women free time (as a result of savings in time) for education, health, recreation and income-generation - all of these are linked to improved local capacity, increased participation and greater efficiency. For further reading, refer to: Illustrated gender guidelines for gender responsive EIIP, Tanzarn, Nite, Gutierrez, Maria Teresa., ILO, 2015. http://www.ilo.org/wcmsp5/ groups/public/---ed emp/---emp policy/---invest/documents/publication/wcms 459976.pdf.

The informed decision could be translated in the following aspect of the interventions:

- Location of the facility considers the frequent users (women and children are often tasked with water collection and watering the plants, cultural belief of indigenous and tribal communities)
- Design of the facility bearing in mind the users (e.g. women and children engage in water collection,

• Implementation technologies – selection of workers, determining quota for participation of both women and men, and training. Provision of child-friendly spaces or breast-feeding stations for women participants. Provision of spaces for praying.

• Operation and maintenance plans – defining responsibilities for members of community to manage the facility including collection of user fees, etc.

<sup>&</sup>lt;sup>30</sup> Gender participation in infrastructure investment projects, and rural transport, Maria Teresa Gutierrez



## **CASES OF COUNTRY APPLICATIONS**

1) Project: UN-agency joint programme for the Millennium Development-Goal Fund (MDGF)<sup>31</sup>, in Latin America (Panama, Nicaragua, and Paraguay)

This illustrates the steps undertaken by the projects in adapting a participatory framework, incorporating gender and culture, to project implementation to maximize the participation of beneficiary community and stakeholders to support the provision of access to water and sanitation services to poorest communities in the region while improving local capacity and promoting community empowerment and poverty reduction.

The aim of the three country projects was to strengthen the government's capacity to manage water provision and water quality, including the poorest and excluded populations. ILO participation included capacity-building on labour-based techniques (IRAP and Community Contracting) and rights (Convention 169).

The project interventions varied from each country. In Nicaragua, it was to promote democratic economic governance in the water and sanitation sectors. In Panama, it was to strengthen equity access to safe drinking water and sanitation through community empowerment particularly those excluded indigenous groups. In Paraguay, the aim was to strengthen the ability to define and apply water and sanitation policies. Each project was in varying levels of implementation and a participatory mechanism was needed to support knowledge-sharing of community-based experiences as well as the incorporation of gender and culture approach in the project cycle. The adaptation process involved these key steps applied in all three countries:

• The application of the IRAP tool, with gender and inter-cultural dimensions (Convention 169) in the planning and consultations with indigenous communities, to prioritize and identify local knowledge on water provision. The adaptation required the conduct of a series of consultations with programme stakeholders including governments and communities, which were facilitated by a team of experts. This involved gender sensitizing sessions that included the appraisal of indigenous knowledge (e.g., degree of contamination of sources, incidence of diarrheic diseases, existing knowledge on water and sanitation management capacity) into the planning and decision-making process.

• Understanding the processes under the framework of an inter-cultural and social dialogue has helped to determine basic procedures to mainstream gender and culture dimension in future water and sanitation sector planning and implementation processes, while building local capacities in managing their own water resources and improving the quality of,



Photo 40-40.a Ensuring wide participation of members of indigenous communities.

<sup>31</sup> ILO, Case Study:"South-South Cooperation on the water management and sanitation in indigenous and dispersed communities, with gender perspective and an inter-cultural approach", Maria Teresa Gutierrez, (2015).



Chapter 2-Planning water needs



Photo 41: Capacity-building on water facilities construction in Nicaragua.

and access to, public and water and sanitation services. These all feed into the bigger realm of poverty reduction.

• The conduct of an ethnographic study that helped in the integration of traditional practices and knowledge. The study generated information on the sourcing of drinkable water and the rituals that relate to the sourcing of water, the technologies for water storage and disinfection, the typology of soils for construction, and the role of women in resources management.

• Consultation workshops and field visits. Local communities including indigenous peoples and women attended the discussions, while in the capital towns, the sectoral and inter-governmental authorities were invited in workshops to legitimize agreements, provide policy support and guidelines in the implementation of water and sanitation interventions. In the workshops, the discussion focused on: unlocking of the concept of consultation as a process from the viewpoint of indigenous communities; assessment of local capacity including relevant local knowledge; women's role and knowledge on water including biological indicator to identify potential sources and available local plan species to aid in water purification process; and ensuring women empowerment.

• Information collected together with beneficiary communities were processed, analysed and shared with stakeholders for inclusion in local decision-making process.

• Community contracting was the implementation method for the construction of the water and sanitation infrastructures, and appropriate training was provided.

Following the participatory approach to project implementation, the communities from the project sites experienced improved quality and access to water and sanitation services including reduction of water-borne diseases. Specific results in the countries are as follows:

 In Nicaragua, four sites with water and sanitation facilities were built together with small water quality laboratories and plants. Technical capacity was improved in construction and maintenance, and seventy-one qualified plumbers are ready to participate in the labour market.

• In Panama, water and sanitation facilities were constructed, and a water quality monitoring program was developed which included a user fee approach in the use of the water. There were four social enterprises created that promoted women and youth entrepreneurship and innovations to maintain water and sanitation services. After the project, 5,834 people from 9



Photo 42: Trained a pool of plumbers to do maintenance, in Nicaragua

Photo 43.Training on water quality for rural aqueducts managers, majority are women in Pamana



#### Chapter 2-Planning water needs

indigenous communities now have continuous access to safe drinking water and sanitation facilities

• In Paraguay, application of local knowledge on water provision.

The joint programme is innovative as it highlighted indigenous knowledge and gender empowerment towards access to quality public services and raised awareness on Convention 169. The application of participatory tools for planning and construction of water and sanitation infrastructures maximized the use of local resources (unskilled and skilled workers, local knowledge and contractors) and capacity by developing local units of small contractors for



Photo 43.a: The application of the IRAP tool in Boquerón, Paraguay

maintenance, and enhanced women empowerment through leadership and management roles, both at the local government and community level.

