



Local-Level Integrated Water Resource Management in Zambia

2009



IWRM and Food Security Project in Kafue Basin: Process Documentation

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ACRONYMS

CLUSA	Cooperative League of in the United States of America
DACO	District Agricultural Coordinator
DANIDA	Danish International Development Agency
DDCC	District Development Coordinating Committee
DWA	Department of Water Affairs
D-WASHE	District Water, Sanitation and Health Education
HH	Household
IDE	International Development Enterprise
IWRM	Integrated Water Resources Management
IWMI	International Water Management Institute
KF	Kafue Flats
KSSFC	Katuba Small Scale Farmers Cooperative Society
LGA	Local Grant Authority
MACO	Ministry of Agriculture and Cooperate
MDGs	Millennium Development Goals
MEWD	Ministry of Energy and Water Development
MOU	Memorandum of Understanding
NGO	Non-Governmental Organization
PAWD	Partnership for Africa's Water Development
PRSP	Poverty Reduction Strategy Paper
SADC	Southern African Development Community
WRAP	Water Resources Action Plan
WWF	World Wide Fund for Nature
ZATAC	Zambia Agribusiness Technical Assistance Center

EXECUTIVE SUMMARY

The Integrated Water Resources Management (IWRM) and Food Security Demonstration project which was initiated in 2006 has been implemented over a period of two years, and finally came to an end in December 2008. The project was implemented by the World Wide Fund for Nature (WWF) with funding from DANIDA under the SADC Regional Water Sector Programme. The project had an initial duration of 18 months which was extended for 8 months bringing the total project duration to 26 months. The project was implemented in two areas of the Kafue River Basin namely Katuba and Namwala.

The project was aimed at demonstrating the food security, health, poverty reduction and ecological benefits of applying IWRM principles and practices. The project has demonstrated the rationale that prudent and wise water resources utilization and management could improve food security, alleviate poverty and create economic empowerment of the rural communities. To this effect a number of IWRM interventions were initiated successfully, though some of the works that were targeted and budgeted for, have not been fully completed due to unforeseen costs. The scope of work included the following:

- Provision of improved technology for water abstraction, storage and supply for both domestic and productive use.
- Improvement of water resources management for enhanced availability of water.
- Rehabilitation of water facility infrastructure (boreholes, wells, dams/dykes for enhanced water accessibility and availability).
- Provision of market linkages and capacity building in water resources governance/management, conservation farming rain/food water harvesting.

A participatory approach was employed during the implementation of the project. The communities were socially mobilized around the water issues in the initial stages of implementing the project. Many stakeholders were brought on board from the target areas of the project. A series of community meetings and discussions were held at which the project's objectives and purpose were explained to the community and the communities were facilitated to identify their needs and aspirations, through visioning processes.

In the two years of project implementation a number of activities have been done with high levels of success. The overall output and impact of the project has been the improved availability of water resources for both domestic and productive use. The participating communities are now able to access water, and use it for food production and other domestic uses. The following works to be done in the project areas were targeted and budgeted:

- Sinking of 11 new boreholes (nine installed with hand pumps and two with submersible pumps) and stakeholders are readily accessing the water.
- Rehabilitation of nine boreholes (seven to be installed with new hand pumps and two having the old pumps repaired and reinstalled).
- Rehabilitation of dams and dykes to increase water storage capacity and improve stability of the infrastructure. Rehabilitation of 25 irrigation wells (in two of them installing hand pumps).
- A total of 30 motorized irrigation pumps have been supplied to households (HH) and the farmers are using them to irrigate their vegetable gardens.
- The area under irrigation has increased by 133% with a corresponding increase in yield and income generation.

The following challenges were met:

- WWF as a lead implementing agency had its own challenges: In terms of working within the planned and approved budgets with the donor. The planned and budgeted works have not been completed in the project areas. This is attributed to the rising costs and unforeseen expenditures.
- In linking the communities to the markets, the project developed institutional partnerships with other organizations working amongst the participating communities, providing other services including out grower schemes. The communities still face a challenge in this area as most of the organizations are business orientated; the farmers are not able to charge economic prices for their produce, and they have to sell their product through middle men.
- In managing the developed water infrastructure, the communities still lack capacity to reinforce the management instruments and to make the people adhere to the regulations and rules. This is a challenge in that the communities still need the support and the will of the local civic leaders and traditional leaders.
- Leadership: communities have traditional leadership embedded in clanships, but they have to provide leadership using formal structures with written rules and regulations. This is still a challenge in the communities; they need capacity building in formalized leadership.

To address these challenges communities will still need their capacities built in leadership and other related skills. WWF will need to ensure that the works planned and budgeted for are all completed to the satisfaction of the community.

Although there are some works not fully completed (by October 2009), it is evident that the project has had positive impacts on the lives of the communities in Namwala and Katuba, as the project has demonstrated that the application of IWRM principles can improve the quality of life of the people.

The overall contribution and support given to Katuba, Mungaila and Mukobela communities through this project is deeply appreciated by the communities, and to a great extent a solution to water problems experienced by the communities in respective areas.

1. INTRODUCTION

1.1. Local-level IWRM Demonstration Project

Since 2006, the SADC Regional Water Sector Programme, supported by Danida, has piloted Local-Level IWRM through IWRM Demonstration Projects in five countries namely Malawi, Mozambique, Namibia, Swaziland and Zambia. In each country, the Programme invited national organizations interested in piloting this approach to become the implementing agent. This report documents the experiences in Zambia, where the World Wide Fund for Nature (WWF) was commissioned to be the implementing agent in Chibombo and Namwala districts at a cost of \$ 300,000.00.

The purpose of this report is to show the process of the intervention made through the implementation of the IWRM and Food Security Demonstration Project in Zambia. The report gives details of the project processes, showing the steps the project went through, the outcomes and its impact on the communities where it was implemented. The report is the result of a number of field visits made to the completed project sites, the sources of information have been; focus group meetings, interviews, discussions with key informants, beneficiaries the youth, male and female stakeholders and reviews of project activity reports, and direct observations. Therefore, what is presented here is a cumulative “factual and real time” opinion as to what has been observed and discussed.

