



**Government of Uganda**

**Ministry of Gender, Labour and Social Development**

**National Guideline for the Planning  
and Implementation of  
Labour-Intensive Public Works**

**Principles and Methodologies**

**Volume I**

September 2016



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## **ACKNOWLEDGEMENT**

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## Foreword

These Guidelines have been developed to provide important guidance to any agency or stakeholder involved in the planning, designing and implementation of labour-intensive public works (LIPW) projects or programmes in Uganda. They are primarily intended for rural and peri-urban areas, where LIPW programmes can potentially engage local communities in short-term employment increase the productivity of the landscape and lead to improved livelihoods for the population.

Implementation of LIPW programmes based on these Guidelines will immensely contribute to the aspirations of “a transformed Ugandan society from a peasant to a modern and prosperous country within 30 years” as reflected in the Uganda Vision 2040. It also represents a major step in implementation of the National Social Protection Policy which was approved by Cabinet in November 2015 as the Government endeavours to establish a society where all individuals are secure and resilient to socio-economic risks and shocks. It reaffirms Government commitment to implement public works as an important Social Protection intervention under the Direct Income Support component.

These Guidelines provide for the active involvement of communities at all stages of LIPW programmes, from the identification of problems and need, through design and implementation to monitoring and evaluation. It is expected that agencies and stakeholders will adopt these Guidelines for their community-based LIPW, whether government or non-government, and whether operating at national or local level.

The Guidelines consist of two volumes:

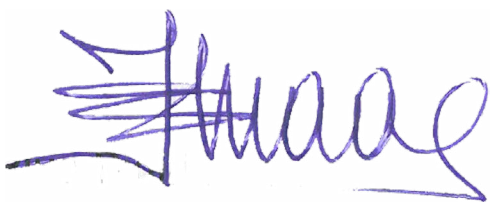
Volume I Comprises:

- ♣ Section A, intended principally for managers and staff needing to understand the strategic issues involved in LIPW, particularly within a Social Protection context, explains the principles and objectives of the recommended approach.
- ♣ Section B, intended for readers involved in developing LIPW programs, sets out the institutional arrangements and the planning and design process; and provides guidance on targeting, monitoring & evaluation, and capacity needs.

Volume II contains detailed technical designs and standards, known as Technical Design Manual (TDM), for each type of LIPW subproject likely to be selected by the community for inclusion in a LIPW programme. The TDM is intended for local-level technical field staff engaged directly in the design or inspection of individual subprojects. It will, however, be necessary for such staff to undergo specific technical training before they can fulfil their functions. Existing sector norms and standards for construction of basic social infrastructure, such as in the health and education sectors to which LIPW can contribute have been excluded from these Guidelines. However, reference is made to the standards concerned.

It should be noted that while general guidance is provided regarding topics typically associated with LIPW programmes such as household targeting, transfer rate-setting, value for money and monitoring & evaluation, this guidance discusses possible approaches, but is neither comprehensive nor definitive, since such issues are normally programme-specific, and the requirements will depend on the objectives of the particular programme and stakeholders concerned.

Finally, while these Guidelines represent a significant milestone towards achieving the Social Protection objective of Improving the resilience and productive capacity of the vulnerable persons for inclusive growth under the Second National Development Plan (NDP-II), it remains a first step in what will doubtless prove to be a rich learning experience. It should thus be regarded as a living document, to which updates and revisions will be made in future incorporating local experience and lessons learned, tailoring it more closely to the Ugandan context, and reflecting the evolving needs of contemporary issues such as climate change, as and when new information becomes available.



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## ACRONYMS

<b>C/CA</b>	Ratio of areas
<b>CBO</b>	Community Based Organization
<b>CDO</b>	Community Development Officer
<b>CPMC</b>	Community Project Management Committee
<b>CSO</b>	Civil Society Organization
<b>DFID</b>	Department for International Development
<b>DEC</b>	District Executive Committee
<b>DTPC</b>	District Technical Planning Committee
<b>EIA</b>	Environmental Impact Assessment
<b>ESMF</b>	Environmental and Social Management Framework
<b>ESMP</b>	Environmental and Social Mitigation Plan
<b>ESS</b>	Environmental and Social Safeguards
<b>LIPW</b>	Labor Intensive Public Works
<b>MAAIF</b>	Ministry of Agriculture Animal Fishery and Industry
<b>M&amp;E</b>	Monitoring and Evaluation
<b>MGLSD</b>	Ministry of Gender, Labor and Social Development
<b>MGNREGS</b>	Mahatma Gandhi National Rural Employment Scheme (India)
<b>MIS</b>	Management Information System
<b>MoA</b>	Ministry of Agriculture
<b>MoWT</b>	Ministry of Works and Transport
<b>NEMA</b>	National Environment Management Authority
<b>NGO</b>	Non-Governmental Organization
<b>NUSAF2</b>	Second Northern Uganda Social Action Fund
<b>OPM</b>	Office of the Prime Minister
<b>PI</b>	Problem Identification
<b>PRA</b>	Participatory Rural Appraisal
<b>PSNP</b>	Productive Safety Net
<b>PW</b>	Public work
<b>PWP</b>	Public Works Programme
<b>RPF</b>	Resettlement Policy Framework
<b>RAP</b>	Resettlement Action Plan
<b>SAF</b>	Social Action Fund (Malawi)
<b>SP</b>	Social Protection
<b>SS</b>	Silt Sediment
<b>SSI</b>	Small-Scale Irrigation
<b>STPC</b>	Sub- county Technical Planning Committee
<b>SWC</b>	Soil and Water Conservation
<b>TASAF</b>	Tanzania Social Action Fund
<b>TDM</b>	Technical Design Manual
<b>TWG</b>	Technical Working Group
<b>UGX.</b>	Uganda Shillings
<b>UN</b>	United Nations
<b>VFM</b>	Value For Money
<b>WFP</b>	World Food Programme

## **SECTION A: KEY PRINCIPLES**

### **1. BACKGROUND: THE SOCIAL PROTECTION POLICY CONTEXT**

Following a review of Uganda's Social Protection (SP) Sector in September 2014, the Ministry of Gender, Labour and Social Development (MGLSD) of the Government of Uganda published The Uganda National Social Protection Policy in May 2015. The vision of the Social Protection policy is “a society where all individuals are secure and resilient to socio-economic risks and shocks”. The policy adopts a goal of reducing poverty and socio-economic inequalities for inclusive development by 2024, and provides a harmonised framework and guidance on a range of SP interventions. The policy identifies public works (PW) as one of the SP interventions under the Direct Income Support component, and is applicable to vulnerable and poor households suffering from medium- to long-term shocks but who have labour capacity.

Whilst a range of public works programmes have been implemented in Uganda, a number of assessments and studies have revealed that their implementation across the country has frequently not been well guided or coordinated. The approaches have been varied in terms of targeting procedures and methodologies for PW subproject selection, and many of them have not been sensitive to the requirements of SP. For example, the scheduling of the PW has typically been influenced by the timing of their design and approval processes rather than the period when the transfers are most needed. And their duration has often been short, with no account taken of seasonal variations in consumption. The result is that PW programmes in Uganda have tended to be a costly way of delivering transfers, and have been of questionable value in terms of their contribution to social protection and livelihoods.

In order to address these challenges, the MGLSD together with key development partners including the World Bank, DFID and World Food Programme, agreed to support the design of National Guidelines for the planning and implementation of PW in SP programmes in Uganda.

An outline of the proposed Guidelines was developed and discussed by the PW Technical Working Group (TWG), which is a sub-group of the Social Protection Sub-Committee. The review and adoption of the outline was participatory, involving a number of key PW stakeholders in a workshop organised by the MGLSD on 4 December 2014. Subsequently the team working on the Guidelines presented their initial proposals at a Consultative Meeting of the PW TWG on 12 June 2015, at which general agreement was reached on the proposed principles of LIPW in SP programmes, and on the appropriate institutional arrangements for LIPW oversight. The draft Guidelines were discussed and commented on at a two-day multi-stakeholder workshop on 15-16 September 2015, following which a series of drafts were produced and discussed, culminating in the present, final version in January 2016.

### **2. PURPOSE OF THE NATIONAL GUIDELINES**

The purpose of these Guidelines is to provide government staff, rural communities, NGOs and Development Partners with a practical and adaptable planning and implementation tool for incorporating LIPW into Social Protection (SP) programmes in Uganda.

The Guidelines are intended to build a shared understanding of how LIPW can be made to be socially protective, resilience-building and livelihoods-supportive, by planning and implementing LIPW as building-blocks in an integrated, holistic and sequentially appropriate program of development of the landscape in which the beneficiary communities live and on which their livelihoods largely depend.

The Guidelines establish the context in which LIPW programs operate in terms of Uganda's National Social Protection Policy and the risks and vulnerabilities to which the LIPWs respond. They are guided by the principles of the Social Protection Policy, including individual, family and community involvement, a human rights-based approach to service delivery, timeliness, reliability and sustainability, universalism and inclusiveness, equity and dignity. They also:

- ◆ Promote transparency and accountability through the establishment of clear mandates, roles, responsibilities and standards;
- ◆ Promote better value for money than was previously the case in LIPW expenditures through improved coordination, planning, and beneficiary targeting, and by ensuring that the LIPW carried out are responsive to need and sensitive to livelihoods and socio-cultural context;
- ◆ Promote child and gender sensitivity in LIPW programming, in accordance with Uganda's National Child Labour Policy and the Uganda Gender Policy;
- ◆ Promote the use of LIPW to:
  - \* improve food security and nutrition through improvements in the natural resource base and in improved land management practices, in line with Uganda's National Food and Nutrition Policy and national agricultural and environmental management policies;
  - \* build resilience to climate change;
  - \* build appropriate social infrastructure.

### **3. POVERTY, RISK AND VULNERABILITY**

In Uganda, different population groups face various risks and vulnerabilities associated with poverty, age, gender, disability, health, employment, environmental and natural disasters, which negatively impact on their well-being. Well planned LIPW have the potential to address these issues to varying extents. Apart from the temporary employment provided, the impact of LIPW on reducing poverty comes about principally through its positive impacts on agricultural productivity through improved land management practices and soil and water conservation, which raises the water table and increases vegetation cover and forage, thus improving crop and livestock yields. As the natural resource base becomes more productive, LIPW subprojects focus increasingly on livelihoods-based activities, raising incomes further, thus reducing poverty for all members of the community, and leading to opportunities for increased self-employment and off-farm income-generating activities. In addition, social infrastructure subprojects provide benefits in health, education and transport.

Despite a general decline in poverty rates since the 1990s, the Uganda Household Survey Report of 2012/13 indicates that around 20% of the population – representing some 6.7 million people – are living below the poverty line. The poverty rate of 20% is, however, the average of widely different rates in the geographic regions, ranging from 4.7% in Central region, 8.7% in Western, 24.5% in Eastern, and 43.7% in the North.

At first sight this might suggest that SP programmes should be limited to the North and Eastern regions. However, the Poverty Status Report produced by the Ministry of Finance, Planning and Economic Development estimates that 43% of the population are living barely above the poverty line and are at risk of falling below the poverty line in the event of a socio-economic shock. This indicates that around half the population of Uganda are either living in poverty or at risk of falling into poverty, thus suggesting a potentially wide-ranging need for resilience-building. Apart from the obvious needs of the Northern region, the Eastern region has suffered adverse climatic conditions, a high dependency ratio, and population pressures leading to land fragmentation and soil degradation.

Well planned LIPW programmes also have the potential to address other risks and vulnerabilities, notably:

#### *Child Malnutrition*

Children in Uganda face various risks including malnutrition. According to the Uganda Demographic Health Survey of 2011, about 33% of children under 5 years were stunted, 14% were severely stunted, 5% were wasted and 2% were severely wasted – indicating that more than half were suffering from malnutrition.

#### **Unemployment**

It is estimated that around 817,000 people in Uganda are unemployed, representing an unemployment rate of 9.4%. However even among the working population, particularly those in subsistence farming, there are problems of insecurity and insufficiency of employment on a seasonal basis, since the labour force has been growing faster than the rate at which the economy is generating new employment opportunities. Up to 85% of the working-age population are in rural areas, with limited economic opportunities, and the working poor with incomes below the poverty line constitute around 20% of the labour force, corresponding to some 2.3 million people.

#### **Health**

Uganda Vision 2040 notes that the current health delivery system is insufficiently responsive to the healthcare needs of the different categories of the population, and in any case provides only limited access to poor and vulnerable groups. And the Uganda National Household Survey of 2009/10 indicates that around 16% of households were affected by health-related shocks in that year, leading to reduction of incomes in almost 96% of the affected households.

## Disasters

Natural and man-made disasters are common in Uganda, including drought, famine, floods, epidemics and landslides; The Uganda National Household Survey of 2009/10 reported that 57% of households experienced climatic shocks resulting in a decline in crop production and income for more than 80% of the population. With the more frequent extremes of weather associated with climate change, such disasters are expected to be more frequent in the future, and a well-planned LIPW programme provides opportunities to make a major contribution to addressing such eventualities in terms of adaptation and resilience-building.

## 4. LIPW AND ITS CONTRIBUTION TO SOCIAL PROTECTION AND LIVELIHOODS

### 4.1 Definition of LIPW

While the term “public works” could refer to almost any government-financed activity involving mass labour in projects for the public good, LIPW here refers specifically to subprojects with the following characteristics:

- They are undertaken by predominantly unskilled persons with the ability to work and who are seeking employment. These people receive cash transfers as a form of Direct Income Support, in return for which they provide their labour;
- In order to maximise the amount of money available for cash transfers, the LIPW programmes should have a labour content of at least 70% and ideally 80%, although there will be variations between individual subprojects;
- The non-labour budget can be used to pay for items such as tools, site supervision, supplementary skilled labour, building materials such as cement, and consumables.

### 4.2 The Objective of LIPW in SP

The objective of LIPW in SP programmes in Uganda is to improve the livelihood of communities and households through comprehensive and integrated development. To achieve this objective, the system aims at productivity-enhancement measures for improved income-generation opportunities, enhanced livelihood support systems and high resilience to shocks. Thus the benefits of the LIPWs are supplementary to that of the SP transfer.

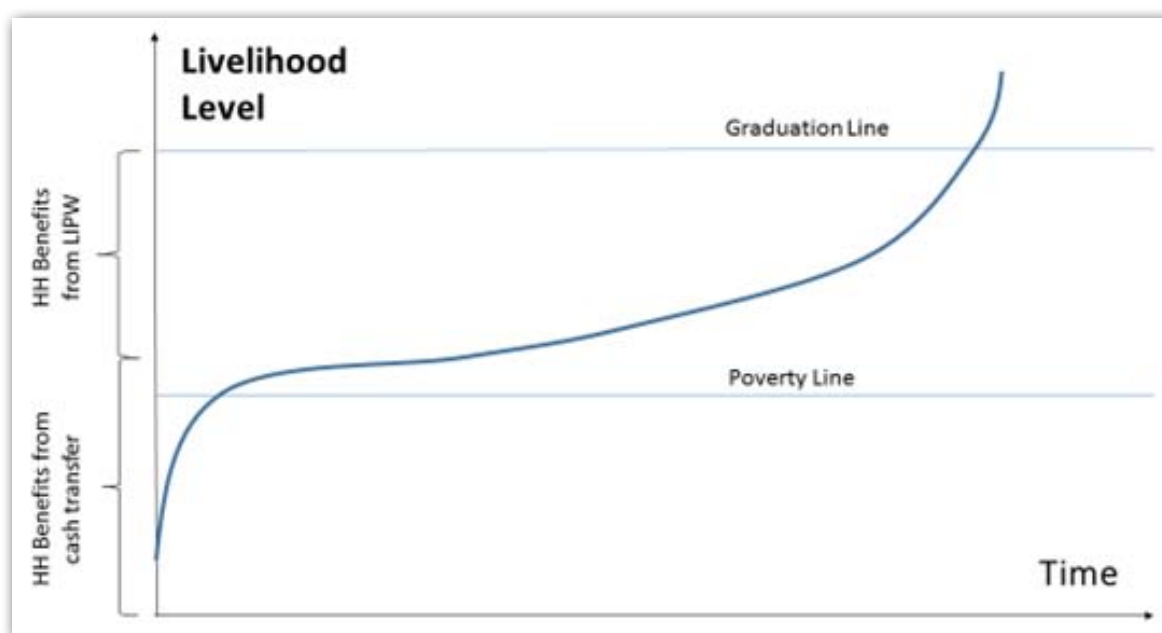
Thus while the SP transfer received by the beneficiary households reduces poverty, protects household assets, and provides a platform on which beneficiaries can build productive and sustainable livelihoods, the purpose of the LIPW program is to supplement the transfer by supporting resilience-building and improved livelihoods for the entire community. This is consistent with the ongoing move by Uganda away from a focus on direct poverty reduction to a broader agenda of achieving prosperity for all.

The schematic diagram in Figure (i) shows the progression in principle of a household living below the poverty line benefitting from both a SP transfer and LIPW. The transfer enables the household to protect its assets and improve its livelihood to reach above the poverty line in the short-term.

Then, as the benefits of the LIPW take effect, the household is able to build its livelihood well above the poverty line, eventually to the point at which the household could graduate from the SP system without falling back into poverty. Clearly LIPW constitutes a powerful and essential component of the SP program, complimentary to that of the transfers.

It should be noted that as stated earlier, a total of 6.7 million individuals presently live below the poverty line, and an additional 43% are living only slightly above it. It is therefore appropriate that whereas the SP transfers are targeted as Direct Income Support to households below the poverty line, the benefits of the livelihood-supporting LIPW implemented by those households are enjoyed by all members of the community, thus helping to build resilience and strengthen the livelihoods of households currently just above the poverty line, and to prevent them falling into poverty in the event of a shock.

It should also be noted that under SP programmes, vulnerable families unable to provide adult labour, such as single-parent households, will normally be targeted to receive the SP transfer as Direct Support beneficiaries and will not be required to undertake the LIPW.



**Figure (i): Increase in Household Livelihood Level Due to Transfers and LIPW**

The livelihood-enabling effect of the LIPW should ideally in due course be complimented by other development interventions and initiatives such as micro-credit schemes, etc, which will speed up graduation of beneficiary households out of the SP system. Thus with the incorporation of LIPW, the SP system becomes not only a life-saver but also a path out of poverty.

### 4.3 Achieving the Objective

The LIPW achieves its livelihood benefits by utilising beneficiary labour to develop the productivity of the landscape in which the community lives. The building-blocks for this process are LIPW subprojects which are needs-based, inter-connected and logically sequenced so as to have the maximum impact on the rehabilitation and development of the watershed.

For Uganda, this holistic, landscape-wide approach to rural development, which has been successfully implemented in recent years in, for example, China, India and Ethiopia, represents a significant break with the past. Previous programs in Uganda involving some element of 'food for work' with the well-intentioned but limited objective of 'creating community assets' have tended to implement short-term, disconnected, fragmented and sometimes inappropriate public works activities which have in some cases lacked a lasting impact, resulting in minimal contribution to social protection or livelihoods.

To ensure that the LIPW will have the required positive and lasting impacts, it is necessary to begin not with the limited objective of creating community assets, but with the higher goal of improved livelihoods.

The goal of improved livelihoods requires the landscape in which the community lives, and on which most of its members depend, to provide suitable and sufficient natural resources and social services to facilitate increased agricultural food production, on-farm and off-farm income-generating activities, economic welfare, mobility, health and education services. To achieve this objective, a community-based geographic planning unit is adopted. For settled communities the basic planning unit is the community watershed, often referred to as a "micro-watershed", an area typically in the range 300 to 1,000 hectares.

