THE NATIONAL REGIONAL STATE OF OROMIA
WAGUR SMALL SCALE IRRIGATION PROJECT

ORGANIZATION MANAGEMENT FINAL REPORT

CLIENT

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ACRONYMS/Abbreviations

CPC = Cooperative Promotion Commission

CPRs = Common Pool Resources

EPA = Environmental Policy Act

EFCCA = Environmental, Forest and Climate Change Authority

FAO = Food and Agriculture Organizations

IFAD = International Fund for Agricultural Development

IWRM = Irrigation Water Resource Management

IWUA = Irrigation Water User Associations

M&E = Monitoring and Evaluation

O&M = Operation and Maintenances

OIDA = Oromia Irrigation Development Authority

OWWDSE = Oromia Water Works Design & Supervision Enterprise

WB = World Bank

WUA = Water User Associations

Executive Summary

Agricultural productivity in Ethiopia as general is very much affected due to dependence on rain fall, its variability and subsequent recurrent drought in some areas. The most obvious is that irrigation increases the potential for producing more food more consistently in the drought-prone food-insecure areas. To lift and keep millions of the farming communities out of poverty requires, smallholder agriculture be productive and profitable and bring agricultural transformation by which individual farms shift from highly diversified, subsistence-oriented production towards more specialized production oriented towards the market or other systems of exchange. The Wagur small scale irrigation is as many of the low productivity areas, thought has untapped water resources, and irrigation development is being suggested as key strategy to enhance agricultural productivity and stimulate economic development in the area.

Traditional small scale irrigation scheme of "Wagur", have existed for perhaps several years developed by customary informal water users association of the area. This irrigation scheme was developed to modern scheme and used for some years until the head work was demolished by erosion .Now the irrigation scheme is going to re-designed in the way it gives intended services for the needy communities living in and around the project areas. Therefore, the organization and management study component of the "Wagur" small scale irrigation Project has followed complete assessment of current policies related to irrigation development and management and other relevant policies, involvement of stakeholders including institutions at regional levels, options for future ownership and management of the scheme and possible ways of financing the operation and maintenance with the following major objectives:.1) To evaluate the performance of Wagur small scale irrigation scheme in terms of technical efficiency,2)To understand how users are going to be reorganized for self management of the scheme and analyze the constraints they may face,3) asses and clarify governance issues such as formal and informal laws that define access to irrigation land and water resources 4) Understand and document current irrigation management practices in the scheme of concern & propose appropriate organizational structure, and suitable management so as to deliver adequate services.

1. INTRODUCTION

Agricultural productivity in Ethiopia as general is very much affected due to dependence on rain fall, its variability and subsequent recurrent drought in some areas. The most obvious is that irrigation increases the potential for producing more food more consistently in the drought-prone food-insecure areas.(Tom C., et al; 1999)

To lift and keep millions of the farming communities out of poverty requires, smallholder agriculture be productive and profitable and bring agricultural transformation by which individual farms shift from highly diversified, subsistence-oriented production towards more specialized production oriented towards the market or other systems of exchange. The Wagur small scale irrigation is as many of the low productivity areas, thought has untapped water resources, and the project was in progress for the last ten years& again re-launching the project development is being suggested as key strategy to enhance agricultural productivity and stimulate economic development in the area.

The Wagur small scale irrigation scheme of had existed for perhaps more than ten years developed by Government for the user communities in the area. This irrigation scheme development was in serving the command area communities up until the head work site was completely demolished by erosion. The other irrigation structures like (long flumes and different canals) are still can give service with minor maintenances.

The potential of water governance institutions in keeping the common pool characteristics of irrigation schemes and their sustainability is no doubt substantial, but their success in performing their duties differs from place to place and level of the scheme viz small, micro and macro. There are formal settings where appropriators are able to self-organize successfully and other settings may not due to the dis-function of the irrigation systems. Despite the adoption of Irrigation Water Resource Management (IWRM) principles, overuse and mismanagement of water, competition and conflict over water were reported common challenges in Farmer-Managed Irrigation. Common Pool Resources (CPRs) including water show that if the resource is mismanaged or depleted, the problem might be attributed to the fact that institutions do not fit well to the characteristics of the resource or to the users of the resources.

In the case of small scale irrigation under study, the scheme was constructed by government support before some ten years back and the all structure was in good condition before the demolish of the head work.

The performance of irrigation farm is determined by the efficiency with which water is diverted, conveyed, and applied and by the adequacy and uniformity of water application in each of the farm field. In the case of Wagur project in current scenario, the irrigation project is completely stopped and there is less irrigation activity undertaken due to shortage of water, especially during the dry season.

Therefore, in most cases, it is not due to the weaknesses in the organization and management as the major reason for the poor performance of irrigation schemes. The good performance of irrigation scheme depends on an efficient operation and maintenance of the systems, as well as provision of services supported by detail technical knowledge and skills accompanied by accurate planning and budgeting.

The performance of irrigation operation has to be evaluated periodically, both at the system and at the farm levels, using indicators, that have been established, Melisew (2012)

The results and recommendations of the evaluation exercises, when implemented, contributed towards maintaining the sustainability of the scheme, for economic utilization of the limited water resources and generation of new information for the design and operation of the intended new irrigation scheme re-design and/or reconstruction of mainly the head work site.

The fulfillment of this condition relies on the strength, ability and commitment of the irrigation management organizations at different levels and the user community, keeping and utilizing the scheme and associated resources. This of course requires developing the management and technical capacity of the farmers and institutions that provide support so that they would effectively and efficiently manage their resources and use their scheme in a sustainable manner.

Therefore, the organization and management study component of the “Wagur” small scale irrigation Project has followed complete assessment of current policies related to irrigation development and management and other relevant policies, involvement of stakeholders including institutions at regional levels, and options for future ownership and management of the scheme and possible ways of financing the operation and maintenance works.

Finally, the study come up with institutional arrangement and organizational structures, suitable management methods, M&E and training programs, which are determinant factors for sustainable management and good performance of the Irrigation scheme if irrigation is required to promote sustainable economy growth and plays a significant role in poverty reduction through enhancing the productivity and profitability of the resources for the end users.

1.2. OBJECTIVES

1. To evaluate the performance of Wagur small scale irrigation scheme in terms of technical efficiency
2. To understand how users are going to be reorganized for self management of the scheme and analyze the constraints they may face;
3. Asses and clarify governance issues such as formal and informal laws that define access to irrigation land and water resources;
4. Understand and document current irrigation management practices in the scheme of concern(in question)
5. to propose appropriate organizational structure, and suitable management so as to deliver adequate services.

1.3. SIGNIFICANCE OF THE STUDY

The information generated may help in narrowing down the information gaps regarding the institutional context, management practices and major problems of smallholders' irrigation at grass root level. The study may also helpful in providing useful-feedback information for the subsequent scheme management and/or Administration.

1.4. STUDY METHODOLOGY

In order to address the objectives of the study, the Wagur small scale irrigation is studied in gathering relevant institutional and policy arrangements. Accordingly the project site water user association has been visited and interviewed regarding the relevant information that may helpful as the input of the study has been gathered and incorporated in the document.

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1.5. LIMITATION OF THE STUDY

The study has the following limitations: First and foremost adequate data was not gathered on the nature of inter-institutional linkages at various levels as it was cumbersome with the time frame of the study. In this regard the concerned individuals, Government institutions and farmers organizations were not investigated in detail.

2. Review of the Legal Frame Works and Existing Situations

In order to propose suitable institutional arrangement and organizational structure, it is important to understand the existing policy, legal framework, roles and responsibilities of the pertinent institutions that involve in the irrigation project implementation and provision of services. Through desk review of relevant documents legal framework to be based on are presented in the following sub-sections.

2.1. Major Policies and strategies

2.1.1 Environmental policy

Policy can be understood as formal decisions, laws and programs, and actual practice what is often called 'implementation' (James and Ian, 2000). The natural resources (water, soil and forests) are the foundations of the economic development in Ethiopia as more than 85% of the population depends on agriculture.

The first comprehensive statement of environmental policy for the Federal Democratic Republic of Ethiopia was approved by the Council of Ministers in April 1997. (EPA, 1997) It was based on the policy and strategy findings and recommendations contained in Volume II of the Conservation Strategy for Ethiopia.

The Environment Policy of Ethiopia states the overall goal is to improve and enhance the health and quality of life of all Ethiopians and to promote sustainable social and economic development through sound management and use of natural, human-made and cultural resources and the environment as a whole so as to meet the needs of the present generation without compromising the ability of future generations to meet their own needs".

Guidelines for EIAs have also been developed aimed at the integration of environmental concerns into development planning, thus preventing environmental deterioration, and contributing to improved land and water management for sustainable development and ensure the needs of the present generation without compromising the ability of future generations to meet their own needs to sustain and continue development from generation to generation.

2.1.2 Ethiopian Water sector Strategy

To ensure the sustainability of the irrigation schemes, the institutional aspect of the strategy stipulates to:

- Ensure operational sustainability of the irrigation schemes by establishing Operation and Maintain ace (O&M) units within the regional bureaus, preparation of O&M manuals and strengthening the capacities of the implementers and beneficiaries.
- Establish self-financing autonomous public institutions to undertake O&M activities of large-scale irrigation schemes.
- Encourage the participation of private sector, especially for the O & M and management phases of medium and large-scale irrigation schemes.
- Sustain the functioning of irrigation systems through their regular O&M and gradual upgrading of the O&M capacities of the local beneficiaries.

According to the strategy, by establishing operation and maintenances (O&M) units within the regional bureaus, preparation of O&M manuals and strengthening the capacities of the implementers and beneficiaries, the sustainability of management, operation and maintenance activities of schemes, will be ensured.

The strategies of the irrigation sector cover a wide range of issues across the borders of technical and engineering, financial & economic, institutional, capacity building, and social and environmental aspects.

