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ABBREVIATIONS AND ACRONYM

BoANR	Bureau of Agricultural and Natural Resource
CPB:	Cooperative Promotion Bureau
DA:	Development Agent
EPLUA:	Environmental Protection and Land Use Authority
FC:	Field Canal
I&D:	Irrigation & Drainage
IMO:	Irrigation Management Organization
IWRM	Integrated Water Resource Management
IWUA:	Irrigation Water Users' Associations
JICA	Japan International Cooperation Agency
KA	Kebele Administration
MOM:	Management, Operation and Maintenance
MoWRIE	Ministry of Water Resources Irrigation &Electricity
OIDA	Oromia Irrigation _ Authority
QC:	Quaternary Canal
SC	Secondary canal
TC	Tertiary Canal

Chapter 1: INTRODUCTION

1.1. Background

Irrigation promotes sustainable economy growth of a nation and plays a significant role in poverty reduction through enhancing the productivity and profitability of an appropriate agriculture. The importance of irrigation has been increasingly recognized as one of the strategies to enhance food-self-sufficiency and promote economic development of the country.

In most cases, weaknesses in the organization and management are 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 fulfillment of this condition relies on the strength, ability and commitment of the irrigation management organizations 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 Lower ----------0-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 works.

Finally, the study come up with institutional arrangement and organizational structures, suitable management methods and training programs, which are determinant factors for sustainable management and good performance of the Irrigation scheme.

1.2. Objective of the Study

The aim of Hidha-Sombo Small Irrigation Project institutional arrangement study is to come up with appropriate institutional set- up for the implementation of appropriate organizational structure, suitable management methods and adequate services for sustainable and good irrigation schemes performance.

The Specific objectives of the study are:

- to propose appropriate organizational structure, suitable management and adequate services,;
- To develop, functions and capacity requirements of the units that will be responsible to coordinate and undertake activities pertaining to scheme management, operation and maintenance.
- to propose roles of government institutions and the users to manage, operate and maintain the scheme.

1.3. Scope of the Study

The scope of the study is to review and define institutional and legal requirements for the ownership, governance and management of the irrigation system. The scope also has extended to assessing regional and local institutions and stakeholders to be involved in the project implementation cycle. Scope of the organization and management study includes the following major activities.

- Review, relevant existing policies, regulations, strategies and proclamation institutions relevant to irrigation scheme management.
- Develop project implementing concerned organizations and beneficiaries
- Draw up an organizational structure required to manage the project
  - Required manpower
  - Required qualification
  - Functions
- Identify training requirement.
- Produce study report that shows the required organizational arrangement and responsibility of institution in implementing and operating the project.

1.4. Methodology and Approaches

Methodologies and approaches used to conduct O&M study of _____ Irrigation Development Project include review of relevant documents and literature, field visit, interview and consultation with stakeholders. The approaches followed are presented as below:

a) Review of Legal framework and relevant resources/ literatures

Review of existing laws and policies pertaining to water resources development and management; relevant documents and literature including necessary experience at local and international levels;

b) Interviews of experts and consultation of institutions and stakeholders

Interview was conducted at a number of sector organization, management and personnel levels so that the findings would reflect the entire spectrum of existing situation of the institutions (stakeholders) to be involving in the irrigation scheme management, operations and maintenances.

c) Analysis

Information gathered have been critically analyzed to come up with an appropriate organizational structure, suitable management methods and adequate services, which ensure sustainable and good irrigation schemes performance.

Chapter 2- REVIEW OF THE LEGAL FRAME WORKS AND EXISTING SITUATION

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. These are presented in the following sub-sections.

2.1. Major applicable policies and strategies

a) Environmental policy

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 the 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 preempting 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.

a). **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 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.

According to the strategy, by establishing 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. In this regard, most of the relevant issues are taken into account in the proposed services of large- scale irrigation projects.

b) Irrigation policy

This policy explains properly the place 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:

1) Development and enhancement of small scale irrigated agriculture and grazing lands for food self-sufficiency at the household level.
2) 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.
3) 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

2.2. Legal Frame Work and Institutions

2.2.1. Pertinent 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:

b) 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 (HIC) 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.

c) 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.

e) 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. 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. *Regional Level Institutions Involving in Water Management, Watershed Development,* Land Administration and Environment

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 reflect 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.

2.3.1. Oromia Irrigation Development Authority (OIDA)

Oromia Irrigation Development Authority OIDA 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, OIDA 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, OIDA 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.

Therefore, OIDA will be responsible for the water management activities of Lower Dhidhessa Phase-IIA Irrigation Scheme (i.e. operation, maintenance and collection of water charges.

2.3.2. 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 _____ irrigation command area. In principle, the irrigated farmland 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

2.3.3. The Cooperative Promotion Commission (CPC)

The responsibility of the establishment and development of Cooperatives as per the Regulation and recommendation of this report falls under the Cooperative Promotion Commission (CPC) and its subordinate offices at Zonal and Ana 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 is therefore, responsible for awareness creation, organizing, training and promotion of the cooperatives and follows up. Therefore, CPC support is very crucial in strengthening the administrative capacity of the cooperative, especially in resource management areas. The Commission 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 _____Water Users Association and Irrigation Water Users Cooperatives as per the Regulation and recommendation of this report fall under the OIDA and Cooperative Promotion Commission (CPC) and their subordinate offices at Zonal and Ana level, respectively.

2.3.4. 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, 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.

1) Give extension services and trainings for farmers, pastoralists and investors to increase productivity of the agricultural sector, prepare favorable packages suitable for the climate condition , evaluate, cause to be implemented, lead it;

2) Facilitate, manage and follow up conditions through which agricultural inputs that assist to increase products and productivity be supplied and distributed at proper time and place with the required quantity and quality to farmers and pastoralists;

3) 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;

4) Work and lead activities which will enhance relationship among agricultural research, farmers, extension services and other beneficiaries order to make use of research outputs;
5) 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;
6) Facilitate conditions to create appropriate system of agricultural production and input supply in order to make the regional agricultural development lead by market;
7) Organize , encourage and supervise and follow –up train associations irrigation beneficiaries;
8) Carries out different programs that government prepares to bring economic growth and food security;
9) Undertake, coordinate, support, follow-up development activities related with valley development;
10) Undertake, coordinate, support and follow-up development activities of soil and water development and conservation activities.