In the case of pastoral areas, the planning unit depends on the dominant livelihood system. However, for agro-pastoral communities sharing a watershed the community watershed will normally be the appropriate planning unit. For pure pastoralism utilising rangelands without clearly defined community boundaries the planning unit will usually be the smallest administrative area. Planning for each livelihood zone thus involves adapting the landscape-wide planning approach as elaborated in Sections B and Volume II of these guidelines. But for purposes of this introduction, we will refer to the general methodology of the LIPW as "the watershed approach".

<sup>1</sup>Such programmes are often known as 'Public Works Plus'.

Although the basic planning unit for most communities implementing LIPW in SP in Uganda is the community watershed, it is important to note that the optimisation process is not limited to hydrology. The planning process covers all basic community needs, including water, energy, soil, roads and social infrastructure, providing a platform for comprehensive and integrated development.

The LIPW programme addresses a variety of multi-sector problems, including the common 'land degradation – food insecurity – poverty' syndrome, which is prevalent in some of Uganda's fragile landscapes. This involves conserving soil, rainwater and vegetation for productive use, harvesting surplus water to create water sources in addition to groundwater re-charge, and rehabilitating and reclaiming 'new' land for cultivation. Thus apart from the cash transfer received, the LIPW yield benefits such as improved water availability and soil fertility leading to benefits for individual households including increased crop production, increased income-generating opportunities, increased forage for livestock and increased fuelwood supply. The community also benefits in terms of, for example, the promotion of more sustainable farming, higher crop yields, diversified agricultural production and improved employment opportunities. The wider society also benefits from improved food security, reduced sedimentation, and reduced occurrence of both flooding and drought. Furthermore, the increased tree cover results in better sequestration of carbon from the atmosphere. The LIPW programme thus becoming 'climate-smart', helping to both mitigate, as well as adapt to, the impacts of climate change. Combined with natural resource management subprojects will be activities improving the provision of health and education of households dependent on the watershed, enhancing physical access to social services and markets by augmenting the road network with environmentally sustainable feeder roads, and building facilities such as farmers' training centres.

As mentioned earlier – and it cannot be over-emphasised - the essence of the integrated watershed development approach is that the benefits of implementing subprojects within a holistic program across the watershed has a much greater impact than undertaking subprojects in a fragmented manner or on their own. Any single activity such as, for example, terracing, if optimised according to 'watershed logic', can have significant impacts far beyond the immediate vicinity. Downstream top-soil loss will be reduced, hydroelectric dams will benefit from reduced sedimentation, and distant lowland areas may suffer less from flash-floods. Clearly, given such linkages with the wider environment, other subprojects – particularly those upstream - can have multiplier effects on the benefits of the terracing project if undertaken in harmony with it, just as a closed area subproject together with a ban on free-grazing will improve infiltration, thus raising the water table and thereby increasing the benefits of a shallow well subproject in the valley below. Another example is that of community roads. If a road subproject is built alone – simply for the sake of building a "community asset" – it may provide little or no social protection, let alone livelihoods improvement. It may even turn out to be a liability rather than an asset. But if it is timed to be constructed after an area closure subproject has resulted in a rising water-table, thus providing access for beneficiaries of a small-scale irrigation subproject to a market where they can sell their products, then the benefits of the road can be enormous.

Thus the principle is that by adopting an integrated, holistic approach following 'watershed logic', the total impact of the PW program will be considerably greater than the sum of the parts.

#### **4.4 Planning LIPW Subprojects**

Section B of this Guideline explains that the watershed planning procedure leading to the development of annual community LIPW plans involves community mapping of the watershed, transects, a socio-economic survey, a biophysical survey, and assessment of all resources in the watershed vis-à-vis community needs. This is followed by a gap analysis. Based on the gap analysis and a watershed-logic that takes into account hydrology, potential environmental issues, etc., needs are identified and expressed in a number of discrete LIPW interventions, known as 'subprojects'. These are then prioritised, and sequenced. The result is a list of potential subprojects from which annual LIPW plans are derived to meet the needs and aspirations of the community, and tailored specifically to the local conditions.

The key attributes of the LIPW can be summarized as follows:

- ♣ The LIPW subprojects form part of a predictable multi-year programme aimed at maximizing the development potential of the watershed in which the community lives, and are harmonized with other programmes carrying out development initiatives in the same watershed;
- ♣ The LIPW subprojects are chosen by the community following a detailed planning methodology as set out in detail in Section B of this volume.
- ♣ Any subprojects can be selected for implementation, so long as they are labour-intensive, for the public good, located within a reasonable walking distance of the community, and planned within the multi-annual resource framework for watershed development;
- ♣ The timing of the cash transfers and implementation of the LIPW subprojects are harmonized with the agricultural seasons of the community in respect of need and labour availability;
- ♣ The subprojects should be gender-sensitive, enabling women to participate as appropriate, while incorporating a reduced women's work burden.

#### **4.5 The Time Factor**

The success of the LIPW program depends on the same factors as the success of the SP transfers: they must be timely, predictable, and sustained over a number of years. This is because the process of rehabilitation and development of the watershed takes time, and there are limits to what can be accomplished in any one year. Thus, since the subprojects need to follow the sequence required by 'watershed logic', not all the watershed is treated simultaneously. For example, 3-4 years of LIPW might result in 20-40% of the watershed being treated; treatment beyond that depends on the land-use pattern and the extent to which the community decides to treat individual cropping land.

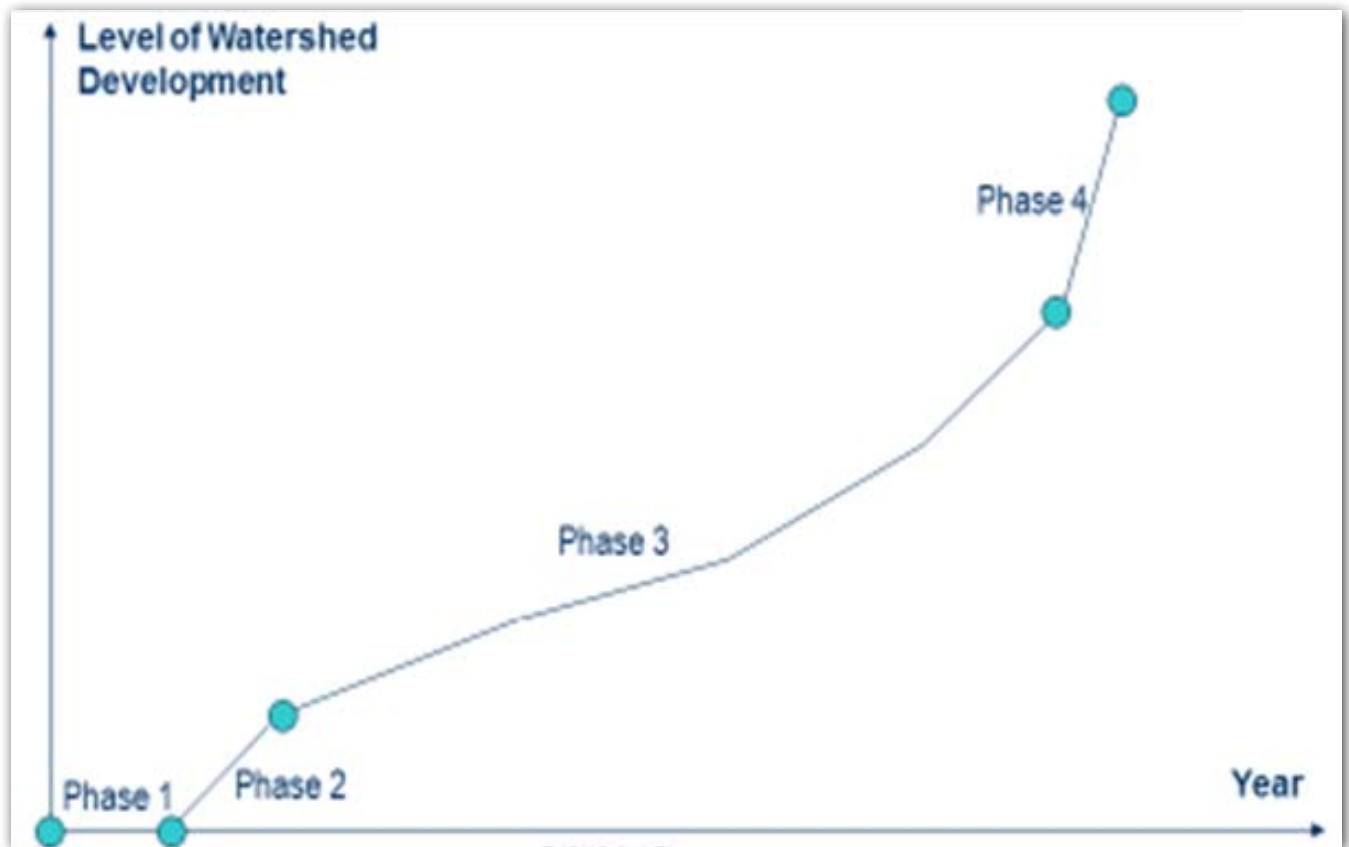
The rate of biophysical regeneration of the watershed varies according to agro-climatic zone, the state of degradation, the topography, depth of soil, agro-climatic zone, etc, and according to the rate and intensity of the treatment it receives.

Nonetheless regeneration tends to follow a distinct pattern, as shown in Figure (ii). The first phase of activity (Phase 1), such as area closure, prohibition of free-grazing, terracing, seedling development, etc. will have little initial impact – indeed the works might even reduce crop production slightly due to space taken up by soil bunds, etc. However, by the second or third year there is often a marked improvement (Phase 2), particularly in the water table due to increased infiltration. After that there is a sustained period of gradual but steady improvement (Phase 3) in, for example, woody biomass, that can often be detected from satellite imagery. It is during this phase that the combined effect of the wide range of subprojects starts to become greater than the sum of the parts.

Throughout these phases social infrastructure is also integrated into the LIPW program, the location, design and timing of each subproject taking its logical place in the watershed plan. For example, if well integrated into the landscape, a community road can be designed to act as a rainwater-harvesting facility, channeling run-off onto plots of land where water is needed, as well as providing community access to social infrastructure, whereas the same road if designed as a ‘stand-alone’ subproject might inadvertently act as a dam, thereby leading to destruction of the road and gully erosion of adjacent plots, and might not make a useful contribution to the communications network within the watershed or between the watershed and adjacent facilities.

Provided that the LIPW have been carried out systematically, Phase 4 sees a rapid upturn as the various subprojects interact and cumulative impacts take effect. At this point the watershed becomes fully productive, sometimes even creating its own micro-climate. By this time many of the subsistence farmers who have been beneficiaries of the SP programme will have benefitted from improved livelihoods, and some will now be in a position to take advantage of additional livelihood-building programmes that might be available such as micro-credit. It is thus principally in Phase 4 – and not before – that one might expect significant graduation from the SP programme.

It is clear from the process depicted in Figure (ii) that the monitoring of the implementation of the LIPW and the impact on the watershed and the beneficiaries is an important component of the LIPW programme, and we will return to this theme in Section B of this volume.



**Figure (ii): Level of Watershed Productivity through the Phases of Watershed Development**

It is also clear that for LIPW programmes of the type under consideration to have the necessary impact, it is necessary to be able to plan for the long-term, at scale, and at a level of intensity commensurate with the problem being addressed.

#### **4.6 Typical Types of LIPW Subproject**

Given the methodology explained above and the trend shown in Figure (ii), it is not surprising that the mix of subprojects that characterise the LIPW programme varies according to the local conditions and the stage of watershed development that has been reached. Thus since any LIPW program is likely to commence with community watersheds at different stages of development, it is difficult to forecast any particular mix of subprojects at any point in time for the program as a whole.

However, one can make some generalisations. If the watershed has been quite degraded, then as already stated, Phase 1 will tend to see a focus on basic soil-and-water conservation activities such as area closure and control of livestock-grazing. It should, however, be noted that such activities in themselves frequently provide new income-generating activities, for example for women's groups, who can use the closed areas for collecting forest products such as fuelwood, and for bee-keeping – this is the 'Phase 2' stage.

Once the most degraded parts of the watershed have come under sustained treatment, and once that treatment has started yielding results such as reduced soil loss, a rising water-table, and increased forage production freeing up land previously used for livestock-grazing, the communities generally choose to focus increasingly on subprojects that make use of the increased watershed productivity of Phase 3, such as water projects and micro- and small-scale irrigation.

Overall, it is generally expected that at the beginning of a LIPW programme following the watershed development approach in a degraded area, basic soil-and-water conservation subprojects might account for a majority of the physical works – perhaps around 70%. However, this will tend to decline in successive years as the proportion of more livelihoods-based subprojects increases. As the watershed reaches Phase IV, the emphasis is typically on more ambitious subprojects such as land reclamation and the growing of permanent crops, cash-crops and nutrition-based crops, and the marketing of off-farm products.

In parallel, basic social infrastructure such as health posts and primary school expansion subprojects will often be selected early on, together with improved roads to facilitate access to the infrastructure. Later, once the required levels of basic services are met, and as the watershed becomes more productive, all-weather roads subprojects are more likely to be selected by the communities for vehicular access to markets.

There are no hard and fast rules, but as a general guide, it may be noted that a cross-section of LIPW subprojects in a selection of watersheds at different stages of development in Ethiopia typically consists of roughly one-third natural resource management subprojects, one-third livelihoods-based subprojects such as small-scale irrigation and reclamation of 'new' cropping land, and one-third social infrastructure.

In addition, as the LIPW programme gets under way, depending on the local requirements, 'soft conditionalities' can be added to the spectrum of subprojects. These can include, for example, attendance at ante-natal clinics, nutrition, primary health-care or child-care classes, all of which, by improving the health status of the household, have social protection, resilience-building and livelihoods impacts.

#### **4.7 Vulnerable and Marginalized People**

Although the LIPWs are implemented by the adults in labour-strong households receiving cash transfers, they are planned by the community through the community watershed team, and the benefits are enjoyed by the entire community. As mentioned earlier, this is consistent with the ongoing move by Uganda away from a focus on direct poverty reduction to a broader agenda of achieving prosperity for all.

Thus the beneficiaries of the LIPW programme include not only the adults who provide the labour, and the children, elderly and disadvantaged in their own households, but all other members of the community.

Women are encouraged to become members of the community watershed team, they are involved in the selection of subprojects, often work on site, and frequently collect the cash transfers. As the watershed becomes more productive, and opportunities arise

for income-generating activities such as bee-keeping and vegetable and fruit-growing with micro- and small-scale irrigation, the women are frequently increasingly empowered.

For targetted households that are labour-weak, the SP framework provides the same cash transfers as those provided to labour-strong households, but without the need to work on the LIPW.

## **5. LIPW IN UGANDA: CHALLENGES AND OPPORTUNITIES**

### **5.1 Labour Availability and Timing**

One of the principles of LIPW in SP programmes is that the timing of the transfers should be made when the need is greatest, and that the labour required for implementing the subprojects should occur when most convenient, ie. not clashing with periods when labour is required on the farms. Since these schedules may differ from area to area, it is important that the schedules be set locally according to local conditions, not centrally for bureaucratic convenience.

### **5.2 Setting the Wage-Rate and Volume of Labour Inputs**

Although referred to here as a “wage-rate”, the cash transfers paid to LIPW workers are technically cash transfers, not wages, so they do not normally fall under national wage-rate legislation. The wage-rate paid to households engaged in the LIPW should take into account need, which could be, for example, the amount required to meet the poverty line, or to purchase a certain amount of food for the household for a certain number of months of the year. At the same time, it is recommended that the daily wage-rate should be somewhat less than the market rate for unskilled labour, since the scheme is meant to be attractive to households in need of work, and is not designed to compete with other employers or to distort the labour market. Thus for the total amount received by the household during the course of the year to achieve objectives such as reaching above the poverty line, the number of days worked by a household per annum could be quite substantial. For example, in the Ethiopia Productive Safety Net Project, where the objective of the transfers is principally to address a serious food security problem, with the wage-rate set at less than \$1/day, each household needs to provide a total of 150 person-days of labour per year to meet the programme objective. In any case, given the level of degradation of the watersheds concerned, labour inputs of at least this scale and level of intensity were found to be necessary in some areas in order to achieve the extent of watershed rehabilitation required.

Given possible regional differences in the price of food and other basic products, consideration should be given to setting local wage-rates rather than adopting a national standard. In any case, regular reviews of the wage-rate should be conducted to ensure that the cash transfers are achieving the desired objective.

### **5.3 Child labour**

The SP LIPW programme does not permit employment of children on the subprojects. However, care needs to be taken by site supervisors to ensure that this does not occur, given that child labour is not uncommon in Uganda, particularly in the rural areas. The Child Labour report of 2013 indicates that 605,000 children were engaged in work without attending school, and that 3.73 million school-children were also engaged in work.

Increased child labour might also take place inadvertently in the LIPW programme, arising from a substitution of child labour for adult labour at home. ie., if the father and possibly mother are working on a subproject site to earn the household cash transfer, they may tell their children to do their work on the homestead instead of attending school. It will be necessary for the monitoring and evaluation system of the LIPW programme to identify and address such negative social impacts as they may emerge.

### **5.4 Child Care**

Experience shows that some mothers working on a subproject site need someone to take care of their young children at home; others may take their young children with them, on site, which can be dangerous. It is recommended that for such cases a child-care facility be incorporated in the LIPW programme. It may be a permanent construction, temporary or mobile, depending on the nature of the site work and the distance of the site from the workers' residences. Facilities on site can also serve as areas for rest and the preparation of food and drink.

### **5.5 Labour-Intensive versus Capital-Intensive PW**

A significant challenge can occur when a desire to see a more capital-intensive, higher standard of infrastructure comes into conflict with the need to provide employment and maximise SP funds available for the cash transfers. This problem is particularly likely to arise in the case of, for example, LIPW community roads, which, even if they follow closely the TDM in Volume II of these Guidelines, will inevitably be of a lower grade than those built or commissioned by the Ministry of Works and Transport using mechanised construction methods. The dichotomy can be resolved by reminding the stakeholders of the objective of the LIPW program, which is to upgrade the productivity of the watershed for improved livelihoods, within the resources available through the SP framework. The LIPW programme is not intended as a substitute for the work of other government sectors, such as Agriculture, Energy, Works and Transport, but rather, as a supplement in areas where households are living below the poverty line. Where the sectors have the funds available to hire contractors to build new infrastructure and facilities, such projects should continue to be included in the District development plans, into which the LIPW programme of community-level subprojects will be integrated.

### **5.6 Ownership, Operations and Maintenance**

PW programmes often have a strong focus on construction but overlook the issue of operations and maintenance. In the case of SP LIPW programmes, the sense of community ownership of the subprojects should be high, the community having been the driving force in selecting, planning and implementing them. The maintenance of

natural resource management subprojects such as area closure should normally be the responsibility of the community, and there should be a subproject management committee with by-laws setting out the management principles. Water and small-scale irrigation subprojects require an active and competent management group, with access to inputs for maintenance purposes that need to be funded either by its members or local government. In all cases the training of the District staff who facilitate the LIPW planning process should include modules covering the arrangements for community-level subproject operations and maintenance. While health posts and primary schools will be operated by the sector concerned, community roads can be a problem if they fall outside the ambit of the District roads authority. In such cases it may be necessary to establish community-based maintenance of the roads on a length-per-household basis. Section B sets out more detailed recommendations for operations and maintenance of LIPW subprojects.

## **6. COORDINATING LIPW WITH OTHER INTERVENTIONS**

Since the key to success of the LIPW programme depends on an integrated, landscape-based approach to planning and implementation, it is very important that there is coordination with other interventions in the same area. The community watershed plan covers all required interventions, and each year it is decided not only what subprojects will be implemented, but also which agency will support them – not all subprojects will necessarily be implemented by the SP LIPW programme. There will likely be other programmes as well, and they will each assume responsibility for different parts of the whole.