## 2) Project: Dhaulagiri irrigation development project in Nepal.

An urgent concern in the hilly and mountainous region of Nepal is the lack of, if not absence of, irrigation system for its more than 2,400 hectares of agricultural land in Dhaulagiri. To address this need, a funding from DANIDA, amounting to USD 3.5 million, was provided for the development of the irrigation system. The project adopted participatory models from planning, implementation, up to management of the small scale irrigation facilities. The local stakeholders participated in identifying the hilly sites for the targeted forty small scale irrigation facilities. The consultations facilitated the prioritization and selection of community people who will be employed in the construction of the small scale irrigation facilities. In the process of consultation and validation of plans, a manual for planning, designing, and implementing environmental protection measures as well as the use of local available resources has been produced.



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## Local Resource-Based Approaches in Water Works

**Chapter 3** 

## IMPLEMENTATION





## **Chapter 3**

#### Key issue

Effective implementation of infrastructure works hinges on an enabling environment and relevant capacities.

## **3. INTRODUCTION**

#### 3.1 Overview situation

The ultimate goal of creating infrastructure assets is to provide services and facilities to enable people to meet their basic needs such as access to safe water and sanitation services. and lead a productive life. The objective of creating increased employment opportunities by means of infrastructure works have greater potential through platforms that support local resource-based approaches. Existing ILO guidelines suggest, under the LRB approach, that the effective and efficient implementation of infrastructure works should have an enabling environment and relevant capacities to support partners and stakeholders to deliver their roles. An enabling environment is characterized by the presence of relevant legal and policy frameworks, institutional support and linkages, and actors and/or stakeholders with functions and responsibilities, to support the implementation and enforcement of a plan of action. Relevant capacities refer to existing knowledge and skills of partners and stakeholders so they can perform their respective roles and responsibilities. Based on experience, in order to ensure the effective and efficient implementation of infrastructure works, the following steps<sup>32</sup> should be considered:

- Determine available delivery options
- Capacity-building of the different partners and stakeholders
- Procurement of works and goods
- Contract management
- The actual execution and control of the works to ensure that standards (including conditions of work) are met and quality is controlled
- Social safeguards
- Environmental safeguards

#### 3. 2 Delivery options

Implementing infrastructure works for water supply, sanitation services, small dams, irrigation systems, and adaptation works using the LRB approach can be done through the following methods<sup>33</sup>: directly by the public sector, contracting the private sector, and contracting by community-based organizations (CBOs). Implementation by the public sector. Often referred to as "force account", where the public agency takes on the responsibility to design, deliver, supervise, and manage the infrastructure works. During crisis situations, this method is the most preferred in implementing infrastructure works to respond to pressing needs in affected areas. However, this method does not support the use of LRB approaches.

• Contracting the private sector. In developing countries, public agencies often tap the private sector to implement the infrastructure works due to a lack of capacity to deliver. This method systematically uses the LBR approach.

 Contracting by community-based organizations. This method is a widely applied LRB approach in infrastructure works. The process involves a registered community organization entering into a contractual arrangement with a public agency or a development agency to deliver an asset or a service. The process brings together communities with a need but with meager resources, and organizations or public agencies who have appropriate technical, financial, and organizational resources to meet that need through a contracting approach. As a community contractor, the CBO receives the funds, mobilizes community resources in a systematic and accountable manner, and fulfils its responsibilities described in the signed contract The ILO has been promoting agreement.

 <sup>&</sup>lt;sup>32</sup> ILO, Local Resource-Based Approaches to Infrastructure Investment, Source Book, Sub Regional Office for Southern Africa, (2010).
<sup>33</sup> Ibid .

this method in various infrastructure works, both for pre and post-crisis/conflict situations, across 70 countries worldwide. Community contracting has been applied to implement infrastructure works in water supply, sanitation services, small dams, irrigation systems, and adaptation works.

# 3.3. Capacity building of partners and stakeholders

An effective and efficient implementation of infrastructure works through the LRB approach hinges on an enabling environment and the presence of relevant capacities. Improving the relevant capacities of partners and stakeholders is central to the delivery of infrastructure assets based on desired technical specifications and the quality of the created asset to prolong its life and usability. One of the activities during this phase is to improve existing capacities based on their roles and mandates by conducting skills training, mentoring, and certification of acquired skills to ensure that newly gained knowledge and skills contribute to employability potentials.

For the private sector, it is necessary to develop local contractors who are willing to carry out works using the LRB approach. In Africa and Asia, emerging contractors with limited resources are generally more willing to engage in infrastructure works. However, in order for them to meet the contractual arrangements, they would need support to meet the contractual requirements. A typical training package designed by ILO to develop small-scale contractors consists of four (4) phases: preparation, training, mentorship, and practising contractors. A comprehensive set of training materials is available to interested parties.

The engagement of communities as implementers is among the features of the LRB approach. It is important that they have the correct knowledge about the process. A typical training package designed by ILO consist of four phases: planning and negotiation, approvals and signature, mentorship and training, and empowered communities. A comprehensive set of training materials is available to interested parties

National and local government units and agencies play a critical role in ensuring the delivery of infrastructure works. The role of government is to create an enabling environment to allow emerging contractors to access to new work opportunities and resources. This will require the enhancement of existing technical and institutional capacity to ensure the correct understanding of the process and to provide a framework to support the delivery.

### 3.5 Procurement of works and goods

The typical procurement of works uses cost as a comparator of competitive bids. However, this method does not capture social and development objectives of the planned infrastructure works. A more progressive way should be flexible to encourage the emergence of new small contractors, support the transfer of skills, promote decent work conditions and provide decent work for the unemployed, promote good working conditions, and assist in addressing key social issues such as unemployment, gender balance, and HIV/AIDS. Upstreaming the approach requires a good documentation that is legally acceptable and supports the emerging small-scale contractors to allow them to comply with administrative and financial procedures such as contract packaging, awarding, and payment.

#### **3.6 Management of contracts**

Understanding the roles and responsibilities of all parties involved in the contracting process is prerequisite to effective and efficient implementation of the LRB approach in infrastructure works. To do this, all players need to keep in mind the following key considerations:<sup>34</sup>

• Contract documents should clearly define the roles and responsibilities of employer, employer's representative, contract supervisor, and contractor.