2.3.5. 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:

1) Undertake study on market need assessment, cause market participants and stakeholders to be aware of the same;
2) 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;
3) Undertake study to identify opportunity and need on product which have wide and sustainable foreign market opportunity and effective work on its expansion;

4) 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;
5) 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;
6) 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;
7) 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.

CHAPTER 3: ASSESSMENT OF THE EXISTING SITUATION

3.1. Description of the Project study Area

3.1.1. Location

Jarso Woreda lies between **9^0 and 9^0 44'N** Latitude **42^0 AND 42^0 26** Longitude to the North East of Harar Town. It is Bordered by Dire Dawa council to the north , Cinaksen district to north eat, Gursum District to the south, Hararari Regional State to the south and Kombolcha district to the West directions. The **Woreda** has a total area of **633 Km^2** accounting for about **2.605** of the total area of East Hararge Zone. Its Capital city **Ejersa Goro** Town is located at a distance of 36km from **Harar Town** to the north direction and 588kmsfrom Addis Ababa.

3.2. Legal Framework

e) 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:

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- 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.

3.2. Institutional Situation of Irrigation Sectors

3.2.1. The irrigation development authority

The irrigation development authority is an authority responsible for the regional irrigation development activities. As stipulated in the section of organizational duties and responsibilities of the authority, activities such as provision of technical assistance, delivery of the irrigation extension services, assistance in delivery and utilization of irrigation technologies, and training fall within its jurisdiction. Therefore, it is expected that OIDA will play a major role in the implementation and operation of the Hidha-sombo_SSI Project.

However, the current staff level of the Authority is only adequate for the discharge of its routine responsibilities due to Woreda irrigation department shortage of professional mix.

Table 1: professional mix of the Woreda level staff

No	Job Title	Remark
1	Irrigation Engineer	
2	Hydraulic Engineer	
3	Water management	
4	Horticulturalist	
5	Irrigation Agronomist	
6	Extensions	

The viability of any irrigation schemes (systems) is determined by the strength of the organization involved in its coordination and management. This requires full cooperation and coordination of the institutions and the farmers combined with well trained and motivated staff. Without Sufficient number of adequately trained professional, skilled and motivated manpower they cannot deliver their mandate efficiently.

The number of extension agents assigned to each farmers association appears to be insufficient, because the farmers needing extension service program. In addition to the shortage, most of the

extension agents have a general training in agriculture, which is appropriate for the variety of duties they have to perform in rain fed areas of the project, but have no special training in irrigation techniques and practices. In general, the project area supports institutions that participate in irrigation development implementation, have limited institutional and logistics capacity to carry out their duties efficiently and effectively. Hence, it is required to undertake institutional strengthening programs that include training and motivating of staffs to be involved in the implementation and operation phases. Thus, it is also necessary to capacitate the offices in terms of provision of operating rules and regulations, the required manpower, field vehicles and adequate budget.

3.2.2. Organizational structure and Manpower

The woreda level structure has three basic teams namely, extension, study and design and agronomy and horticulture. The irrigation office has only 9 workers with educational background of Small scale irrigation technicians, extension, horticulture and agronomy and crop protection to support farmers involved in irrigation production. Major produce include, vegetables (cabbage, peppers, and tomatoes onions).

3.2.3. Coordination Problems

Irrigation project implementation at all stages or its phases requires the full involvement and participation of various institutions functioning at regional, zonal and Woreda level as well as the farmers. The full involvement and participation of all concerned institutions is decisive for the effective implementation of the project and sustainability of the irrigation scheme. This requires the full cooperation and coordination of all line offices and farmers combined with well designed coordination mechanism. The existing experience shows that there is lack of coordination effort and mechanism overlapping and duplication of functions among the institutions involving in irrigation project implementations. Identifying responsibilities of each institution may avoid the risks of overlapping and duplication of efforts. However, the best result may be achieved through effective and appropriate coordination mechanism.

3.3. Institutions and institutional services

3.3.1. Governmental Institutions

The enhancement of development activities in the grass- root levels can be determined by service providing governmental institutions and organizations. Institutional factors include various formal and informal institutions and organizations and services they provide. Accordingly, factors facilitating and enhancing the rural development include services such as extension services, credit provision, and joint planning, marketing services and market information etc.

Government institutions constitute government bodies that have various roles and responsibilities of their own. Accordingly, government bodies that could play a role during the project implementation can be listed as administration office, agriculture and cooperative promotion office, water resource mining and energy office, finance and economic development office, capacity building office, education office, health office, women's affairs office, office, rural roads authority, Trade and market development, Livestock development and health care agency.

3.3.2. NGOs and their contribution to development in the area

Some of the NGOs operating in the area include World Vision these NGOs mainly focused on crop promotion (demonstrations), irrigation, health, water supply and education. The programs are often promoted through partnerships between communities and local governments (line departments) and attempts to utilize lesson learnt from traditional institutions.

3.3.3. 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.

Each kebele has different administration units which makes easy to pass orders in hierarchy in arrangement of community work. The chain begins from Gare, development zone (zoni misoma), 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. 4. Traditional Irrigation Schemes and Existing Irrigation Practices

Traditional irrigation schemes are generally range from micro scale to small scale and based on sprigs and diversion of small stream structures, which are constructed by farmers by utilizing mud, rocks, twigs or mixtures of these. The structures are generally washed away by seasonal floods and required maintenance or reconstruction frequently.

The beneficiaries of the Hidha-Sombo SSI Project area farmers have organized themselves into associations led by elected leaders. Traditional irrigation schemes of Hidha-Sombo SSI Project is operated and managed by the traditional associations. The schemeis built, operated and maintained with the full participation of the beneficiaries, because of this, they appear to be more sustainable.