It is also important that the community watershed plan be integrated within the District development plan, which will also take into account plans for the watersheds adjacent to the community watershed concerned. This procedure, which may involve iterations of community watershed plans, constitutes an important step in the planning process, and is set out in the text on watersheds and sub-watersheds in Section B of these Guidelines.

## **7. LEGAL AND INSTITUTIONAL ARRANGEMENTS FOR LIPW**

The legal framework for SP in Uganda is well covered in the Uganda Social Protection Sector Review (Sept. 2014) and The Uganda National Social Protection Policy (May 2015), which make it clear that the foundation for the policy is enshrined in the Constitution of 1995 (amended in 2005). Building on that platform, a wide range of policies, plans and legislation provide for various forms of social security and social care services. Nonetheless, despite this rich policy context, the Sector Review identified a number of limitations and gaps arising partly from non-implementation of some of the legislation, and these shortcomings are now addressed by the SP Policy.

The SP Policy also provides an over-arching framework within the MGLSD for coordination, monitoring and evaluation of efforts which previously were spread across several different ministries

Like SP itself, the legal framework for LIPW has been spread across a number of sectors. A PW Stakeholder Discussion in Kampala on 24-25 July 2014 noted that PW were currently conducted, for example, by the OPM, MoW&T, and the MoA, and that there was a lack of clarity as to where oversight should be located.

However, while the Uganda Social Protection Sector Review recommended that MGLSD's mandate be strengthened, with greater coherence and a broadening of the constituency of support for SP, the Review did not attempt to position technical oversight for multi-sector LIPW programmes within SP. Likewise the SP Policy notes that there are a number of ongoing programmes with PW components, and that PW programmes are examples of Direct Income Support schemes, but does not specifically locate oversight responsibilities for such programmes, other than to give MGLSD the mandate to, inter alia, provide technical guidance and leadership on SP, establish mechanisms and set standards and guidelines for delivery of SP services, and build the capacity of other stakeholders to effectively deliver SP services.

On 22 July 2015 a Consultative Meeting was held in Kampala with the PW Technical Working Group, at which it was noted that an LIPW technical oversight unit was required to undertake, covering the setting of standards, awareness-creation, the production of training materials and arrangement of training, quality control, monitoring & evaluation, impact assessments, updates and the mainstreaming of climate change into LIPW. It was also noted that LIPW programmes in SP include subprojects within a wide range of sectors including agriculture, environment, transport, health and education, and that the mandate of several of the sectors could potentially cover technical oversight for LIPW, such as the Ministry of Works and Transport (MoWT), the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and the Ministry of Water and Environment (MWE). Furthermore, it was noted that the Office of the Prime Minister (OPM) is already overseeing programmes such as NUSAF.

However, after discussion it was agreed that the LIPW technical oversight unit should be under the MGLSD, otherwise the purpose of the social protection and the application of the Guideline might lose its objective. It was also agreed that at the District level the coordination of the LIPW and ensuring the application of the Guidelines should be led by the Community Development Officer (CDO).

The roles and responsibilities for implementation and oversight of LIPW programmes within SP in Uganda are set out in detail in Section B of these Guidelines.

## **8. FINANCING LIPW**

In the short- and medium-term it is expected that Government will finance SP programmes in partnership with Development Partners, ultimately establishing a Social Protection Fund to ensure predictable financing. It is Government policy that ultimately, direct income support should be financed through domestic revenues.

## **9. VALUE FOR MONEY**

In general, five strategies tend to maximise Value for Money of LIPW programmes:

- a) Setting the objective of Strengthening Livelihoods, rather than 'Creating Community Assets',
- b) Closely following the 'watershed', or 'landscape' approach to subproject planning, which maximizes the benefits of the LIPW,
- c) Operating as large a programme as possible, which will then enjoy more economies of scale,

- d) Integrating the LIPW as far as possible with other programmes being implemented in the same watershed, since the total impact of interventions under the watershed approach is typically greater than the sum of the parts, and
- e) Ensuring that on average, the LIPW subprojects have a high-labour content, which minimises the financial outlay (ie. non-labour costs), while maximising the SP effect of the transfers.

In addition to this general guidance, the following comments may be made regarding the key parameters of Value for Money analyses of LIPW programmes:

## 9.1 Cost-Efficiency

The concept of cost-efficiency in SP programmes applies principally to the transfers made to the LIPW households, the key parameter being the ratio of the total cost incurred (ie. The cost of making the transfer + the transfer itself) to the value of the transfer. The higher the non-labour component, the higher will be the cost-efficiency ratio, known as the Total Cost: Transfer Ratio (TCTR) and the lower will be the cost-efficiency.

Generally a cost-efficiency analysis of an LIPW programme within an SP programme includes the entire cost of providing the transfer (including all administrative and related costs of the SP programme, as well as the non-labour LIPW costs), in which case the TCTR will reflect the cost-efficiency of the entire programme including the LIPW programme.

This does not, of course, determine the cost-efficiency of the LIPW programme per se, since the LIPW programme does not involve any additional transfer over and above what would be provided as Direct Income Support if there were no LIPW, apart from the additional 25% non-labour costs (ie 20% of the total) and the costs of technical support and oversight. Based on these costs, the cost-efficiency of LIPW can be very high.

Thus a more practical approach to efficiency applicable to the LIPW program is to ask whether the arrangements for undertaking the LIPW are themselves the most efficient. Key contributors to efficiency would be good community participation in the planning process (to ensure that money is not wasted on inappropriate subprojects) and good parish/sub-county performance in the same LIPW planning process, the efficient use of labour in the design and implementation, and efficiency of procurement in acquiring the necessary tools and non-labour items.

## 9.2 Cost-Effectiveness

Cost-effectiveness is typically ascertained by comparing the unit costs of achieving the desired result with the costs of using an alternative method. In the case of a Uganda SP program encompassing an LIPW programme, the cost of providing the transfers are already set against the benefits of social protection and food security, so if only the non-labour cost is used as the investment, then of course the cost-effectiveness of the LIPW would be very high. Thus it is usually more useful to focus on the effectiveness of the PW subprojects themselves, to discern whether there is a gap between their actual effectiveness and what the effectiveness would have been if they performed as designed. This can best be established by field research.

### 9.3 Sustainability

It is recommended that regular examination of a sample of subprojects be undertaken to determine their technical sustainability, managerial sustainability including level of local ownership, environmental sustainability, sustainability in terms of resources availability for operations and maintenance (ie money and or consumables) , and social sustainability (ie absence of conflict, etc).

### 9.4 Benefit: Cost

As stated earlier, the essence of the integrated watershed development approach is that the benefits of undertaking activities within an integrated, holistic program of activities across the watershed has a much greater impact than undertaking subprojects in a fragmented manner or on their own. This is because any subproject, if located and optimised according to 'watershed logic', can have significant impacts far beyond the immediate vicinity, and can, in turn, be enhanced by other subprojects. However, the very nature of a program consisting of numerous inter-linked and mutually beneficial subprojects within an integrated whole presents a challenge for the determination of benefit:cost ratios of the programme, because it is difficult to assess the impact of an intricate and integrated program across an entire watershed; in practice it is easier to limit the study to a more conventional assessment of individual subprojects in isolation.

Thus while it is recommended that in the longer term benefit:cost ratios be established for entire community watersheds, it is often more practical to begin by calculating the ratios for individual subprojects, based on the determination of cost and benefit streams discounted at rates appropriate for financial and economic analysis. <sup>3</sup>

It is instructive to note the findings from the LIPW programme in the Ethiopia PSNP, where soil-and-water conservation subprojects implemented in densely populated and degraded watersheds often have very high benefit:cost ratios. For example, area closure, when well managed and accompanied by enforcement of by-laws prohibiting free-grazing, typically yield economic benefit:cost ratios at community level in the range 1:.1 to 6:.3, due for example to the relatively low labour input required, the increased forage production. and in the longer term, increased ground-water and reduced sedimentation. For households able to conduct income-generating activities within the area closure, economic benefit:cost ratios for the household can also be high, mean values sampled being 5:.2 for bee-keeping, and 2:.8 for production of fuelwood or poles.

Of course to achieve such high benefit:cost ratios the subprojects must be planned on a 'watershed logic' basis. This brings us to the concept of risk management in Value for Money determinations. As stated earlier in this Guideline, if the 'watershed' approach is not in practice followed, and subprojects are implemented simply with the goal of 'creating community assets', then the benefit:cost ratios of those assets may turn out to be very low.

<sup>2</sup> The reader is referred to Chapter 16 of the present volume for requirements for subproject operations and maintenance.

The other major risk to satisfactory benefit:cost is that of poor operations and maintenance. This is a common problem, the focus of attention by government staff often traditionally being on construction rather than operations. The benefit:cost analyses typically assume smooth operations for at least 15 years, and in the case of Uganda close cooperation with local NGOs may be necessary in order to ensure that the subprojects are well maintained and managed in the long term, in order to avoid rapid deterioration followed by premature closure.

## 10. EXAMPLES OF BEST PRACTICE OUTSIDE UGANDA <sup>4</sup>

There are many national SP programmes incorporating PW programmes of various types, but there are three qualifiers that should be mentioned in identifying examples for comparison with Uganda:

- a) Regardless of their level of success, the different contexts in which these SP programmes operate, and their different design features, do not necessarily make them 'best-practice' models for Uganda;
- b) A programme that might be regarded as 'best practice' in respect of a particular aspect (eg. targeting, quality of PW, or Monitoring and Evaluation) may not be exemplary in other respects;
- c) There are PW programmes designed to be livelihoods-supportive and follow the landscape-wide, holistic approach, and which might approximate to 'best-practice' in terms of planning and implementation of PW but do not necessarily operate within a SP programme as such.

It is therefore necessary to be selective in suggesting models for comparison purposes, and following this analytical framework, examples of programmes implemented in a context similar to that of Uganda need to be identified. There are notable PW programmes being undertaken in the eleven countries that are, like Uganda, predominantly low-income, agrarian, subject to periodic weather shocks and seasonal variations, and facing resource constraints: Afghanistan, Bangladesh, Ethiopia, India, Kenya, Madagascar, Malawi, Rwanda, Tanzania, Yemen and Zambia. These programmes typically use wage-rates less than the market wage to provide for an element of self-targeting, and often combine this with community targeting to minimise the administrative burden.

Nonetheless, despite the similarities, there are some key differences between the programs which in some respects detract from their suitability for purposes of comparison with Uganda. For example:

- ♣ Some of the PW programmes such as the Malawi Social Action Fund are not particularly labour-intensive, and are aimed at infrastructural development rather than being socially protective or livelihoods-supportive;

<sup>3</sup> The Benefit:Cost ratio of a project is the sum of the stream of annual benefits over the minimum effective life of the project (for example 15 years), discounted at an annual rate reflecting the cost of money (for example 15%/annum), divided by the stream of annual outflows over the same period, discounted at the same rate. Financial benefit:cost calculations are limited to monetary flows such as revenues, capital costs and running costs; economic benefit:cost calculations also place monetary value on non-cash flows such as the opportunity cost of a farmer's labour, or the carbon sequestration value of

- ♣ Ethiopia employs both cash and food transfers, which is more expensive than providing just cash as practiced in Uganda, whereas on the other hand Kenya uses an electronic payments system, which is cheaper than either food or cash paid conventionally;
- ♣ Some of the programmes such as the Yemen PW programme were developed to address a one-time shock rather than a continuum of response;
- ♣ Other programmes such as the India programme are established as a bridge to permanent employment – a feature not always present in other programmes.

Thus there is no overall ‘best practice’ case as a model for Uganda, for each programme has its unique features, and its own strengths and weaknesses. Rather than seeking a ‘best practice’ case, it is more useful to consider what particular lessons can be learned from the various programmes. The following survey indicates exemplars worth consulting in terms of lessons to be learned from the programmes in the eleven countries identified as having a basis and context broadly similar to that of Uganda:

### *Socially Protective and Livelihoods-Supportive Public Works*

The extent to which PW programmes within SP programmes are themselves livelihoods-supportive varies greatly between country programmes. One example of an LIPW programme that was from the outset designed to be livelihoods-supportive is **Ethiopia Productive Safety Net Programme (PSNP)**, which adopted the government’s national policy for Community-Based Participatory Watershed Development – a methodology that had been developed before the PSNP commenced operations in 2005/6, and was formalised at that time. Thus the PSNP provides a long track-record in operating a PW programme with the aim of improving livelihoods using holistic planning methods.

It is important to note that the LIPW programme in Ethiopia was inspired by the experience of **China’s Loess Plateau projects**, and was based on the design of the Ethiopian government’s internationally acclaimed **MERET programme in Ethiopia**. Although neither of these two projects were SP programmes as such, they stand as two of the most successful examples of livelihood improvement through the ‘landscape approach’ to rehabilitation of degraded watersheds, and as such are an important source of information and lessons learned for similar programmes being undertaken within SP.

The objective of the Loess Plateau project in China’s northwest, supported by the World Bank between 1994 and 2005, was to increase agricultural production and incomes in an area where environmental degradation had led to widespread poverty. As a result of the integrated, holistic and participatory approach adopted, 2.5 million people were lifted out of poverty. Topsoil loss in the form of sediment was reduced by 100 million MT/annum, farmers’ incomes were more than doubled, and employment was diversified. It is estimated that as many as 20 million people have benefitted from replication of the approach throughout China.

<sup>4</sup> This sub-section draws heavily on the most recent research undertaken on a global basis by The World Bank and documented in SUBBARAO, K. et al, 2013, which incorporated the findings of the South-South Learning Forum, Making Public Works Work, held in Arusha, Tanzania, in 2010.

Ethiopia's MERET programme, supported by WFP, has accumulated more than 30 years of experience in developing and applying the integrated approach to watershed development in Ethiopia, and the MERET methodology has been adopted by several of Ethiopia's flagship programmes, including the PSNP and the Sustainable Land Management Project (SLMP).

There are also lessons to be learned in this respect from **India's Mahatma Ghandi National Rural Employment Scheme (MGNREGS)**, which illustrates the potential of scaling up PW interventions addressing seasonal poverty for rural populations dependent on agricultural wages by enhancing their livelihood security.

### *Scale of Operations*

The scale of operations varies widely from programme to programme; lessons on expansion to large-scale operations can be learned from India's MGNREGS (54.9 million households in 2011), Ethiopia's PSNP (7.6 mn beneficiaries in 2009; approx. \$300 mn/ann.), and the Bangladesh 100 days Employment Generation Program (2 mn beneficiaries, \$ 285.7 mn/ann).

### *Targeting*

There is no 'best practice' for targeting, since what works in one socio-economic and socio-political setting may not work in another. Furthermore, not all the LIPW programmes listed here are linked to Social Protection programs as such. Examples of largely community-based targeting and beneficiary ranking likely to be a useful case-study for Uganda can be found in the Ethiopia PSNP, the Kenya KKVP, Madagascar Emergency Food Security and Reconstruction Project, Malawi's Social Action Fund, Rwanda's Vision VUP, and Tanzania's TASAf.

### *Labour Intensity*

The labour intensity of the PW carried out is an important factor in SP programmes, in which as much of the resources as possible should ideally go to the beneficiaries in the form of transfers. There are thus lessons to be learned from those programmes that have achieved high labour intensities: the Madagascar HIMO-Fond d'Intervention pour le Développement (FID) at 80%, Ethiopia's PSNP at 80%, and Afghanistan's LIPW at 70-80%.

### *Graduation*

Some countries have adapted their PW programmes to incorporate additional components specifically designed to facilitate graduation over and above the PW themselves. Such programmes are often categorised as 'Public Works Plus'. One such example is the Ethiopia PSNP, which had a complimentary Household Asset-Building Program (HABP), increasing access to microfinance and providing business planning support and related service, now replaced by a fully integrated 'Livelihoods' component. The Ethiopia PSNP also has a 'PSNP Plus' component, utilising the services of local NGOs. In the case of the Rwanda VUP, beneficiaries are encouraged to save a small part of their cash transfer, a bank account is opened in the name of each beneficiary, and wages are deposited weekly into that account.

One of the main objectives of the Kenya KKVP is increased access to youth-targeted temporary employment programs and improvement of youth employability, for which the programme includes skill development, on-the-job training and work attachments in the private sector.

## Monitoring & Evaluation

Most, if not all, of the eleven country programmes identified incorporate procedures for monitoring. This typically includes:

- (i) A continuous process of data collection and analysis' and
- (ii) Often, in the case of large programmes, a regular field-based sampling of progress.

Reporting is typically at monthly, quarterly and annual intervals. Some programmes also conduct impact assessments and/or process evaluations (to assess the extent to which the programme is being implemented as designed). While no comprehensive study has been made of all the various systems in use in the eleven countries, some useful comments may be made about experiences in attempting to overcome the various challenges that arise in designing and implementing M&E systems for PW programmes:

The most common problem is failure to establish a comprehensive Management Information System (MIS) incorporating PW at the outset, including the establishment of a biophysical and social baseline for tracking PW outputs and impacts. Sometimes this is due to lack of foresight, but budget, operational and capacity constraints are often at least partly to blame. Both **Yemen's Social Fund for Development LIPW Programme** and **Ethiopia's PSNP** gained valuable experience in overcoming these constraints on LIPW data collection in the early years of the programme. Roles and responsibilities for M&E vary from country to country, and there are often issues around the question of data flows from the field to the central agency. The Yemen programme is an example of two integrated MISs, one used by the centre and one for field offices; in Ethiopia there is just one system, computerised at the centre but largely manual in the field. Originally lacking a baseline, the Ethiopia LIPW LIS is currently the subject of a major re-design.

Determining outcomes can be problematic, as the necessary data is often not available and frequently needs to be purposefully collected, which can be expensive. In the **Malawi Social Action Fund** program, for example, poor linkages between the system and poverty monitoring by the Ministry concerned meant that the required outcome indicators were not collected, rendering impact assessment difficult. On the other hand, the **Ethiopia PSNP** conducts regular LIPW Reviews to track process and performance indicators of the LIPW programme, and in addition, despite the absence of a biophysical baseline, commissions regular LIPW impact assessments involving in-depth examination of the impact of the LIPW in a number of watersheds.

In **Ethiopia** the effectiveness of the targeting system is assessed within regular impact assessments of the overall PSNP program, and this proved to be a valuable tool for improving the quality of targeting during the early years of the programme. In India's **MGNRAGS**, national sample surveys were used to assess the programme's targeting performance, finding that targeting performance varied considerably from state to state.

Cost-effectiveness is increasingly of concern to both governments and donors, to determine to what extent LIPW are an effective means of providing Direct Income Support. The LIPW impact assessments conducted by the **Ethiopia PSNP** has resulted in a useful corpus of data on LIPW outcomes including benefit-cost analyses of LIPW

subprojects, and the total cost of transferring \$1 in benefits has recently been estimated to be \$1.8, as compared with \$3.85 in **Bangladesh** and \$4.02 in **India**.

The investment impact of LIPW as compared with more capital-intensive PW has not been widely studied, but such a comparative analysis has been undertaken of PW programmes in Madagascar, which shows that high-labour intensity programs have a much higher level of value-added consumption, household income and job-creation than high-mechanical intensity programmes.

#### *Programme Financing: Dependency on Donors*

There can be no universal 'best practice' model for low-income country dependence on donors, as the optimum depends on the local circumstances. However, there is a wide range of cases from which lessons can be learned. The percentage of PW programme funds provided by donors ranges from 30% for the **Kenya KKVP** to 40% for the **Rwanda Vision 2020 Umurenge Program (VUP)**, 80% for the **Malawi Social Action Fund**, 90% for the **Tanzania Social Action Fund II (TASAF)**, to 100% in the case of the Ethiopia PSNP.