2.2. Major applicable policies and strategies

2.2.1 Irrigation policy

This policy explains role of irrigation in the national development policy; the national economic development strategy places heavier emphasis on the agricultural sector to enhance food-self-sufficiency and ensure food security at the household level and to develop an agriculture-based industrial development in the long run. Based on the above, the overall objective of irrigation policy is to develop the huge irrigated agriculture potential for the production of food crops and raw materials needed for agro industries, on efficiency, and sustainable basis and without

degrading the fertility of the production fields and water resources base. The detail objectives are as follows:

- Development and enhancement of small scale irrigated agriculture and grazing lands for food self-sufficiency at the household level.
- Development and enhancement of small-, medium- and large – scale irrigated agriculture for food security and food self – sufficiency at national level including export earnings and to satisfy local agro industrial demands.
- Promotion of irrigation study, planning and implementation on economically viable, socially equitable, technically efficient, environmentally sound basis as well as development of sustainable, guideline for irrigation master plan study preparation on surface water resources

2.3. Legal Frame Work and Institutions

Institutions are defined as the rule of game in a society or are humanly devised constraints that shape human interactions (North 1990).

Institutions include the formal (statue law, economic rules, common laws and regulations) and informal rules (conventions, norms of behavior and self imposed code of conduct) and the enforcement characteristics' of both. Irrigators, their officials and external authorities use collective choice rules (Ostrom 1992) in Dejene (2006)

Constitutional choice rules are developed by the parliament or by senior public officials and they determine who is eligible and specify the specific rules that are used to craft collective choice rules (Woldeab 2003 and world Bank 2003).

According to Blank, H. et al (2002), few among the institutional arrangements which facilitate collective action in small scale irrigation systems and which were the subject, of this study include the following:

- Land tenure and water rights (formal and informal) in the project area irrigation system
- Users Organizations and their by –laws and enforcement characteristics.
- Stakeholders and their relationships in irrigation management.
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2.3.1 Relevant Proclamation and Regulations

There are some relevant rules and regulations that need to be considered in connection with irrigation schemes management and operation. Accordingly, important proclamations and regulations are reviewed as bellow:

a)Ethiopian water Resources Management Proclamation

From the Proclamation, the following articles have been considered, as they are more relevant articles to the irrigation sector development. These are:

Article 6 (2)

It is one of the Fundamental Principles of the Proclamation that stipulates the following:
"The social and economic development programs, investment plans and programs and water resources development activities of any person, shall be based on the country's Water Resources policy, the relevant Basin Master Plan Studies and Water resources laws".

Article 27

This Article initiates the Water Users' Association (WUA) establishment as follows;

- *The supervising body may, in consultation with the appropriate public bodies,* encourage the establishment of water users' associations, as it deems necessary to utilize water for beneficial uses.
- Association of water users may be established upon initiation and the will of the users.

This proclamation is a significant piece of legislation with important contributions to make towards the proper implementation of the irrigation project at hand, since it lays the basis for the utilization of water resources for irrigation purposes, provides legal frameworks for water resources development activities and an establishment of Water Users' Associations. However, the Proclamation has left the details of organization of water users' association to the subsidiary legislation, i.e. the *Ethiopian Water Resource Management Regulation,* which is presented hereunder.

b) Ethiopian Water Resource Management Regulation

Regarding Water Users Cooperative Societies Formation; **Article 28** of the regulation stipulates the following:

- "The holders of water use permit pursuant to **article 27** of the Proclamation or persons exempted from the requirement of permit may establish a water user's cooperative society".
- "The Cooperative Societies Proclamation No. 147/1998 shall have effect on water users' Cooperative societies".

The Regulation details organization of water user cooperatives such as registration, permit fees, charges for use of water etc**. Proclamation No. 147/1998-Cooperative Societies** proclamation is issued to create enabling environment for the establishment of cooperative societies, which are formed by individuals on voluntarily basis and who have similar needs for creating savings and mutual assistance among themselves by pooling their resources, knowledge and property, in order to receive dividends from the profits made.

In order to maximize their profits, Cooperatives involve in different commercial activities, such as the supply of inputs, processing and agricultural marketing activities. The scope of the Cooperatives' tasks is wider than the Water Users' Associations' which should be limited to water management, that is, the management, operation and maintenance of the irrigation system.

As a result, the Cooperative Societies Proclamation No. 147/1998 is not a suitable guideline to regulate the establishment and operation of the Water Users' Associations as internationally accepted irrigation management organizations.

c) Proclamation for the establishment of Irrigation Water Users' Associations (IWUAs)

The IWUA Proclamation creates a specific legal basis for the establishment of Irrigation Water Users' Associations (IWUAs) as a particular type of legal entity for operation and management of irrigation and drainage systems. The pre-existing legal framework in Ethiopia (i.e. proclamations on cooperatives and associations) does not provide an appropriate legal basis for IWUA establishment given that:

- IWUAs are public law organizations and their mandate is of a public interest nature;
- Membership is compulsory;

- IWUAs operate on a non-profit / non-commercial basis but they will nevertheless provide services to their members, namely the provision of irrigation water, on a paid basis;
- IWUAs are self-managed organizations governed by their members, but due to the public interest nature of their tasks are subject to some form of supervision by the government.

In accordance with their mandate, the tasks of IWUAs are strictly limited to management, operation and maintenance of an irrigation and drainage system and watershed management/ protection. But in most cases IWUAs are not permitted to undertake any other activities such as the procurement of agricultural inputs or marketing of the commodities produced within the irrigation system they manage.

2.3.2. Regional level institutions involving in water management

At Regional level, institutions involving in irrigation project implementation have four tiers of organizational set-up. These are the Regional level Bureaus, Zonal level Departments/offices, Woreda level offices, and the grass-root level institutions- Kebele. Administration and Water users' Associations/Irrigation Cooperatives. The tiers of organizational set-up largely depend on the prevailing political administrative structure of the Region. In addition to the line offices, i.e., institutions that are directly responsible for project implementation, political administrative structures are also involve in the development project implementations.

2.3.3. Oromia Agriculture & Natural Resource Bureau (OANRB)

Oromia Irrigation Development Authority (OANRB) is responsible for the regional irrigation development with its zonal and Woreda level subordinate irrigation development offices. It is also responsible for the coordination and close supervision of the project implementation up to the final transfer of the scheme to the beneficiaries and/ or to the Government institution to be established to operate and manage it. In addition, OANRB is responsible for the operation and maintenance of large scale irrigation schemes, which are beyond the capacity of the community. In general, the Authority is responsible for:

- Supervision and follow up the implementation of the irrigation projects;
- Coordination of the stake holders during irrigation project implementation stage;

- Training of irrigation water user farmers on water management, i.e., Operation & maintenance;
- Enforcement of water related regulations;
- Land distribution and registration in collaboration with Kebele Administration;
- Cause payment of compensation to those affected by the construction of irrigation scheme;

On the other hand, OANRB is responsible for setting the water rate (cost recovery) to be paid by irrigation water user farmers. It assumes also the responsibility of provision of necessary regulatory frameworks in irrigation water utilization and it is mandated by the Regional State to, own, operate and maintain large- scale irrigation in the region. This includes:

- ❖ Own and manage large irrigation schemes.
- ❖ Carry out operation and maintenance of irrigations systems and collect water charges in accordance with the cost recovery directives to be issued by the regional state.

As OANRB is big institution and expected to operate in projects that worth its reputation and responsibility is not expected to handle such small scale irrigation projects like that of "Wangur SSIP "to undertake routine duties like water fee collection and scheme administration, but help to stabilize strong farmer- based irrigation scheme management institution like WUA and give other technical supports, importantly extension service.

2.3.4. Oromia Environmental Protection and Land Use Authority (EPLUA)

EPLUA is responsible to decide the use of the land and when the need arises, to redistributes the land to those who have the right to land holding on the basis of the existing Environmental Protection and rural land use regulation. As a result, it is responsible for the process or land redistribution from survey, recording and mapping of existing landholdings. In summary, farmer locations are important to allow full participation in the formation of the water users group, as well as the selection of particular farmers to occupy specific tasks in the operation of the scheme. Therefore, according to existing guideline and practices, EPLUA is responsible for the redistribution and reallocation of land in Wagur SS irrigation command area. In principle, the irrigated farm land for each irrigation water user shall be strictly 0.25 ha. Therefore, any land to

be cultivated by modern irrigation may cause the acquisition of proper share of the previous landholder, to be re-distributed.

2.3.5. The Cooperative Promotion Agency (CPA)

The responsibility of the establishment and development of Cooperatives as per the Regulation and recommendation of this report falls under the Cooperative Promotion Commission (CPA) and its subordinate offices at Zone and district level.

The Cooperatives should attain the required legal capacity for the purpose of getting access to services such as credit and marketing. Oromia Regional State Cooperative Agency is therefore, responsible for awareness creation, organizing, training and promotion of the cooperatives and follows up. Therefore, CPA support is very crucial in strengthening the administrative capacity of the cooperative, especially in resource management areas. The Agency supports irrigation cooperatives to get legal entities, to qualify for marketing and rural credit facility. The details are as follows:

- Promoting the cooperation, training of farmers and administrative committees of irrigation schemes cooperatives;
- Co-ordinate and facilitate the provision of agricultural input supplies through credit in collaboration with Agricultural and Natural Resource Protection Office.
- Provide audit service to ensure the safe guard of financial and property of same.
- Ensuring the properties and assets of the associations are properly utilized.
- Ascertains the establishment of cooperative societies policies and procedures are adhered to local conditions;
- Involving communities at all levels of project cycle in all rural development projects.
- Facilitate training and Capacity building

As a result, the responsibility, establishment and development of "Wagur SSI" Water Users Association and Irrigation Water Users Cooperatives as per the Regulation and recommendation of this report fall under the OANRB and Cooperative Promotion Commission (CPA) and their line offices at Zonal and district level, respectively.