The Project was implemented over a period of two years in the three sites of the Kafue River Basin in the Central and Southern Provinces respectively. Katuba is at the Northern Bank of the Kafue River on the Mwembeshi River, a tributary of the Kafue River. Namwala is at the Southern Bank of the Kafue River, with Namwala River pouring its waters in the Kafue and meandering around the plains. The Kafue River Basin covers the Copper Belt Province in the North Western part of the country.

Katuba is in Chibombo district and in the chiefdom of Mungule. In Namwala district, the project has been implemented in Mungaila and Mukobela Chiefdoms respectively. The report highlights some of the successes achieved by the intervention and some of the challenges faced by the target communities and recommends the way-forward to the sustainable management of water resources by the communities. The purpose of the project was to demonstrate the benefits of applying the IWRM principles and practices to reduce poverty and improve quality of life of the people through economic empowerment.

1.2. Project objectives

The project’s long term objective was to enable the people in the target areas to sustain and improve their livelihoods and the water resources management systems to contribute to food security and work towards the attainment of the Millennium Development Goals. The immediate objectives for the three project’s sites Katuba, Mungaila and Mukobela were:

- To improve the food security situation in the project sites, through sustainable utilization of dambos and water resources for agriculture production.
- Community empowerment of the local people through improved income from agricultural activities.

Achieving the above objectives was expected to yield the following results:

- Improved food security due to an extended farming period.
- Better management Practices (BP) in dambo and stream bank agriculture leading to improved yields and increased food stock.
- Adoption of lessons learned by target communities' result in an improved knowledge base in the role of BPs in water management. This will improve livelihoods of the communities owing to food security and economic empowerment.
- Produce management and marketing improved leading to improved incomes and a reduction in poverty level. (*Source inception report*)

1.3. Background and Context

Zambia is well endowed with vast water resources which are predominantly from rainfall, occurring from November to April in a normal year. However, despite the vast water resources in the Kafue River Basin, communities living in the basin are still water-stressed, food insecure, hungry and poor. The major challenge is to use the vast water resources for food production and other domestic uses. The 'IWRM and Food Security Demonstration Project' made an intervention to address this problem. There has been some work done in the development of water infrastructure in the past decade, however most of this has been supply-driven and mostly spearheaded by politicians in a bid to woe votes from the communities. Most of the politicians still believe that the solution to water supply in the rural areas is to drill more boreholes, ignoring the component of training in water point's management and other related skills.

This trend leaves out the real participation of the local people in the management of water facilities, decision making processes and the subsequent ownership of such facilities. The result has been uncared for water infrastructure as the community regarded them to belong to government, without participation of the communities as users of water resources and management plans at the local level. Most of the water resources infrastructure developed is no longer operational; non-functioning boreholes have contributed to water scarcity in the community; the community has had no access to safe water. The challenge, therefore, is to develop ways to provide sustainable access to water and its management.

1.4. Government Response to Water Problems

To address the water scarcity problems the Zambian government adopted its National Water Policy in November, 1994 recognizing the importance of managing water resources in a holistic way. This recognition has promoted the integrated approach in the management of water resources. To facilitate this approach the Ministry of Energy and Water Development has put in place plans and programmes to promote the IWRM. Below are some of the programmes in the framework of the National Water Policy in the context of IWRM:

- The Integrated Water Resources Management (IWRM) for Kafue River Basin
- The Water Resources Action Programme (WRAP)
- The Partnership for Africa's Water Development (PAWD)
- The Kafue Dialogue on Food, Water and Environment
- The Poverty Reduction Strategy Programme (PRSP)
- Including the Millennium Development Goals (MDGs)

It is envisaged that the above programmes will contribute to the realization of the Fifth National Development Plan (FNDP) which has identified strategic areas of focus in the country's development agenda in the following sectors: agriculture, infrastructure development, tourism, mining, manufacturing, education, health, water and sanitation.

The vision 2030 is another long term development vision document which will guide the country's development agenda for the next twenty five years. One of the objectives of the vision is to make Zambia a prosperous medium income country by 2030, in which all the people will be provided with opportunities to improve their well-being. Besides aiming at raising the country's economic growth rate, the vision seeks to provide secure access to safe drinking water and improved sanitation.

The aim of the government programmes is to empower the people in the rural areas to control and manage their water resources and the accompanying facilities on a sustainable basis. The government envisages a situation where communities will be mobilized and trained in water and sanitation in line with the water policy. The focus is to promote community involvement and ownership of water utilities in the community.

With this enabling environment put in place by the government, it presents an opportunity for the participation of other players in the improvement of water infrastructure and the subsequent provision of water to the rural communities.

1.5. Administration and Local Governance in Project sites

In Zambia there are three levels of governance existing in the rural areas, these include Central Government, Local Government structure and Traditional authorities. See appendix 1 for the detailed mandates.

2. PROJECT FRAMEWORK

After the invitation of the SADC/ DANIDA Regional Water Sector Programme to Zambian organizations to develop proposals for IWRM activities, WWF proposed to pilot local-level IWRM in the Kafue River Basin. The regional water sector team visited Namwala and Katuba, in Zambia, to have a feel with what was on the ground. Proposal development included negotiating conditions for support from the relevant government ministries and seeking project endorsement from the government. Subsequently the project was approved and endorsed by the government. This led to the signing of the contract between WWF and the SADC/DANIDA Regional Water Sector programme under the Local Grant Authority (LGA). A tentative budget was proposed but improved on further during the preceding phases of the project implementation with the participation on the communities in the budgeting processes.