#### *Coordination and Pooling of Donor Resources*

In terms of complex and multi-donor situations, there are lessons to be learned from the **Ethiopia PSNP**, which has managed to work successfully with more than ten donors to pool both financial and technical resources. It has also achieved harmonisation of donor efforts, enhancing supervision, monitoring and evaluation, which minimises individual agencies' transaction costs.

The above suggestions are summarised in Table 1 below:

**Table 1: Examples of LIPW Projects and Programmes with Features of Potential Interest for Uganda**

Feature of Interest:	Soc. Prot. & L/hoods Supportive	Large-scale Opns	Targeting	High Labour Intensity	Graduation	M&E	Donor Co-ord
Ethiopia MERET	x					x	
Ethiopia PSNP	x	x	x	x	x	x	x
Ethiopia SLMP	x					x	
India MGNREGS		x	x				
Bangladesh 100days Empl. Gen. Prog.		x					
Kenya KKVP			x		x		
Madagascar Energy FS & Recon Proj.			x				
Malawi Social Action Fund			x			x	
Ruanda Vision VUP			x		x		
TASAF			x				
Madagascar HIMO-Fond pour le Dev.				x			
Afghanistan LIPW				x			
Yemen Soc Fund for Dev. LIPW Prog.						x	

<sup>5</sup> The absence of indicators for features of potential interest in any particular program in Table 1 does not necessarily mean that there is no such feature of interest; it may reflect a lack of available information.

## **11. MAINSTREAMING CLIMATE CHANGE**

The approach to watershed development presented in this Guideline is aimed at building resilience to climate change, and to contributing to both adaptation and mitigation of its effects. However, by definition the effects of climate change are not static, and for that reason it is important that LIPW programs in Uganda stay abreast of the latest developments required to remain climate-smart.

It is therefore recommended that the TWG in the MGLSD work with the Climate Change office of the Ministry of Water and Environment to update the Guideline from time to time to reflect the latest information on likely climate change impacts in the various geographic regions of the country. Such data could, for example, call for updates to the planning procedure incorporating climate-change resilience factors in subproject selection, new climate-smart technologies for new subprojects, or new standards and specifications for the subproject specifications currently set out in Volume II of this *Guideline*.

## **SECTION B: LIPW PLANNING AND IMPLEMENTATION METHODOLOGIES**

### **12. TARGETING FOR LIPW**

Targeting for LIPW is the process by which the poorest of the poor households are selected to participate in LIPW activities. It is a tool policy makers use to make the programme effective in terms of SP. Depending on the budget available, it determines whom to target, how much, under what conditions and for how long. Targeting systems should be dynamic and allow new poor households to access the programme and move out households that are no longer eligible. For successful targeting outcome programmes need to have well trained staff, well-defined rules, clearly assigned institutional roles, information system, material inputs, monitoring and evaluation

The beneficiaries of LIPW will be selected using a two-step process, in which geographic targeting will be used to identify the poorest sub-counties/communities and then community-based targeting will be used to select the poorest and most vulnerable households within those communities.

#### **12.1 Geographic Targeting**

Geographic targeting will be used to identify the poorest sub-counties and communities. Geographic targeting will be done jointly by the higher government institutions, and programme financing development partners. Various criteria such as level of poverty, food insecurity and population pressure are used to identify geographic area eligible for LIPW.

**Table 2: Strengths & Limitations of Administrative Targeting**

Strengths	Limitations
<ul style="list-style-type: none"> <li>• Efficient at minimizing targeting errors</li> <li>• Consistency due to the use of objective criteria</li> <li>• An administrative body can call upon local resources (human, material, financial) to facilitate the targeting process.</li> <li>• There is clear accountability</li> </ul>	<ul style="list-style-type: none"> <li>• Available data may not be properly disseminated</li> <li>• Requires capacity to analyze and use data for targeting purposes</li> <li>• Requires reliable data</li> <li>• Risk of bias, corruption, favoritism, etc. in the absence of baseline data.</li> <li>• High administrative cost for data collection, analysis and reporting</li> <li>• Requires strong administrative and information structure</li> <li>• Gives little or no chance for individuals to explain their cases</li> <li>• Limits community participation and empowerment</li> </ul>

## 12.2 Household Targeting

There are three different types of targeting methods that can be selected and used as they are relevant to the local context and suitable for the particular programme. These are administrative targeting, community targeting and self-targeting. Each of these methods have their own merits and de-merits:

### 12.2.1 Administrative targeting

Administrative targeting is a process of selecting LIPW beneficiaries using a given programme objective. The key features of administrative targeting are:

- i) an administrative body consisting of government, community and local CBOs/NGOs representatives;
- ii) a reliable database on the poverty level/food security situation of the area;
- iii) local knowledge such as nutrition indicators, asset ownership and income.

### 12.2.2 Community Targeting

Community targeting is a method of selecting LIPW beneficiaries by the community based on their own knowledge about the poverty/food security situation of their area and of each other on individual basis. The most important condition for implementing community targeting is the existence of a local structure and culture that encourage people to speak freely and openly. Community targeting needs little or no intervention from administrative bodies.

The following are steps for community targeting.

- i) Awareness-creation about the objective of the LIPW by the district, sub-county or parish;
- ii) Selection of a broad-based committee representing the interests of all sections of society;

- iii) Development of criteria at community meetings;
- iv) Selection of beneficiaries as per the criteria, and getting approval from the general assembly;
- v) Submission of the list of beneficiaries to the relevant authorities or implementing agency;
- vi) Monitoring to determine if those selected are actually benefitting from the programme and;
- vii) Updating the list on a regular basis and submitting the updated list to the implementing agency.

Unlike administrative targeting, community targeting heavily relies on local knowledge. Since local knowledge varies from area to area, the establishment of a single set of national criteria is difficult or may not be necessary. However, as a general guideline the following criteria can be considered for community targeting:

- i) Asset ownership;
- ii) Access to asset;
- iii) Remittance;
- iv) Family size;
- v) Record of household food gaps for the last 2-3 years (if data is available)

**Table 3: Strengths & Limitations of Community Targeting**

Strengths	Limitations
<ul style="list-style-type: none"> <li>• Avoids cost and difficulty of data collection and analysis</li> <li>• Uses local knowledge</li> <li>• Best for community participation and empowerment</li> <li>• Beneficiaries have the chance to explain their cases immediately</li> </ul>	<ul style="list-style-type: none"> <li>• A risk of bias in selection</li> <li>• Powerful groups may influence selection decisions</li> <li>• Possible marginalization of the most vulnerable who are often not listened and attended to</li> <li>• High inputs of training and monitoring needed to strengthen the community institutions and ensure fairness</li> </ul>

### 12.2.3 Self-targeting

This targeting method involves neither administrative nor community targeting. Able-bodied persons choose to participate in LIPW. Their decision is based on a comparison of the costs and benefits of alternatives available at a given time.

**Table 4: Strengths and Limitations of Self-targeting**

Strengths	Limitations
<ul style="list-style-type: none"> <li>• Little or no cost to administrative bodies or communities</li> <li>• Little or no corruption and bias in participant selection</li> <li>• No need to develop criteria/indicators and collect and analyse data (except setting the wage rate)</li> </ul>	<ul style="list-style-type: none"> <li>• Unavailability of wide employment opportunities</li> <li>• In a society where significant number of population are below the poverty line, demand might be far greater than the programme/available resources</li> </ul>

### 12.2.4 Combining Administrative & Community Targeting

Administrative or community targeting may not be practical in some cases. The most practical approach is targeting a method that combines administrative and community targeting. The combined targeting approach enables to use the available household data and local knowledge to make targeting more cost effective and minimise targeting errors.

**Table 5: Strengths and Limitations of Combined Targeting**

Strengths	Limitations
<ul style="list-style-type: none"> <li>• Off-sets the limitations of both administrative and community targeting</li> <li>• Maximises the strength of both administrative and community targeting</li> <li>• Enhances community capacity to use official data for targeting purposes</li> <li>• Creates opportunity for administrative officials to be acquainted with community knowledge</li> </ul>	<ul style="list-style-type: none"> <li>• Possible delay in decision if official data and community knowledge/beliefs do not tally</li> <li>• Possible influence of administrative bodies over the community particularly in a situation where the latter are unable to challenge the former</li> <li>• Possible resistance by community leaders to jointly work with administrative bodies</li> </ul>

### 12.1 Targeting Errors

Targeting errors occur when targeting procedures are not followed properly. There are two common targeting errors that are likely to occur: inclusion and exclusion errors. An exclusion error is leaving out eligible or poor households from the LIPW programme, and an inclusion error is allowing non-eligible households or individuals to benefit from a LIPW.

The following are some major factors that contribute to targeting errors:

- Absence of community participation in the selection process, particularly criteria setting
- Lack of reliable data on household economic status (income and asset ownership/access)
- Lack of communication or mechanism for exchanging the available (up-to-date) information
- Lack of proper accountability
- Misunderstanding of targeting cycle
- Deliberate act of favouritism
- Lack of awareness about the purpose of LIPW
- Lack of clear criteria
- Absence of close supervision
- Absence of regular updating of list of beneficiaries.

## 12.2 Appeal Mechanisms

It may be difficult to avoid targeting errors completely. However, through close monitoring and follow up, targeting errors can be minimized. Thus appeal mechanisms should be established through which individual households or groups could present their grievances. The appeal mechanism has to be handled at the community level and should not go to formal courts of law. The appeal should first be presented to the community Project Management Committee (CPMC). This helps to save time and enables communities to focus on their development efforts. If it cannot be resolved at the CPMC it has to be forwarded to the sub-county or district as necessary.

## 12.3 Targeting Cost

Costs that can be associated with targeting are administrative, transaction, social, incentive and political cost.

- a) Administrative costs are the costs of gathering information to make the decision about who should be admitted to the programme
- b) Private costs are costs to an applicant of applying for a programme (time, cash costs of gathering the necessary information, travelling to the registration site and queuing up for registration, complying with any preconditions). Private costs always reduce a programme's net benefit to the recipient.
- c) Incentive (or indirect) costs arise when eligibility criteria induce households to change their behaviour in an attempt to become beneficiaries.
- d) Social costs may arise when participation in a programme carries with it some sort of stigma
- e) Political costs can arise if the degree of targeting negatively affects the programme's budget

## 12.4 Setting Wage Rates

LIPW programmes are designed to provide seasonal income through wages to smoothen the consumption of poor households in response to food shortage and/or shock. This shock can be a one-time occurrence due to an unexpected event such as an economic crisis or a natural disaster. It could also be a recurring or seasonal shortfall in the demand for employment.

The LIPW wage rate has to be far enough below the prevailing local market wage rate to attract only those in need of temporary work. However, it also has to be high enough to provide a meaningful level of transfer.

In Uganda most programmes currently pay to beneficiaries a daily wage rate of UGX 4,000. Based on the principle of LIPW wage-setting, the current wage is reasonable in amount and below the labor market rate which does not encourage beneficiaries to prioritize participating in LIPW activities. However, this may need to be revised periodically to take into account issues such as inflation, for which wage-rate and labour market surveys will normally be required.

Ideally one member of eligible households can be targeted to participate in the implementation of LIPW. However, in the rural areas of Uganda households' size (number of family members) varies considerably (1-12 family members). Depending on the agreement reached at the community level, more than one family member can be allowed to participate in the LIPW depending on family size.

One participant for a family size of 1-4, two participants for a family size of 5-10 and two participants for a family size greater than ten members can be considered as a fair targeting guideline. Household member participating in LIPW should be adult, able-bodied, between the ages of 16 and 65, not pregnant beyond 4 months, or disabled. Those who are not able-bodied, and who cannot be targeted under LIPW, may be entitled to direct transfer from other programmes designed to cater for the non-able-bodied.

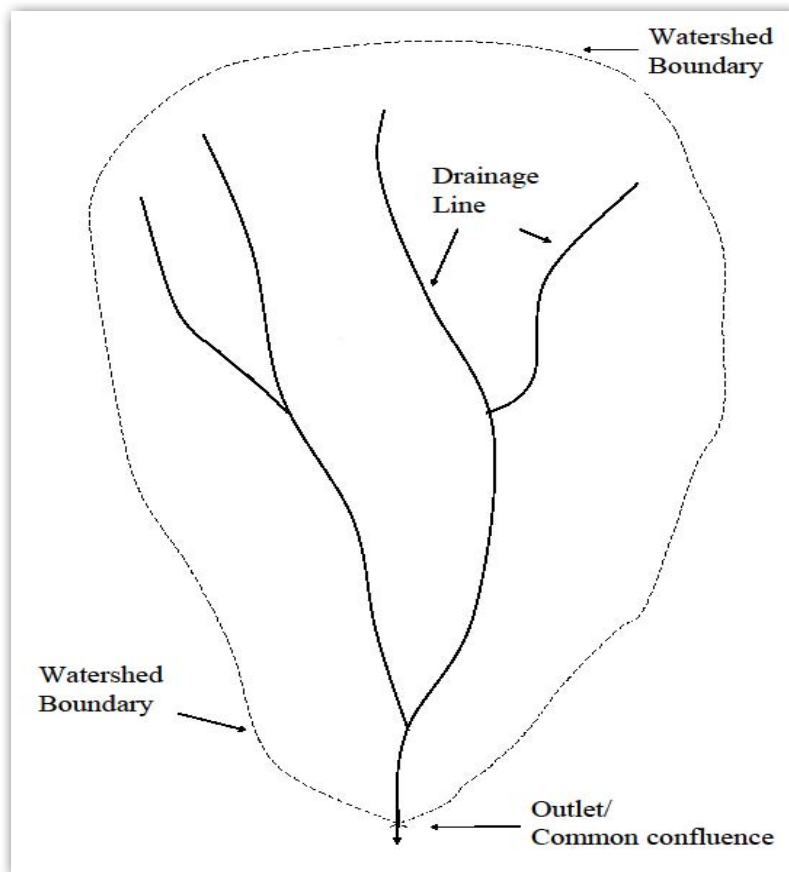
## **12.5 Graduation from the Programme**

The principles and procedures for graduation from LIPW will need to be agreed by the Government and the implementing agency/Development partners. Graduation should be based on case-by-case, evidence-based assessment of a household's circumstances compared to relevant, realistic criteria.

## **13 PLANNING PROCEDURES FOR LIPW**

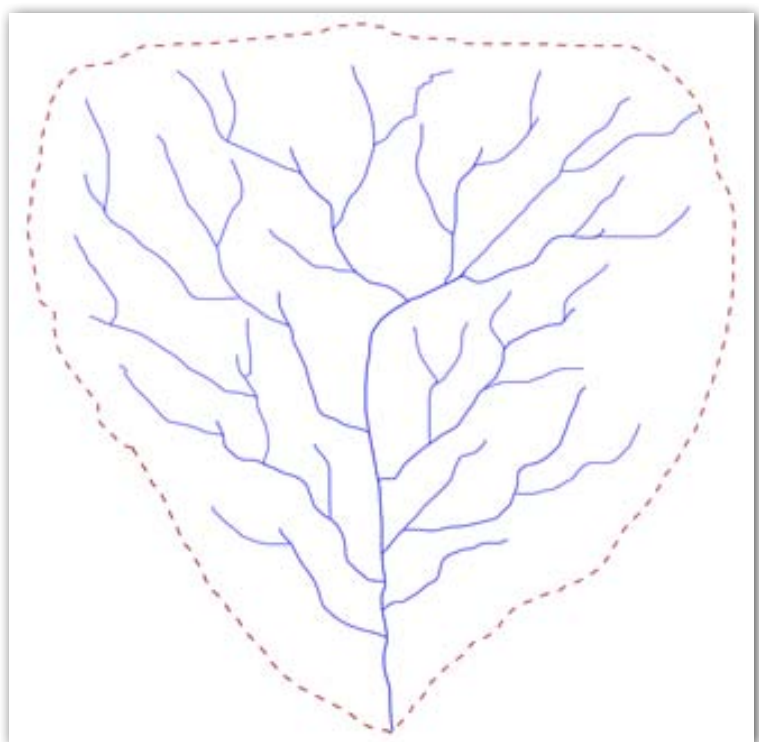
### **13.1 Watershed-based LIPW Planning**

A watershed is defined as any surface area from which run-off resulting from rainfall is collected and drained through a common confluence point or outlet (Figure (iii)). Watershed boundaries can be delineated using a topographical map that shows the ridges associated with the various drainages and the mouth of the stream or river where water flows out of the watershed.



**Figure (iii): A Watershed**

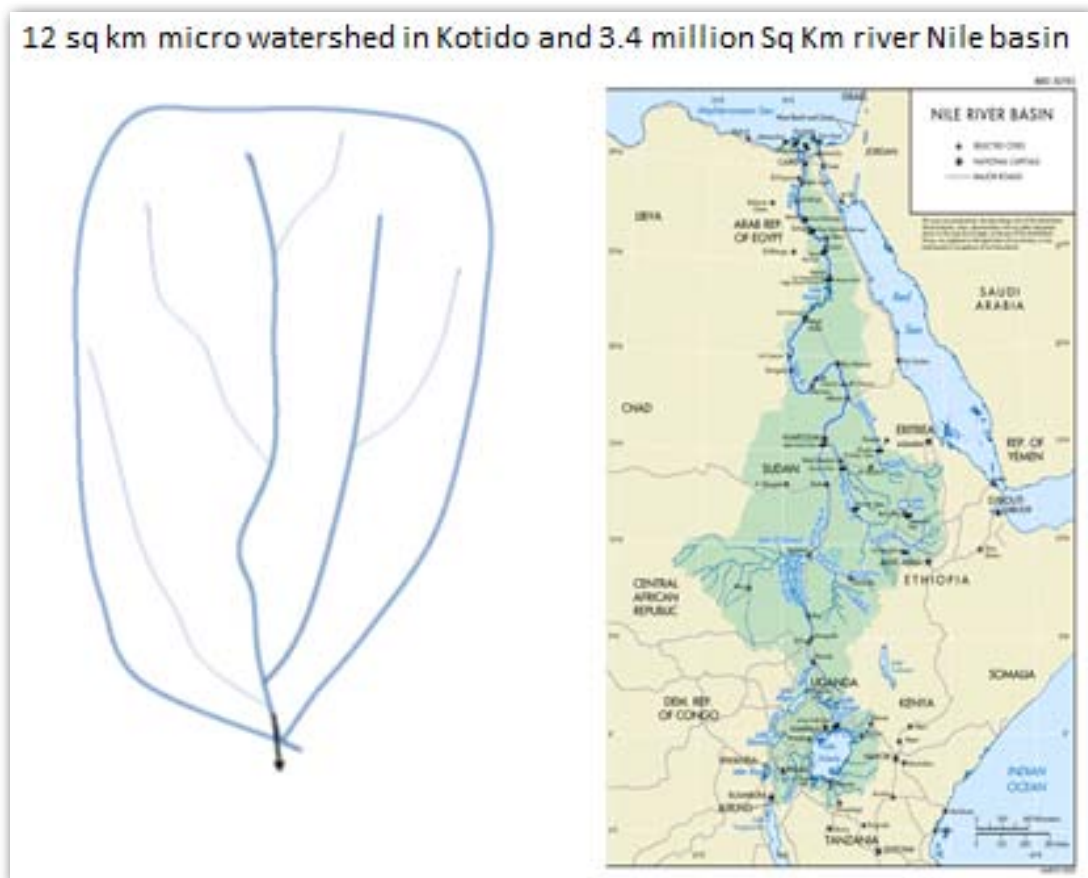
The term 'watershed' is synonymous with 'drainage basin' or 'catchment area'. There is no fixed size for a watershed; they come in different sizes. The size of a watershed can vary depending on the point of discharge chosen to define it. At the mouth of a major river that drains to the ocean, the watershed would often be very large. However, if we chose a point upriver at the confluence of two streams, the watershed would be much smaller. We can define a micro-watershed as small as the drainage area for a housing development, or even a road culvert.