3.5. Local Level systems (Kebele Administration and water committees)

Local Level systems include Kebele Administration and water committees from the first level in the regional irrigation development project organizations.

a) Kebele Administration

The top governing body of each kebele is the council that is made up of some ____ selected members. Next comes the executive committee that is constituted of selected members. The duty

and responsibility of the kebele administration committee revolve around: public administration, security, tax collection, and settlement of different disputes, protection of public property etc. and coordinating of various development activities.

b) Water Committee

The community level institutions in the irrigation development projects are water committee, who are volunteers selected by community members to serve them. The committee is the grass root level operating arms, responsible to manage and supervise distribution of water and organize maintenance works, monitoring of day to day operations and general conditions of the irrigation schemes and its surroundings.

3.6. Gender Relation and General Situation of Women

Women who found in the study area, like all other rural women of the country, are performing all types of jobs starting from household chores to marketing of commodities. These activities include child rearing, cooking, fetching water and collecting of fuel wood and participating in various social obligations. Women contribute in irrigated agriculture both as farm laborer (family or hired) and as farm decision maker and land owners (IWMI). Women's activities are limited around home caring for livestock and caring for the family. Particularly in irrigated vegetable production, women tend to lay a more active role like weeding, transplanting and harvesting.

The overall irrigated land use system, will contribute to the increment of production and productivity of the HHs. Moreover, switching to irrigated crops, the majority of which are vegetables grown for sale, is likely to result in some reorientation in the control of income between household members. For example, studies of(IWMI, 2010), indicates that vegetable growers are better off in terms of poverty situation implying that irrigation project planners should consider the crop mix in future irrigation development plans. This can provide equal opportunity for both men and women in terms of employment and access and control over resources. In summary, improvement of women's access to development benefit and extension services must be within the analysis of women and men participation in the agricultural production processes along two related dimensions: the role in agriculture and the role in the household Jiggins *et al.,* 2009). This calls for taking measures at farm level to enhance women participation in WUA, land rights, decision making and management.

Chapter 4: COMMUNITY ATTITUDE AND ACCEPTANCE OF THE PROJECT

If the construction of the Small scale irrigation is not accepted and supported by the community, 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

The communities nearby/around the envisaged irrigation development site are sedentary agricultural people producing food crops using rain-fed method. Moreover, those communities in the specific command area have also experience of using traditional irrigation by spring water at the envisaged command area; and they are still eager to use modern irrigation.

The project site receives rainfall, which is enough to support crop production for one season in the year. If modern irrigation water is made available, area of land to be under irrigation would rise. Subsequently, household income would be increased and contribute to improved food security.

4.1. Community attitude

As survey prevails, the farmers in the area have positive attitude towards the implementation of the project. The rationale behind the interest of the local farmers is the prevailing situation of farming in terms of rainfall distribution, soil fertility, pests etc which has constrained crop and livestock production. Therefore, farmers believed that irrigation development could tackle some of the problems and thereby increase production, productivity and income. Currently, there are4 sub-water committees led by ***Aba-Malqas*** serving for the command area villages' beneficiaries. The committees are working in agreement by scheduling water allocation for upstream and command area as well as for downstream livestock drinking purpose.

4.1.2. Administration Bodies

The local authorities are positive on the project idea and enthusiastic to be involved and participate in its implementation. The authorities of Kebele administration and woreda are also expressed their commitment and willingness to co-ordinate all matters related to the project implementation.

Furthermore, the authorities expressed their capability to handle any conflict that could arise in the process of project implementations. However, coordinating the activities of irrigation project construction requires strong commitment from the local administration and project authority.

Kebele Leaders-Leaders of the Badhas Kebele have organized the community gathering in order to explain about the intended project. During the community consultation meeting, they have expressed their interest and willingness for the realization of the project by promising to contribute all needed.

District Administrative Officials- The administration council of Jarso woreda also considers the project as a sustainable development opportunity to reduce poverty among the rural communities. During the session of community consultation, they told the people to cooperate in the whole process of the project. Which indicate that their need is also the same to that of the Peasant Association leaders i.e. to see the implementation of the project?

Others:-During the community consultation meeting, members of the PA (those who wouldn't be beneficiaries) as well as upstream traditional irrigation users expressed their wish for the project and no negative attitude is heard or observed from them.

4.2. Community Commitment

Compensation:-During the community consulting meeting, it was under stood and agreed by all not to demand compensation for the path of the canal and all other works done on this project. Beneficiaries showed their agreement on a meeting held to create awareness to participate wherever the work of the project demands for their support. In addition to this, they came to a common decision to:-

1. Use commonly the irrigable command area as a whole.
2. Share land as stated by law and /or the existing social norms.
3. Participate in soil and water conservation.
4. Contribute 10% of the project cost.

N.B. all the necessary documents are attached

During the consultation and awareness meeting the issue of scheme cost recovery, was raised to the beneficiaries. However, the opinion of the beneficiaries was that "it is not the right time for

them to deicide and agrees ahead for the scheme cost recovery". However, later on after the realization of the project they may re-consider the issue.

4.3. Forms of Participation

One strategy for increasing the beneficiaries' stake in the scheme has been through their contribution of free labour and local materials to civil works and conservation activities. Accordingly, it was agreed that all unskilled labour required for construction would be met by free contribution from the users. Users would also contribute all naturally occurring materials required for construction. The community consultation meeting minutes and signed list of participants is attached at the annex of this document.

4.4. Estimated Number of Beneficiaries

The total number of beneficiaries attended the community consultation meeting and put their signature were 73 (seventy-three). However, by assuming the irrigable command area of 100 120 300- Beneficiaries hectares and 182 (Jarso)--400 Beneficiaries by assuming to allocate 0.25ha for one person a total number of 400 farmers would benefit from the project.

4.5. The Irrigation Water Users Committee

Water users organizations are vital associations organized to manage irrigation system and are seen to be the cornerstone of scheme ownership and sustainability. On 4/04/2011__ E.C. meeting was held with the beneficiaries in the project area. The purpose of the meeting was to discuss about the design of irrigation project on Hidha-Sombo Rive/Spring as well as establishment of the scheme users committee. Accordingly, seven individuals were elected as water committee. The selected persons are Obbo 1) Mohammed Hassen (chairman), 2)Abdo Muhammad_ member)(Vice chairman 3)Muhammad Guyyo- member 4) Muktar Muhammad (member) and 5) Hassen Amme (Secretary)6) Adem Ahmed (treasury) and 7) Shemsi Muhammad (member). Summarized discussion points of the day with list of beneficiaries and selected committee is attached to this document.