<sup>&</sup>lt;sup>34</sup> ILO, Local Resource-Based Approaches to Infrastructure Investment, Source Book, Sub Regional Office for Southern Africa, (2010).



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• Health and safety – The paramount concern is to ensure the safety of all persons involved in the actual implementation of infrastructure works. Specific guidelines should apply based on the nature of the infrastructure activity involved.

• Environment protection – Look into the potential effects (positive or negative) of a planned intervention to the environment, including the social consequences. Proposed infrastructure works should support national policy and procedures—including the conduct of environmental impact assessments if required by the scope and nature of the work—to safeguard environmental effects.

• Gender equity – Ensure equal opportunity for both men and women workers including persons with disability and those with HIV/AIDS to participate in the productive undertaking.

#### **3.7 Actual implementation**

The real test of the contractual process is seen during the actual execution of infrastructure work. At this stage, three things should be factored into the formulation of designs and budgets: labour, tools and equipment, and construction materials.

• Labour-availability – A labour market assessment should be conducted to determine available skills to match the requirement, and determine acceptable wage rates prevailing in the area vis-à-vis the mandated rate. The recruitment of workers should observe a fair and transparent process to allow for equal participation opportunity for qualified men and women workers in the infrastructure work. Refer to ILO Guide *"Employment-Intensive Infrastructure Programmes: Labour, policies and practices"* for a comprehensive discussion of the labour aspect.

• Tools and equipment – To be consistent with the design of the infrastructure, the types and mix of tools and equipment needed to deliver the required tasks at hand must be determined. An inventory should be drawn to match the requirement, and the best option to procure these equipment cost effectively must be specified.

• Construction materials and supplies – The bill of quantities contain the materials required to implement the infrastructure works. The configuration of labour, tools and equipment, and construction materials vary according to the design and type of the infrastructure. The ILO Guide on *"Labour Intensive Construction Guidelines for Water Provision, Sanitation, Solid Waste and Building Works"* could be useful in determining the abovementioned items for water supply and sanitation works. Other items to be included in the budget is the cost of personal protective gears, insurances (medical/accident) and firstaid supplies.

On top of these, decent work conditions including labour standards and working conditions, gender equality, social protection, and environmental safeguards should be taken into account.

• Labour standards and working conditions. Depending on the type of infrastructure work, a checklist of standard safety gears, policies about wage rate and payment, schedule of payment, worker's rights, including provision of child-friendly spaces, water stations, breast-feeding stations, etc.

• Gender equality. Equal treatment of workers, recruitment for skilled and unskilled and quota for male-female participation to be taken into account

• Social protection. Aside from wages, other benefits such as accident insurance, medical insurance, leave and sick benefits should be taken into account.

• Environmental safeguard. Water rights, right of way, other environmental risks to be taken into account including preparation of mitigation measures.



## **CASES OF COUNTRY APPLICATIONS**

3.) Project: Emergency livelihood project in response to cyclone Nargis in Mawlamyinegyun region in Myanmar<sup>35</sup>

This shows the implementation of infrastructure works using a combination of private contractor and a community-based organization (CBO). The project was a response to Cyclone Nagris that hit the region in 2008. The over-all aim was to provide life-saving interventions and ensure sustainable livelihood recovery.

ILO implemented a three-month pilot project using its own funding to restore connectivity which included a combination of access infrastructures and sanitation facilities: 6.4km of raised concrete footpath, two jetties, six footbridges and forty pit latrines, for a total cost of USD150,000. A community-based planning process was adopted to identify priority infrastructures, and construction work consisted of a mix of private contractor and community, all of whom engaged labour from the community. A total of twelve contractors were trained on contract management, budgeting, sub-contracting, procurement, employment procedures, wages calculation and recording, in addition to the technical skills of the actual contract specification. Three private contractors were awarded contracts. The project generated a total of 74,436 workdays. Women participation rate was thirty-nine per cent of the workforce.

DFID provided funds for the construction of tertiary infrastructures which included 48 miles of village tracks, 24 jetties, 123 small bridges, and 600 pit latrines, all generated a total of 74,436 workdays. Women participation was at thirty per cent. The reduction was attributed to the differing physical demands of the work which required a higher proportion for skilled staff. Another contributing factor was the traditional attitudes towards "man's work". While efforts were made to bridge the gap, given the limited time, it was not enough to complete attitude change. A total of 105 contractors were trained. Some of this considered to have the potential to move into commercial subcontracting were granted multiple contracts. Private contractors were used on the more complicated structures fifteen were awarded contracts.

Out of fifteen private contractors utilized in the projects, two on the DFID project started as community contractors. Then, they moved to bidding for works outside the projects which augmented their income. Both projects maximized the use of local labour from the affected population, generated income, and increased local capacity through training of community contractors to support potential engagements in similar undertakings.

<sup>35</sup> ILO, Project Report, Myanmar, (2009).



#### 4.) Project: Employment creation and environmental protection through watershed management<sup>36</sup>, in Gonaives, Haiti

Haiti has become extremely vulnerable to disasters when hurricanes and extreme rains hit the country. Aside from that, the country also faces natural and physical risks that put its people in grave danger during disasters. Haiti's economic conditions show fifty-five per cent of the population live in extreme poverty and seventy-nine per cent live on less than US\$2 a day. Food insecurity is prevalent. The natural and physical risks and the mounting problems on waste and drainage in the towns and cities are major considerations for urgent interventions. Gonaives was identified as the target site for the demonstration project of the natural disaster prevention program through the rehabilitation of the environment through job creation by the joint assistance from ILO, UNDP and WFP, implemented from June 2006 to March 2007. The intervention was rehabilitation of the fragile and weakened environment through water and soil conservation schemes using LRB methods including community contracting and capacity building of local institutions and associations.

The project aimed to promote and support local economic development (LED) through increasing capacity to mobilize, coordinate and through the analysis of economic potential to contribute to the rehabilitation and creation of productive networks and commerce, rehabilitate and/or construct needed physical/natural infrastructure with an economic and community-driven rural/urban focus using employment-intensive methods, community contracting and capacity building of local institutions and associations.

The interventions were on:

• Soil and water conservation projects would contribute to the rehabilitation and management of the six micro-watersheds, and would benefit more than a quarter of a million people.