**Figure (iv): Example of a Watershed with Drainage Networks**

**Table 6: Size of Watershed and Suggested Terminology<sup>6</sup>**

Terminology	Mean size (sq. Km)
River basin	50,000
River sub-basin	5,000
Watershed/catchment	500
Sub-watershed	50
Mini-watershed	5
Micro-watershed	<2.5



**Figure (v): Examples of Watershed Sizes**

The watershed is the basic building block for land and water resources planning. The livelihoods of the farming population in the rural areas depend on the watershed (land and water resources). Mismanagement or misuse of the land and water resources can cause degradation. As a result of degradation, the quality and quantity of land and water resources will deteriorate, which can put the livelihoods of the population depending on the watershed at risk.

<sup>6</sup> Watershed sizes, classifications and terminology vary from institution to institution.

Changes in watersheds can result from a range of natural and anthropogenic factors, including natural soil erosion, changes in farming systems, over-abstraction of water, overgrazing, deforestation, and pollution. The combination of the costs of environmental degradation, and the positive socioeconomic impacts of good watershed management has prompted investment in watershed management in many developing countries.

Watershed management is the integrated use of land, vegetation and water in a geographically discrete drainage area for the benefit of its residents, with the objective of improving livelihoods by protecting or conserving the natural resources, including hydrological services that the watershed provides, while reducing or avoiding negative downstream or groundwater impacts.

The aspects of a watershed that drive management approaches include the integration of land and water resources, the causal link between upstream land and water use and downstream impacts. Watershed management approaches need to be adapted to the local situation and to changes in natural resource use and climate.

A watershed can lose its productive potential/degraded due to human interference. The degradation can result from the interaction of physiographic features, climate and poor land use (indiscriminate deforestation, inappropriate cultivation, disturbance of soils and slopes by mining, the movement of animals, road construction, and badly controlled diversion, storage, transportation and use of water). Watershed degradation, in turn, leads to accelerated ecological degeneration, reduced economic opportunities and increased social problems. To improve the living standard of the households living in a given community, a degraded watershed that has lost its productivity has to be rehabilitated through properly planned watershed management. This is done through a process of formulating and carrying out a course of action involving the manipulation of resources in a watershed to provide goods and services without adversely affecting the soil and water base. Watershed management thus has to consider the social, economic and institutional factors operating within and outside the watershed area. The plan has to be made based on consideration of optimum resource use and agreed upon by all stakeholders.

## **13.2 Integrated Watershed-Based Planning and Management**

The key drivers of the integrated watershed management approach are:

- a) the need for integrated land and water management
- b) the causal link between upstream land and water use and downstream impacts,
- c) the multiplicity of stakeholders and
- d) a nexus in upland areas between resource depletion and poverty.

Land use, vegetative cover, soils, and water interact throughout the watershed, so that management approaches must consistently address them together. Therefore, typically, watershed management programs adopt integrated resource management approaches.

Upstream land and water management inevitably has impacts on the downstream environment particularly on the quantity and quality of water flows and on the operation of downstream assets. Because of the direction of these effects—from upstream to downstream—watershed management programmes have to be typically oriented toward problem solving in upland areas.

Watersheds provide many important services to an extensive range of stakeholders, and changes in land and water management and in watershed hydrology will directly or indirectly affect many or all. Many people use upper and lower reaches for multiple purposes. Impacts on downstream areas are further compounded by socioeconomic development downstream, such as encroachment of urban development into flood plains, wetland areas, and areas of natural drainage.

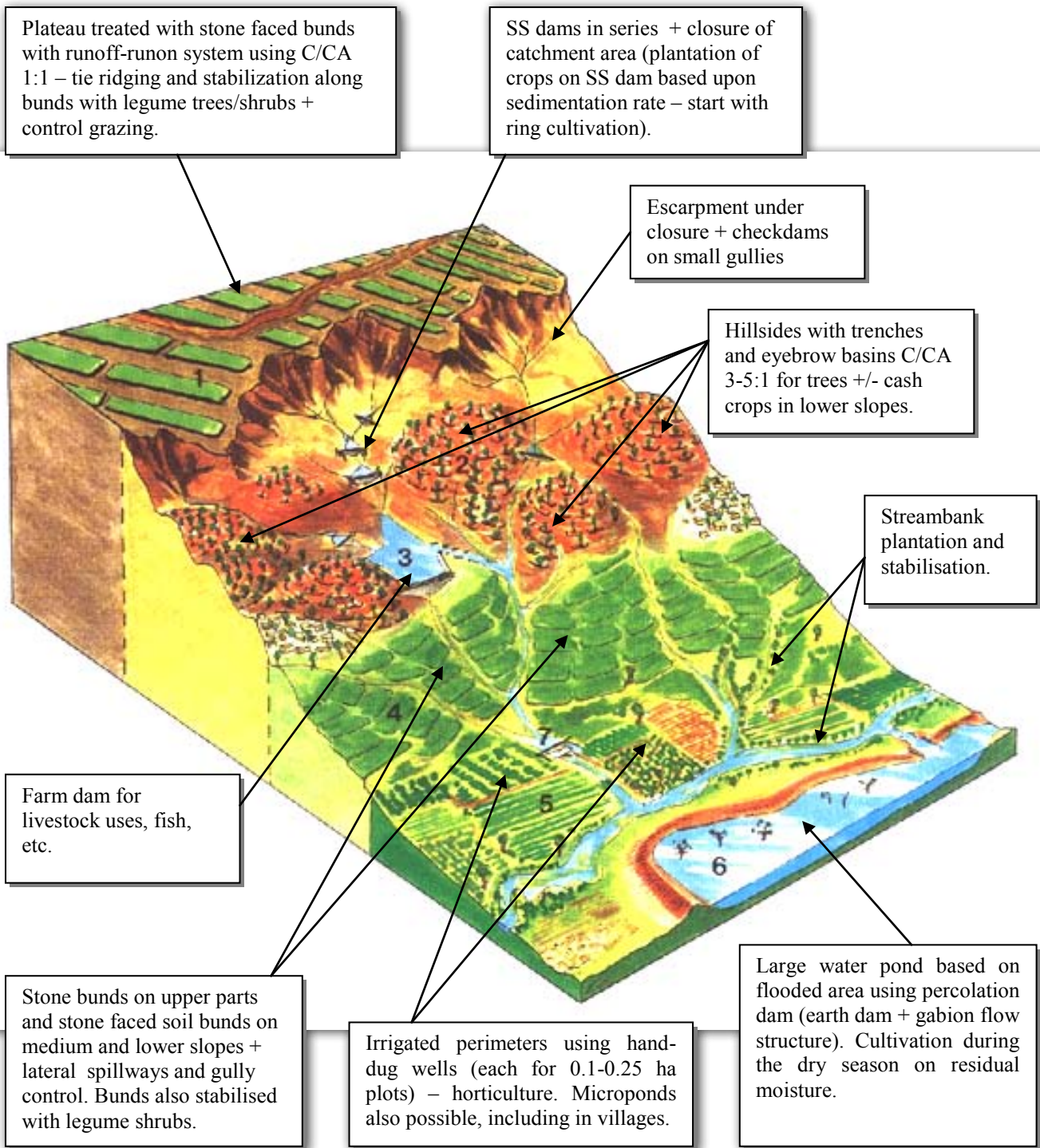
Upland areas of developing countries are typically more fragile and less productive environments, where natural resource management and rural poverty are commonly linked. With frequently extensive land-use practices and a more fragile resource base, uplands are vulnerable to over-exploitation and depletion of natural resources (water, vegetation, forests, and soils). With land degradation, agricultural productivity declines, often aggravating the poverty problem. As a result, improving the management of natural resources in upland areas and influencing downstream impacts requires attention to the problems of the population of the poor upland areas, particularly poverty reduction and local institutional development. Thus, watershed management programmes generally have to focus on the farming systems of the poor in upland areas in order to achieve poverty reduction and conservation objectives.



**Figure (vi): Degraded Land Resulting from Improper Land Use**



*Figure (vii): Rehabilitated Land Resulting from Good Watershed Management*



**Figure (viii): Integrated Watershed Management Plan<sup>7</sup>**

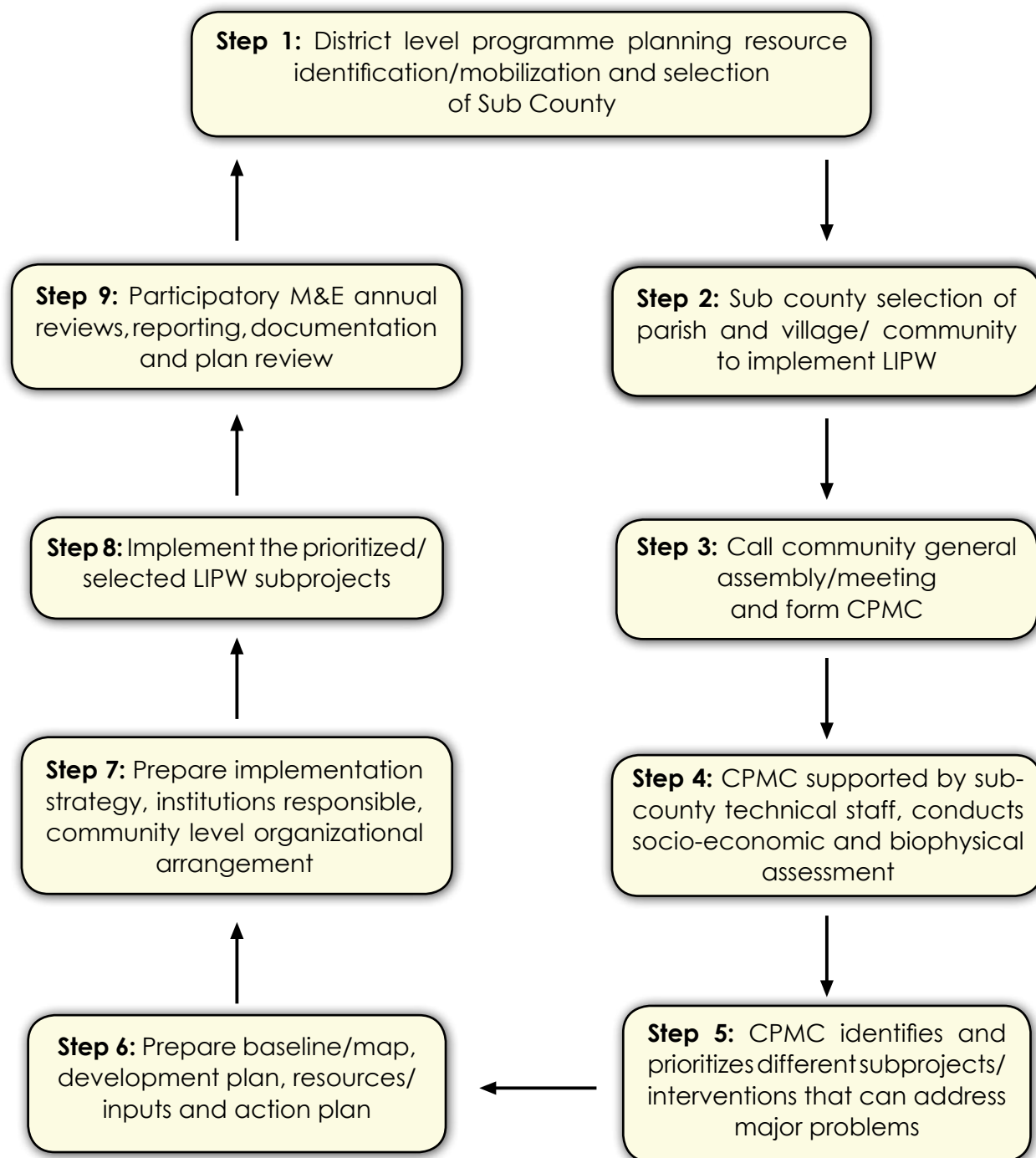
<sup>7</sup> Source: Ethiopia Community Based Participatory Watershed Development Guideline

### 13.3 Planning Procedure

Through a systematic step-by-step planning process, the community can identify the priority issues to be implemented to address problems, help to build the community's resilience, and contribute to sustainable development. The key steps for LIPW planning are:

- Step 1:** District level programme planning, resource identification and selection of Sub County to implement LIPW
- Step 2:** Sub county select parish and village/ community to implement LIPW
- Step 3:** Call community general assembly/meeting and form CPMC
- Step 4:** The CPMC, supported by sub-county technical staff, conducts socio-economic and biophysical assessment
- Step 5:** The CPMC identifies and prioritizes different subprojects/interventions that can address major community problems
- Step 6:** Prepare baseline, map, development plan, resources/ inputs and action plan
- Step 7:** Prepare implementation strategy, institutions responsible, community level organizational arrangement
- Step 8:** Implement the prioritized/selected LIPW subprojects
- Step 9:** Carry out participatory M&E annual reviews, reporting, documentation and plan review

The planning process helps to identify community needs, prioritise activities based on those needs, and ensure community ownership of the subprojects as appropriate in a way which leads to integrated management of watersheds. Prior to the community planning process, work will have taken place at District and sub-county level to define the major watersheds and the critical watershed units. These watershed units may still encompass several communities, and there will therefore be need to be further defined into community-based sub-watersheds. It is these community-based sub-watersheds (or community watersheds) which form the basis for planning. Figure (ix) below presents the flow diagram of LIPW planning procedures.



**Figure (ix): Steps for LIPW Planning**

### **13.4 Sensitization at Community Level**

To effectively plan and implement LIPW, proper sensitization to raise awareness and capacity-building should be made at all levels. The LIPW key issues in the agenda for sensitization are objectives of LIPW, eligibility, typical LIPW menu, wage rate, payment modalities, work-norms, and other important elements of LIPW planning and implementation.

### **13.5 Understanding the Community and the Biophysical Environment**

The CPMC and facilitators will need to carry out the assessment of the socio-economic and the bio-physical environment. Community boundaries and major features can be marked using simple sketching and mapping techniques. The sketch can be made on the paper/flip chart or on the ground using local materials. To carry out the mapping exercise, the extension staff/facilitator needs to choose appropriate site where the CPMC can see most of the community/sub-watershed area and will ask CPMC to sketch the community/sub-watershed area on the ground or on a flipchart, and support CPMC to record main features related to land-use system.

### **13.6 Socio-economic Survey**

The socio-economic survey helps to understand how the economic activities affect and is shaped by the social process.

For planning of LIPW the following steps are very useful to conduct the socio-economic survey.

- a) Trend analysis
- b) Village mapping
- c) Transect walk
- d) Institutional analysis
- e) 'Vision of change' exercise
- f) Conduct the problem identification and ranking
- g) Collect additional information as necessary using questionnaires

The problem and possible solutions identification will be supported by more in-depth and diagnostic socio-economic surveys. The following are some of the sources of information and methods to undertake the socio-economic survey.

- a) Review of existing reports: Existing reports on general socio-economic conditions of the community/parish/sub-county should be collected and reviewed before planning detailed studies in a specific community. The existing reports (which may be available at local or central government level) will give the planning team basic information which may be valuable for the preparation of survey proposals, related forms and questionnaires. Already existing studies need to be reviewed.
- b) The socio-economic survey acts also as a baseline for Monitoring and Evaluation; it covers a wide array of social conditions and economic activities in the watershed.

Before beginning the survey, a series of decisions should be made on enumeration, types of baseline data, sampling method, total sample, period of survey, and others. For practical purposes socio-economic guide questionnaire is attached in Annex A and B. The questionnaire can be modified as necessary.

The socio-economic survey and constraints analysis should be conducted with the CPMC following a checklist divided into subject areas. The questionnaire covers the general community background, crop production, livestock production, fuel supply, water supply, infrastructure, marketing, land degradation, role of women in development, land tenure, and others. Each section should be analysed in the community and with the CPMC.

### **13.7 Biophysical Survey**

The biophysical survey helps assess vegetation, water resources and soil degradation in the area or watershed. To carry it out effectively, a map of the area and a resources survey and assessment are necessary. A base-map or present land-use map has to be produced, which can be used for the spatial location of resources. Mapping can be undertaken using 1:50,000 topographic maps of the area. If topographic maps are not available, simple sketch maps of 1:10,000 scale can be used.

Maps can be prepared using simple techniques. Mapping can be started by delineating the community boundaries and the sub-watersheds within and outside the community boundaries. Each identified sub-watershed needs to be divided into micro-watersheds and a number can be assigned to each micro-watershed for easy identification.

General data for a community watershed plan should include agro-climate/agro-ecology, name and location, boundaries, size, elevation, streams, rivers, tributaries, and others. For each type of land-use, describe the actual conditions of the watershed such as soil, vegetation, drainage, topography, land use, water resources, infrastructure, past and present watershed development activities, and trends in degradation (erosion, deforestation, and others). Physical data include soil, geology and geomorphology (drainage patterns, stream density and order, channel profile, and others) should also be shown.

The identification of the existing potential of the watershed and opportunities and limitations for future development depends on the study, transect walk, mapping exercise and inventory of resources being carried out as above.

The CPMC and the facilitator should then analyse the relationship between the identified problems and socio-economic survey results, as well as the biophysical resources assessed. The result of this analysis will help identify what existing opportunities are available to solve the socio-economic and watershed problems in order to improve the livelihood of the community and attain food security at a faster rate. Moreover, analysis will show which areas should be focused as a key and priority needs. Through such analysis it will be possible to fulfil short, medium, and long-term objectives.

At the end of this exercise, a base-map (the present land-use map) is produced with sufficient scale to place all the information stated above. Suitable scale could range from 1:2000 to 1: 5000 scale for community maps. Farmers' maps and transects should be also reported on paper for reference and for comparing these maps with base maps.

At the end of problem identification and prioritization, a general meeting with all community members should be organized to present the results of the assessment and studies conducted. The presentation should be made by the CPMC and the whole community should be encouraged to actively participate in the discussions. At this stage the problems identified and their rank when identified at earlier stages can be revised.

The general assembly meeting at this stage is required to:

- a) Finalize the problem identification and the preliminary solutions proposed by the CPMC in the order of priority;
- b) Agree on overall community's acceptance of the planning work achieved so far;
- c) Check if the work results of the CPMC represent the idea(s) and aspirations of the different community groups;
- d) Involve as many people as possible in the planning exercise so as to ensure greater community empowerment and encourage active participation of the community;
- e) Sensitize on the women and gender issues in the watershed development programmes.

A guidance note/tool as presented in Annex C can assist in the preparation of the biophysical survey.

### **13.8 Identification and Prioritization of Subprojects**

After the socio-economic and biological survey, the CPMC and extension staff/facilitator will have to gather a considerable amount of information from the community, key informants, focal groups, field surveys and mapping work. This enables the CPMC and facilitator to be more aware of the constraints faced by the community and the potentials and opportunities for development. Now the various socio-economic issues are related to the biophysical elements within and outside the community watershed, in order to select the interventions that will bring change. A detailed problem identification and prioritization procedure is presented in Annex D, which can be used as guidance.

Interventions should be technically correct and implemented following quality criteria and in the correct sequence. Poor quality work does not generate any change and often worsens the situation, generates mistrust and is a waste of resource.

To select from the various measures, particularly those related to natural resource development and productivity enhancement, the facilitator and the CPMC should carefully examine land use, soil, slope and vegetation features. They should identify those measures most suitable under different agro-ecological conditions based on the problems and demands or priorities expressed by the community.

The main pool of activities is categorized and summarized in the tables of Annex G, which provides guidance in the selection of different measures. Specification for each of the activities has to be locally developed.