Chap.5: PRINCIPLES AND BASIS OF THE PROPOSED PROJECT

5.1. Basis and Principles

5.2.1. The Legal Framework

The law provides framework for mixed control or jointly management systems of institutional arrangement. The mixed control or jointly management mode of large-scale irrigation schemes management has got acceptance in Ethiopia. The fact is explained as follows.

b) Establishment of Water Users Associations (WUAs)

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. 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. 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.

5.2.2. Agricultural Extension and Related Services

In order to increase production per unit area and scale- up the technologies and good practices, farmers have to be supported by improved technologies and farming practices. Accordingly, important farm level services are discussed and presented in the following sub topics:

a) Irrigation practices improvement

Agricultural extension is one of the supporting services which mean that it is the transfer of new improved technologies from the research centers to the users or farmers to make them beneficiary of the disseminated technologies Of the three most important field activities of irrigation management - water distribution, system maintenance and irrigation extension are likely to presume greatest relative importance in the early stages of a project. For this reasons, the extension service need to be adequate in quantity as well as quality to properly respond to the need

of the farmers at the level and time required. Therefore, sufficient number of extension workers, qualified in all aspects of irrigation, agronomy marketing and cooperatives has to be assigned to irrigation schemes as required.

5.2.3. Land Preparation (On-farm Land Development)

The introduction of suitable irrigation methods is an important point that is intimately related to the need for appropriate land development work (usually grading), and land preparation. In the project area where mixed farming is practiced, for land preparation, the farming communities use oxen plowing and hand hoeing for cultivation.

Frequently, in irrigation development project on-farm development work is left to the farmers' initiative and his own responsibility. However, on-farm development i.e., land preparation work is not attractive to the farmers, because it is usually expensive that require financial and technical assistance. Therefore, in order to make this operation attractive to farmers, it is imperative that some sizeable incentive should be offered.

5.2.4. The Operation & Maintenance of Tertiary Canal System

Since operation and maintenance of the tertiary and quaternary canal system i.e., micro level systems is the responsibility of the users of irrigation water, farmers must finance most of the irrigation improvement works themselves and, where possible, participate in actual execution of the work. In this regard technical assistance is desirable for this purpose from the support of institutions.

Chap.6: PROPOSED INSTITUTIONAL ARRANGEMENT

6.1. Establishing of WUAs on the hydraulic boundary of secondary canals levels

The IWUA s shall be established as a self-governing none profit legal entities in accordance to the proclamation of Irrigation water users associations by the Ministry of Water resources. Each IWUA will take over the responsibility of irrigation management downstream of its water supply points meaning the points of canal or reservoir to which the MSO will deliver water to the IWUAs. Since the tertiary or on farm system composed of pipes and hydrants, the service area of each IWUA is defined as the land to be irrigated by the tertiary or on farm systems under its responsibility. The service area will be divided into units on the basis of the layout of the secondary and tertiary pies or canals.

6. 2. Principles and Steps for organizing new IWUAs

a) Principles

In order to facilitate the establishment of the required WUAs, based on secondary canal, division farmers in each secondary canal should be organized into a Water User Associations (WUAs). The water users groups to be formed at outlet, tertiary, secondary levels will be responsible for the water management activities of their respective blocks, division and field level.

The WUA that should be established at the command area of the secondary canal will be responsible for management, operation and maintenance of the whole command area of the concerned secondary canal infrastructure- water distribution and system maintenance; assessment and collection of water charges. The WUA formation procedure at canal levels, tasks, bodies, responsibilities and by-law are presented in Annex c.

b) Steps for organizing new IWUA

As any other association, the organizing of new WUA should pass through series of activities. Organizing new WUA is an activity of establishing new Water User Association (WUA) in accordance with agricultural water user association proclamation of the Federal Ministry of Water, Irrigation and Energy and also in accordance with Oromia Irrigation Development Authority (OIDA) No 180/2005. Therefore, based on the scale of irrigation scheme (small, medium and

large-scale) and felt needs of beneficiary communities new WUA can be established and registered under the new cooperative act.

The new Water User Association (WUA) will be established in the study and detail design stage or before the hand-over of new implemented modern and traditional irrigation schemes. Here are some of the activities to be performed in organizing new WUA. Therefore, OIDA or the concerned body organize a series of meetings with the members of the future IWUAs in order to finalize the draft documents indicated above to:

- prepare the organization of the founding committee
- announces the date of the founding meeting of the IWUA which will adopt the name ,
- list of members, the by-law the draft budget, work plan of the IWUAs and elect the members of the provisional management committee and other elected officers of IWUAs.

The provisional management committee submits to OIDA for registration of IWUA the following documents:

- The minute of the founding meeting
- The by-law of IWUA ;
- The plan of the proposed services area and the location of units;
- The list of members including the signature and date of each member together with land holding and land certificate number;
- The budget and work plan for operation year -1

The authority registers the WUAs and issues a certificate of registration within 15 days if it approves the documents in the above step. At the process of registration provisional management committee and other elected officers shall acquire the formal status of management committee and officials. If the authority rejects the application of WUA registration, it shall give a written explanation for management committee within 15 days.

a) Outlet level

The primary or the lowest level of organization will be at outlet level. All the beneficiaries, i.e. the farmers whose land falls under the command of quaternary canals will become members of the general assembly at outlet. The general assembly will elect executive committee

comprising of five to seven members, which will manage the day-to-day affairs of the system. The general body will also elect two members to represent the outlet committee at the higher levels – one at tertiary canal and the other at secondary canal level.

b) Tertiary canal level

All the elected members from the different outlets in the command area of each tertiary canal of the scheme will form a general body of the tertiary level committee of the concerned scheme. The general body of the tertiary level committee will elect executive committee comprising of three to five members. This committee will manage the day-to-day work for the tertiary canal as outlet committee does for the quaternary canal. This will be responsible for resolving disputes out among farmers of different out lets.

c) Secondary canal level

A secondary canal level group, if any, will be constituted with elected members from all outlets level representatives. At these level water users associations (WUAs) will be formed. All the elected members from the different outlets in the command of the scheme will form a general body of water user association. The general body will elect an executive committee comprising of 5 to 7 members to manage the day-to-day affairs. This will be responsible for resolving disputes out among farmers of different tertiary canals in other words, water users' associations (WUAs) having responsibility for the operation and maintenance of the secondary canal irrigation systems level will be formed to operate within each secondary canal irrigation command area. Organizational structure for typical WUA is presented in Figure 1.