To effectively implement a community-driven water resource management project like the Local-Level IWRM, there should be other players like local agencies at the district and national levels to play a catalytic role in identifying the water needs with an ultimate aim of improving the livelihoods of the people through the sustainable utilization of the water resources. Communities must be availed opportunities to participate in the project design, budgeting and planning of the activities to be undertaken, this should include selection of appropriate water technologies to be used. For such a project to succeed there must be specific geographical sites where the project is to be implemented, rather than spreading over a wide area. Importantly the project must be in line with the national plans and contributing to the overall development plans. The project implementation process provided an opportunity for both the donors and WWF on how to implement a Local-Level IWRM project. Below are the seven steps that the project implementers, SADC Regional Water Sector Programme, WWF Zambia and the communities in Namwala and Chibombo districts went through.

The project IWRM was organized within the framework of water development plans existing at the national and district levels. There were already water development programmes running at the district level like the D-Washe which works together with the project implementers and provides participatory planning skills in each of the district in Chibombo and Namwala. D-Washe committees at district level participated in the capacity building and mobilization processes. This made the project's activities to be informed by the longer- term national planning in water development and management in Zambia.

The national IWRM Steering Committee also became the Project's Steering Committee comprising senior government officials from the line ministries, Water and Energy, Agriculture. This also included the Zambia Electricity Supply Company (ZESCO), a quasi government organization.

The project was housed and implemented by the WWF Partners for Wetlands (PFW) a project within WWF. (The PFW project was restructured later during the course of implementing the IWRM Project. Namwala was then coordinated by a management consultant). The management structure was aligned with the project to ensure project delivery. The Partners for the Wetlands Project became the overall overseer of the project, with confirmation of other two senior project staff to coordinate the two sub project components, Katuba and Namwala respectively. There was other added staff to the PFW structure as field staff, recruited to facilitate the implementation of the project at the field level. Two were recruited for Katuba: a field coordinator and a community facilitator, while Namwala recruited only one: a field coordinator. A project management structure was developed. (Organogram see Appendix 2).

3. THE INITIAL PHASE: CREATING A SUPPORTIVE ENVIRONMENT

Step One: Mobilize support

Step Two: Select communities

Within the funding context described above, during the planning phases of the project communities were afforded an opportunity to participate in the selection of water technology to be used. This was further developed in the visioning process, as communities participated in the planning of activities and siting of water points.

Representative Water point committees were strengthened, in the communities where there were no such committees, new ones were established and individuals to the committees were democratically elected. This saw a number of women taking part in the leadership role at the local level and helped the communities to speak and articulate their issues collectively.

The specific communities selected among the many communities in the Kafue River Basin, was based on the existing characteristics of the landscape. For Katuba it was the physical characteristics of the area which had wetlands characteristics, and the community in Katuba was engaged in Dambo agriculture, a characteristic likely to work well in the demonstration of IWRM. There was not much to do in terms of mobilization of the communities in Katuba as already there was a cooperative society (Katuba Small Scale Farmers Cooperative Society) with an entry point for the project.

For Namwala the selection was more like replicating the activities of the dialogue project which was being implemented in the district by WWF. For the sake of mobilization of the community a cooperative in Maala was instrumental in getting the communities mobilized. It was also a way of consolidating the work started by WWF in Namwala. What was critical in the Community selection process was the willingness of the communities to participate in the project and their contribution in kind to the project process. This process involved explaining the project's goals and concepts to the community, avoiding promises to the communities as this can raise high expectations. An emphasis was placed on the need for the communities to contribute in kind, through time and unskilled labour.

Though the cooperative societies are not best suited to host community projects of this nature as, cooperatives in some cases can be prohibitive to certain groups in the communities. In the initial stages communities seemed contented with the selection criteria used. However, in the case of Namwala, later communities demanded payments for some of the works done. This trend made the budget to go up as some of the paid for activities were not meant to be paid for.

The following presents further background information about the selected communities.

A. Namwala:

Namwala is a rural district located on the southern bank of the Kafue River in the Southern Province of Zambia, with a total surface area of 21,751 km². It has a population of about 83,000 people (2002 Census of Housing and Population) with 59% being females. The annual population growth is pegged at 4%. The district is surrounded by four chiefdoms namely Muchila, Mungaila, Mukobela and Nalubamba. The project has been implemented in the two Chiefdoms Mukobela and Mungaila whose population is 3,159 and 5,315 for Mukobela and Mungaila respectively. The predominant tribe is Ila, though other tribes have also settled in Namwala. The Ila people of Maala are cattle herders, and their livelihood is dependant on cattle. Namwala is rated as one of the richest district in the country in terms of cattle population estimated at 118,000, (*Dialogue Cattle Study*). The other source of livelihood in Namwala is agriculture, fishing and formal employment.

Agriculture in Namwala is mainly of two forms i.e. crop farming and animal rearing. Crop farming is mostly rain fed with very little irrigation taking place. Irrigation is mainly restricted to vegetable gardening around water sources including river banks, around dambos, dams and around wells and boreholes. The main crop grown is maize. Others are cassava, groundnuts, beans, sweet potatoes and pumpkins. Fruits are also grown around homesteads mainly mango, guava, avocado and bananas.

Politically the district has one parliamentary constituency, Namwala constituency, with an elected member of parliament. The constituency is divided into twelve wards, with democratically elected councillors representing each ward.

B. Katuba:

The Katuba demonstration project site is located in the Chibombo district of Central Province in the chiefdom of Mungule. The area is about 25 kilometers north of Lusaka and extending westward from the railway line to about the confluence of the Mwembeshi River and Cholokelo stream along the Great North road. The area is approximately 140Km² with about 7 km² of this being the wetland coverage. It is set at an elevation of between 1100-1140 meters above sea level. The hydrology of the area comprises mainly the Mwembeshi River, which drains into the Kafue, one of Zambia's major rivers. Tributaries of the Mwembeshi draining the area are the Kayosha and Tulonga Tubili streams on the southern bank and the Chashinama and Wangwa streams on the northern bank.

The district has the largest share of population in the province with 21.4% of the total Central Province population. The total population of the district as at 2000 (CSO) is 240, 380 people and 43,221 households. The district has a population growth rate of 4.4% and the population distribution of 17.7 persons per square kilometer .The population in Katuba is 19, 000 with 3,500 households.