Traditional measures on conservation (physical and biological) and water harvesting are important. They contribute to the control of erosion that otherwise would be even worse than what is actually observed. Nevertheless, in many areas, traditional methods cannot cope with current trends of land degradation. Regardless of their performance, traditional experience and knowledge in Soil-and-Water Conservation (SWC) and farming should be capitalized by field technicians and used effectively to identify, select, design and implement improved natural resources development and productivity intensification measures. The farming practices of farmers, which are the product of local circumstances, evolve based on farmers' perception of what does well and what does not, under the existing limitations. These limitations are important to know. They are often the key to success. Some of the limitations may be technical, financial or related to tenure. In many circumstances, they can be addressed through creation of awareness, training, involvement of government institutions, and the like.

There are measures that are implemented at individual, group, community, and inter-community levels. They are often all connected and need a common understanding on which activity to start first or simultaneously that will be most logical and advantageous. For example, the treatment of the upper parts of the community watershed jointly with the treatment of contiguous areas in adjacent communities could generate sufficient water-table recharge to allow hand-dug wells to be established at individual level for many households. In this case the hand-dug well technology will come after the treatment with trench or eyebrows at the upper watershed area. In turn, the treatment of such areas - mostly communal - will require community commitment and by-laws restricting use of communal grazing, and agreement on the sharing of future benefits such as trees and fodder. For those types of problems, the extension staff and the CPMC decide the measures to be implemented and submit the proposal for comments and approval during the general assembly meeting with the whole community.

### **13.8.1 Gender Responsiveness**

Reduction of workloads and environmental hardships are key elements of community watershed planning. The extension staff should make sure that the CPMC places equal importance on activities that benefit women. It also means the promotion of activities that benefit women such as sharing those activities that can be carried out by men. As is well known, women's work load, particularly those of women-headed households, is already high in many areas.

For example, women would be very much interested in treatment of upper watersheds, mostly because of their effect on water-tables, thus on springs, wells or filling of ponds. Mixed woodlots near or around residences are also activities they would appreciate and desire. Most importantly, they would be interested in measures improving the productivity of their homesteads and their participation in income generation activities, credit schemes and skills improvement. The extension staff should also promote joint community or groups efforts to assist most vulnerable women-headed households, particularly those affected by labour shortages.

It should be noted that it may also happen that solutions to some problems are beyond the CPMC and the extension staff mandate.

### 13.8.2 Support for Appropriate Technology Development

Farmers could be very doubtful about new activities, since they may not be familiar with the species or land management practices you suggest or introduce, their spatial arrangement, and their expected benefits. It is always advisable to initiate small-scale trials where the farmers can assess the performance of the measures. If results are to be found beneficial and manageable, you would probably see the measure implemented on a wider scale according to the resources available. Those on-farm trials or simple trials (you could use also the homesteads and nursery spaces) should be carefully monitored and evaluated.

In planning development activities, the extension staff will notice that for problems of common interest to households, it is often easy to reach agreement on what measures should be implemented. For example, the problem of water shortage can be solved by constructing a spring and/or a pond. It will have an immediate positive impact and will be very much appreciated by farmers. However, spring development may be possible only if its flow is sufficient; thus only if the water-table is recharged. The same applies to community ponds; they can be constructed only if sedimentation is controlled through gully treatment and area closure of the catchment area. Similarly, individuals need to take great care when planning activities that require space/land. Individual farmers are decision-makers regarding the land they cultivate; hence the need to consult them regarding their farms. Solutions should be sought, developed together and approved with them. The facilitator should spend sufficient time to contact and discuss with farmers the objectives of the various measures, their design and pros and cons.

### 13.8.3 Integration and Sequencing of Subprojects

Each subproject has its specific design, layout, implementation and management criteria. Furthermore, technologies in a watershed and land-use system are not applied in isolation; each one needs to be integrated with other measures to:

- a) further strengthen the measure and improve its efficiency,
- b) improve its productivity,
- c) reduce maintenance costs, and
- d) generate multiple benefits.



**Figure (x): Integration of Check-Dam with Plantation**

The interactions and integration requirements at this level are essential to guide the sequence of activities and increase the range and quality of conservation and development opportunities that can be generated from systematic treatment within and between sub-watershed and broader units. Other development requirements such as health facilities, schools, etc, should be regarded as an integral part of watershed development in a broader, or critical, watershed. These issues need to be addressed and handled in consultation with respective institutions.

Detailed information on the design and implementation of measures is presented in Volume II of this Guideline in the form of technical designs based on the agro-ecology, soil, topography, etc. The TDM can be used for practical technical reference.

## **14 LIPW TYPICAL SUBPROJECTS AND APPROVAL PROCESSES**

### **14.1 Physical SWC Measures**

Physical soil-and-water-conservation (SWC) measures are those measures developed through soil-cutting and earth-moving to reshape the topography. They are mechanical barriers constructed across the direction of flow of rainwater to retard or retain the run-off and thereby reduce the soil and water losses. Physical SWC includes bunds, terraces, tranches, etc.

The important principles to be kept in mind while planning physical control measures are:

- a) Increasing the time of concentration of run-off, thereby allowing more of the water to be absorbed and held by the soil,;
- b) Intercepting a long slope into several short ones so as to maintain less than a critical velocity for the run-off water,;
- c) Protection against damage due to excessive run-off.

Usually such measures are not complete on their own and require the addition of a vegetative cover before becoming fully effective and permanent.

While selecting and designing physical measures, the following factors should be taken into account:.

- a) Climatic conditions, especially rainfall and the need to retain or discharge excess rainfall (run-off).
- b) Topography of the land, more specifically of slope steepness.
- c) Conditions of the soil (erodibility, texture, drainage, depth, stoniness and risks of mass movement).
- d) The availability of an outlet or waterway for safety discharging run-off away from the land.
- e) Farm size and the farming systems.
- f) Availability of labor and cost.
- g) Availability of construction materials.
- h) Adequacy of existing agronomic or vegetative conservation measures.

The extension staff and the CPMC need to consult detail information kits about each measure and check its suitability based on specific site conditions: mainly slope, soil depth, vegetation cover, cropping patterns and erosion levels.

## 14.2 Gully Control

Gully erosion is a serious problem, especially in arid and semi-arid areas where vegetative cover is often poor. Gully erosion is caused by excess run-off from untreated farmlands, hillsides, roads and urban areas. Gully control should be based on two principles:

- a) determining the cause of the creation of the gully;, and
- b) taking counter-measures which involve improving the management of the watershed and reducing the quantity of run-off entering the gully, restoring the original hydraulic balance or creating new stable conditions which involve taking measures in the gully to reduce the erosive power of the water.

Vegetative measures and plant species for gully control have to be properly selected. Gully control can be effective if the physical and biological measures are implemented in an integrated manner.

## 14.3 Water Harvesting

Water harvesting is the collection and concentration of run-off for productive purposes such as production of crops, fodder, pasture or trees production, livestock and domestic water supply. It includes all methods of concentrating, diverting, collecting, storing, utilizing and managing run-off for productive uses.

Water harvesting works on the principle that where there is scarce rainfall, it is possible to improve the situation through proper use of the part of rainfall that results in run-off. This is especially true in arid and semi-arid areas where water is a limiting factor for agricultural activities or where the rainfall is erratic in its occurrence. It can be done through in-situ rainwater conservation or through run-off generation either within the field or from external catchments. The former involves the conservation of rainfall where it falls in the cropped area or pasture. The most common technology for this purpose is conservation tillage, which aims at maximizing the amount of soil moisture within the root zone. A number of agronomic practices such as mulching, ridging, manuring, and other small farm structures such as field ridges/bunds, contour bunds, bench terraces within cropped area and others, could fall under this category.

When preparing a watershed development plan and during the selection of the type of water harvesting systems and technologies, it is up to the development planner to decide which technology to select based on the priority needs and purpose of water to be harvested. Water-harvesting measures need to be combined or directly linked to other measures such as conservation and gully control, re-vegetation, agronomic and soil management measures. Furthermore, some of the measures have complex designs that need to be followed accurately. Several measures need supplementary inputs such as cement, gutters, pipes, and iron mesh.

## 14.4 Flood Control

This refers to controlling the flood from causing damage to community assets such as farmland, buildings, roads, and others. It is common that flood from unprotected hilly areas causes damage to lower lying areas by depositing sediment on cropped land and causing temporary water logging problems, subsequently resulting in crop failure. Moreover, flood causes damage to roads by depositing of sediments of courser size and boulders and result in failure of the roads.

While planning to control flood, priority should be given to prevention of flood occurrence. Planning for prevention is simpler and cheaper than controlling flood in progress. Prevention minimizes or protects all possible chances of flood formation by treating every spot of run-off generating areas.

#### **14.5 Soil Fertility Management and Biological Conservation**

These measures play a key role in supplementing and improving the performance of physical structures – each measure needs to fit the farming system and tested if not introduced yet. They play an essential role in natural resources conservation directly and indirectly by influencing both the soil characteristics and the vegetative cover factors. Combined with quality physical structures they enhance productivity per unit area.

Homestead technology focuses mostly on improved farming and soil fertility management measures as well as biological measures. However, it also includes any possible type of physical structures, water harvesting and forestry and agro-forestry measure, and others such as livestock rearing and income generation activities. The homestead technology is thus a combination of concentrated efforts that seek to exploit to the maximum the space around homes. From experience, homestead technology should be fully integrated within a watershed approach as a necessary condition for its fast expansion and adoption by land users.

#### **14.6 Compost Making**

Compost is organic matter that has been decomposed and recycled as a fertilizer to improve soil fertility. Compost is a key ingredient in organic farming. At the simplest level, the process of composting simply requires making a heap of wetted organic matter known as green waste (leaves, food waste) and waiting for the materials to break down into humus after a period of weeks or months. In order to improve the productivity of small holder farmers among other activities the preparation and use of compost is very essential.

When combined with other soil and water conservation measures the use of compost can enhance land productivity.

Compost making is a simple activity that can be prepared using LIPW at household level. The compost can be used particularly in backyard gardening to generate additional income and improve household nutrition.

#### **14.7 Forestry, Agro-Forestry and Forage Development**

A variety of measures or subprojects are needed both in terms of support measures for planting, plant species and planting arrangements, and plant management requirements. Details on type of species and spacing/planting arrangements for planting have to be prepared by relevant technical staff of the central office.

## **14.8 Potable Water Supply**

Subprojects that can be assisted under this LIPW category may include construction and maintenance of community water supply networks, shallow wells (including hand-operated pumps and accessories), small dams, ponds, valley tanks and other water harvesting structures, spring development/protection, extension of water distribution schemes and stream diversion

## **14.9 Small-Scale Irrigation**

The LIPW can support the planning and implementation of small-scale irrigation (SSI) to improve the productivity of subsistence agriculture. This might include improving and/or upgrading the traditional SSI or initiating a new scheme where there are water resources and land with irrigation potential. The irrigation methods that can be promoted by LIPW are furrow, basin and family drip irrigation. The LIPW programme can provide employment opportunities for targeted households for digging and protection of irrigation canals and drains, construction of small water retaining structures such as small earth dams and reservoirs. The programme may also assist the farmers to obtain high value crops varieties seed.

SSI structure rehabilitated or created by LIPW can enable farmers to grow 2-3 crops per year, which can enhance agriculture productivity and household income. It also provides on-farm employment opportunities during the dry season. Moreover, if properly planned and implemented LIPW may have important spill-over benefits, including the promotion of social cohesion. Nevertheless, if proper water use by-laws are not put in place and implemented, SSI in some cases can cause social tension.

## **14.10 Social Infrastructure**

The typical subprojects in the social infrastructure category are typically related to the education, health and recreational sectors. Examples of social infrastructure projects are the construction or maintenance of school classrooms, farmers training facilities, community clinics and health centres, public showers, nursing homes, community centres and libraries. In some countries LIPW resources is used to rehabilitate/upgrade school play grounds.

## **14.11 Access Roads**

Access roads constitute an important element of any watershed development planning approach. Access roads need to cross fragile and often steep slopes, rugged terrains and depressions. The roads can be undertaken by trained road engineer supervised experts following specific technical criteria for design under various slopes and soils as well as local materials.

## **14.12 Subprojects Approval at the Community Level**

The development plan indicates what, where, when and how it would be implemented. At the same time, the technical feasibility of the recommended measures have also been discussed based on the various options, adopted and/or adapted to local conditions, agreed with the CPMC.

At this stage the development plan would be at draft level. The general assembly of the whole community has to be called to reach consensus on the measures proposed and to approve the plan.

The CPMC representatives would present the plan by discussing each section of the plan to the community. On presentation the CPMC should encourage people to express their opinions and raise questions by also keeping gender balance. Here some changes and more suggestions would come which were not thought through during the initial planning. Even some individuals and interested groups may change their mind or add more ideas and suggestions. In this regard, enough time should be taken to discuss and agree on those measures, in particular, to be implemented in the lands individually owned or used. Moreover, each realistic solution and recommendation should be considered in turn and fully discussed.

### **14.13 Development Plan**

The key tasks for development plan preparation are to prepare a development map based on the assessment carried out, estimating the required inputs and action plan to implement the approved subprojects.

#### **14.13. 1Development Map**

The CPMC has to locate on the ground where the various watershed development interventions are to be implemented. The development map is an essential instrument that shows the actual placement of sites of development interventions in type with respect to land use types. This map will be used during implementation of the plan. Furthermore, the map is essential to the planner for determining the extent of the areas and the volume of inputs required.

Points to be considered when preparing a development map:

- The scale should be the same as that of the base map;
- It should show compartments of the development blocks in accordance with phasing;
- Any major community asset and development works that have been previously implemented should be transferred to the development map;
- Proposed development works, including maintenance or rehabilitation of existing measures should be shown;
- Symbols should be used to show the development interventions and other necessary information;
- The map should be provided with standard legend so that the user can easily read, understand and use the map.

Examples of a base map, symbols for watershed base and development map are shown in *Annex I*.

An enlarged copy of the development map should be prepared and kept at the community and sub-county level offices for monitoring and evaluation.

### **14.13.2 Estimating the Required Inputs**

Once the development map is completed, the next task is to estimate the inputs required to implement the planned activities, and to prepare an action plan indicating the period for implementing each subproject. The inputs include the labor and planting/working/construction materials. The volume of inputs required for implementing the plan is dependent upon a number of factors, and only a very general estimate may be obtained.

The extent of the work (area), specification, degree of slope, soil texture, and condition (wet or dry), and the working pattern, tools of the workers, and planting materials are all factors that influence the labor and material inputs.

For convenience, both during planning and implementation, it is helpful to complete the input requirements by community. These plans can also indicate which inputs are required for joint or common work. The table of inputs should indicate type of interventions/treatments, land-use type, quantities of work, inputs (labor, material, financial, etc) required and phases of implementation. A format of table of required inputs is attached in Annex F.

Seedlings for planting can be produced in central nurseries if there are central nurseries in the area. Farmers should be also encouraged to establish private nurseries and produce the seedlings for their personal use or sale. The sub-county or the District experts should assist the farmers to find the sources of seeds for raising seedlings.

### **14.13.3 Action Plan**

The action plan should be carefully and accurately developed on the basis of what has been agreed upon with the community for the implementation of the proposed measures using the table in Annex E. It should show a multi-year plan with first year plan being prepared in detail quarterly and monthly. For other years (second, third, and more years) there are strategic projections, to be adjusted and/or modified after the first year implementation and results. Arrange the action plan or schedule in consultation with the community but also with experts who may know more about external support for resource supply and availability.

Moreover, the action plan should also embrace the training needs for land users (both men and women) and development staff who are working with the community regularly.

## **14.14 Community LIPW Approval at District Level**

After the District receives the communities LIPW plans prepared based on the watershed approach, it reviews the plans and approves for implementation. The District ensures the integration of different LIPW programmes into the district Development Plan. Moreover, the District ensures that the community watershed-based LIPW plans for the use of natural resources, such as water abstraction, should not affect the adjacent District watershed plan negatively.

## **15 IMPLEMENTATION**

After the LIPW design is completed the next step is implementation of the designed programme following the design elements proposed. The key elements of LIPW programme implementation are defining the programme objective, institutional and financial arrangements, subproject selection, work site management, specific time of the year, communication strategy, monitoring and evaluation.

### **15.1 Programme Objective**

The decisions in this step should take into account specific country circumstances based on a sound background analysis. The National Social Protection Policy, drafted by MGLSD in September 2013, presents the vision and role of social protection and facilitates the development of a comprehensive social protection system for Uganda. It provides a harmonizing framework and guidance on a range of social protection intervention that should be implemented in Uganda, and identifies public works as one of the social protection interventions under the direct income support component. LIPW is one such intervention that has been identified as part of a wider safety net programme.

### **15.2 Institutional Arrangements**

The implementation of LIPW should be mainstreamed into the existing structures at the national and local government levels. The institutional arrangements will ensure effective participation and coordination of the various stakeholders. The arrangement addresses the main stakeholders and their roles and responsibilities in programme implementation. The detailed institutional arrangements, and the role and responsibilities of each institution, are presented in Chapter 19. This Guideline does not address the question of financial flows, which depend on individual programmes and the requirements and policies of the concerned financing agencies.

### **15.3 Implementation Schedule**

LIPW is implemented according to a schedule drawn up with the respective community. The field-level implementation plan should be prepared carefully through a consultation process with the community so that it will not interfere with basic farming operations. Thus, most of the LIPW activities should be implemented during the dry season of the year, when farming operations are at a low level.

### **15.4 Provision of Goods and Services**

During the planning stage, adequate budget should be allocated for the purchase of non-wage inputs such as cement, gabions and hand-tools to support LIPW implementation. There should also be sufficient budget to transport staff for supervision, to transport materials, and for the hiring of skilled craftsmen or foremen/women. The identification of the items needed should take place during the planning process, and procurement should be carried out according to the plan.

## 15.5 Organization and Supervision of Work Sites

The actual implementation of the LIPW programme rests on the organization and supervision of worksites, including arrangements for the management and supervision of workers, i.e., beneficiaries' selection, organization and ensuring timely payment of transfers or wages to beneficiaries.

LIPW participants have to be well organized in work-teams for optimum productivity. The proposed work-team is typically between 15 and 25 members.

### 15.5.1 Payment Methods

For effective LIPW implementation, two different payment methods (daily basis and contractual basis) can be applied, depending on the nature of the work. Work is assigned to beneficiaries if the work-norm for each activity is well established. After the assigned work is completed the quality and quantity of work accomplished is checked and payment can be effected. This method requires limited supervision from the programme management.

Work-teams can be formed by grouping beneficiaries who reside in the same neighborhood. This helps to ensure cooperation within teams, such as covering each other's tasks willingly when some are unable to attend, monitoring each other's attendance, and ensuring each other's arrival at work on time. Team formation can be done by the programme implementing institution extension/field level staff. Each work-team should have a fairly balanced composition taking into account gender, age, skill ability and strength. Women can be part of mixed teams or form their own teams. They can also be team leaders or co-team leaders. The teams should choose their own team leaders and co-team leaders who support the organization of the team and act as the go-between of those overseeing the work and the team. Team leaders are required to communicate to their members the time and location of the LIPW activities and for distribution of the work within the team.

### 15.5.2 Ineligibility for LIPW

Only able-bodied adult household members of target households are eligible to work at LIPW sites. The following household members are not considered able-bodied household members and are therefore not eligible to participate in public works:

- Children under the age of 16 years
- Elderly over 55 years old
- Physically disabled
- Mentally unfit
- Pregnant women and Lactating mothers during the first 12 months after birth
- Sick people (not active in their livelihood activities)

Non-able-bodied beneficiaries who cannot be targeted under LIPW should be targeted under other social protection programmes which provide direct transfer to such members of the communities.

The number of days an able-bodied adult household member is allowed to work is defined by each programme resource available and programme criteria. The procedure for defining labour days for each beneficiary is largely done during the targeting process.