6.3. Responsibilities and Tasks of IWUAs

6.3.1. 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.

6.4. 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; the Dispute Resolution Committee is optional

6.4.1. 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 Management Committee
- Employees
- 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.

6.4.2. Control Committee

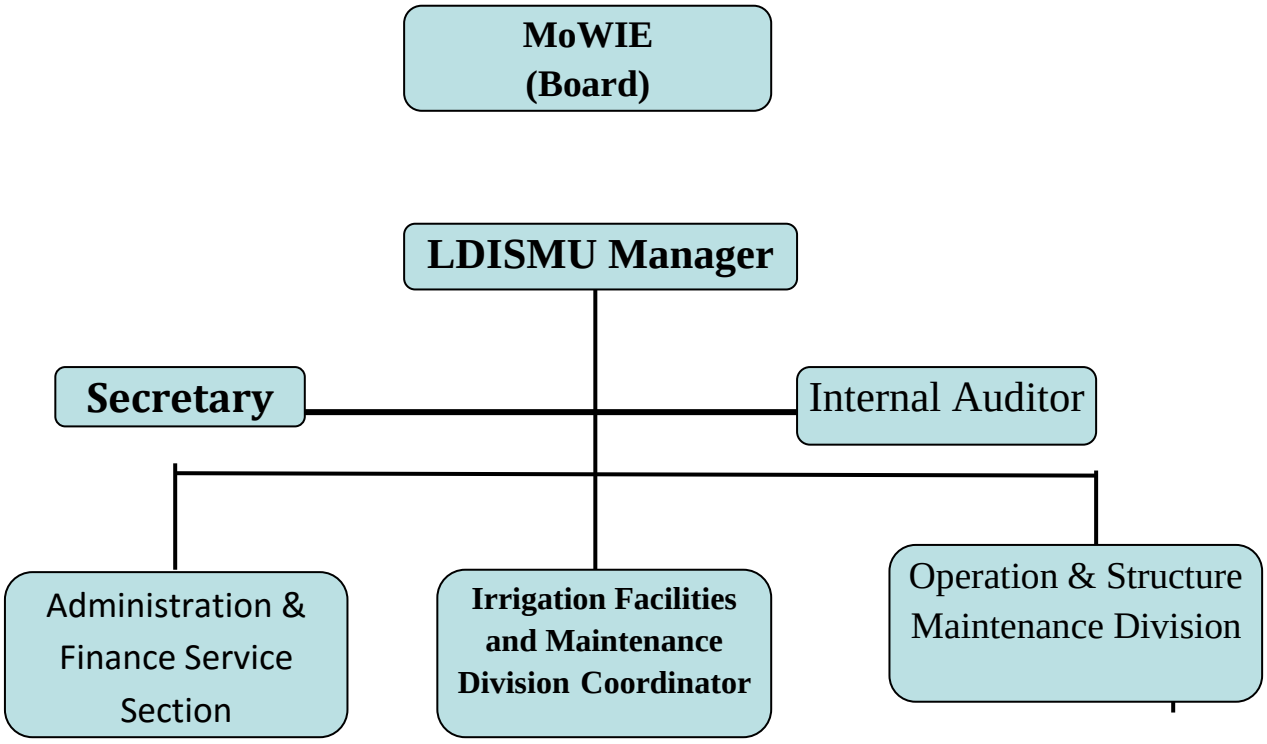
The Control Committee (3-5 persons) is elected by the General Assembly. Its tasks are to monitor the financial performance of the IWUA and to report back to General Assembly meetings. The purpose of the Control Committee is to create an internal financial control system for each IWUA such that IWUA members 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.

6.4.3. Dispute Resolution Committee (optional)

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.

Figure 1: Organizational Structure of Irrigation Water Users

Figure 2: Organizational Structure for LDDISMU



6.2. Organizational structure for Lower Dhidhessa Phase-A II-Digga Farm Level Irrigation Scheme Operation (Irrigation development) Unit

6.5. Employees 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 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 2: 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	>> >>	
	Total		
II	Quarterly canal level		
	QC O& M Technician/Forman	>> >>	

6.6. 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.

6.7. 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.

6.8. 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

No	Name of the institutions	Their Responsibilities
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
7	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
		§ 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

7.9. Establishment of Coordination Committee

Irrigation project implementation at all stages or its phases requires the full involvement and participation of various institutions functioning at federal level steering committee, Regional, Zonal and Woreda levels and the farmers. This requires the full cooperation and coordination of all line offices and farmers combined with well designed coordination mechanism. The members of the coordinating committee will be represented from the following Institutions.

a) Woreda Administration Office
b) Woreda Irrigation Development Authority Office
c) Woreda Agriculture and Natural Resource Office
d) Woreda Cooperation Promotion Commission Office
e) Kebele Administration; and
f) Irrigation Cooperative (LDIC)

The Coordinating committee will be responsible for the overall coordination, guidance and supervision of the project implementation.

Major functions and responsibilities of the committee are as follows;

- Supervise the overall irrigation of the Scheme O&M activities ;
- Coordinate the activities of institutions involving in implementation
- Review the annual technical support plan of the institutions and plan and budget of the scheme;
- Ensure that the IWUA supporting institutions work in line with the plan and procedures laid for the scheme;
- Ensure the coordination activities with government institutions and private sector participation;
- Resolve any dispute arises among the members of IWUAs and beyond the capacity of the controlling committee.

CHAPTER 7- CAPACITY BUILDING

7.1. General

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.