The district is divided into 22 wards with 22 elected councilors representing different political parties, while others are independent. The councilors elected at ward level are the closest political leaders to the people; they represent the people's development aspirations. The councilor's tenure of office is five years. A number of wards make up a constituency, from where members of parliament are elected. Politically Chibombo district council is headed by the Council Chairperson. He presides over council meetings.

Chibombo district is divided into three constituencies, Katuba, Chisamba and Keembe respectively. Being on the outskirts of the city the area manifests a combination of rural and urban economy with most people dependent on agro-based forms of livelihoods and agro-business. The Lenjes, the natives of Katuba, are traditionally pastoralists more than farmers, though most of the cattle have died due to the foot and mouth disease. The common form of cultivation the Lenjes engage in is the growing of maize during the rain season .Gardens were introduced with the immigration of 'Nyanja' speaking people from the Eastern province (an aggregate language comprising Ngoni, Chewa and Nsenga) and Zimbabwean settlers fleeing from Southern Rhodesia during Zimbabwe's liberation struggle in the late 70's. Most of the natives have sub-divided their previously large farms and have sold parts to these settlers.

4. INITIAL PLANNING AT COMMUNITY-LEVEL

4.1. Understanding the community and building capacity

Step Three: Understand the community and build capacity

The project implementers spent time in building the trustful relationships with the communities, starting from the traditional leaders, the government departments at the district and other local self groups. For Namwala this worked very well as the local Chiefs in the project were very close to the project in the case of Mukobela and Mungaila and the district government heads of department were very instrumental in the implementation process of the project. Departments like Agriculture, Community Development brought their skills in social mobilization processes which enhanced the acceptability of the project by the community. This process took quite some time as it was difficult to straight away win the support of the local people for the new project. This was based on the past experiences the community had with other projects, where the communities did not trust the implementing agencies. WWF was not left out in this.

The project implementers later refined the process of implementation where they worked with everybody and avoided being engulfed with smaller interest groups like cooperatives, as in the case of Katuba where participation in the project's activities was not based on membership to the cooperative as the case was in the beginning. The project refocused and targeted the community at large.

In Namwala initially there was misinformation on the beneficiaries as there was a group of farmers in the community who were promised individual benefits, however this was corrected. This was made possible as the project implementers had to understand the context of the community through interviews with opinion leaders in the community and focus group discussion, which included advice from monitors and the backstopping process.

4.2. Visioning workshops

Step Four: Create a vision and select activities to fulfil it

'There is a land in us which leads our dreams from within' (Amuri Said, a Tunisian Poet)

The participating communities were facilitated through workshops to define how they would like their future to be, they described the values they wanted upheld regarding the water resources. The process was participatory. Everybody shared their ideas on the quality of life they would like to have. It was an activity that had left lasting memories in the community and an encouragement to them because they still look forward to the day when they will realise their visions. This process took the communities to another level of planning; communities were afforded an opportunity to look at what they had. This included looking at the resources

available. The community in both Namwala and Katuba went through this visioning process to vision new ways of managing water resources. Tasks were negotiated and distributed among the various stakeholders, including the contributions from the target communities. Community commitments were sought during the action planning sessions. This process created further awareness amongst the communities and helped them to come up with action plans and prioritising the activities for implementation. Though in the case of Namwala the process was not fully done as can be evidenced from the statement below (source: Namwala visioning report).

The workshop did not manage to come up with an Action Plan for project implementation. This was due to a combination of both inadequate time and lack of appreciation of the principles and practice of Action planning by the beneficiary stakeholders. The workshop broke into working groups to develop Action Plans for proposed interventions. Individual proponents were also given an overnight task of coming up with action Plan for their proposals. However all submissions indicated that the work needed to be done by October 2006 – a somewhat unrealistic view for an 18 months project. The matter was discussed in plenary but beneficiaries were not comfortable to review the timings and instead suggested that WWF make adjustments as they deemed appropriate.

The implication of the above statement is that the implementing agent WWF was left alone to do the budgeting and the timing of the project implementation. It raises a big question on “participation.” The community members in the target areas do not know the cost of the works done on their wells, dams and boreholes.

It is not strange that the communities demanded payment for the work they did on the project, forgetting their earlier commitments of contributing to the project in kind. This was not consolidated during the visioning process. There was supposed to be a deal struck with the participating communities and a pre-requisite - a significant contribution by the community in form of work, materials or money. This trend made the cost of implementing the project costly, and perhaps a cause to the non completion of the works planned for.



5. DETAILED ACTION PLANS

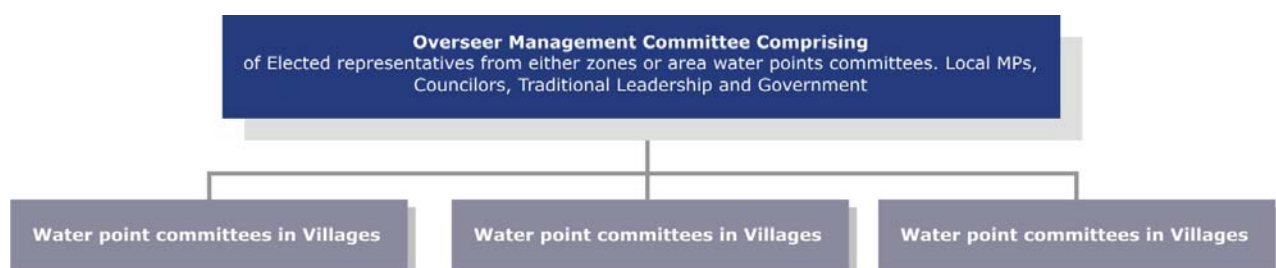
Step Five: Detailed action plans

This phase of the project aimed at bringing to fruition all agreed plans and activities for implementation within a specified time frame and to reflect on the identified collaborating institutions. This involved creation of community structures and enhancing their capacities. The IWRM and Food Security Demonstration Project is addressing the water problem at the same time enhancing productivity of the small scale farmers through provision of water for farming purposes and improved incomes at house hold levels, while activities and inputs are being identified through a process of stakeholder negotiations.