• Construction of anti-erosive ditches: 1,800

hectares of slopes were reinforced with stone barriers that measured around 2.563km and would protect around 2,000 hectares of agricultural and residential lands.

• Construction of thresholds for water retention: 134.888 cubic meters of rocks were extracted and were used to put up 3.211km of threshold with the use of dry masonry. The construction activities created jobs equivalent to 2,146,000 working days or about 7,150 people employed for seventy five days over a period of four years.

• Reforestation of slopes and setting up of tree nurseries: 210,000 agricultural and forest seedlings were planted on 168 hectares of slopes. Investment and training on tree nurseries were put up to serve as continuing source of agricul-



Photo 44: Anti-erosive ditches

tural and forest seedlings for the reforestation activities.

• Re-profiling of the Quinte River: 5,350 linear meters of the bed of the outlet of Quinte river were widened to keep off from eroding. Around 1.234 cubic meters of gabions were put up on the channel Bienac would serve to strengthen the Gaudin Bridge.

Organizing associations and Improving local capacities to implement community-based infrastructure activities

<sup>&</sup>lt;sup>36</sup> Republique d'Haiti, Case Study: Employment Creation and Environmental Protection Through Watershed Management in the Gonaives Region, Haiti.



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LRB method was used in all the interventions. The participation of local stakeholders was distinct in employment creation in the locality. Local associations in the communities were formed as federations and undertook community contracting on the sub-projects implemented in the target areas. Eleven federations were engaged to assist in the recruitment of workers, selection of foremen, and administration of work specific to monitoring and controlling of wages. The federations took the lead and management of community contracting. Contracting is documented where each worker signs or puts his thumbprint on the daily attendance form. Federation officers are allowed to collect an amount to carry out training of their people in the selected project, the amount ranges from 1.125 USD to 6.897 USD per federation.

Social organizations and professional associations trained the contractors for the extraction of stones and contractors for the construction of the barriers and thresholds. Training on tree nurseries was done, and twenty six groups were organized to operate the nurseries. In Labady quarters, women were organized to undertake similar work.

The project involved the local government committees and authorities who were informed, sensitized, and trained in organizational, operational, and technical issues. The involvement and participation in the planning and implemen-



Photo 45: Establishment of tree nurseries

Local Resource-Based Approaches in Water Works



Photo 46: Re-profiling of the Quinte River

tation process created the resilience consciousness among the local people and local authorities of Gonaives.

For the duration of the project in Gonaives, decent work conditions were observed in the localities such that safety of workers was followed by nurses who have been trained by the Department of Health. Food rations for workers were provided by WFP. Provision reached more than two million in the course of the project implementation.

#### Impact of Projects:

• Increased resilience against the adverse effects of future hurricanes;

• Improved social stability through employment and income creation through 2,146,000 work days. This is equivalent to an average of 7,150 people employed for 75 days over a 4- year period;

• Improved nutrition (2 food ration supplements per work day provided by the WFP) benefiting 35,750 people (beneficiaries received about forty per cent in food and sixty per cent in cash);

• Decreased vulnerability through soil and water conservation activities and infrastructure works benefitting both private properties and agricultural land;



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Employment Intensive Investment Programme

• Created permanent jobs to 220 persons in the continuous management of tree nurseries;

• Supported the development of 11 federations (with 1000 people each) and improved capacity to undertake contract negotiation and management of infrastructure works

These impacts have provided justification for replication. The contractual arrangements have become useful in responding to environmental protection. LRB approach has enhanced local technical capacity building, organizing, managing, and monitoring of local organizations. The implementation of the approach has proven the facilitation of employment creation and income generation in a given locality, and in addressing environmental protection and disaster mitigation issues. The operationalization of EII and LRB methods could transition efforts of governments from emergency measures to more de-



Photo 47: Organizing federations for infrastructure works

velopmental and long term strategy particularly in the areas of local infrastructure reconstruction and capacity building of local communities.

Following are some shared insights of the community:

- "Adeline, an informal worker selling avocados, confirmed that she has been able to continue her business for nine years and thanked the initial wages received through the project".
- "Baby, from the Federation de Bassin Magnan, said that the populations have been less at risk of flooding since the construction of anti-erosive ditches".
- "Others have testified that the contribution of tools (shovels, picks, etc) which were given to the different federations at the end of the project have allowed for other community infrastructure works to be completed".

Source: ILO-EIIP. Presentation: Innovations in Public Investment and Employment Programmes, M. Tsukamoto.

5.) Project: "Repair of community potable water system and reforestation of community-managed watershed"<sup>37</sup>,in Pinabacdao, Samar (Philippines)

This illustrates the synergy of benefits and impacts of collaboration among partners such as central and local government agencies, international non-government organization (INGO) and community-based organization to support reconstruction, income generation and maintenance system.

The project was part of the ILO response for typhoon-affected communities in the Philippines in 2015, and funds came from the Government of Norway. The Local Government Unit (LGU) of Pinabacdao was the implementing agency. Successive typhoons that hit the municipality of Pinabacdao had severely damaged the water supply serving 4,000 families (22,275 residents). Rehabilitating the water system was a priority of the residents as lack of potable water could lead to the spread of water-borne diseases in the area. The livelihood of rural people was affected by the successive calamities, and the lack of potable water exacerbated the condition of the people, particularly the health of women and children. The rehabilitation works required refitting pipes, replacing pipe braces,



rebuilding concrete bases and posts, and laying down coconut fibre for slope protection. A complementary component of the water supply repair was the reforestation of the watershed involving 1,641 hectares in five villages.

The ILO provided for the cost of wages, social protection, and personal protective equipment (PPEs) of the workers, while construction materials were provided by Oxfam, an international non-government organization that was also involved in livelihood recovery and disaster response. The 667,000 seedlings for the reforestation was provided by the national government agency responsible for environment management. Supervision of works and contract management were done by the local government authority, through a cash-for-work (CFW) scheme. Five hundred fifteen residents (59% women) from the affected communities worked in the rehabilitation and reforestation and generated 7,725 workdays.