7.2. 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 josb. 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.

7.3. Developing Farmers' Capacities

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

Chapter 8: MONITORING AND EVALUATION

8.1. Project Implementation and Coordination

Project strategy of working through pertinent government structure is considered to be cost effective and contributes to the efficient utilization of the available resources. Overall responsibility for project implementation is vested in OIDA. Besides, all institutions responsible for irrigation, agricultural and marketing organizations have the mandate, responsibility and authority to carry out project activities. The stakeholders of the new scheme include scheme beneficiaries, woreda administration, office of OIDA, agriculture department/office and cooperative promotion agency.

The stakeholders of the new scheme include scheme beneficiaries, woreda administration, office of water resource, energy and mining branch office, and agriculture department/office cooperative promotion agency.

8.2. Monitoring and Evaluation

It can be argued that if performance of irrigated agriculture project, in achieving their objectives are to improve significantly, it is essential that Monitoring and Evaluation (M&E) to become an integral component of management process. This will help to determine their achieving levels and what adjustment and corrective measures are necessary in order to ensure future benefit accrue to the target group.

For the implementation of irrigation projects, it is not enough to analyze the various technical, socio-economic and environmental aspects. But it is essential that both institutional arrangements and constraints be reviewed as well. Therefore, OIDA and other concerned government offices will monitor implementation of the project. External/independent monitoring &evaluation will be carried out by the will be appointed consultant. To this end, it is advisable to device means of continuous information flow on monthly bases that enables to take corrective measures timely.

8.3. Monitoring plan of action

Preparation of a detailed monitoring plan needs to monitor the implementation of mitigation measures and to evaluate their performance. The plan should specify the type of monitoring or indicators with institution and expertise, costs and other requirements like training needed for the

implementation of the monitoring plan. As is stated elsewhere, since the principal objective of SSIP is to improve the reliability of food security through increasing household income by establishing sustainable production system, monitoring plan and its implementation is to clearly see whether the proposed action is effectively materialized and if

Information provided by routine monitoring are important to timey assesses strengths and weakness, document challenges and lessons learn which can usefully feedback in to future evaluation of impacts and ultimately influence decision-making. Progress monitoring provides evidences on accomplishment of the core activities planned under each activity which is scrutinized by assigning milestones and implementation timelines. Outcome monitoring is also important to track the expected changes such as increased capacity of the government sectors, communities' access to water increased community awareness, etc and are measured by the preset qualitative and quantitative indicators.

Therefore, there is a requirement to assess the desired outcome and results of the planned inputs, outputs and impacts of the project objectives on the communities/populations. The accountability and results matrix at the end of the document outlines the core results and their indicators as well as the sectors accountable and the measuring period for these indicators. The matrix hence, serves as a monitoring and evaluation framework for all irrigation scheme management.

Chapter 9: FINANCIAL REQUIREMENT

9.1. Running costs

The Hidha-Sombo project will involve different kinds of investment and operational costs that will be incurred throughout the implementation and operational phases. The costs are categorized under annual operational and training and equipment costs. These are one of the basic parameters that serve for the estimation of the viability of the organization and management component of the project.

Table 3: Summary of Estimated costs for the operational and manage the scheme

S.No	Type of costs	Estimated Amount (Birr)	Remark
1	Capacity building	2,062,000	
2	Annual office expense	598,320	
3	Project office equipments and furniture for implementation	569,500	
	Total	**3,229,820**	

Implantation of irrigation projects requires running costs of administration, personnel, equipments, services etc. Accordingly, total investment budget for Capacity building and Project office for implementation is estimated to be Birr **3,229,820**. Accordingly detail costs for proposed and envisaged services to operate and manage the project are presented in Annex Tables:

CHAPTER 10: REFERENCES

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APPENDICES

Annex a: Performance indicators

No	objectives	Out put	Outcome indicators	Means of verification
1	Strengthen the institutional, management and technical capacity of the irrigation sector at all levels to plan, implement and monitor the scheme.	Irrigation sector at all level capacitated and equipped with necessary logistics and budgeted	Proportion of Irrigation sector sector staff skilled to plan, implement and monitor scheme management and operation of projects	Sectors capacities need assessment.
2	Strengthen the institutional, management and technical capacity of ***Irrigation Water User(IWU)***	Irrigation Water User Associations managing effectively irrigation and drainage infrastructures	*Functional IWUA* *registration by supervising body* (ii) its own bylaws 30 per cent women members	Sectors and community organizational and capacity need assessment report
3	To provided sustainable irrigation and drainage services	Beneficiaries provided with sustainable irrigation and drainage services disaggregated by new improved systems	Area (Hectare) provided with improved irrigation and drainage services disaggregated	Sectors and community organizational and capacity need assessment report
4	Strengthen collaboration between sectors/actors with	Public sector agencies with relevant roles consult and	Number of inter-sectoral meetings	reports and minutes of the scheme

No	objectives	Out put	Outcome indicators	Means of verification
	responsibilities for water management through coordination mechanism at all levels	collaborate in water management and other issues		management units and sector steering committee meeting
5	Strengthen monitoring and evaluation of scheme management through routine management information system.	Activities reported by scheme management units and sectors through captured data.	scheme management and operation is considered in the communicable activities	annual Woreda irrigation plans, ,records and reports

Appendix Table ___Annual office utilities osts

S.N	Type of expense	Monthly expense	Total yearly cost in Birr	Remark
1	Rent expense	4000	48000	
2	supplies	2000	24000	
3	Electricity expense	100	1200	
4	Water expense	20	240	
5	Telephone expense	500	6000	
6	Fuel, oil expense	10,000	120000	
	Total operating expenses firs year		199440	199440*3=598320

Annex Table G: Facilities and Equipment for Operation office

Category of facilities	List of Facilities and equipment	Proposed Number	Unit Price	Total Price
	Motorcycles for Agronomists	2	80000	160000
Equipments	Motorcycles for operation	2	80000	160000
	Bicycles for DAs	3	10000	30000
	normal tables	8	1500	12000
	semi-executive chair	4	2000	8000
Furniture	guest chair	16	1000	16000
	secretarial desk	1	1500	1500
	secretarial chair	1	2000	2000
	drawer filing cabinet	4	2500	10000
Equipments	desktop Pc with printer	4	30000	120000
	photocopy machine	1	50000	50000
Total				**569,500**