In Namwala the District coordinating committee was put in place comprising of the district heads of line departments. Formalisation of the roles of service providers was done though not signed things seemed to work. However it is important to have all agreements and contracts specifying roles and responsibilities signed.

In Katuba the project has partnered with the International Development Enterprise (IDE), an organization providing services in out grower schemes and market to rural communities. This strategic partnership is a means for the project to realise its objectives to improve the farmer's livelihoods through increased income at house hold level. IDE was one of the organisations that collaborated with WWF and the communities in Katuba through provision of marketing to the vegetable growers who benefited from the project. IDE provided out-grower schemes to the community. In Katuba an overseer committee was put in place which was representative of all the sub-committees from all the water points. Instruments to manage the water points were developed and the leaders were trained in governance and leadership skills.

The Katuba Overseer Committee structure



6. IMPLEMENTATION

Step Six: Implementing

Communal water infrastructure has been constructed and the capacity to operate, maintain and manage has been built among the communities. In Katuba a three day workshop was held on leadership and governance with participation of 30 community leaders. In Namwala capacity building workshops on constitutional development, management and maintenance were organised at each water point. This provided an opportunity for the communities to have hands on' experience on the repairs and management of water infrastructure. In all the project sites democratically elected committees were put in place.

In Namwala 11 boreholes were sunk and installed with hand pumps (and 2 with submersible pumps). Four were in the Chiefdom of Mukobela and seven in Mungaila. Stakeholders are readily accessing the water. Nine boreholes have been rehabilitated and installed with new hand pumps. Dams and dykes were rehabilitated in Namwala's Chief Mungaila and Mukobela. This is meant to increase water storage and the improvement of their stability to hold water.

In Katuba 25 Irrigation wells have been rehabilitated and two wells have had new hand pumps installed. A total number of 30 irrigation pumps have been supplied to farmer groups using them to water their gardens. This has contributed to the increase in the area of cultivation by 133% with a corresponding in yield and income. See appendices 3 and 4 for overview of all realizations.



7. MONITORING AND LIVELIHOOD IMPACTS

Continuous ‘Step’ Seven: Do participatory monitoring and evaluation, and livelihood impact assessment for follow-up

7.1. Lessons Learnt

The monitoring process has been ongoing providing feedback to the communities and the implementers and at times resolving emerging conflicts. From the monitoring process a number of valuable lessons were learnt which contributed to the successful implementation of the project. Replanning and re-focusing included on the spot correction of certain things that did not work well. Monitoring has continued even in the consolidation phase.

Some of the lessons learnt include:

- Communities can only involve themselves in a project when they realise and foresee the benefits.
- Conflicts are inevitable in implementing such a project; the implementer must put in place a conflict resolution mechanism.
- It's important to establish the basis of ownership of the community-driven water resource management.
- Do not raise high expectations among the beneficiary communities.

The lessons drawn from the implementation process will go a long way in building and consolidating on what has been done in Namwala district. Namwala district is earmarked to benefit from the big Partnership between the government of the Republic of Zambia and DANIDA, in the Rural Water Supply project. The new rural water supply project will work in the same areas in Namwala where WWF has been implementing the IWRM and food security project. The only difference is that the project will need some cash contribution in advance before the boreholes are done. This is a source of conflict as the community is making comparisons with the WWF project which provided free materials for the boreholes and wells.

The other reason for resistance is that the implementers or the custodian of the projects in the rural water supply project is the local government; this means that Namwala district council will lead the process in implementing this project. It is a policy directive that the provision of water in the rural areas be done by the local government. Most of the discussants in the focus group meeting including the traditional leaders were not happy with this turn of events. They felt more comfortable to work with the Ministry of Agriculture and cooperatives (MACO) other than the council.

This is a policy direction from the government to complement the decentralisation process which is being implemented. The project implementers WWF did well to organise an exit workshop in which they were to hand over the project to the local government. In the absence of some key people in WWF (top management) the

event was postponed to a later date. However, in principle a consensus was reached that the project be handed over to the council including any other equipment.

It is important to establish the legal basis for ownership of the infrastructure developed and the management services. Establishing the legal basis for ownership provides opportunities for arbitration in case of disputes at community level. Handing over the project to the local authorities in the project sites is the most ideal thing to do.

7.2. Project Efficiency

The implementation of the project in Katuba and Namwala was delayed, hence the extension of the implementation period, from 18 months to 26 months. This is attributed to weather conditions in some cases, as some planned works could not be done during the rainy season. Late disbursements of funds by the implementing agency, WWF was also another factor which contributed to delays.

The project's cost went beyond the budgeted funds, mainly due to unplanned labour costs. In some cases communities demanded payments for the work done.

The restructuring exercise in WWF had negative implications on the project. During the restructuring the project manager for Namwala lost his permanent employee status in WWF and he was only retained as a consultant on the project. This had cost implications on the project implementation process. Extra staff costs were incurred as the driver and the cashier had to accompany the consultant in the field to pay out money and provide driving services. The organisation's policy does not allow a non-employee to drive organisational vehicles or handle cash. There is a need to maintain permanent staff on the project for easy follow ups to processes and commitments. In the same vein it is also important for the top management in WWF to visit project sites and ensure that the process of implementation is on course and in line with the budget. It was not healthy to just approve expenditure without monitoring the actual works on the ground.

7.3. Project's Effectiveness

Despite the non completion of some of the planned and budgeted works, the completed works on the rehabilitation of wells, boreholes and dams was well done, with standard quality. There was proper professional supervision of the works done. The wells and boreholes done will ensure availability of safe water all the time.