2.3.6 Agricultural and Natural Resource protection Bureau/Offices

Agricultural Bureau is responsible for the provision of agricultural extension services, coordination of input supplies, facilitation of credit service and marketing, selection and utilization of agricultural technologies, produce productive and adaptive crop varieties through research and strengthening the capacity of farmers through training. The fulfillments of these services are inevitable in achieving the irrigation development objectives. Some of the relevant responsibilities Agricultural Bureau are the following.

- Give extension services and trainings for farmers, pastoralists, agro pastoral and investors to increase productivity of the agricultural sector, prepare favorable packages suitable for the climate condition , evaluate, cause to be implemented, and lead it;
- Facilitate, manage and follow up conditions through which agricultural inputs distributed that assist to increase production and productivity be supplied and distributed at proper time and place with the required quantity and quality to farmers and other users;
- Cause agricultural products raw materials to be supplied in required quantity and quality for domestic and foreign market as well as factories with concerned body;
- Work and lead activities which will enhance relationship among agricultural research, farmers, extension services and other beneficiaries order to make use of research outputs;
- Cause farmers and pastoralists to produce market oriented products with required quality and standard; undertake studies with concerned bodies on how to get market for products and implement same;
- Facilitate conditions to create appropriate system of agricultural production and input supply in order to make the regional agricultural development lead by market;
- Organize, encourage, supervise, follow –up and train associations and irrigation beneficiaries;
- Carries out different programs that government prepares to bring economic growth and food security;
- Undertake, coordinate, support, follow-up development activities related with valley development;
- Undertake, coordinate, support and follow-up development activities of soil and water development and conservation activities.

2.3.7. Trade and market development Bureau

Oromia Trade and Market Development Bureau is mandated for facilitating agricultural marketing improvement activities in the region. The Bureau through its zonal and woreda offices coordinate agricultural marketing improvement programs by establishing agricultural marketing councils with full involvement of major stakeholders and sectors involved in agricultural marketing activities.

The Bureau shall have the following duties and responsibilities:-

- Undertake study on market need assessment, cause market participants and stakeholders to be aware of the same;
- Undertake study and prepare market strategy on sustainable foreign and domestic product market opportunity which will make small, medium and large enterprises participate in the market;
- Undertake study to identify opportunity and need on product which have wide and sustainable foreign market opportunity and effective work on its expansion;
- Undertake study to identify the capacity and need to produce products that will contribute for the expansion of agro-industry, prepare expansion strategy for this product, facilitate conditions for its implementation;
- Make strong and sustainable marketing network among the participants of market found at different level, producers, collectors, whole sellers and retailers, exporters, industries, consumers and so on, coordinate and follow–up;
- Establish market information collection and dissemination center , establish modern information collection and dissemination system, strengthen it with the capacity of utilizing technology and human resource;
- Undertake studies on market change related with product prices, present with the concerned bodies with proposed solution, implement up on approval, cause to be implemented, follow –up and control.

2.3.8. Woreda and Kebele Administrative Bodies

a) **Woreda Administration**

Woreda Administration office, with Kebele Administration (KA) in which the project is located, is responsible for the overall coordination and community mobilization. They are to liaise in land redistribution or transfer, acting as a witness for the agreement and help in enforcement of the By-law. The primary roles and functions of the woreda administration is to ensure security and maintain peace within its boundary, coordinate different key development activities between the responsible agencies and kebeles and support the activities and efforts of different sector offices and kebeles. Moreover, Wored administration share responsibilities for a range of functions in the Woreda under various line offices including administration, capacity building, peace and security, public organization, agricultural and rural development affairs, women's and youth affairs, information, education, health and finance and economic affairs.

b) Kebele Administrations: These are the grass-roots-level arm of the Government and report to the appropriate woreda executive committee. They also serve as vital bridges between peasants and the government. The kebeles **Administrations** have their own council and are comprised of kebele chairman, kebele administration, information and public organization affairs, peace and security, agricultural and rural development, education, health sector representatives and kebele court or traditional judiciary among others.

Each kebele has different administration units which makes easy to pass orders in hierarchy in arrangement of community work. The chain begins from team “Gare”, development zone , kebele, and Woreda. Community mobilization is more successful in slack period of farming activity which concedes with dry seasons. Therefore KAs will play a vital role in ensuring effective farmer’s participation in the implementation and operation of the project.

3. THE LINKS BETWEEN INSTITUTIONS & SSIS

Small scale irrigation projects are basically sustainably projects given the objectives for which they have been promoted, i.e. addressing food security problems.

Food security is the major output of the SSI development promotion (OIDA, 2000&2003).An important qualification of SSI for food security is therefore, its sustainability. In this case sustainability of the irrigation projects matters, and therefore, and a need for sustainability constraints.

Sustainability is not just only a problem of technology & natural resources; it is a human, or better, social (institutional & organizational) problem as well; our actions and type of social organization we achieve to coordinate and manage these resources.

Therefore, adequate institutionalization and organizational development is crucial to enhance management and sustainability of the irrigation systems.

3.1. Water & Land Rights Institutions & Irrigation Management

Provided that irrigation water is not a private property but common property and no one is held responsible for mismanagement, established norms, rules and known laws that ensure the interest of all beneficiaries are required(OID,2000). Good governance and legitimacy are of crucial in irrigable land allocation and irrigation water distribution and management. This component of irrigation management is insured through establishing legal framework of known laws.

Formal laws which specify appropriate management practices, the right of WUAs and individual users both in quantitative and qualitative terms, and operational regulations & clearly spelled out sanctions against illegal actions are required (WB, 2000).

3.1.2 LAND TENURE SYSTEMS

The land tenure system has a profound impact on SSI development & management through its effect on ownership & access to irrigable land & the associated resources such as irrigation water (Dejene.2006).

When a land tenure system fails to indicate who does what, when, how, and where, ambiguous situations arise, paving the way for conflict in the irrigation systems. Additionally, some tenure systems provide for the transfer of rights to land from one user to another through conventions such as in the form of gifts, lease, share cropping, mortgage, or outright sale (Yeraswork, A.2000). Therefore, it is very important to consider these institutions if we are to improve performance and management of irrigation.

3.1.3. IRRIGATION MANAGEMENT

Irrigation management activities have both technical and social dimensions (Mollinga 2003). These include control structure activities (design, construction, operation and maintenance), water use activities (acquisition, allocation, distribution and drainage), and organizational activities (decision making, resource mobilization, communication and conflict management). Further,(Mollinga 2003) classifies irrigation management functions into four types viz. planning, organizing, leading and controlling. These tasks and activities should be properly coordinated and managed in irrigation systems.

In irrigation management, water control is crucial. It refers to, the managerial control of water distribution and organizational processes in the irrigation system (Mollinga 203). Irrigation management or water control is thus the regulation and control of human behavior; implying social relation of power and competition.

Effective water control in irrigation management is a function of several factors including physical, technical, socioeconomic, organizational, political, cultural and complex institutional factors (Lawdermilk 1990: These components of irrigation systems interact in irrigation management. Political factors such as the irrigation law and policy can enable or constrain irrigation management. Mollinga (2003: 38) has found that socioeconomic differentiation among farmers impeded the emergence of effective water user's organizations in India and Bangladesh. Inequity among water users makes it difficult to achieve social control. Hydraulic factors such as a decrease in water supply (scarcity) may increase conflict and competition among water users, with implication for social relation of power and management. It is therefore crucial to investigate this component of the irrigation systems for understanding their limitations and strengths and to suggest ways for improvement.

As Dejene(2006), noted, where issues of organization and management of irrigation are not well considered problems may arise in such areas as:

1. Existence of indefinite regulations or instructions about the share of responsibilities
2. Lack of coordination between different work groups
3. Absence of common meeting point for discussion and setting difference;

3.1.4. PROJECT AREA WATER USER ASSOCIATION

The Wagur small scale Irrigation Water Users Association was established in 2001 which counts about more than ten years and now have about 358 beneficiaries (Jalala=144 and Mada Talila=214) were using the scheme before the head work completely demolished.

The executive committee of the association has 7 members at each kebeles which is accountable to the general assembly (public).Women involvement in management and decision making is nearly nonexistent. This is because as the association is organized in informal settings there are no articles in the by-law of the association which encourage taking affirmative action to involve women.

. The financial situation of the established association revealed to members as deemed necessary, when there might be any issues that require financial expenditure. The organization has a meeting where all members have a chance to raise outstanding issues for discussion and decision on any matter pertaining the irrigation scheme. The committee members also have their own meetings to evaluate their progress and plan for the coming time. But now this phenomenon was paused due non functionality of the scheme.

Payment of annual water fee from all water users is the main source of income for the association. Formerly each beneficiary is expected to pay an annual water use fee. Currently, users do not pay any as there is no any progress seen in the Old scheme.

4. Existing Traditional Organizational Setup of WUA

According to IFAD (2001) water user association is defined as a formal organization that brings together farmers for the purpose of managing a common irrigation system.

In accordance with the policy framework for SSI development in Ethiopia, management and operation of SSIS is the joint responsibility of the state irrigation agency, cooperative promotion and input supply sectors, district and village level administrative and legal entities and farmers and their organizations.(Dejene,2006)

In view of this, therefore, management of Wangur SSIP was delegated to water committees/ 'Kore Jallisii' formed at the kebele "Goxi") level. The major management tasks of the Water Committee" Kore waldaa Jallisii Wangur" was include the following:

• Allocate water for the users and controls the proper distribution among the beneficiaries

• Observe the water schedule of members by the respective committee of the two kebeles;

• Ensure the safety of the schemes through organizing and mobilizing local resources for the works as needed. But the head work demolish was beyond their scope

• Resolve disputes related to land, water and maintenance based on their local bylaws.

An Executive Committee consisting of eleven members in each kebele irrigation system are responsible for operation and maintenance of the scheme. The general assembly is the highest body, which make the final decisions based on the bylaws. The composition of the WUA committee members has, Chairman, vice chairman, and a secretary,. Under the executive committee there are three teams having one team leader for each and which has 30-50 members in each team.