The newly repaired water system is now being maintained by the LGU but its management is through the community level under the Ba-



Photo 48: Workers get ready for tree planting to rehabilitate damaged watershed

rangay Water Association (BAWASA), with the LGU providing technical supervision. The planted seedlings will be maintained by the families contracted by the government to continue attend to the seedlings until these were fully grown. In this way, the LGU will provide continuous employment to families and bolster the tenant-residents land stewardship claim under the government's Community-based Forest Management Agreement (CBFMA). 6.) Project: Construction of green community assets: Adaptation work and peace-building initiatives for Jordanian communities<sup>38</sup>

The project aimed to assist the Jordanian government on its pressing concerns on public, agricultural and environment infrastructure and creation of employment opportunities. The past five years, beginning 2013, Jordan has hosted Syrian refugees, and the rapid influx of people, making up about ten per cent of the Jordanian population, put a heavy toll on the local economy, particularly on the local communities and its natural resources.



Photo 49: Construction of cisterns and water tanks

Through the support of the ILO, the Jordanian government was assisted in creating jobs for the increasing number of poor and vulnerable populations of Jordanians and Syrian refugees, through the building of the following infrastructures: water catchments, soil protection works, terracing, and planting and installation of irrigation systems, in Ajloun, Jarash, Albalqa, Karak, Tafila, Madaba, Zarga, and Ma'an. In the process, EIIP contributed to the development of infrastructures to harness the agriculture potential of the target recipient local communities. The agricultural infrastructures developed are referred to as "green community assets" since these have direct environmental benefits given the prevailing environmental conditions. The infrastructure works aimed to contribute towards the : i) creation of gainful employment utilizing appropriate labour-intensive and LRB methods and adaptation works with long term positive

<sup>38</sup> ILO, EIIP Briefer, "Construction of Green Community Assets: Adaptation Work and Peace-building Initiatives for Jordanian Communities", 2018.



impact on rural livelihoods; and ii) build green community assets that would have direct positive medium to long term impact on the environment.

Agreements were signed with the Ministry of Agriculture and with the cooperatives then, technical committees were formed in Ajloun, Jarash, Karak, Albalqa, and Tafila. Throughout the project, training and coaching were provided to the committees and local contractors to build capacity on employment-intensive methodologies and LRB approaches. There were awareness sessions for workers on occupational health and safety and social security, respect do no harm principles, inclusive workshops and gender.

The project successfully introduced and demonstrated the effectiveness of local resource-based approaches and local participation in planning, utilization of locally available skills, appropriate technology, materials and work methods, for infrastructure and agricultural works, through the following results:

• The infrastructure built and the reforestation work will have a direct impact on reducing the intensity of water usage in the sector thus offsetting pressure on the limited water resource base. Local farmers will benefit from the construction of water cisterns, soil terraces and drip irrigation installation.

• Phase 1: Thirty thousand (30,000) workdays were generated for 800 Syrian refugees and

# 7.) Project: Low-cost green sanitation technologies for livelihood development of the Tagbanua indigenous people<sup>39</sup>

The island village of Malawig in Coron, Palawan is home to the Tagbanua indigenous people, one among the 110 ethno-linguistic groups in the Philippines. In 2013, the village was badly hit by Typhoon Haiyan and their livelihood sources including basic water and sanitation facilities were damaged. The implementing partner was the Philippine Center for Water and Sanitation –International Training Network Foundation (PCWS-ITNF), an NGO working on sustainable water resources. The project aimed to build and harness the available local resources



Photo 50: Establishing terraces in Albalqa governorate

Jordanians. Phase 2: 45,000 workdays for 1000 Syrian refugees and Jordanians.

• The construction workers received skill development training on green infrastructure works, improving their employability.

• High possibilities of generating new income-earning opportunities for farmers considering the mitigation of land desertification, and development of sustainable and weather-resilient agricultural practices.

• Better social cohesion among Syrian refugees and Jordanians inside the host communities has been observed. Competition between the two groups was mitigated through social dialogue.



Photo 51: Construction of rainwater collector

<sup>39</sup> ILO, Grant Agreement Report, Low-Cost Green Sanitation Technologies for Livelihood Development of the Tagbanua Indigenous People, (2015).



including skills and knowledge of the indigenous communities in the design, construction, operation, and maintenance of low-cost water supply, sanitation, and hygiene (WASH) facilities. The facilities consisted of: 60 bio-sand filters, 14 toilets, 4 bio-gas digester septic tanks, 3 rainwater harvesting tanks, and 3 handwashing stands – all aimed to contribute to the people's health and well-being, community empowerment, and environmental protection, in 14 beneficiary communities.

Selected members of beneficiary communities were provided hands-on onsite training in the design, construction, operation and maintenance of low-cost WASH facilities. The trainers on masonry and mould fabrication came from government vocational and technical (VOCTECH) institution tasked to provide skills training with certification in the country. The training aimed to increase the community member's employability potentials during construction of WASH facilities and beyond project duration. While the construction of WASH facilities created short-term jobs for about 59 people in the community, the installation of these green technologies has created new livelihood opportunities for women to engage in household-based business such as selling of cooked meals, crop production and hog and poultry production. Those members that received training have organized themselves into a community contractor to allow them to engage in contracting arrangements for the maintenance of the facilities in their areas as well as in other nearby communities interested to set-up similar green technologies.

Among the lessons learnt (Capistrano, L, 2015) by the community as well as partners during the implementation are as follows:

• "Increasing the participation of community members in decision-making on water resources management is among the many ways for making community water and sanitation systems resilient against threats and climate change".

• "Water and sanitation are basic structures with poverty reducing impacts. Through WASH, stressed environments could be healed and communities can be transformed into better living places".

• "Building the community's capacity to construct, operate, sustain, innovate and scale-up low-cost WASH technology options for schools and communities can become a shared goal".

# 8.) Project: Sudan experience on special public works programs in the water sector<sup>40</sup>

Sudan is the biggest country in the continent of Africa but has remained one of the poorest countries in the world as gleaned in the UN socio-economic standards. The country has faced negative development in the 70's due to multiple external and internal factors. External factors which Sudan has little control of include successive droughts, deterioration of world market for primary agricultural products, and the influx of large numbers of refugees from neighbouring countries. Nonetheless, the real causes of the crisis and negative development of the country have been the poor management of the economy, the instability of the governments, and the consequences of the civil war. The crisis situation had compromised many basic needs of the Sudanese people, and one of the priorities to be addressed was safe drinking water.