The project demonstrated the application of the IWRM principles and the concept of management of water resources by the communities was well received by the participating communities. The involvement of both men and women in the project is likely to improve the sustainability of the project. One case in point is one old woman at one water points who has taken charge of the well in the village. There is need for WWF to complete the unfinished works in the communities, as leaving uncompleted wells and boreholes unattended to have long-lasting negative implications on the implementing agency and the donor. It is also important that the drilling company signs off on each well done by indicating who did the well or boreholes for future reference.

7.4. Outcomes and Impact of the Project

The project has had positive impacts on the community. Most respondents spoken to were happy with the project; water was now available and closer to their homes, they are now spending less time in collecting water. Previously they used to wake up early in the morning to queue for water, it is a thing of the past now, they can

go to the borehole any time and they will find water. Women at Ibimba water point mentioned that for the first time they were able to grow and sell vegetables. The women in Katuba using the petrol pumps to irrigate their vegetable gardens have increased their areas of cultivation and they have raised incomes and able to send children to school without problems.

In Namwala district water availability coverage has increased by 8%, according to the Department of Water Affairs (DWA, *Mr. Siatubotu*). The project has contributed to the enhanced relationships between the government departments and the communities. This is true for Namwala. Government departments who have participated in the project have given testimony to this; the communities have appreciated their presence in the district. This a positive impact of the intervention.

There is participation of both men and women in the activities of the project. The committees are representative and gender-balanced; representation of women on the water point management committees is visible. Ibimba water point has 6 women sitting on the committee and in Katuba south west zone there are 4 women on the dam management committee. Women are taking up leadership roles in the management of water resources, a positive impact of the intervention. The community at Iliza has used the availability of the water in the community to grow irrigated maize which is being sold in the neighborhood, to raise income at house hold level.

During the focus group discussions at Ibimba participants stated that another added value to the borehole was the impact on economic and social status, they are now able to grow their own vegetables for consumption and for sale. Apart from vegetable gardening there are other economic activities like brick moulding (making) and the bricks are sold within the community.

7.5. Leadership

Participation and leadership are closely connected. Leadership requires a strong participant base just as participation requires the direction and structure of strong leadership (Goodman et al, 1998). Both play an important role in the development of small groups and functional community organisations. The communities in the project areas have participated in the creation of water management committees to manage the water resources infrastructure in the communities. At least every constructed water point has a management structure.

Community members who initially participated by simply attending meetings now became involved in a much more meaningful way by taking a greater role in the decisions related to the management of water infrastructure. The implementing agent WWF has gained trust and established common ground with community members and has encouraged participation. This was crucial to this process. Although it will take time and energy before visible fruition of the process, the process has started.

The active participation of the community members in the project's activities will definitely contribute to the sustainability of the project and the functioning water point management committees.

7.6. Institutional partnerships

During the implementation process of the project, the implementing agency WWF developed partnerships with other organizations working in the project areas; this was another way of ensuring sustainability of the project's activities. Partnerships are entered into to improve capacity and impact, as well as to increase reach, overcome fragmentation, learning increases prospects of sustainability.

There is evidence of such partnerships developed especially in Katuba, where farmers were linked to organisations involved in out grower schemes, these included Zambia Agribusiness Technical Assistance Center (ZATAC), the International Development Enterprise (IDE) and Cooperative League of the United States of America (CLUSA). The partnerships developed have added value to the project's activities, in that the organisations entered in partnerships with have presented an opportunity for readily available markets of the farm produce. Partnerships also extended to the government departments like the department of community development.

7.7. Structures to manage water systems

Each water point has a management committee comprising of 10 members, there is a main coordinating committee comprising of associations, village Headpersons and others. In Katuba each water point has a management committee with representation on the main coordinating committee. In Namwala, the water point committees have no representation on the main coordinating committee. From an operational perspective in the case of Namwala this raises important difficulties, for example, who represents the 'community'? How are leaders selected? It is important to develop management structures which are representative at all levels.



8. CONCLUSIONS AND RECOMMENDATIONS

8.1. Institutional Sustainability

From a bird's eye view all water points facilities constructed in the project's site have in place community management committees. This is evident from the communities visited during the impact assessment of the project, Ibimba and Baambwe in Namwala and Mulobela dam in south west Katuba. However there is need for continued support to the leadership structures developed, through capacity building in leadership skills and conflict resolution. This will be important to consider by whichever institution takes up the role of overseeing the water supply systems after the project has wound up. The communities will still need some outside facilitation for some time. It is important to make a graceful and gradual exist, to enable the communities take over and continue working.

The presence of the civic leadership (elected councilors) is missing in both project areas. The councilors are important in this process for the purpose of sustainability. They may be seen as interferers but it's important to facilitate a process where they get involved fully in the project. At Baambwe the Dam management committee exists but is not functioning. This is attributed to the community's failure to cooperate with the committee. Most people in the community have refused to recognize the committee, and the committee has no mandate from the people to manage the dam. This is compounded by the inheritance wrangles in the chiefdom of Mukobela. Nobody is sure where power lies. This has greatly affected leadership at the lowest levels in the community. People seem to be afraid to exercise leadership at a local level; there is a vacuum in leadership. This lack of leadership has lead to poor maintenance of the water infrastructure facility constructed by the project Baambwe dam.

At Ibimba the committee exists and working very hard in managing the water point. The committee has no written laws to manage the borehole. There are agreed regulations but they are poorly reinforced. There is a by-law which compels every user of the borehole to pay a user fee of K200.00 (USD 0.40) per month; this has been difficult to collect from the community. From the 300-plus beneficiaries only 13 households have contributed to the management fund of the borehole. Most community members feel they cannot pay the user fees; they still feel the borehole belongs to the government. It is for the above reasons that the leadership at the local level needs to be strengthened and supported in enhancing their skills in leadership.

8.2. Infrastructure

The findings on the community's satisfaction indicate that the communities are not satisfied with some of the works which are not fully completed. This is evidenced from the discussion with the District commissioner in Chibombo who has since written the implementing agency WWF to complete the unfinished works before handing them over to the community. This should be viewed positively, as an opportunity for WWF as an implementing agent to remedy the situation by completing the unfinished work, to consolidate the good work already done. Leaving work hanging will or can have long lasting negative implications on both the donor and the implementing agency.