### **15.5.3 Allocation of Light Work to Women**

Team composition and the assigning of teams to different LIPW subprojects/activities should take into consideration the need to allocate light work to women. When allocating tasks between team members, the team leader is expected to ensure that lighter work is allocated to women.

The definition of light works can vary according to context – for example the watering of seedlings may be a 'light work' in some areas, but in others may involve the walking of long distances to reach a water source. Examples of light works include:

- Planting of seedlings
- Weeding
- Watering
- Child care in designated child care centres at public works sites
- Other activities that may be agreed at the community level.

### **15.6 Communication Strategy**

A communication strategy should be developed, to inform the LIPW stakeholders on programme objectives and other design aspects. The communication strategy will help establish reasonable expectations about the programme, as well as help potential beneficiaries access or participate in the programme.

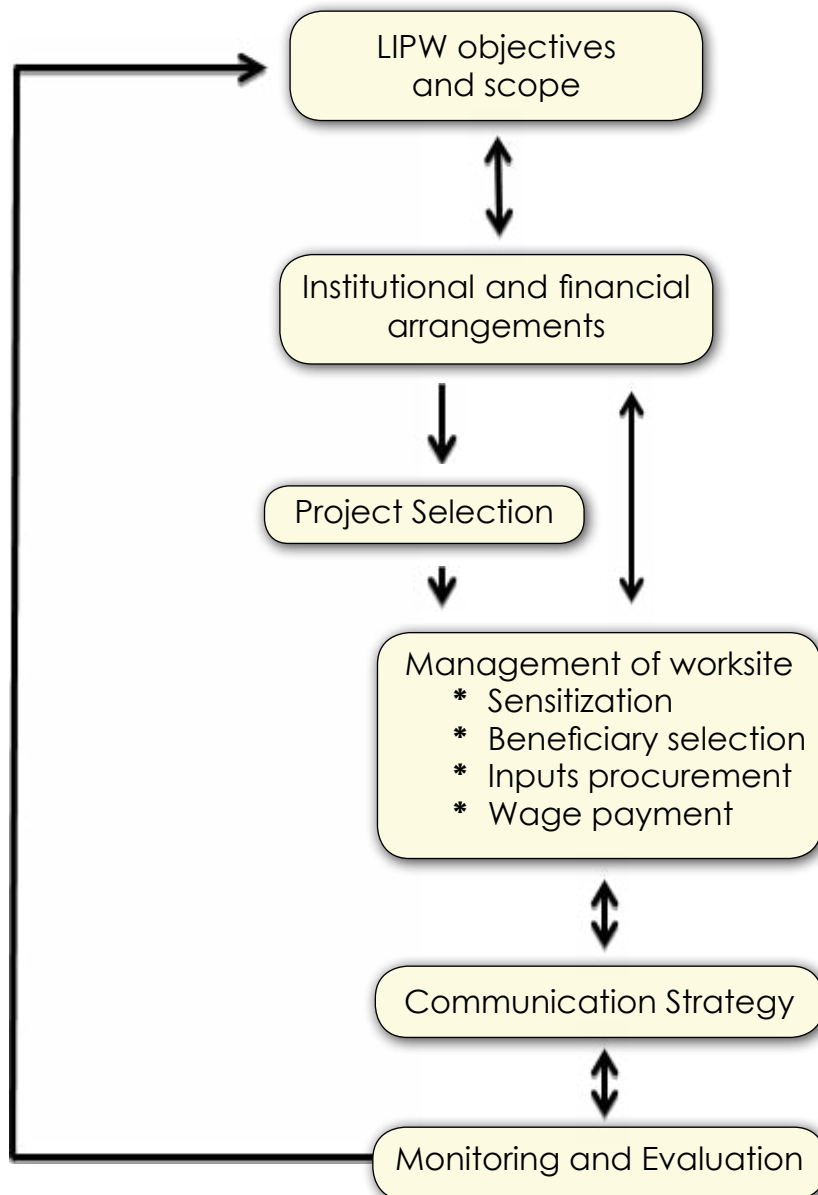
As shown in Figure (xi), implementation is an iterative process. Most functions of programme implementation are interconnected, feeding each other important information to guarantee that the programme works successfully. Success will depend also on the consistency of these functions with the programme objectives.

### **15.7 Management Information System (MIS)**

Once the institutional arrangement has been established the setup of a suitable MIS has to be decided for proper reporting, financial information, auditing, and project selection and maintenance.

### **15.8 Monitoring and Evaluation**

Monitoring helps assess programme performance and aids in early identification of potential problems. Evaluation sheds light on how effective the programme is in terms of meeting its objectives and realizing its intended impact. The monitoring and evaluation aspect of LIPW is elaborated in Chapter 17 below.



**Figure (xi): LIPW Implementation Process**

## 16 OPERATIONS AND MAINTENANCE

To sustain the continuous operation of LIPW sub projects, good operations and maintenance (O&M) is crucial. The main objectives of O&M are to ensure the effectiveness of the subprojects, contribute towards addressing poverty on a sustainable basis, strengthen community ownership, and increase commitment at grassroots level through integration of stakeholders' contributions. The main challenges of subproject O&M are poor planning, lack of ownership and delegated responsibility, and a lack of awareness and understanding. Moreover, inadequate resources at the community level for O&M is also often a critical limiting factor, particularly for subprojects that involve significant capital cost.

An O&M plan should be prepared and agreed upon by all relevant stakeholders' (CPMC, STPC, DTPC) at the LIPW planning stage. The nature of the O&M depends on the ownership of the subproject. Some subprojects, such as on-farm SWC measures, and seedling plantations on private land, may be owned by individual households. However, most subprojects, such as small-scale irrigation, potable water supply, pond/valley tank, access roads and communal infrastructure, are expected to be operated and maintained at the community level. For timely O&M of such communal subprojects, community institutions must be formed, with their own by-laws. Thus O&M requirements depend on the types of ownerships of the LIPW subprojects.

### **16.1 Subprojects on Private Land**

Subprojects created on private land are expected to be operated and maintained by individual households. Failure for the individual households to carry out the required operation and maintenance on the upstream of the watershed can have negative impacts on communal property downstream. To avoid or minimize the effect of upstream unmaintained subprojects on the downstream, the upstream subproject users have the responsibility to carry out timely O&M. Thus, the STPC must oversee and ensure that assets on individual property are well operated and maintained.

### **16.2 Subprojects on Communal Land**

Subprojects owned communally require the formation of community-based users' associations such as irrigation water users association and rural water supply users associations. To guarantee the continuous operation of the subprojects, these associations must have by-laws by which users are governed. There should also be a clear action plan of the associations to handle operation and maintenance of the subprojects. Beneficiaries should be trained to execute the O&M tasks after subprojects implementation is completed or after decommissioning. The bulk of O&M cost is expected to be unskilled labour. However, in some circumstances the cost of industrial materials such as cement and reinforcing bars is involved. The community-based association has to contribute funds regularly to address maintenance requirements.

The O&M cost of some subprojects such as access roads, SSI and rural water supply subprojects may sometimes be beyond the community's financial and technical capacity. In such cases the districts and/or sub-counties should incorporate the O&M plans into their budget framework and their annual work plan, in order to provide support for the beneficiaries as necessary.

## **17 MONITORING AND EVALUATION OF LIPW**

The main purpose of monitoring and evaluation (M&E) of the LIPW programme is for implementers to assess how the programme is performing against its objectives, whether it is working efficiently and effectively, and whether it is having an impact. M&E allows implementers at all levels (CPMC, sub-county, district and national) to understand whether or not the plans are working. It provides them with the evidence they need to:

- Improve management of the LIPW at all levels of implementation.
- Improve transparency and accountability in order to ensure that programme resources are being used to meet the intended purposes.

- Draw lessons from experience so as to improve the approach of one or more components of the programme.
- demonstrate efficient and effective use of resources.

LIPW planned lists of subprojects, targets, technical designs, reasons for selection, maps, and others, should be considered as benchmarks, which allow field staff to compare achievements and their impact against their original purpose.

Beneficiaries who participate in M&E are investing their time and effort in an activity from which they hope to benefit, and need to be part of a continuing process of investigating how planned tasks are going, whether changes are needed, whether expected results are still realistic, whether new alternatives have become available, etc. Regular supervision, as part of a monitoring and evaluation exercise, should be conducted at all levels of the implementing agencies of the LIPW programme.

Effective M&E is necessary to:

- ♣ Increase consensus on project goals, objectives and activities
- ♣ Create ownership over evaluation results
- ♣ Increase cost-effectiveness of M&E information
- ♣ Provide timely and reliable information for decision making
- ♣ Enhance learning by local stakeholders
- ♣ Enhance skills and confidence of local people on management of LIPW

programme, and utilize local knowledge.

A participatory monitoring and evaluation system with the following characteristics should be developed for effective implementation of watershed development:

- ◆ Simple to apply
- ◆ Fully involves communities
- ◆ Consistent with already existing government system
- ◆ Promotes accountability
- ◆ Uses existing data to the extent possible
- ◆ Assists in pre-planning and correction of failed interventions
- ◆ Assists in introducing innovative activities.

## 17.1 Baseline

At the start of LIPW programme implementation, baseline survey data should be collected to establish a benchmark against which future impact assessments and evaluations can be compared in order to determine achievements made. Baseline information includes the state of the watershed, covering socio-economic, biophysical and community-level social infrastructure.

## 17.2 Monitoring

Regular monitoring of the LIPW needs to be carried out at each stage. This should include process and outcome monitoring. At the local level the DTPC and/or the STPC should submit monthly/quarterly progress reports as necessary to the Project Implementing Institutions.

Various streams of monitoring are necessary. The role of the LIPW programme implementing institution is critical in ensuring that the following systems are followed at the appropriate levels:

- Internal monitoring by the project teams
- Progress monitoring
- Self-monitoring by communities
- Independent and external monitoring by independent agencies
- Process monitoring

Monitoring provides timely & quality information to project implementing team and other stakeholders on progress, challenges and lessons learnt. Some suggested key areas for LIPW monitoring are:

- a) Quantity and quality of physical and biological SWC established
- b) Area of land treated with SWC measures
- c) Number of water harvesting structures constructed by type
- d) Number of conservation and income-generating seedlings planted
- e) Area of land under small-scale irrigation
- f) Households/community assets created such as small livestock, fruit trees, etc
- g) Number of back yard woodlot plantation/live fence established
- h) Number of beehives and beekeeping equipment installed/acquired

### 17.3 Evaluation

Evaluation is conducted periodically. It should be an objective assessment of overall performance based on criteria such as relevance, achievement of objectives, efficiency, effectiveness, impact, sustainability. Evaluation encourages more in-depth and objective assessment of operations, programmes, and policies. It adds to and builds on monitoring information, supports continuous improvement and lessons learned. Evaluation of LIPW should be conducted both from results-based monitoring and also from specific evaluation exercises such as process evaluation, outcomes evaluation and impact evaluation.

Through process evaluation, the effectiveness of the LIPW can be assessed. Overall, evaluation allows the stakeholders to understand the links between resource use, programme activities, the intended and unintended immediate effects of the activities, and the contribution to the programme's ultimate goal: household livelihood improvement.

It is suggested that an LIPW programme review be conducted annually, to assess how far the implementation process is on track and the immediate effect of the programme. The long-term consequences of the LIPW programme can be assessed through impact evaluation, which may be conducted every two years, or at mid-term and end of the programme. As mentioned above, the impact assessment ideally requires baseline data. Thus the programme should establish a baseline at the very beginning. Comparisons are made between the situation at the beginning of interventions and the situation after some years of intervention. Alternatively, the intervention area can be compared with a 'counter-factual', ie. a similar area that did not receive any intervention during the period under observation. Parameters that can be measured by impact evaluation include changes in income level, change in poverty levels, productivity of land, improvement in fuelwood supply, etc.

### **17.3.1 Gender-Disaggregated Data in M&E**

Gender should be mainstreamed at all stages of LIPW planning and implementation, in order to ensure that men and women benefit equally. For this purpose, collection, management and analysis of data disaggregated by gender for planning and policy purpose is necessary. Thus in LIPW planning and implementation gender-disaggregated data should be systematically documented by both monitoring and evaluation processes.

### **17.3.2 Expected Results**

By the end of the programme period, each LIPW programme is expected to achieve results such as:

- a) The subprojects planned for the treatment and development of the watershed area are completed with the active participation and contribution of the user groups and the community at large;
- b) The user groups have willingly taken over the operation and maintenance of the subprojects implemented, and made suitable administrative and financial arrangements for their maintenance and further development;
- c) All the members of the CPMC and sub-county staff have received orientation and training to improve their knowledge and upgrade technical/ management and community organizational skills to a level that is appropriate for the successful discharge of their responsibilities;
- d) The community has been organized into homogeneous self-help groups for savings and other income-generation activities which have achieved sufficient commitment from their members, and built up financial resources, to be self-sustaining;
- e) An increase in cropping intensity and agricultural productivity, reflected in an overall increase in agriculture production;
- f) An increase in income of farmers and landless laborers in the programme area;
- g) An increase in the groundwater table due to enhanced re-charge by watershed interventions.

### **17.3.3 Documenting Lessons Learned**

Systematic efforts should be made by the districts, sub-county staff and CPMC to learn from the field experiences and from feedback of independent sources. The following methods are proposed to facilitate the learning process at different levels:

- a) Systematic analysis of monitoring data (all types of monitoring) on a regular basis by internal team and sharing with project authorities/ policy makers;
- b) Engaging services of independent academic and consultants, for taking up research and action research projects;
- c) Initiating pilots on new themes and innovative models;
- d) Organizing regular sharing, reflective and learning events to learn from field experiences, monitoring exercises and academic/ research studies. These events could be organized at , state and national level.

## 18 ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

It is acknowledged that most of the LIPW are intended to rehabilitate or enhance the natural resource base. However, this good intention is no guarantee that the LIPW will actually have a beneficial effect on the environment, or even that it will be environmentally or socially sustainable. Experience has shown that some LIPW projects designed to protect or enhance the natural resource base have ended up doing the opposite. For example, a re-forestation subproject employing exotic or inappropriate species might prove to be damaging to soil stability, other flora or livestock; a water project of poor design or in an inappropriate location might spread water-borne or vector-borne diseases; a community road designed with insufficient drainage might act as a barrier to surface flows; or due to improper irrigation practices, an accumulation of salt from irrigation water might change the soil chemistry, making it infertile.

Furthermore, a subproject could have negative social impacts. For example, a project intended to develop community assets might be implemented at the expense of the maintenance of the private assets; due to its location not having been agreed to by the community, a project might end up providing disproportionately high benefits to certain households and not others, thereby creating community conflicts; or a road or SSI subproject might take land from certain households, thereby causing them loss of assets, or even obliging them to resettle against their will.

Negative impacts on the biophysical environment and on society are also likely to lead to unsustainability of the LIPW, which in turn would lead to the failure of the social protection objectives of the programme. It is, therefore, necessary to ensure the environmental and social sustainability of LIPW in order to bring about the desired changes.

Thus for all the reasons set out above, it is important that the LIPW subprojects be well designed and executed, avoiding or mitigating such undesirable impacts. This integration of good environmental and social management into project planning and implementation is achieved through an Environmental and Social Management Framework (ESMF).

To integrate the ESMF principles and procedures into LIPW planning and implementation, technical staff at all relevant levels (county, sub county and parish) should be trained in implementation of the ESMF. Adequate capacity has to be created among the LIPW implementing institutions to:

- a) Apply the principles of the ESMF;
- b) Select and screen of projects;
- c) Formulate mitigating measures as required; and
- d) Implement, monitor and evaluate the mitigation measures.

### 18.1 ESMF Principles

The most effective and easiest method of ensuring the sustainability of LIPW is to find out in advance if each LIPW subproject is likely to have any negative environmental impact, and if so, to adjust the design of the subproject accordingly. This process follows the logic of Environmental Impact Assessment (EIA), but is simplified to make it applicable to large numbers of small subprojects.

Occasionally a subproject might be too complex for the ESMF approach, in which case a full EIA might be required. Such cases would normally, however, be rare, given the small size and simple nature of the LIPW subprojects.

From experience any negative impacts can generally be predicted, and measures to address them can be identified. These mitigating measures are then built into the design of the LIPW. However, in the event that it is not possible to avoid or mitigate the expected negative impacts by modifying the location or design of the subproject, then it would have to be rejected and an alternative subproject selected.

By adopting the procedures in the ESMF, compliance with the requirements of Uganda's environmental laws will be fully integrated into the planning and implementation of the LIPW.

## **18.2 ESMF Implementation Procedures**

### **18.2.1 Subproject Eligibility**

Given the fragile nature of the ecosystems of the Districts selected for undertaking LIPW and the large number of public works to be implemented, the ESMF procedure begins by rejecting subprojects with problems too complex to be addressed within the compass of the programme. For example, the following types of subproject would not normally be eligible:

- A subproject in or adjoining an internationally-disputed territory;
- A subproject located within a National Park or other designated wildlife area or related buffer zone;
- A subproject located in a Priority Forest Area;
- A subproject involving draining of, or disturbance to, a wetland;
- A subproject located within a recognised Cultural Heritage site, including World Heritage sites.

In addition, subprojects requiring the physical relocation of residents will not normally be accepted. It is generally preferred that as far as possible, such projects be redesigned to eliminate the necessity of relocation;

### **18.2.2 Subproject Screening**

Each of the LIPW subprojects should be checked for potential impacts – a process known as Screening. Occasionally a subproject may require to be earmarked for special attention. If so, it must then be assessed in more detail, and perhaps redesigned or rejected. Subprojects needing special attention must be marked accordingly, for attention by National Environmental Management Authority (NEMA).

*Annex H* sets out some suggested Screening checklists for various types of subprojects.

Impacts	Potential for Adverse Impacts				
	None	Low	Medium	High	Unknown
Depletion of existing water sources					
Disruption of existing water users					
Unplanned increased in number of water users					
Increase social tensions/conflict over water allocation					
Increase in waterborne diseases					
Disruption of sensitive ecosystems downstream Other (specify)					
! Land Acquisition					
! Private assets displaced					
! Displacement of land users, or permanent interference with their access to land					

**Table 7: Example of a Subproject Screening Format:- Potable Water Supply**

Each type of potential impact should be considered, and based on the proposed project design, and local knowledge, a judgement should be made by the concerned district experts as to whether any of the impacts is likely, and to what extent. Then the appropriate column is ticked (✓).

Projects likely to have impacts from low to moderate (easily reversible), or that have only one high (difficult or impossible to reverse) potential impact should be checked by the concerned District experts, to see if mitigating measures can be easily incorporated into the project design to correct the problem.

In most cases this will normally prove possible. However, the following subprojects should be marked for special attention by NEMA:

- » Any project expected in Table 1 to cause more than one high potential impact that cannot be easily corrected by a simple change in the location or design;
- » Any project whose impacts are difficult or impossible to predict (ie several ticks under "unknown");

In the following cases the subproject may proceed, but will need to be subjected to specific procedures:

- ♣ Any project which the community may have insufficient capacity to manage, which will require specific capacity-building interventions;
- ♣ Any project involving disposal of medical waste, which will require a Medical Waste Treatment Plan;
- ♣ Any irrigation project using pesticides or other agro-chemicals, which will require an Integrated Pest Management Plan.
- ♣ Any project expected to have a potential impact marked '!' in Table 7. When a project is likely to cause any of these impacts, such as the relocation of residents, they should if possible be redesigned to remove the impact concerned. If such redesign is impossible, the project can proceed but only subject to a Resettlement Policy Framework (see 18.2.5 below).