The catastrophic impact of drought in the country crept in from early 70's and went unabated through the years that led to massive famine and death of millions of Sudanese. A call for international assistance was undertaken by the government to help its destitute situation. ILO responded to the government's plea for assistance, and the mission recommended the Programme for Special Public Works approach for the development of basic infrastructure as part of the planned rural development effort. The development objective was to improve the standard of living of the rural population in the poorest regions of the country through the establishment of a national capacity to design, implement, and evaluate rural works programs that entailed the call for abundant workforce. The pilot launch of the programme was in the province of White Nile, and the immediate objectives in the province was to assist the villages to build and rehabilitate water supply infrastructure, village infrastructure like schools, primary care centres, and veterinary centres, irrigate 1,200 hectares, construct a 60 kilometre service road, and protect the installed infrastructure through planting of trees. In the assessment of the pilot project in October 1987, the

<sup>&</sup>lt;sup>40</sup> ILO- EIIP, "Sudan Experience on Special Public Works Programs in the Water Sector", translated from French by Julien Varlin, (2019).



Chapter 3-Implementation

mission concluded that potential effectiveness of labour-based method was demonstrated in Sudan, and contributed to job creation as well as strengthened savings on foreign exchange. White Nile implementation of the Special Public Works Program (SPWP) served as a model for other provinces in Sudan. Two other provinces were identified and SPWP was adopted - North Kordofan and North Darfur. In the latter provinces, the objectives focused on strengthening capacities of rural communities. The two projects included water supply - construction and rehabilitation of village wells and flood irrigation. Village infrastructure and reforestation were also included in the provinces' SPWP. The Sudanese Government funded the three SPWPs while some counterpart funds came from US-AID and CIDA while development partners from RFA, Italy, UNCDF, and AGFUND financed the purchase of equipment and services. Technical assistance was provided by UNDP while World Food Program contributed food as remuneration for the labour force

The activities that went through the SPWP in Sudan were as follows:

1. Formation/creation of implementation bodies

- Advisory body composed of the Ministry of Labor and ILO Project teams.

- Project Teams at the national, regional and provincial levels

- Restricted Technical Committee for each project - Village Development Committee and sub-committees

2. Founding of the National Coordination Cell which is the focal point for policy directions, as liaison with central and regional SPWP project teams, and receiving and channelling counterpart funds. This gradually evolved into the Central Support Cell.

3. For water sector programs, the National Corporation for Rural Water Resources Development Corporation (NCDRWR) stood as partner of the Village Development Committee. The NCDRWR is responsible for the design, construction, operation and maintenance of all water supplies in the rural area.

 Identification and review of the different types of water supply projects based on the sources of water

5. In the implementation of the SPWPs, information campaigns in the villages were undertaken first on the objectives of the project and the modalities of cooperation since the village communities were the initiators for the request for assistance on the improvement of the priority basic infrastructure. For water projects, a list of sub-projects was prepared by the NCDRWR. Verification of the feasibility of the requested project is undertaken before the preparation of an annual workplan that should take into account the actual needs of the communities, the overall water resources development planning, and the finance means.

6. Implementation of the water supply infrastructures, primarily the rehabilitation and new construction of hafirs, village wells and some small dams in order to improve the supply of water; the construction of flood irrigation works to irrigate agricultural land in the reservoir and downstream of the structures.

The accomplishments in the SPWPs were seen in the use of labour-intensive construction of water supply infrastructure. Job creation was maximized. For instance, the construction of irrigation systems considerably used labour-intensive techniques and the participation of a large number of women in manual work. The excavation work is done by hand: the excavation is done by the men while the transport and the depositing are carried out by the women. This approach came at a time when logistical problems were encountered particularly on purchasing spare parts for the construction equipment and fuel for their operation. The advantages of efficiency and better work outputs from mechanized approach were negated by stronger and more positive socio-economic impact on the lives of the villagers, more people, both men and women, were given jobs and were able to earn income. The logistical



problems that were prominent at that time were minimized. The most obvious benefits of this approach, not to mention the benefits of the product itself, were:

• It offered a mechanism that allows a monetary injection into the rural economy, in crisis after years of drought, without putting in danger of other community initiatives;

• It provided food for work, which was highly appreciated in 1990 by villagers because of the poor harvest of the last agricultural season and again in 1991 because of the drought;

• It trained the villagers not only in the techniques of operation and maintenance, very useful after the completion of the project, but also taught them the value of this work;

• This approach allowed for greater participation of women in village affairs and also allowed them to increase their income. It has promoted significantly and intensively women's participation at four levels:

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- o their physical participation in implementation;
- their participation in the future maintenance of the infrastructures and the management of these amenities;
- their participation in community water supply decision-making through their presence on committees;
- o their share of the benefits from these amenities;

• It created a more stable society by reducing the flow of migration to urban centres during the construction phase;

• It reduced the use of foreign currency at the national level for the purchase of equipment, spare parts and fuel;

• It allowed government departments involved in rural infrastructure to allocate their heavy equipment for the realization or maintenance of other larger projects.



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## Local Resource-Based Approaches in Water Works

## **Chapter 4**

## **OPERATION AND MAINTENANCE**





## **Chapter 4**

#### Key issue

Lack or no of maintenance of the community assets undermines the expected benefits from the infrastructure investment.

## **4. INTRODUCTION**

#### 4.1 Overview situation

#### Introduction

The issue of operation and maintenance (O&M) of infrastructures on water supply, sanitation, small dams, irrigation system, and adaptation works is a major challenge if not well planned and funded. The most common problem is the lack of resources provided to operate and maintain the infrastructure resulting in the created asset's underutilization. Aside from funding constraints, inadequate skills by the end-users or a lack of available technical capacity at the local government level can compromise the life span and durability of the assets. Programming and maintenance, including the participation of partners and stakeholders, should be considered at the planning stage. For water supply, sanitation, small dams, irrigation systems, and adaptation works, the end-user of these facilities is the community who often is faced with limited skills and resources to efficiently operate and maintain the created assets. The LRB approach harnesses available resources including labour, materials and capacity at the community level to improve existing skills on how to sustain the infrastructure facilities. In order to maximize the benefits from the created assets, the following<sup>41</sup> should be taken into account: development of systems, capacities and plans, and coordination.