5.Governing Bodies of IWUAs

IWUAs are self-managed organizations and governed by their members through the General Assembly. In addition to the General Assembly, each IWUA has a Management Committee and a Control Committee; water scheduling committee & the Dispute Resolution Committee

5.1. General Assembly

The General Assembly is the sovereign, or main decision making body of each IWUA. The tasks of the General Assembly include:

- Setting the annual budget for the IWUA including the level of fees and charges payable by members
- Approving an annual work-plan and watering plan or schedule
- Approving the annual report on the annual accounts of the IWUA prepared by the management Committee
- Electing the executive officers and members of the committees of the IWUA
- Adopting binding operating rules necessary for the functioning of the IWUA (e.g. as to procedures for requesting, using and paying for water and operation and maintenance) and the level of fines payable if such rules are breached
- Amending the by-laws of the IWUA as needed

The tasks of General Assembly are essentially decision-making undertaken during General Assembly meetings. Key tasks in this respect are the election of the Management Committee, the

- General Assembly
- Control Committee
- Executive Committee(Management committee)
- Water scheduling committee
- Dispute Resolution Committee

In order to promote the collective responsibility of the Management Committee, the chairperson is elected by the Management Committee from among its members. The specific

role of the chairperson is to formally represent the IWUA, to act as its spokesperson, to chair the meetings of the Management Committee and General Assembly, to call emergency meetings of the Management Committee and General Assembly, and, in accordance with resolutions of the Management Committee, to sign contracts and enter into other legal relationships on behalf of the IWUA.

The Management Committee members may also appoint its members to specific positions such as Secretary and Treasurer and more generally decide on specific roles and responsibilities for each of the Committee members. The decisions of the Management committee are made by consensus and consensus must be reached by vote with each member having one vote.

5.2. Control Committee

The Control Committee (3-5 persons) is elected by the General Assembly. Its tasks are to monitor the financial performance of the IWUA and to report back to General Assembly meetings. The purpose of the Control Committee is to create an internal financial control system for each IWUA such that IWUA members can be confident that the money they have paid is being used properly for management and operation and maintenance. An important task of the Control Committee in this respect is the presentation of annual report to the General Assembly concerning the manner in which the finances of the IWUA are managed.

5.3. Dispute Resolution Committee (facilitation committee)

Each IWUA can establish a 3-5 persons Dispute Resolution Committee to resolve disputes between IWUA members. The by-laws agreed upon by the IWUA General Assembly will specify the procedures to be followed by such a body. The establishment of a Dispute Resolution Committee is optional. In Ethiopia local community based dispute resolution mechanisms may play an equivalent role. It is important to stress that its mandate is restricted to the resolution of disputes between IWUA members and not disputes between members and the IWUA itself as that would undermine the authority of both the Management Committee and the General Assembly.

5.4 ORGANIZATIONAL STRUCTRE OF THE PROPOSED IWUA IN THE STUDY AREA

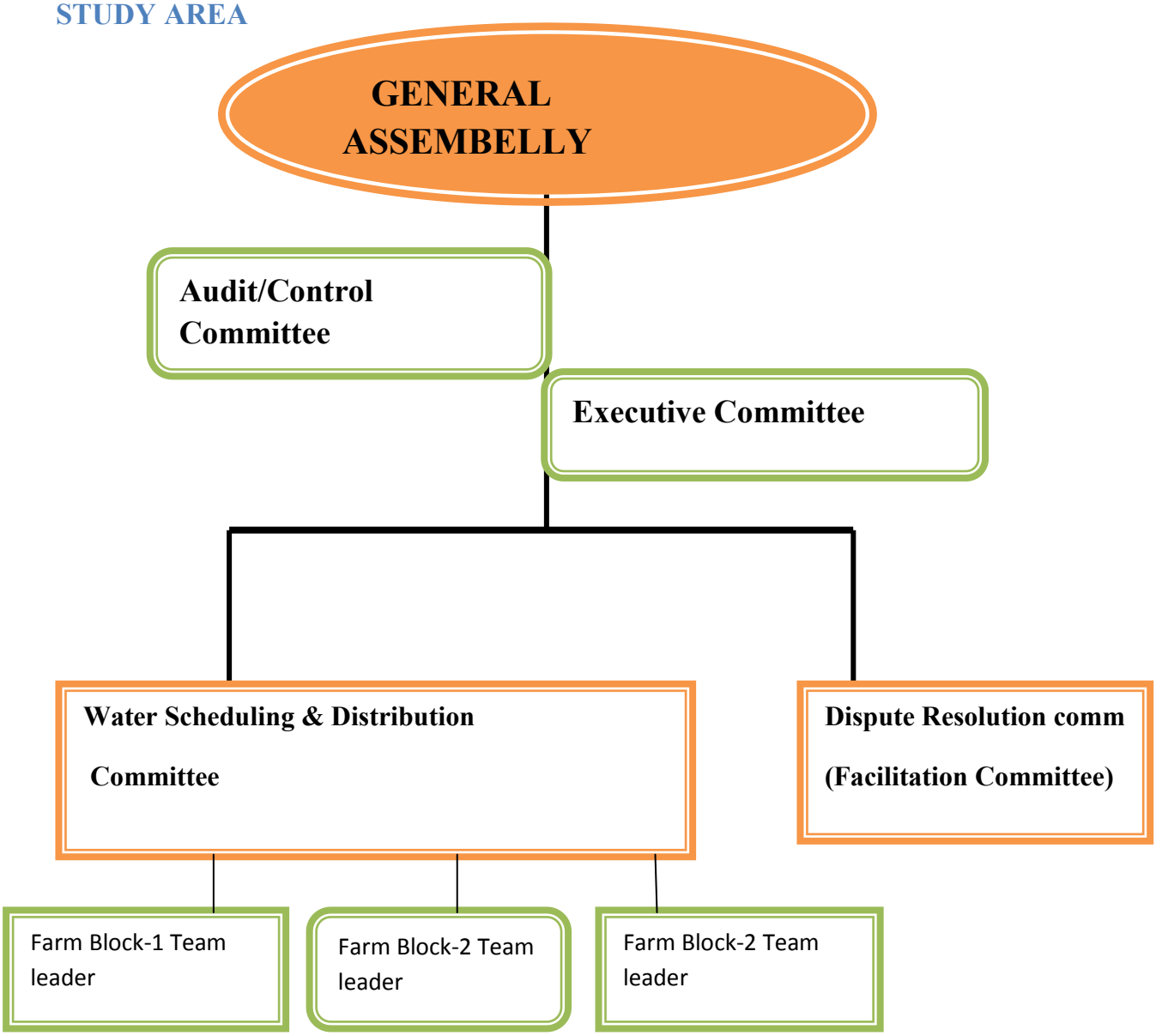

Figure 1 : Proposed Organization and Management Structure of Wagur IWUA

5.5. Man power of IWUAs

As a legal organization IWUA can hire employees. They will be appointed by the Management Committee within the agreed budget of the IWUA and accountable to the Management Committee for their performance. IWUA employees may be IWUA members but, to avoid any possible conflict of interest, they may not be elected officers or users' groups' representatives. In practice some of these employees will be permanent, although they may not need to be employed as full time. Others may be employed on a seasonal or temporary basis.

WUAs Staffing

All staff at WUA level can be an appointment from outside of WUA members or they can be suitable qualified or experienced farmers.

Table: WUA Staff requirement

No	**Job Title**	**No of Staff**	**Remark**
I	WUA SC (secondary canal coordinator)	As required	
	Book keeper	>> >>	
	Personnel office	>> >>	
	Store man and archivist	>> >>	
	SC Technician	>> >>	
II	Quarterly canal level		
	Quality Control O& M Technician /Forman	>> >>	

6. Water Distribution and Management in the Study area

As a legal organization IWUA can hire employees. They will be appointed by the Management Committee within the agreed budget of the IWUA and accountable to the Management Committee for their performance. IWUA employees may be IWUA members but, to avoid any possible conflict of interest, they may not be elected officers or users' groups' representatives. In practice some of these employees will be permanent, although they may not need to be employed full time. Others may be employed on a seasonal or temporary basis.

WUAs Staffing

All staff at WUA level can be an appointment from outside of WUA members or they can be suitable qualified or experienced farmers.

Table2: WUA Staff requirement

No	Job Title	No of Staff	Remark
I	WUA SC secondary canal coordinator	As required	
	Book keeper	>>	
	Personnel office	>>	
	Store man and archivist	>>	
	SC Technician	>>	
	Others as needed	>>	
	Total		

6.1. IWUA by-laws

Each IWUA must have its own by-laws. The by-laws constitute the identity of the IWUA in terms of name and address, service area, its organization and functions *vis* à vis external actors. The by-laws are also the primary source of internal rules and regulations that regulate the IWUA's activities. In other words, the by-laws are the constitutional rules of each IWUA. Like the constitution of a country by-laws should not be amended frequently in order to promote stability and should be amended only if strictly necessary.

6.2. Supply of Water to IWUAs and Collection of Fees

Water pricing and recovery of the costs of irrigation investment, operation, and maintenance have been contentious (arguable) issues for many decades. If the fees collected do not cover the costs of Operation and Maintenance of an irrigation project, its sustainability, without continued government subsidies, may be at risk. As stated in water resource development policy and strategies, medium and large scale irrigation development schemes are to operate on full cost recovery principle; whereas small scale irrigation project to be implemented on cost sharing and towards stage by stage cost recovery transition.

Therefore, economic efficiency and fiscal sustainability demand that the capital costs of irrigation infrastructure should eventually be recovered from the users, in order to permit longer-

term replication of investments. Hence, investigation of procedures and methods of water fee collection will look into:

- The group's responsibility to allocate water amongst its members and to recover the charges; weather the experience is that users' groups are more effective collectors of fees or not;.

Assessment and identification of method that can be appropriate and encourages efficient water use such as charging by irrigation volume, by the size of the irrigated area or by a portion of the harvested crop

6.3. The weakness of the Former Wagur WUAs

The responsibility for running management of the former "Wagur" irrigation systems was delegated to "Koree walda Jallisi" in the hope of enhancing effectiveness, equity and responsiveness in irrigation management and to ensure sustainability. Nonetheless, they were not organized in such a way they could ensure these objectives of decentralized management, although good organization is one of the social requirements for good irrigation governance.