8.3. Livelihood Impacts

The project has had significant impacts on the lives of the participating communities in Namwala and Katuba. Water is now available for multiple uses, food production and for domestic use. It is clear that the IWRM Food Security Demonstration project implemented in Katuba and Namwala has provided water for the participating

communities, achieving the objectives set at the design of the project. There is evidence that the project's intervention has enabled the communities to improve their economic social status.

8.4. Recommendations

From the implementation process of the IWRM and Food Security Demonstration Project, there are a number of lessons learnt. The project can be replicated and based on the good and bad lessons learnt the project can be implemented in an improved way. It has potential to produce long lasting impacts and can go along way in contributing to food security in the communities. The project needs enough time to engage with the communities, striking a balance between outcome and the process.

Based on the findings of this impact assessment, the following is recommended:

- WWF and the donor should complete the unfinished works in the project areas in the two districts Namwala and Katuba. Hand-over of the completed works must be to the local government and the handover ceremonies must site based. This has been foreseen in the consolidation phase.
- Capacities of the community in various skills must be built on a continuous basis.
- Inclusion of elected civic leaders must be facilitated.
- Water point and coordinating management structures must be representative enough.
- Involve all stakeholders with Local Government in the leading role.
- In linking communities to other organisations, it is important to develop partnerships with mutual benefits where all parties are equal. Memorandums of understandings can be developed to support such partnerships.

APPENDIX 1: ADMINISTRATION AND LOCAL GOVERNANCE IN PROJECT SITES

In Zambia there are three levels of governance existing in the rural areas, these are:

- Central Government;
- Local Government structure; and
- Traditional authority

A. CENTRAL GOVERNMENT

The Central Government structure consists of all district heads of government departments headed by the District Commissioner appointed by the President. The office of the District Commissioner has become increasingly important in the execution and coordination of government development programmes at district level. The District Commissioner presides over the District Development Coordinating Committee and ensures that development programmes are in line with government policies. The District Development Coordinating Committee (DDCC) was created by Cabinet circular No1 of 1995, and some of the functions of the DDCC are:

- Effective coordination between sector ministries and departments, donors, Non-Governmental Organizations (NGOs) and other agents of development and the council.
- Effective monitoring and reporting on the overall development initiatives in the district.
- Establishing mechanisms for ensuring government's responsiveness to local needs and service delivery.

The above functions of the DDCC provide a forum in which the local development programmes are debated and prioritized at the local level. The prioritized programmes are then forwarded to the Council for approval, adoption and the subsequent implementation of development projects in the district.

B. LOCAL GOVERNMENT

The Local Government in Zambia is provided for under the Local Government Act, Chapter 18 of the Laws of Zambia, where councils are established. The council is comprised of the following:

- The Members of Parliament in the district
- Two representatives of the Traditional leaders in the district
- All elected councilors from the wards in the district.

This includes employees of the council who are experts in various fields. The executive head of the council in a rural district is the Council Secretary, who is assisted by other professionals in various fields. There are elected councilors in different wards which make a council. The councilor's tenure of office is five years. A number of wards make up a constituency where members of parliament are elected from. Politically, a district council is headed by the council chairperson and a Mayor in a municipality council. The project has been implemented in the two district councils, Chibombo and Namwala. Councils are charged with the responsibility of providing social services to the communities. Some of the social services provided by the council include water supply, infrastructure maintenance among the many others. They also have provisions to make and reinforce bye-laws.

The National Decentralization Policy adopted in 2002 provides for the formation of the Area Development Committees (ADCs) as sub-district structures in each ward. The functions of the ADCs include the promotion of

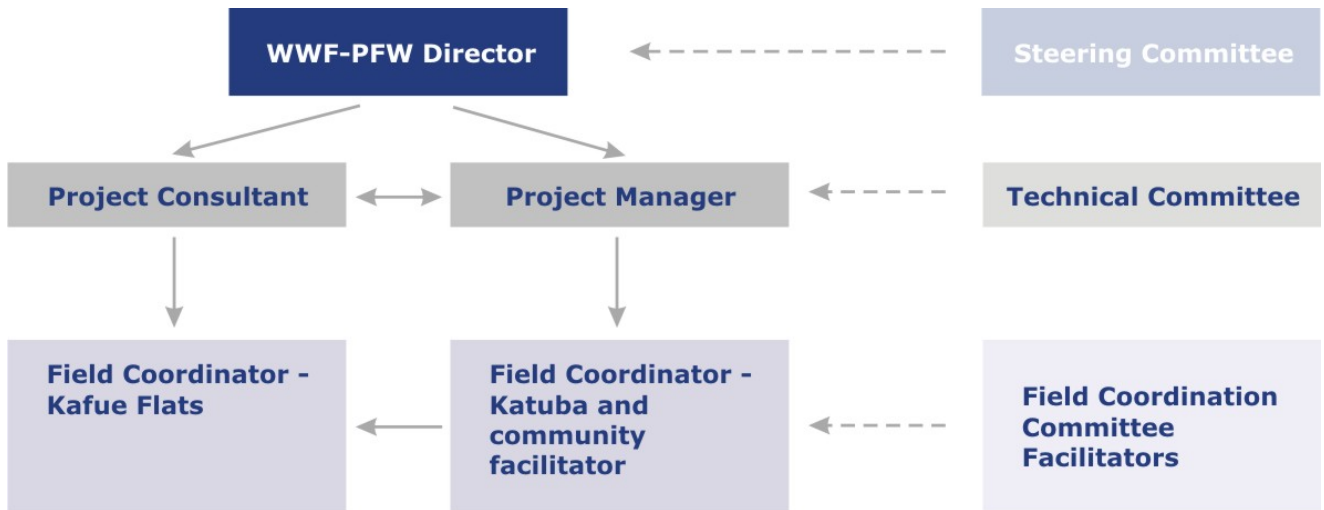
community participation in decision-making processes, development planning and implementation. The ADCs create stronger linkages between the communities, local leadership and the development partners. The ADCs are also meant to provide entry points through which all developmental needs of the communities can be channeled and addressed. The ADCs have not been established in most of the wards in the project sites, due to lack of resources to form the ADCs and have them operationalised. The decentralization implementing process has taken long to be implemented. Other International Non Governmental Organizations (INGOs) working with rural communities have facilitated the formation of ADCs with authority from the local government in the areas where they are working. This is seen as way of engaging with the communities in development processes without delay.