# 4.2 Development of systems, capacities, and plans

This involves an inventory of existing capacity at the community level to support the operation and maintenance of created assets. Part of planning is the development of operation and maintenance plans and allocation of resources, which can be generated in various ways (e.g. user charges, tariffs, etc.).

• Community Management. This pertains to the "capability of a community to control"<sup>42</sup> the operation and maintenance of the infrastructure investment. While the modalities of O&M for water supply, sanitation and irrigation facilities may differ and depending on the design and scope, the concept of community management cuts across these sub-sectors. The concept of community management has 3 components:<sup>43</sup>

• Responsibility; Authority; and Control. The community have to establish ownership and responsibility over the structures, collectively makes decisions, and carry out the decisions.

• Organizing the community and associations. Since the facilities are for communal use then, organizing the community or end-users reinforces the idea of formalizing the structure to carry out the responsibilities and decisions. Either to secure a legal personality for the group, this depends on the legal framework operating in the locality of the facility.

• Formation of community maintenance committees. This involves determining the different groups involve to operate the facility. The committees depend on the type of facility. The most common is finance (collection of user fees or charges, duties, contribution), and grievance (responsible for dispute settlement).

<sup>&</sup>lt;sup>42</sup> UNDP- World Bank, Water and Sanitation Program, Community Management for Rural Water and Sanitation Services, Carolyn McComon, Dennis Warner, and David Yohalen, (1990).



<sup>&</sup>lt;sup>41</sup> ILO Sub-Regional Office for Sub-Saharan Africa, How Water User Participation pays off in India, (2010).

• Strengthening capacity of community and local governments. After the infrastructure facility is constructed, the responsibility to ensure its operation and maintenance rests primarily with the end-users; the local government is expected to provide guidance to the community. Often times, the LG provides technical support and additional budget when maintenance requirement are beyond the community's resources. Capacity-building training for O&M involve technical aspect, financial management as well as enterprise-building (depending on the nature of the facility).

• User charges/tariffs. This refer to setting an amount of payment for the use of the facility. The rate determination depends on the type of facility, operation and maintenance requirements. If the requirements are complex, a cost analysis is done to help set the rate to be imposed for the use of the facility.

## **CASES OF COUNTRY APPLICATIONS**

## 9.) Project: Community water system development in Busuanga, Coron (Philippines)<sup>44</sup>

The project was part of the ILO typhoon response in 2013. The partnership was with the local government and a non-government organization (NGO) engaged in sustainable water resources, to provide access to clean and reliable water to island communities. The onslaught of typhoon Haiyan destroyed the watershed in the area which affected the water source of the communities. The scope of work was for the improvement and installation of bigger pipes to increase water flow and benefited 1400 families while generated local employment to 264 people workers (135 women, 129 men).

Participatory approaches from planning to implementation have been applied. Project stakeholders convened consultations together with beneficiary communities, validation discussions and site visits. Social acceptability, support, and participation of affected communities were ensured. Selection of workers to participate in construction works was based on urgency of income needs. Decent work conditions were observed. For sustainability,

### 4.3 Coordination

Available complementarities between and among investment programmes in the area should be identified to maximize resource-sharing for capacity-building, investment implementation, operation, and maintenance. An integrated plan should be adopted to allow for the synergy of impacts among interventions.

Central to the four (4) sub-sectors is water development for addressing needs such as domestic consumption, sanitation, and agricultural activity. Water influences development decisions and the source of water may go beyond political boundaries, the need to consider coordinative links with other sectors of groups is essential to ensure sustainability of the common resources. For example, in irrigation facilities, farmers from the area share common source so they coordinate to determine options to ensure equitable distribution as well as environmental measures to allow the source to recover.

a water user association was organized to oversee the operation and maintenance (O&M). Training on O&M included enterprise development and financial management was provided to the community organization. Other technical skills training on carpentry, masonry and plumbing was provided to the group. Women community leaders were trained on taking care of the watershed, and have initiated activities such as tree nurseries and community tree planting around the watershed areas. The project ensured that the community are equipped with appropriate knowledge and skills to sustain the created assets.



Photo 52: Testing the newly installed water taps

<sup>44</sup> ILO, Adapted from Sustainable livelihood and recovery for Super Typhoon Haiyan-affected communities, pp 4-6, Manila, (2015).



Employment Intensive Investment Programme

#### 10.) Project: water and jobs for Kesra, Tunisia<sup>45</sup>

The project in Kesra, Tunisia aimed to stimulate the local economic activity especially its declining agricultural potential. People from the locality have a hard time producing quality vegetables and fruits particularly figs which Kesra is famous for in the whole country. Its remoteness from urban centers, being 160 km away from Tunis, makes it impossible for people to be gainfully employed. Through the assistance of the ILO, the irrigation project was implemented, with the use of local technology, as the overriding approach of the project. The project called on the key project partners, and proceeded to conduct a feasibility study.

#### Using Local Technology and Local Skills

The plan was to construct an irrigation system in Kesra consisting of 17,000 meters of canals, twenty holding tanks, and a series of micro dams that will bring rainwater to some 20 hectares of farmland benefitting about a hundred farmers. The system aimed to minimize water loss and maximize usage of rainwater.

The ILO acquired the services of Wided Bougrine, a female hydraulic engineer from Kesra, to manage the irrigation works. Her availability to be contracted under the project is a significant opportunity to acquire professional experience and be gainfully employed. The design and installation of the irrigation works proceeded under her responsibility.

# Training and Livelihood for the Women of Kesra

More fig trees have been planted along the slopes that are now better irrigated given the water system access that was set up. The farmers and land owners were able to have increased harvest and better produce. This favorable conditions have spurred the idea of processing the fruits so that fresh fruit losses will be minimized if not eliminated, and could significantly start another source of income in the locality.