They had deficiencies in their management structures. First and foremost, they had no recognized formal and legal power and the roles, responsibilities and authorities of the different positions along the management structure were not clearly defined.

The other was guess work was reported in their water allocation; i.e the water committee undertakes water allocation and defines water rights of members not based on water requirements of different crops, irrigable plot area possessed by individual irrigators due to technical capacity problem.

This is because the local government (woreda) irrigation office failed to provide satisfactory technical assistance in undertaking these water management tasks and in building the users capacity.

The other challenges and constrains identified or knowledge gaps observed in the study areas were:

- The traditional water user association of the areas didn't consider women participation
- Majority of the members were with too small landholdings
- Lack of Marketing and market access
- None existence (lack) of training to utilize technologies and extension service

- Poor land management
- Lack of information and input utilization

In this regard, the following table presents project reports and peer-reviewed findings identified in about four perspectives (systems) of specific challenges face WUA in SSA which may help for subsequent alternative management options in our case too.

Table 1 : Factors influencing WUA management

Socioeconomic and political setting	*Water resource system*	*Governance*	*Users*
• Economic development • Demographic trends • Government water policies • Market incentives (input and output markets)	Water availability • Climate patterns • Size of the irrigation system • Irrigation infrastructure • Flows in and out of irrigation system • Predictability of supply • Storage characteristics • Location • Hydrological interaction among irrigation units	Government organizations • Nongovernmental organizations • Local institutions (operational rules, collective-choice rules, constitutional rules, and monitoring and sanctioning processes) • Property rights • Structure of user groups (formation, membership, mandate, etc.) • Financial performance of user groups	Number of users • Shared norms • Socioeconomic attributes • Leadership • Location (relative to infrastructure) • History of irrigation • Dependence on irrigation • Knowledge of irrigation • Technology used

Source: Adapted from Meinzen-Dick 2007.(in IWMI Working Paper 180: p.13)

6.4. The tasks of IWUAs include the following

- Agreeing with the MSO the allocation of water (in time and quality) to the command area;
- Planning of the cropping calendar with farmers and irrigated agriculture advisers;
- To supervise on farm irrigation water delivery in order to ensure fairness and equity in water allocation to its me members and to prevent water wastage;
- To maintain, improve and rehabilitate the tertiary and on farm irrigation systems within the service area and undertake re-construction and repair works;
- To establish internal regulations for irrigation water consumption and to collect fees and charges, from its members for the services provided;
- To take measures to combat erosion, pollution , salinization and flooding;
- To train its members in irrigation , techniques irrigated agriculture, water saving methods and new technology; and
- To collect water dues from individual farmers and ensuring that payments are made according agreements between MSO and IWUAs that will cover O&M and management costs.

6.3.2. Responsibilities of WUA

The IWUA Proclamation creates a specific legal basis for the establishment of Irrigation Water Users' Associations (IWUAs) as a particular type of legal entity for operation and management of irrigation and drainage systems. The pre-existing legal framework in Ethiopia (i.e. proclamations on cooperatives and associations) does not provide an appropriate legal basis for IWUA establishment given that:

- IWUAs are public law organizations and their mandate is of a public interest nature;
- Membership is compulsory;
- IWUAs operate on a non-profit / non-commercial basis but they will nevertheless provide services to their members, namely the provision of irrigation water, on a paid basis;

- IWUAs are self-managed organizations governed by their members, but due to the public interest nature of their tasks are subject to some form of supervision by the government.
- IWUAs as public law organizations have a public interest mandate

The mandate of IWUAs is the provision of irrigation water to its members for agricultural purpose. It has a public interest nature because (1) IWUAs provide irrigation water to a large number of people and communities, and (2) they very often use public irrigation infrastructures, i.e. infrastructures built with public money and owned by the government.

7. Traditional Water Distribution and Conflict Management

In the beginning of irrigated agriculture a sequence of water use had to be elaborated, which could guarantee equitable distribution of resources. Internal logic of development of inter village level relations led to the appearance of a kind of water administration Aba-laga and other committee members were voted in by water users based on their traditional experience in water management and status in the local community. One or all of the IWU's committee members could be replaced by water users if they performed poorly.

As learned from the water users at Wagur SSI the possible conflicts inside the WUAs appear during the crop planting and growing season or in summer, when water deficit is very high. Resolution of conflicts remains on the WUA's level. The procedure of conflict resolution is also provided by statute of WUA. For example, in regulations for integration of water users and Water Users Associations in the article "Aims, rights and duties of Association" it has been stressed, that "WUAs have a right to fix and impose a fine and sanctions for offence against statute and contract liabilities" (Bocharin, 2000). Also if a WUA's member repeatedly infringes legislative requirements for water access and water conservation regulations, this user will be sanctioned via termination of his rights and possible loss of membership. While still allowing access to common water resources, loss of membership will mean the withdrawal of rights and privileges

The executive Village committee members are responsible to distribute irrigation water to their respective team leaders according to the schedule. Team leaders are also mandated to ensure fair water distribution among the beneficiaries. There is an internal regulation used by the association to ensure fair water distribution and to manage conflicts among beneficiaries. All beneficiaries must obey for this internal regulation if they are members of the association. Despite of all this rules and regulation, according to the informants, conflict among users in "Wagur SS " irrigation is occur occasionally and happening in and between the irrigation season(s).As it is explained by the committee members of the association problems happens repeatedly, but resolved by the community elders and committees.

The water user association of the Wagur project is well aware of how to manage conflicts if happen have the already established rules and regulation as they used to implement it during managing the former scheme.

7.2.Grievance Redressing Mechanisms in the Study areas

The broad reach of the administrative state is especially evident in the country, where the government owns title to the land and exercises administrative jurisdiction over land-leasing and different land use transactions. With so many interactions occurring between the land users and the administrative state, there is greater probability that the farming communities will be harmed by the administrative error and, in some cases, by the local governments (Woreda or kebele) maladministration. The different government structures have responded to the urging of its public for a system to redress administrative errors, omissions and maladministration with the creation of grievance redressing mechanisms (GRMs) at the zonal, woreda and grass root levels.

There are also courts at kebele level, or at village level the "social courts", which are akin to small claims courts and which hear civil cases relating to family matters, creditor-debtor issues, contract disputes and petty criminal issues. The social courts have been created by the local government constitutions and are staffed with non-professional judges who are usually nominated by the community. As social courts have not been authorized by the regional constitution, some argue that the courts are unconstitutional. But in the case of any dispute happen in the case of project area communities presents the two parts in front of the social courts and the person judged as committed any wrong doings forced to pay some amount of many or punished by any physical work for community development like(cleaning the earthen water canal or constructing a fence to the crop or others.)The concept of a grievance redress mechanism has been rooted in the culture and governance of the country at present time.

Based on these the project area communities have created an extra-legal grievance mechanism, and the Kebele Appeals Committee, to hear grievances lodged by participants in IWUA and water scheduling program who claimed that they had been unfairly excluded from participation in one or more of the local development programs in their vicinity.

In general, by embracing, strengthening, extending, supporting, and protecting the GRMs already in place at the project areas it is better to expand it to their extension throughout the kebele and into the woreda sector and can substantially improve governance and social accountability in the project areas and can be justifiably proud of having done so.

7.3. The weakness of the WUAs and other Challenges

The responsibility for running management of the existing "Wagur"irrigation systems is delegated to "Koree walda Jallisi" in the hope of enhancing effectiveness, equity and responsiveness in irrigation management and to ensure sustainability. Nonetheless, they were not organized in such a way they can ensure these objectives of decentralized management, although good organization is one of the social requirements for good irrigation governance.

They have deficiencies in their management structures. First and foremost, they have no recognized formal and legal power and the roles, responsibilities and authorities of the different positions along the management structure are not clearly defined and even it is totally missing from the normal settings that is strictly accountable to the general assembly and not recognized by the woreda irrigation office.

The other is guess work is noticed in their water allocation in the traditional; the water committee undertakes water allocation and defines water rights of members not based on study on water requirements of different crops, irrigable plot area possessed by individual irrigators and measurement of the yearly water supply due to capacity problem.

This is because the local state (woreda) irrigation office failed to provide satisfactory technical support in undertaking these water management tasks and in building the users capacity.

The other challenges and constraints identified in the study areas are:

- The traditional water user association of the areas doesn't consider women participation
- Majority of the members are with too small landholdings
- Lack accessible road to the project area and from project area to kebele/woreda center.
- Lack of Marketing and market access
- None existence (lack) of training to utilize technologies and extension service
- Poor land management
- Lack of information and input utilization

In this regard, the following table presents project reports and peer-reviewed findings identified in about four perspectives (systems) of specific challenges face WUA in SSA which may help for subsequent alternative management options in our case too.

Table 2 : Factors influencing WUA management

Socioeconomic and political setting	*Water resource system*	*Governance*	*Users*
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Source: Adapted from Meinzen-Dick 2007.(in IWMI Working Paper 180: p.13)

8. Method of Verifying Community Demand of the Scheme

The user communities of the project areas had a very high and unwavering demand to see the irrigation development came to true in their vicinity and adopted the concept of 'farmer led irrigation development' to describe 'a process where farmers assume a driving role in improving their water use for agriculture by bringing about changes, to happen in their areas by using appropriate technology, and market linkages, and the governance of land and water. Farmers' irrigation initiatives in the Wagur SSI are well organized and know the advantages they can get from Modern irrigation schemes development and the loss they experience if they fail to do so.

The primary reasoning was that controlling abstractions by farmer-built irrigation systems would lead to water savings and more efficient water use, freeing up water for downstream users. In addition, and currently when the Government came to decision to support them in every respect they welcoming the development endeavor with no difference among the user communities to build new, 'modern' irrigation systems for smallholder farmers according to standardized engineering approaches and principles.