Annex I: Annex c estimated Five years training and capacity building budge

Annex I: Capacity Building Time Schedule

S.No	Activities	Frequency	Total 3Yea Cost	Contraction		
				yr1	Yr2	yr3
1	Formation of Irrigation Water Users Associations					
	Support establishment and strengthening of IWUAs	Implementation phase	150,000	100,000	50,000	-
	Legal registration of IWUAs	Implementation phase	90,000	30,000	30,000	30,000
	Preparation of training material for IWUAs	Implementation phase	75,000	-	25,000	25,000
	Promote community awareness on communal resource uses	Every two to three years period	12,000	-	40,000	40,000
2	Prepare training plan based on need assessment findings					
	Training of experts at all levels	Operation phase all the year round.	90,000	-	30,000	30,000
	Training of IWUAs committee members	Operation phase all the year round.	300,000	-	150,000	150,000
	Training of farmers	Operation phase all the year round.	300,000	-	150,000	150,000
3	Introduction of Improved Irrigated Agriculture Advisory/Extension (Integrated Crop and Water Management) Services					
	Establishing and conducting technology demonstrations	Operation phase all the year round.	300,000	-	150,000	150,000

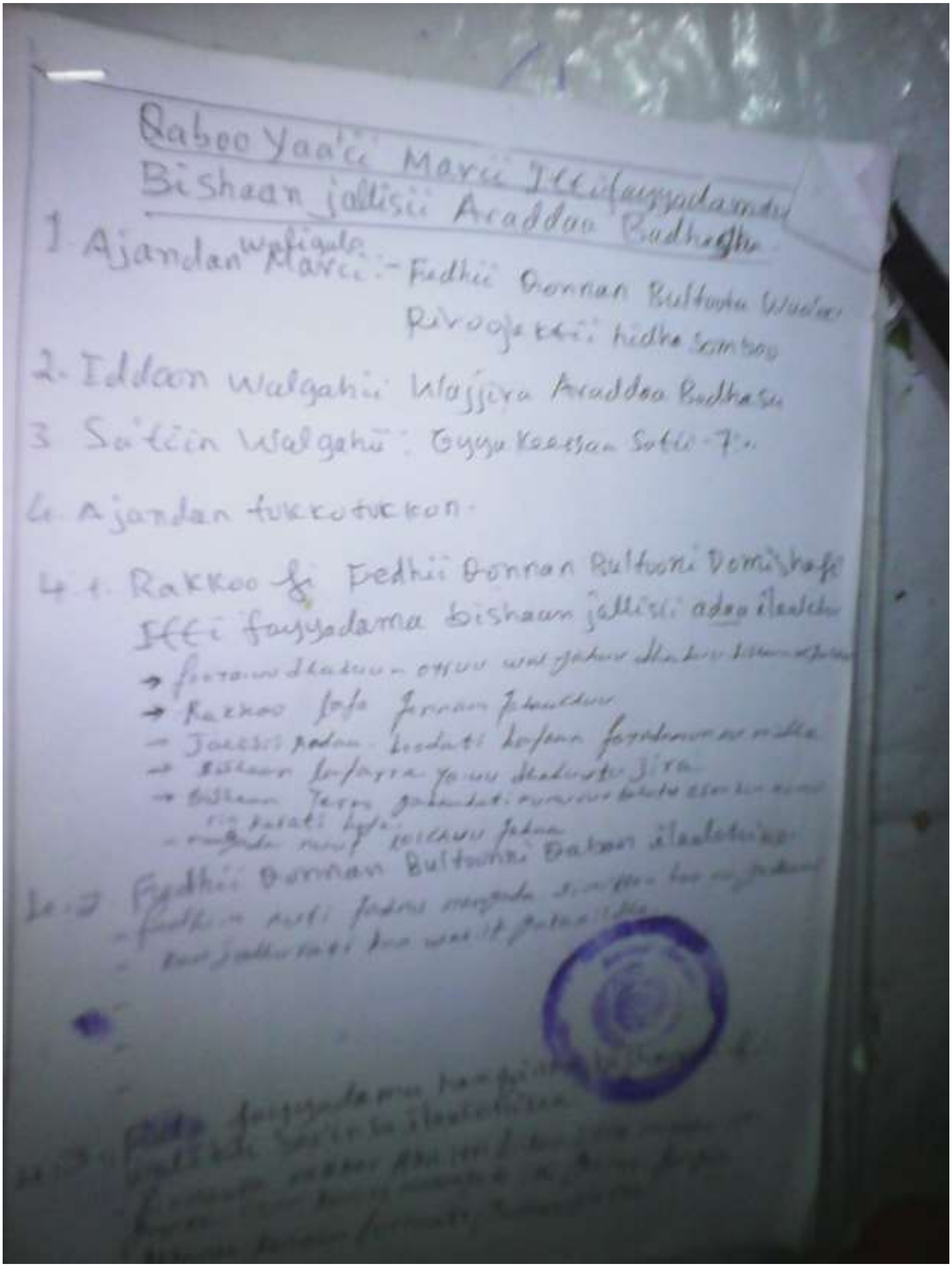
S.No	Activities	Frequency	Total 3Yea Cost	Contraction		
				yr1	Yr2	yr3
	Irrigation Performance Assessment		60,000	-	30,000	2,400
	Improper farming practices & Soil erosion Avoidance	Irrigation operation phase all the year round	60,000	-	30,000	30,000
	Protection of Canal siltation	operation phase all the year round.	300,000	-	150,000	150,000
	Train water committee on efficient irrigation water use	Irrigation operation phase all the year round	75,000	-	25,000	25,000
	Canals lining including fencing in residences and settlements	Operation phase	150,000	-	100,000	50,000
	awareness on risk management and protection	Operation phase	100,000	-	50,000	50,000
	Total		**2,062,000**			

Annex c: The community consultation meeting minutes and signed list of participants ???