Through consultations with local farmers and

<sup>45</sup> ILO, YouTube video, Tunisia: Jobs for Kesra, (22 March 2016).



Photo 53: Female hydraulic engineer

unemployed women, a group was identified to produce and sell fig products that have been processed into jams, juice, syrup, dried fruits and pasta. Technical training and provision of processing equipment were made available to the village women. Around twenty women were initially trained and obtained certificate of competence. The significant development for the women who had trained and involved themselves in the livelihood opportunities was the capacity to earn on their own. The village women have felt the enthusiasm of having accomplished and earned in order to better take care of their families.

The successful experience could be gleaned in the narration of Tliba Hana, a young mother of two, says she is very happy to have joined the group. She had followed a path of higher education and has a Masters in librarianship which only resulted in six years of unemployment until finally, she received a real salary for her work.

Another woman, Ben Hnia Sabrine narrated what she went through and how she has been grateful for the results – "After obtaining her technical diploma (CAP) in baking, she experienced four years of unemployment before joining the group. After completing her training set up by the project, she could be involved in the production, promotion and sale of jams. She even developed her own activities in parallel". Several beneficiaries of the project have reiterated that sustaining the gains could be possible due to the adoption of local technology that addressed the local needs, training and livelihood support that enabled turnaround for gainful employment and earning are faster.



Local Resource-Based Approaches in Water Works

# 11.) Project: "Rehabilitation of irrigation facilities affected by earthquake in the province of Bohol"<sup>46</sup>

The project was part of the ILO earthquake response in 2014. The implementing partner was a farmer's cooperative, Busao-Agahay-Toril-Sto. Domingo Irrigators Multi-Purpose Cooperative. Existing irrigation systems that supply water to 36 hectares of agricultural land which cover four (4) villages were vastly damaged.

The rehabilitation work consisted of: construction and installation of irrigation flume, repair of the main canal, and reinforcement of concrete covers for main canal in landslide–prone areas. To ensure successful implementation, the cooperative engaged key stakeholders from planning to implementation to management and monitoring of the infrastructure works. The following conditions were observed in the course of the project:

• Identification of and invitation to farmers cooperatives to participate in the project.

• Conduct of public consultations among members and non-members of farmers cooperatives on the proposed project primarily to identify priority needs. The consultations also engaged affected households especially in drawing up the participation of women on immediate measures to generate income while the rehabilitation of the irrigation system is on-going.

• Conduct of transect walks and site visits that enabled the gathering of additional relevant data.

• Formation of the planning team composed of technical staff from the local govern-



Photo 54 : Ensuring full participation through consultations with stakeholders

<sup>46</sup>Adapted from Subproject Final Report, Rosario Dapiton, BATSI-MPC, 2014.



Photo 55 : Workers excavate the underground siphon to search for damages and leaks.

ment unit, the project staff and the communities of farmers. There was collaborative work to finalize the design, cost estimate, and material requirements.

• People from affected communities were prioritized to make up the workforce in the rehabilitation of the irirgation facility. The infrastructure work provided employment to eighty-seven (87) people (58 men and 29 women), for 35 working days.

• Included in the budget is provision of social protection (i.e., accident insurance, medical insurance and pension) coverage to the worker-beneficiaries including personal safety gears.

• Maximized use of local resources and capabilities were noted in the role that farmers cooperatives assumed. They acted as the community contractor. They were trained prior to project implementation so that they could ensure that workers utilize appropriate skills in their assigned tasks. Even the monitoring of women's tasks in the household was accounted for to ensure that work did not compromise their personal responsibilities.

As a sustainibility initiative of the project, members of irrigation associations in the locality were trained on how to rehabilitate and properly maintain a major facility such as an irrigation system. The locality is empowered through the skills and knowledge shared to the irrigators association members. They gained not only the capacity to plan and manage rehabilitation works but also capacity and confidence to address the facility's maintenance need.



## **12.) Project: How water user participation pays off in India**

Drought-prone areas of West Bengal and Tamil Nadu in India were the sites of labour-based infrastructure projects funded by ILO and DANI-DA. The projects varied and were prioritized given local resource-based approach that highly considered local participation and the use of available resources in the areas. These projects included construction of water facilities, soil conservation interventions, watershed rehabilitation, irrigation, forestry and wasteland development. The emphasis of operating and maintaining the projects was to relegate the responsibilities to the communities that have been organized. In these two areas, the emphasis was given to the participation of water users in the implementation and management

of the schemes. The formation of community maintenance groups resulted in greater efficiency of water use and less wastage because the impact of any malfunctioning of maintenance redound to the disadvantage of the very people maintaining the water projects. Organized farmers' groups have raised their level of influence as they knew best the efficient manner of irrigating their fields. The farmer communities have ensured more equitable distribution of water among farmers such that larger agricultural areas are irrigated during wet and dry seasons, and cultivation of high yield paddies had been accommodated. In the long run, the infrastructure investments and community empowerment provided long term employment and contributed to poverty reduction, and efficiently used local resources.

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<sup>&</sup>lt;sup>i</sup>Clean Water and sanitation: Why it Matters (SDG 6) – United Nations



#### Chapter 4- Operation and Maintenance

## **5. ANNEXES**







### 5.1 Annex 1



Sustainable Development Goal 6 (SDG6)

#### Targets

- 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all
- 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
- 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
- 6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
- 6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
- 6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
- 6.A By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies
- 6.B Support and strengthen the participation of local communities in improving water and sanitation management

Source: https://www.un.org/sustainabledevelopment/water-and-sanitation/



## 5.2 Annex 2



Sustainable Development Goal 8 (SDG)

#### Targets

- 8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries
- 8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and la bour-intensive sectors
- 8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-small- and medium-sized enterprises, including through access to financial services
- 8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead
- 8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value
- 8.6 By 2020, substantially reduce the proportion of youth not in employment, education or raining
- 8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms
- 8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment
- 8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products
- 8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all
- 8.A Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-Related Technical Assistance to Least Developed Countries
- 8.B By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization

Source: https://www.un.org/sustainabledevelopment/economic-growth/





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(Public Employment Programmes)

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PEPS







Employment Intensive Investment Programme

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