The explicit use of the terms modern and traditional as policy categories in our country irrigation policy is to make modernization of the existing traditional irrigation management where farmers' former irrigation initiatives are still not simply ignored and are often appreciated.

8.1. Mode of Community Participation in the Scheme

Most of the irrigation users of the study areas are with limited financial resources as the return they secure from small plots of land by rain fed agriculture is not significant. Then the possible contribution of the beneficiaries to the intended irrigation development is in the form of free labour and providing local materials to civil works and conservation activities. Accordingly, it was agreed that all unskilled labor required for construction would be met by free contribution from the users. Users would also contribute all naturally occurring materials which may be located in their private plot of land. The community consultation meeting minutes and signed list of participants of the direct project beneficiaries is attached at the annex of the document.

In spite of the recognition that 'participation' is not as simple and straightforward as one hoped, the participatory approach to irrigation development remains pervasive in many places and fields, including in irrigation development policy of the country.

As the communities have accumulated experience of managing modern irrigation in Wagur irrigation, a demand-driven, participatory irrigation development approach is combined with a strong emphasis on 'irrigation modernization' and improvement of so-called ' modernizing infrastructure'. This combination has led to an irrigation development model that centres around demand driven irrigation improvement, with an emphasis on projects in which groups of farmers in existing schemes ask for support from the government to upgrade their infrastructure, and in our case we use the farmer-initiated wagur irrigation scheme to explore how this demand-driven irrigation improvement effort is expressed in actual irrigation development interventions and how it is sustained or challenged by actors at different levels.

Therefore, through the promised increase in an area under 'improved irrigation', and assisting farmers to actually improve their irrigation practices, by for instance reducing management and maintenance requirements or increasing productivity and profitability their livelihood will improved in shortest period and they become food self sufficient.

8.2. Community Sense of Ownership of the Irrigation Scheme

In the process of establishing and construction of the Small scale irrigation ensuring users willingness towards all aspects of the project is very crucial unless they do not accepted and supported by the communities, it is likely to suffer from misuse and will not be sustainable. Therefore, community consultation can help in clearing ambiguity and enables dispossessed farmers to have informed choice. During the socio-economic survey, the attitude of the different part of the society and local authorities towards the project idea, specifically, on possible problems and conflicts that may arise from the project implementation; their willingness to participate and contribute to the realization of the project was assessed

Community Participation is the active involvement of development beneficiaries in their choice, to bring the win-win situation for their future food security assurance. The pre-conditions for effective community participation is that the community members must understand the problems they experience due to rain fall interruption and/or drought and internalize the desirable actions to address the problem. Accordingly the "Wagur SSI" communities are well aware of these conditions to sustain their family life as there is little or no alternative livelihood opportunity other than managing the wagur river to irrigate their farm land. The level of participation is emanated from the farmer's willingness to contribute to the project activities in terms of commitment of contributing their idea, time, labor and material resources, joint scheme management and canal construction and more.

8.3. Community Attitude towards the Irrigation Scheme

Using traditional irrigation method is a common phenomenon in the zone and the district in general and no exception for the project areas community in particular. And, the people in the command area have a long year's traditional irrigation experience in this regard. They have been longing for using modern irrigation and formerly attempted their part to divert Saketa River and they used to sustain their family life so far. They know how other neighboring farming communities use irrigation water to produce different food crops and are clearly aware of its benefit. They also make use of the practices and currently exercising how others have managed to use water in shift and they also adopted such practices from their fore fathers and when they would become beneficiary of the modern irrigation scheme. What they intend is to use the land under their disposal intensively and properly for both crop and forage production to raise the quality of their products and find boost in production of market-oriented products such as vegetables in addition to the existing range of crops, they are producing.

All the people in project sites/areas are eager to become beneficiaries of the modern irrigation scheme; they have positive attitude towards or high expectations about the project. Despite they are with limited knowledge of using modern irrigation technologies, they have or tend to exhibit a high level of enthusiasm and eagerness for the scheme; and this will impart a base for future sustainability of the project, where no external support is available.

According to the socio-economic survey result, there would be no possible displacement of people from settlement or occupation of farm plots, grazing land, forestland or other sites of social value such as recreational, holy places, aesthetic importance, etc., due to the intended project. Thus, it is not difficult to understand that the project would not bring about much destruction as it is the extension of the already existing traditional irrigation to modern one.

In case any such event will happen, the intention of the people is that there would be no claim by landholders for compensation against damage to their plots and properties. Thus, it is possible to conclude that they would not be any claim for compensation for any effects that the project would bring during project structure construction.

Hence, the project owner will have no difficulty in settlement of likely claim that would arise in the future. This will ensure smooth relationship with the community, and maximize the degree of normal operation and sustainability of the project.

Generally the beneficiary communities of the scheme are formerly remain on their plots of land and every one of them know the exact hectare and there will not be the possibility of relocation of individuals from their previous plots of land as the structures below the head work are remain functional with minor maintainaces.

Consideration of and working towards all these issues would induce responsibility on the part of the community in protecting and ensuring the security of this scheme using their accumulated old tradition and existing administrative structures in the future. The willingness of the community to support every aspect of the project has been observed during consultation with them and representatives of administrative officials form worreda.

9. Benefits of the Project to the target Community

Though the productivity level of the current traditionally developed irrigation land is so less, because of very small holdings, low input and low output, irrigation remain the only livelihood base of the user communities on the existing plot of land they posses , and if the modern irrigation scheme come true, the weir site level will be raised, to catch more volume of water and a greater area of land will be developed so it allows more farmers will be benefitted from the intended new project. The project is, therefore, very important to exploit opportunity to augment output per unit of land and the amount of annual production from the existing fixed plot of land by enabling production at least twice and/or three times per year from the same plot of crop land.

The irrigation project would possibly induce intensive use of small land for both crop and livestock pasture production.

Provided that road infrastructure will be constructed during the scheme development, the project may have multiple or triple benefits in terms of providing sufficient or surplus food to previously food insecure direct consumers and attract different traders who may buy in bulk and re-sell the products on retail at the local and distant markets. Different farm inputs suppliers are also likely to be benefited due to increased cycle of production under this project.

During and following the project implementation, necessary infrastructures and government institutions will be established and necessary employees will be deployed to the area to deliver their respective professional knowledge/skill to the needy communities, like (Human and Animal health technicians, Development agents).

Currently farmers of the areas are switched their production from vegetables and fruits production like (Tomato, Onion, Cabbage, Potato, Papaya, Banana) to more permanent crops like(Sugar cane, Chat, Coffee)and others because of lack of market & their bulk production and their perishable nature with in short period of time in such remote and isolated areas . And now due to this project, it is hoped that infrastructure facility will be improved and producers get more traders will come to the area and take their produce at right time and with reasonable price.

The beneficiaries will have shifted from once a year (rainy season) to two and three harvests and labor use efficiency will be improved due to irrigation and so per capita income of the typical household will be increased.

Crop residues, vegetable and fruits by products as well as sugar cane tops will be fed to different livestock which is helpful in finishing livestock for market in a shorter period of time possible, which fuel HH income.

The existing traditional water users associations will be organized formally and empowered in order to improve the performance of SSI schemes; simultaneously, cooperatives establishment will be encouraged and empowered in order to solve the current marketing constraints of members. In this regard, the currently non-existent agricultural extension service should be improved and include market information and organize agri-business trainings.

Generally as stipulated in proclamation No 56/2012 of Oromia Regional Government, Rural land Administration and use(Article-8) minimum farm land plot size per farm HH, excluding existing holding is fixed to 0.5 ha for cereals and 0.25 for perennial crops. Accordingly the Wagur small scale irrigation gross command area is estimated to be 279.2 and surveyed irrigable net command area is about 60 ha and this can benefit 120 HHs when estimated to allocate 0.5 ha for each family head and 240 HHs at 0.25 ha estimate for each HH head. Therefore, the project can feed (240*6.6 average family size) about 1584 families.

10 .Duties and Responsibilities of Stakeholders

Like any other development interventions, various parties are expected to be involved in the irrigation projects from the design stage up to the full operation of the schemes. However, the primary responsibility of implementation and operation of irrigation projects will on institutions working at Regional, Zonal, Woreda and kebele levels as well as communities targeted to be served. They will form multi-disciplinary Woreda irrigation Teams for implementation as The following Table illustrates institutions to be involved and their roles and responsibilities at Zonal/ woreda levels.

Matrix Table1: Summaries of Roles of Stakeholders and Institutions (at their different levels)

No	Name of the institutions	Their Responsibilities
1	Political Administration Offices at different level	§ Coordination and supervision of line offices, § Farmers Mobilization & Law enforcement § Securing the necessary budget/fund for the O&M support.
2	Zone / **Woreda** Trade and market development Offices	§ Coordinate agricultural marketing improvement programs; § Establish agricultural marketing councils § Undertake studies on market change related with product prices § Information collection and dissemination
3	**Administration** with Kebele Administration	§ Coordination and community mobilization enforcement of the by-law. § Ensure security and maintain peace within its boundary, § Coordinate different key development activities § Support the activities and efforts of different sector offices
4	Cooperative promotion commission Office	§ Establishment and development of cooperatives as per the regulation § Services such as credit and marketing § Awareness creation, organizing, training and promotion of the cooperatives and follows up. § Supports irrigation cooperatives § Provision of agricultural input supplies through credit in collaboration with Agricultural and natural resource protection Office
5	Oromia Irrigation Development Authority	§ coordination and close supervision of the project implementation ; § transfer of the scheme to the beneficiaries and

		§ Coordination of the stake holders during irrigation project implementation stage; § Training of irrigation water user farmers on water management, i.e., Operation & maintenance ;
		§ Enforcement of water related regulations;
		· Land distribution and registration in collaboration with Kebele Administration
		§ Back up operation and maintenance of irrigation scheme intensive activities; backstop services like follow up and guidance
		Primarily responsible for monitoring and evaluation; including facilitation of participators M&E
6	Zone/ Woreda Agricultural and Natural Resource protection /Offices	·Provide agricultural extension services, coordination of input supplies, facilitation of credit service and marketing, selection and utilization of agricultural technologies, and strengthening the capacity of farmers
	Trade and market development Offices	§ Coordinate agricultural marketing improvement programs ;
		§ Establishing agricultural marketing councils with full involvement of major stakeholders and sectors involved in agricultural marketing activities
		§ Undertake studies on market change related with product prices
7		§ Information collection and dissemination
8	Cooperative Promotion Commission	▪ Establishment and development of Cooperatives as per the Regulation ▪ Services such as credit and marketing ▪ Awareness creation, organizing, training and promotion of the cooperatives and follows up. ▪ Supports irrigation cooperatives ▪ Provision of agricultural input supplies through credit in collaboration with Agricultural and natural resource protection Office
9	Zone Woreda Women's' Desk	☐Assists in monitoring gender balance within the district RSWW program
10	Religious Institutions	Assists in coordinating communities affairs, especially concerning religious matters
11	Water Users and Sanitation Committee	▪ Represent the water user community in all matters; facilitate and coordinate all irrigation management related activities at the levels of kebeles; ▪ Elect members to the general Assembly.