C. TRADITIONAL AUTHORITY

Traditional leadership is the most important governance institution in rural areas of Zambia as it is embedded in the culture of the people. This is comprised of the Chief/ Chieftainess, senior headmen and women who make up the royal establishment or a traditional council, in chiefdoms. The Chiefs command a lot of respect among their subjects, and they are religiously followed and their guidance is relied on by the community.

They hold vast tracts of land throughout the country under customary land tenure. The institution of Chieftaincy in Zambia is recognized constitutionally through the Chief's Act. In accordance with the Chief's Act Cap 287 of the Laws of Zambia, Chiefs are recognized, and are very important in spearheading development in their areas. Any development programme without the support of the Chief cannot succeed. The traditional authority, Chiefs and their royal establishments play an important role in community mobilization, in policy and information dissemination by virtue of the fact that they are custodians of various important resources such as land and water. The Traditional Authorities have a representation in the council through their appointed representatives, who are usually Headpersons of villages.

APPENDIX 2: PROJECT MANAGEMENT STRUCTURE



APPENDIX 3: KATUBA RESULTS PROJECT INTERVENTIONS

Water sources	Technologies (Number/location)	Status, Quality infrastructure	Number of beneficiary households*	Management (committees, rules on o&m/tariffs, enforcement)
Surface streams	None	None	None	Water Uses Association not yet formed, until when the government through the Water Development board puts in place a mechanism or frame work for communities to manage the water from the streams and rivers.
Irrigation	25 irrigation pumps given to 250hh (mixed) 5 women groups comprising of 61 members also received the pumps	The irrigation pumps are in working order, and well maintained by the committee.	The number of members in the women groups has tremendously improved, there are close to 330 women engaged in vegetable growing.	25 Farmer groups committees with Chairperson and secretary and treasurer in charge of use, safety and maintenance of pumps in each group
Ground water Boreholes & Shallow wells	22 shallow wells rehabilitated and in use by the community 8 boreholes in Kamaila area rehabilitated.	Wells in working order and in use	Area put to gardening has increased from 51 ha to 119ha since project provided assistance. Income from crop sales (mainly from tomato, rape, pumpkin leaves) has increased from US\$ 84,803 to US\$ 193,893 (for the 3 zones receiving petrol-driven pumps even before complete dam rehabilitation)	

APPENDIX 4: NAMWALA RESULTS PROJECT INTERVENTIONS

Water sources	Technologies (Number/location)	Status, Quality infrastructure	Number of beneficiary households*	Management (committees, rules on o&m/tariffs, enforcement)
Surface streams	Direct use. Some households are using the river banks for gardening.		15hh interviewed are gardening on the river bank, but no environmental management plans.	Water Users Association not in place to manage the rivers, the concept of managing the rivers still new until when the water board development fully establishes the management frame work only then this will be possible.
Dam	1- Dam at Baambwe	Dam can hold enough water to last up to the next rain season; But the dam wall is eroded on the other side and Poorly managed.	5000 herds cattle (from 3000) being watered from Baambwe dam 25 hh now use dam for gardening and fishing	Management in place, but community not cooperating with the committee, people refused to endorse the developed managed regulations, leaving the committee with no mandate. The situation is further worsened by the wrangles over the throne.
Dikes	2-Dikes at Itinti and Iliza in Maala Chief Mungaila.	The dike at Itinti is dry. The raised wall of the dike 300m still stands. Its not fenced and fully completed about 100m still undone. The Dike at Iliza is dry with underground sipage	12 Women interviewed, abandoned the gardens due to lack of water. Currently no one is benefiting from the dike. The dike is personal though the project spent some resources	The committee doing very little to manage the structure. There are no regulations but oral ones exist and reinforced by the few concern members in the community. The dike is managed by the owner.
	Irrigation	Not observed		
	Informal river abstractions 2	None		
Groundwater Shallow well	1. at Shimukopola in Chief Mungaila.	The Well is in working order, supplying water.	14 hh doing gardening around the well	It has one care taker looking after the well
Boreholes	11 boreholes spread out in the two chiefdoms Mukobela and Mungaila respectively. (visited Ibimba Borehole)	The borehole at Ibimba is in good order, supplying water to close to 200 hh in the nearby villages. Generally the boreholes drilled in Namwala have reduced distances for domestic water collection,	13 hh gardening around the borehole.	Management in place with women taking up leadership roles in the management of water resources. There are six women serving on the management committee. Management of the water infrastructure developed in Namwala is there, mostly informal oral arrangements.

Water sources	Technologies (Number/location)	Status, Quality infrastructure	Number of beneficiary households*	Management (committees, rules on o&m/tariffs, enforcement)
		<p>50%. 13 women interviewed at Ibimba confirmed this development.</p> <p>On the average 5-20 gardens in the range of 20-2500 squared meters have been established at water points.</p>		Management committees most of them are not functioning well, they lack capacity to reinforce regulations.
Rain	Water harvesting	Communities went through a workshop on rain water harvesting. No structures developed to harvest rain water.		

NB: The information in the matrix is based on the literature review especially the report on the status of the infrastructure of November, 2008. During the Impact assessment monitoring two sites were physically visited, one dam Baambwe and one borehole at Ibimba. Income generation activities taking place at the Baambwe dam and Ibimba borehole are fishing and vegetable growing.