Appendix Table __: Project Operation Time table for three years program Span

No	Project Years	*PY-1*				*PY-2*				*PY-3*			
	Description	*1*	*2*	*3*	*4*	*1*	*2*	*3*	*4*	*1*	*2*	*3*	*4*
1	**Formation of Irrigation Water Users Associations**												
2	**Support establishment and strengthening of IWUAs**												
3	**Legal registration of IWUAs**												
4	**Preparation of training material for IWUAs**												
5	**Promote community awareness on communal resource uses**												
6	**Training of IWUAs committee members** **Training of experts at all levels**												

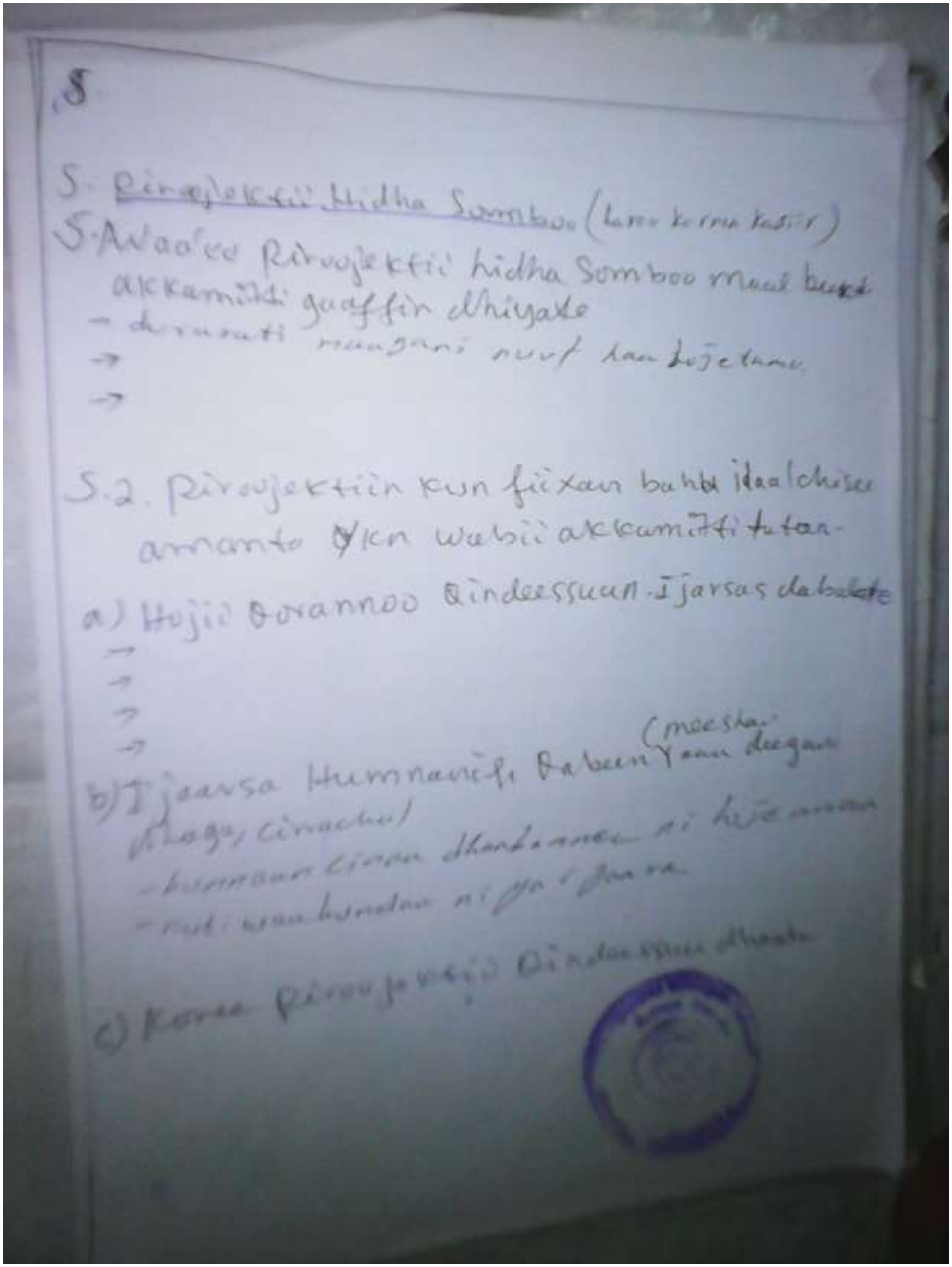
7	Introduction of Improved Irrigated Agriculture Advisory/Extension (Integrated Crop and Water Management) Services and (Training of farmers **technology demonstrations(**												
8	Irrigation Performance Assessment and settlements awareness on risk management and protection												



Qaboo Yaa'ii Marii Itti fayyadamtoota
Bishaan jallisii Araddaa Badhaafhu

1. Ajandaa Marii: - Fedhii Qonnan Bultoota Waaltaa Pirojektii hidha Sombo
2. Iddoon Walgahii Wajjira Araddaa Badhaasu
3. Sa'atiin Walgahii: Guyyaa Kaatsaa Sa'aa 7
4. Ajandaa fuudhotoo Rakkoo fi Fedhii Qonnan Bultooti Dammishafe Itti fayyadama bishaan jallisii adda ilaalchisee

[illegible]


8

5. Piroojektii Hidha Somboo (lama karma kasii?)

5.1 Waa'ee Piroojektii hidha Somboo maal beekt akkamitti qaaffin dhiyaate

- [illegible] muungani nuuf kan kojetame
→
→

5.2. Piroojektiin kun fiixaan bahuu ilaalchisee annamto ykn waliin akkamitti tahan-

a) Hojii Qorannoo Qindeessuun Ijarsa dabalate
→
→
→
→

b) Ijaarsa Hummaniifi Qabeen (meeshaa yaa deegaa dhaga, cimachu)
- [illegible] [illegible] dhaabanne ni hirannaa
- [illegible] [illegible] ni [illegible]

[illegible] Qindaa'ssu dhaabi

c) Korea piroojektii Qindaa[illegible]