12	The Water Users Committee & Individuals	☐Coordinate water users; protect scheme; established (WUA) Individual(as for operation and maintenance) will be recruited among them

11. Capacity Building

The sustainability of irrigation schemes depends on the capability of the organizations responsible for operation and maintenance of the systems. The management, operation and maintenance of irrigation schemes require strong and effective organizations. Therefore, for effective and efficient irrigation service provision, stakeholders involved in irrigation scheme management and operation should have an adequate number of specialized professionals at all levels of the service delivery and management. In this regard the major strategy for capacitating human resource knowledge and skills are pre-service and in-service training.

To enhance the implementing capacity of the government institutions to be involved in irrigation implementation, there is urgent and essential need for imparting training to all those who are involved in irrigation management systems to achieve the sustainability and good performance of irrigation scheme. These include the following:

(i) **Irrigation Engineers**: including other supporting staffs that are responsible for activities related to the planning, design, implementation and operation.
(ii) **Agricultural Experts**: including extension workers who are expected to provide assistances and guidance in the field of irrigated agricultural farming to the farmers.
(iii) **Irrigation Water Users**: These include the members and the officials of the Irrigation Water User Cooperative proposed to be formed for the responsibility of Tertiary level Irrigation Management. They are the representatives of the real beneficiaries, i.e., farmers.
(iv) **Farmers:** They are the beneficiaries and the important stakeholders. They are those who are going to optimize the agricultural produces with limited land and water resources.

11.1. Strengthening Government Agencies and Staff Capacity

Training has a crucial importance in the proposed organizational structure of irrigation scheme management unit. The type of training that is urgently needed is training that is suited to the specific requirement of the job, for the organizational need. The types of training proposed are similar to job enhancement trainings to perform preventive maintenance, small and medium maintenance, engineering, agronomic and the like related to their specific jobs. Another example of training need can be enhanced training programmes geared to the new job definition and job

description in the organization. This would give the opportunity to advance skills on-the-job. In summary training programmes should have to be designed to achieve goals that meet particular institutional needs. Hence, goals and objectives are crucial in determining the training environment and unless they are specified there are no means of measuring success.

The major project staffs that require skill upgrading training and experience transfer are those who are responsible for the overall management of the project, operation staff and maintenance staff. It may be noted that while training for irrigation aspects are required to concentrate on the:

- Engineering aspect of irrigation;
- Crop, soil land characteristics;
- Crop water requirement;
- Irrigation scheduling ;
- Water management and methods of irrigation.

These items are common to all groups as they are very basic, especially in large scale irrigation farming.

11.2. Developing Farmers' Capacities(Training)

This will include training and educating local representatives in the management, operation, and maintenance of irrigation systems, proper water usage, and other related matters. For capacitating the community, the training coordinator, in coordination with other stakeholders, will organize on–the– job trainings, workshops, seminars, and visits. Building local people's capacity for operation and management is given a high priority because it is one of the activities most likely to enhance sustainability and effectiveness of irrigation systems.

Training methodologies should focus on learning by doing. Therefore, on the job training and participating local representatives in the operation and maintenance of the scheme before transferring the scheme to IWUAs is highly recommended. The training should be in the local language, appropriate for different age, gender and class groups and the prevailing level of literacy. The training areas to be provided include, but not limited to:

- Community management structures and their roles (management boards, general assembly, water service providers)
- Constitution and bye-laws for governing the use of irrigation systems

- Members' rights
- Participatory decision-making
- Accountability of leaders
- Transparency in financial management
- Setting development goals and objectives
- Planning and budgeting skills including setting of water charges
- Leadership/management skills
- Monitoring and evaluation mechanisms
- Record keeping and accounting procedure
- Financial management skills
- Community conflict resolution skills and mechanisms
- Negotiation skills, contract with private sectors, with suppliers of inputs, buyers of their produces and with extension agents
- Procurement and marketing strategies

12. Monitoring and Evaluation

The Project can be defined as "a temporary endeavor undertaken to create a unique product or service. *Temporary* means that every project has a definite end. *Unique* means that the product or service is different in some distinguishing way from all similar products or services." Projects differ in size, scope cost and time, but all have the following characteristics (M&E,2017):

- A start and a finish time(period)
- A life cycle involving a series of phases in between the beginning and end
- A budget
- A set of activities which are sequential, unique and non-repetitive
- Use of resources which may require coordinating

  Centralized responsibilities for management and implementation and has Defined roles and relationships for participants in the project

Project management has the task of establishing sufficient controls over a project to ensure that it stays on track towards the achievement of its objectives. This is done by monitoring (internal), which is the systematic and continuous collection, analysis and use of information for management control and decision-making.

In this instance implementation is seen as a continuous learning process where experience gathered is analyzed and fed back into planning and updated implementation approaches.

Project monitoring is an integral part of day-to-day management. It provides information by which management can identify and solve implementation problems, and assess progress. (M&E, 2017).

Evaluation is an assessment, as systematic and objective as possible, of an ongoing or completed project, program or policy, its design, implementation and Results. The aim is to determine the relevance and fulfillment of objectives, developmental efficiency, effectiveness, impact and sustainability. An evaluation should provide information that is credible and useful, enabling the incorporation of lessons learned into the decision-making process of both recipients and donors.

Managing for impact is only possible if you have reliable information about the progress of activities and their outcomes, the reasons for success and failure, and the context in which activities are taking place. This information is the output of your M&E process. Analyzing this

information with key stakeholders can support good decisions that improve the intended irrigation project.

When you manage for impact, project design, annual planning and M&E become linked processes. Developing M&E therefore starts long before start-up. Initial project design strongly influences the ease with which M&E is implemented later on through, for example:

- The relationship and commitment established with partner and local people, particularly the intended primary stakeholders in our case the beneficiary smallholder farmers;
- The logic and feasibility of the project strategy;
- The resources allocated to M&E findings to have a steering function;
- Any operational details of M&E that might be established during initial design.

During project formulation, a broad M&E framework provides three essential elements:

a) sufficient detail to enable budgeting and allocation of technical expertise,

b) an overview of how M&E will be under taken, and

c) some guidance for project staff about how M&E should be set up in the start up

12.1 Linking M&E with Stakeholder Participation

The project M&E should be participatory in that its operation is intended not only to meet accountability requirements of the government or financing institution, but is a shared responsibility, providing a common resource for information gathering, exchange, communication, and mutual learning for all stakeholders. Important here is building consensus and ownership of the system, and empowerment of project stakeholders, including any disadvantaged groups, in tracking progress, articulating their own understanding of project results, and drawing conclusions on needed actions of the beneficiary target communities. In this regards the following points are worth mentioned during M&E of projects including irrigation projects:

- Priority needs to be given to baseline data collection and analysis early in project life, focused on variables that permit analysis of project outcomes. That is, implementation planning requirements especially situation analyses, detailed information of target groups and their priorities, and documenting of important bio-physical and socio-economic parameters of the project area, may also be necessary at project start-up, especially

where project preparation had not been sufficiently thorough. This should not however be confused with baseline surveys undertaken for impact assessment purposes

- A set of component-specific performance indicators for the entire results chain - distinguishing between input, output and outcome indicators, to measure success or failure towards achieving each component's results. As part of the participatory approach, several iterations, involving a series of stakeholder consultations may be necessary to agree on the indicators. Precise targets, especially quantitative ones, and timelines may have to be decided only at time of project inception or during implementation, in conjunction with annual work planning.
- M&E is not to be considered an obligation imposed from outside, but must be seen as a tool for project management, hence building project management understanding and capacity of the role of M&E at the earliest in project life is highly recommended. Given that human resource capacity, in particular at field level, are often inadequate to implement complex M&E systems, proposals for enhancing project M&E should follow the concepts of simplicity, adequacy and cost effectiveness.

Conclusion and Suggested Policy Options

- Considerable improvements shall be in place to increase the value of SSI like(market linkages, post harvest extension practices) and other aspects of livelihoods, which may provide wider benefits to the beneficiary smallholder farmers
- Provided that this project came to effect in the area, through this modern SSI, enable farmers to increase production through intensification(two or three harvest/year); Improve households nutrition, and livelihoods, through diversification and raise their income, through commercialization(by growing and selling cash crops).
- As observed during the socio-economic survey of this particular study, the communities of the areas, despite their wealth of traditional irrigation experiences, and social capital they accumulated, currently they suffer of poorly developed road infrastructure, experiencing unreliable rain fall and suffers from deteriorating and fragmented land and soil resources. Population growth is rapid and pressure on land and natural resources is growing. Therefore, launching and implementing irrigation development in the area is one of the priority to bring the communities to food self-sufficient and save the natural resources from additional degradation.
- At regional level OANRB is responsible any irrigation development endeavor in mobilizing the other relevant sector stakeholders, although this structure is in the process of reorganization in the time of this report writing.
- Decentralization of many authorities and services to district level may be important for one stop shopping of any relevant development services at the nearest proximity, but it may expose a wide ranges of issues in relation to allocating enough resources, staffing and limited technical capacity of the experts which may take time to bring to track as needed.
- A set of component-specific performance indicators for the entire results chain - distinguishing between input, output and outcome indicators, to measure success or failure towards achieving each component's results. As part of the participatory approach, several issues, involving a series of stakeholder consultations may be necessary to agree on the indicators. Precise targets, especially quantitative ones, and timelines may have to be decided only at time of project inception or during implementation, in conjunction with annual work planning.

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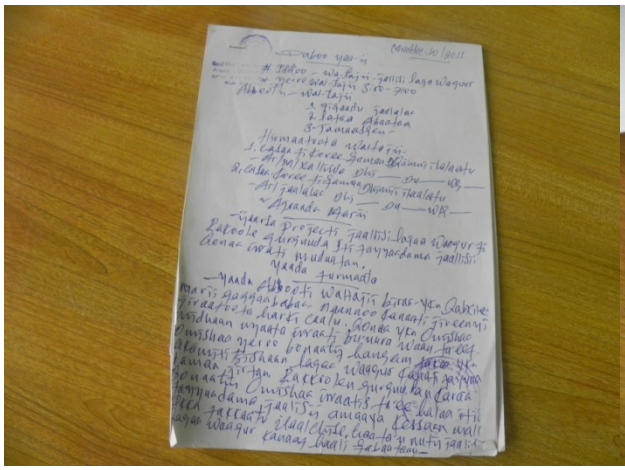
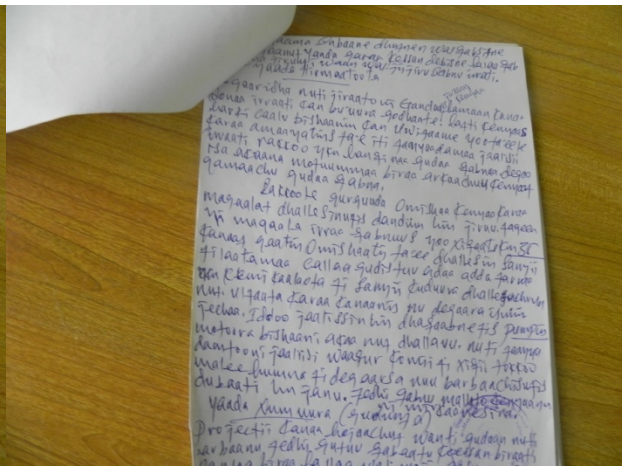
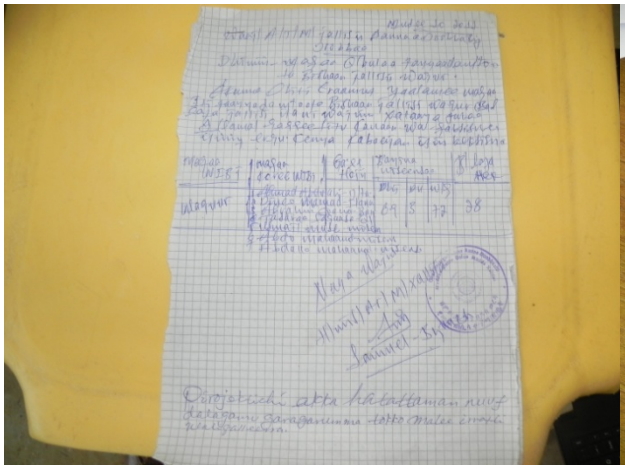
Annex1

Community Consultation Minute







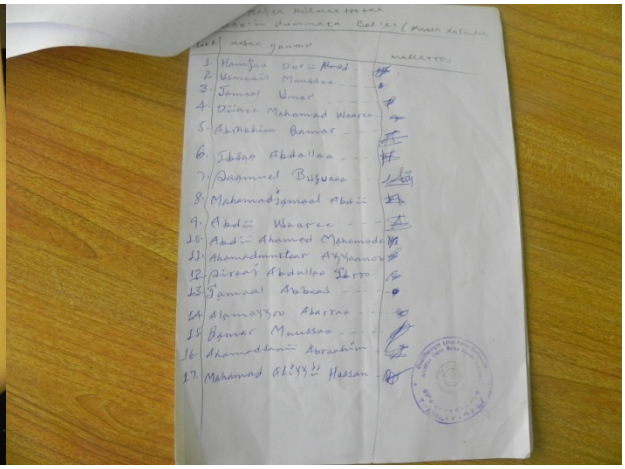
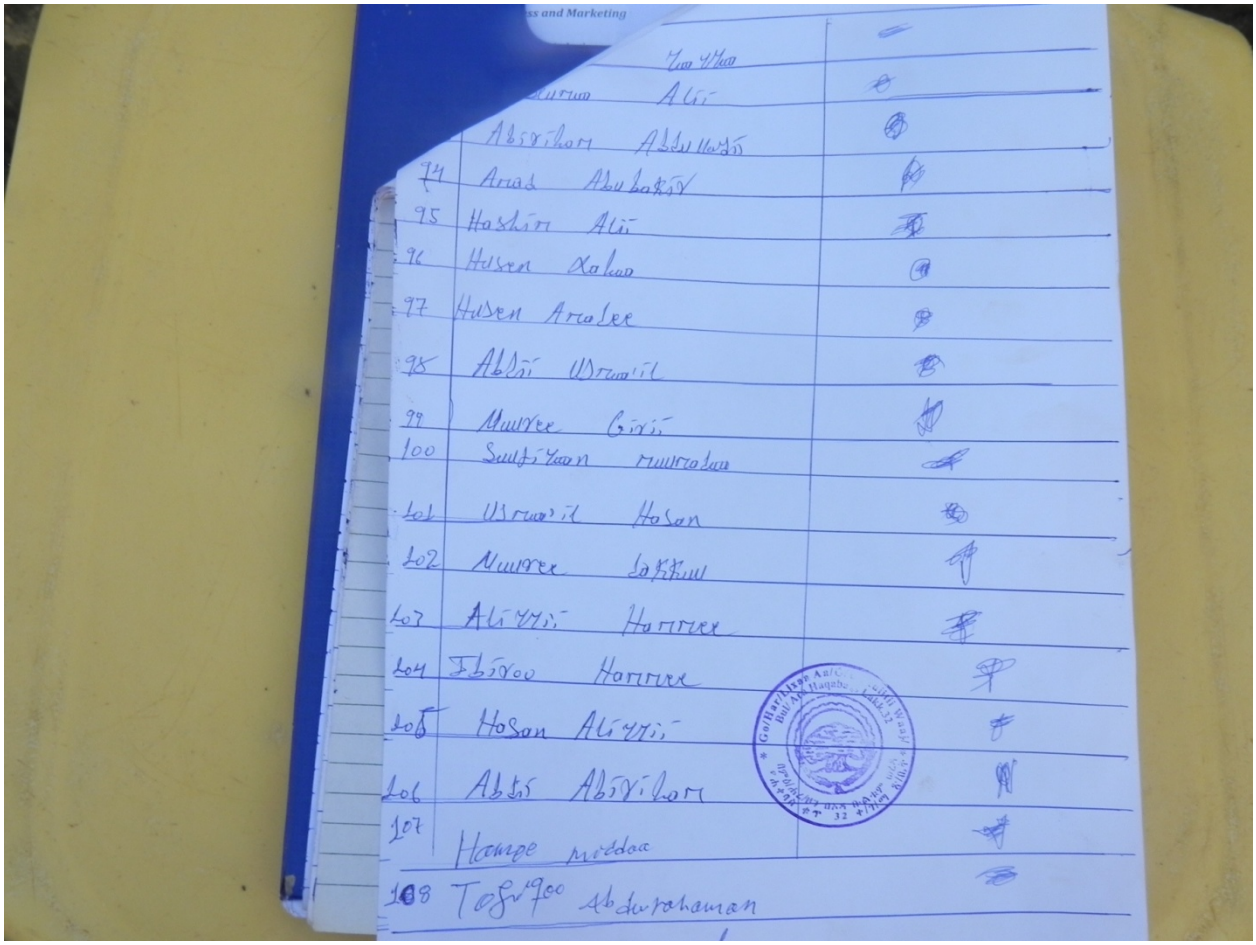


Fig. Previous Irrigation Structures below the Head work


ss and Marketing
Ali
74 Amad Abubakar
95 Hashim Ali
96 Hussen Kalwo
97 Hussen Arolee
98 Abdi Usmail
99 Muuree Giri
100 Sultiyan muuroloo
101 Usmail Hasan
102 Muuree Sayyum
103 Aliyyi Hammee
104 Ibiroo Hammee
105 Hasan Aliyyi
106 Abdi Abirilam
107 Hampe moddaa
108 Tofa900 Abdurahaman

Annex2

Lists of Traditional IWUA of Mada Gurra Erbe project

S.No	Name	Responsiblity	Telephone #
1	Fuad Abibeker	Chair man ”Aba Laga”	0963-319170
2	Hasan Mamud	Vice Chair man	
3	Hasan Mahammad	Secretary	
4	Mohammad Jibril	Member	
5	Shaguu Usman	Member	
6	Mumad Ta’aa	Member	
7	Mada Qado	Member	

ANNEX3

Table: Zonal & District Level personnel’s (Officials) Who witnesses well the Socio-economic (O&M) Study

S.No	Name	Responsibility	Telephone #
1	Ahamad Abubeker	Zonal Administrative officer	0913876347
1	Mohammad Umar	Chief District Administrator	0920899790
2	Hasan Mohammad	District Irrigation office	0912462590
3	Nasiro Adam	Haq-bas kebele vice Chair	0962510241
4	Mekonnen Sileshi	DA-Supervisor	0973247450
5	Girma Dadhi	Project Contact person	0934046972
6	Abush Minda	Woreda irrigation expert	0961604454
7	Fuad Abibeker	Chair person of WUA	0963319170