### 18.2.3 Subprojects Needing Special Attention

It should be emphasized that subprojects needing special attention should occur only occasionally. In such cases:

- i) 'Special Attention' should be noted on the project file, with a red sticker;, and,
- ii) A list of such projects should be attached to the community LIPW plan.;

### 18.2.4 Environmental and Social Mitigation Plan (ESMP)

The information entered on the ESMF Screening Form and subproject file will constitute an ESMP, since it will include:

- The relevant subproject design,;
- An assessment of any potential negative environmental and social impacts, together with the proposed mitigation measures;
- The institutions/persons responsible for implementing and monitoring the implementation of the mitigation measures,; and,
- The costs, if any, of the mitigating measures, which will be built into the subproject budget.

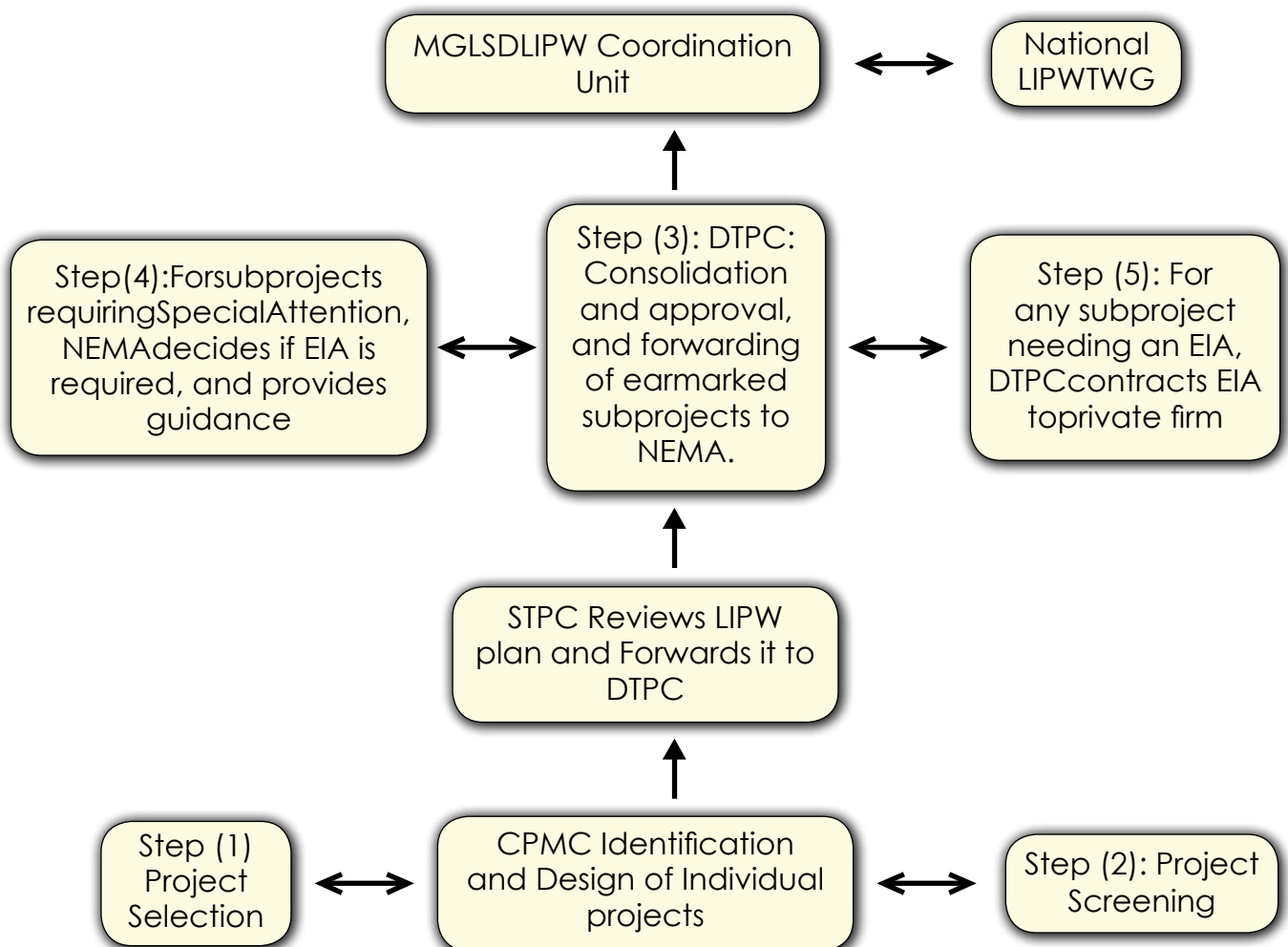


Figure (xii): Flowchart of ESMF Steps for LIPW Subproject Planning Process

Step	Task	Outputs
1	Subproject Eligibility	Ineligible subprojects rejected or redesigned
2	Subproject Screening	<ul style="list-style-type: none"> <li>Required mitigation measures identified and built into implementation to avoid/mitigate negative consequences</li> <li>Subproject requiring special attention earmarked</li> </ul>
3	Consolidation and approval of LIPW Plans	<ul style="list-style-type: none"> <li>Approved District LIPW Plan</li> <li>Notification to NEMA of any subprojects needing special attention</li> </ul>
4	Review earmarked subprojects Decide which subprojects, if any, require EIA and Decide on scope of EIA	<ul style="list-style-type: none"> <li>Recommendation as to whether EIA is required</li> <li>Scope of EIA, including aspects to be focused on, disciplines required and likely duration</li> </ul>
5	If necessary, DTPC contracts EIA and submits EIA Report to NEMA for review	<ul style="list-style-type: none"> <li>EIA Report including estimated costs of Mitigating Measures</li> </ul>
6	NEMA reviews EIA Report and make final recommendations	<ul style="list-style-type: none"> <li>'Earmarked subproject approved, or recommended redesign or rejection</li> </ul>

**Table 7: Example of a Subproject Screening Format:- Potable Water Supply**

### 18.2.5 Subprojects Involving Resettlement or Loss of Assets

As noted earlier, it is recommended that subprojects likely to involve re-location of households or loss of assets or access to assets be avoided in LIPW programmes as far as possible. However, sometimes such subprojects are deemed desirable and necessary, in which case a Resettlement Policy Framework (RPF) is required, to address the potential social impacts. The RPF guides preparation of a Resettlement Action Plans (RAP) for such subprojects.

The RPF provides safeguards against the adverse impacts of such subprojects, and proposes mitigating measures. The RPF:

- Avoids displacement of people in the first place, as far as possible.
- Minimizes the number of displaced persons.
- Adequately compensates the displaced persons for losses incurred.
- Addresses adverse impacts of the intended interventions
- Assists displaced persons in improving their former living standards, income-earning capacity, and production levels, or at least in restoring them;
- Encourages community participation in planning and implementing resettlement; and
- Provides assistance to the affected people regardless of the legality of land tenure.

The RPF provides guidelines for addressing concerns of affected persons in situations where:

- \* Land is contributed voluntarily for sub- project activities in return for compensation; ,
- \* Land is contributed voluntarily for sub- project activities without seeking compensation; , and,
- \* In cases where land is likely to be acquired involuntarily for sub- project activities.

## **18.2.6 ESMF Monitoring**

Monitoring of the implementation of the LIPW is designed to ensure that the requirements of environmental and social protection are being met. The purpose of the monitoring is to:

- i) Determine compliance with the ESMF and identify any issues and corrective measures required;
- ii) Determine the effectiveness of the mitigation measures in avoiding and reducing adverse impacts of the project activities;

Determination of compliance with the ESMF should be addressed by collecting data on indicators such as completion of Screening procedure, identification of mitigating measures, and implementation of mitigating measures. This should be done on a regular basis for all subprojects by District sector experts, with assistance from the concerned extension staff.

The effectiveness of the mitigating measures can normally best be monitored within the periodic LIPW reviews and LIPW impact evaluations, on a sampling basis.

## **19. HEALTH, SAFETY AND CHILD LABOUR ON LIPW CONSTRUCTION SITES**

In order to minimise the risk of accidents and other hazards potentially involved in the implementation of LIPW subprojects, and to ensure that the issue of child labour is adequately addressed, the following simple guidelines are proposed. In all cases the guidelines would be adopted by the ward and or LIPW implementing institution extension staff, who supervise the work and who will be trained in these topics as part of the LIPW training programmes.

These guidelines are intended to ensure that the arrangements for community work on LIPW subprojects provide, to the extent possible, a safe and healthy work environment, particularly taking into account threats to women and children. All measures possible should be taken to prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work by minimizing, as far as reasonably practicable, the causes of such hazards.

The programme implementing agency extension staff should;

- a) identify potential hazards to workers, particularly those that may be life-threatening;
- b) provide to the extent possible preventive and protective measures;
- c) train workers in adherence to these Guidelines;
- d) document and report occupational accidents, diseases, and incidents.

### **19.1 Specific Hazards and Measures to be Taken**

Over-exertion, and resultant injuries and illnesses arising from activities, such as repetitive motion, over-exertion, and manual handling, are among the most common causes of injuries in construction sites. Recommendations for their prevention and control on LIPW subproject sites are:

- a) Training of community workers in lifting and materials handling and lifting techniques including the placement of weight limits above which mechanical assists or two-person lifts are necessary. Such guidance would be especially relevant in subprojects such as stone bunds, dam construction and road-building, particularly where concrete pipes are involved.

- b) Implementing appropriate administrative controls into work processes, such as women's work-norms, job rotations and rest or stretch breaks

## **19.2 Slips and Falls**

Slips and falls on the same elevation associated with poor housekeeping, such as debris, loose materials and slippery, wet surfaces, are also among the frequent cause of accidents at construction sites.

It is recommended that for the prevention of slips and falls from, or on, the same elevation, the extension staff should ensure the implementation of good house-keeping practices, such as allocating some of the workers to sort and place loose construction materials or demolition debris in established areas away from foot paths, and clean up excessive waste debris.

## **19.3 Work at Heights; Falling Objects**

Falls from elevation associated with terracing on steep gradients and partially built structures can cause fatal or permanent disabling injury. There may occur fall of stones, other materials or tools, which can result in injury. Techniques for the prevention and control of these hazards should include:

- a) Using a designated and restricted waste drop or discharge zones
- b) Maintaining clear traffic-ways
- c) Evacuating areas below activities such as terracing and stone bund building.

## **19.4 Dust**

Dust suppression techniques should be implemented, particularly where babies or young children may be carried by mothers. Extension staff should ensure that methods such as applying water to minimize dust are used, for example during road-construction.

## **19.5 Confined Spaces and Excavations**

Examples of confined spaces that may be present in construction or demolition sites include: latrines, under-road pipe-laying and shallow wells. Ditches and trenches may also be considered a confined space when access or egress is limited. The hazards associated with confined spaces and excavations in construction and decommissioning sites should be avoided by adopting the following recommendations:

- a) Controlling site-specific factors which may contribute to excavation slope instability including, for example, the use of excavation dewatering, side-walls support, and slope gradient adjustments that eliminate or minimize the risk of collapse, entrapment, or drowning;
- b) Providing safe means of access and egress from excavations, such as graded slopes, graded access route, or ladders.

## **19.6 Water Hazards**

Plastic-lined excavations such as water-harvesting ponds and water-tanks pose a risk of drowning, particularly to children and animals. These should be designed to provide flat floors to the extent possible, to allow those who fall in to extricate themselves, or provide ladders where appropriate, and should be fenced. Water projects such as protected springs providing potable water for human consumption need to be fenced in order to keep out cattle, which can contaminate the water, and which can result in serious public health hazards if the water is distributed in pipes.

## 19.7 General Site Hazards

Risks may arise from inadvertent or intentional trespassing, particularly by children, in excavations and structures which may pose falling and entrapment hazards. Risk management strategies may include:

- a) Restricting access to the site, through a combination of institutional and administrative controls, with a focus on high risk structures or areas depending on site-specific situations;
- b) Wherever possible, babies and children of community labourers should be cared for in a suitable community facility, to avoid being present on the subproject implementation site.

## 19.8 Child Labour

The LIPW programme should not allow children below the age of 16 years to be employed on subproject site. Neither should any child be employed in a manner likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.

At the time of checking the roll-call, the extension staff should ensure that no child under the age of 16 years is working on site, and should identify the presence of all persons under the age of 16, ensuring that no child under the age is employed in hazardous work.

The extension staff should also endeavour to ensure that the subproject implementation does not employ forced labour, which consists of any work or service not voluntarily performed that is exacted on an individual under threat of force or penalty, or with exposure to physical, psychological, or sexual abuse, or under difficult conditions such as long hours or late night.

## 20 INSTITUTIONAL ARRANGEMENTS

The success of LIPW programmes depends on carefully designed and established implementation structures. The administrative and institutional capacity of the existing institutions at the national and local levels needs to be strengthened to oversee and implement the LIPW. The required relevant capacities include programme design, management, implementation, wage payment, monitoring and evaluation.

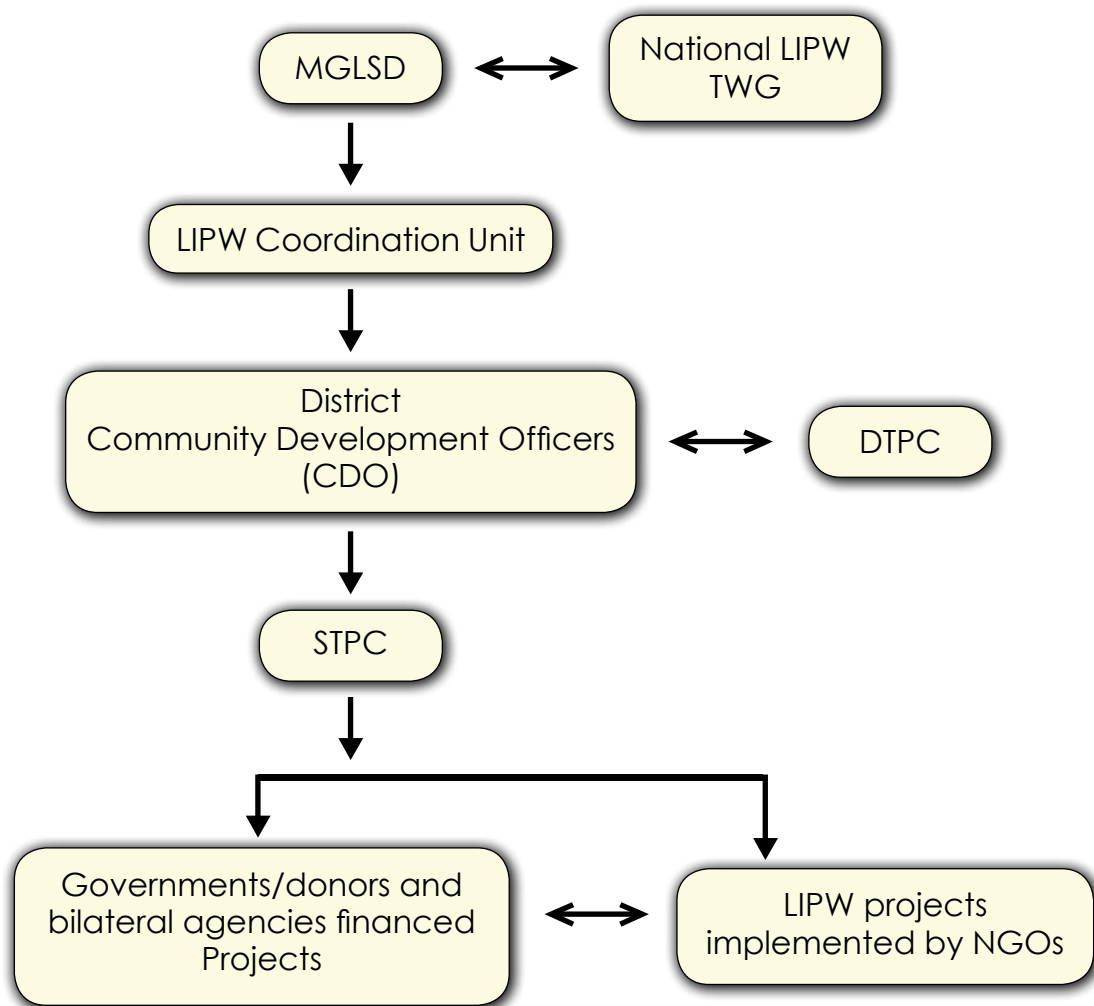
The set-up of the institutional structures to implement the programme entail an assessment of capacity at the national and local levels. The existing institutions' capacity to oversee the planning, implementation and management of the LIPW is currently inadequate since LIPW is relatively new to most institutions. Thus strengthening the capacity of institutions with the relevant mandate to implement LIPW is necessary.

The implementation of LIPW has to be mainstreamed into the existing structures at national and local government levels. At the national level the MGLSD will be responsible to coordinate and provide the necessary oversight. The existing LIPW Technical Work Group (TWG) will be strengthened to provide advisory support for the MGLSD. The TWG will be composed of relevant line ministries (MoA, MWE, Ministry of Local Government, (MLG) Ministry of Works and Transport MWT) donors, bilateral institutions and NGOs representatives. This will ensure political leadership and strong coordination mechanism with the relevant government institutions.

The MGLSD will establish an LIPW Unit to strengthen and compliment the capacity of the Ministry in LIPW planning, implementation, monitoring and evaluation. The staff composition of the Unit will be decided by the MGLSD. However, the proposed staff composition of the unit should include Natural Resources specialists, livelihoods specialists, capacity building and M&E specialist.

At the district level the Community Development Officer (CDO) will be the focal person for the coordination of LIPW at the district level. For effective coordination, and to ensure sectorial integration the CDO will be supported by the District Technical Planning Committee (DTPC). Similarly, at the sub-county level the sub-county CDO will be the focal person for the coordination of LIPW and supported by the sub-county Technical Planning Committee (STPC). At all communities implementing LIPW a CPMC will be established. The CPMC will be an essential community-based organization which will be instrumental in the planning and implementation of the LIPW.

The roles and responsibilities of the various actors at the various levels is provided in Figure(xiii) and Table 9.



**Figure (xiii): Proposed Institutional Arrangements**

Level	Organizational structure	Roles and responsibilities
National	MGLSD(Supportedby LIPW TWG composed of line ministries, donors and bilateral institution)	<ul style="list-style-type: none"> <li>• Provide general coordination</li> <li>• Mobilize resources from the Government and development partners</li> </ul>
	LIPW TWG (Multi-sector committee)	<ul style="list-style-type: none"> <li>• Discuss progress and reform implementation of the LIPW</li> <li>• contribute technical input to the review and implementation of the LIPW approach and guideline;</li> <li>• discuss and recommend solutions to overcome bottlenecksfor implementation,andwillencourage development partners to mobilize and provide additional support to the LIPW</li> <li>• harmonization of donor procedures; aid alignment to MGLSD social protection/priorities</li> <li>• Oversee programme finances</li> <li>• Assess resource contributions of governments and donors</li> </ul>
	LIPW coordination secretariat/ unit	<ul style="list-style-type: none"> <li>• Assist the MGLSD to organize regular meetings and prepare annual work plan</li> <li>• Networking and coordination</li> <li>• Communication (record minutes and decisions during TWG meetings and facilitate information sharing)</li> <li>• Facilitate and coordinate analytical works, evaluations and assessments</li> <li>• Knowledge management (monitor and follow up development partners support, establish repository of guidelines, lessons from past and ongoing LIPW programmes)</li> <li>• Awareness creation</li> <li>• Design instruments for monitoring and evaluation</li> <li>• Set standards</li> <li>• Produce training materials and organize trainings</li> <li>• Contract for the evaluation, supervision and impact assessment</li> <li>• Provide technical assistance for implementation</li> </ul>
District	DTPC	<ul style="list-style-type: none"> <li>• Oversee the LIPW programme</li> <li>• Provide direction and assistance to local institutions</li> <li>• Provide technical assistance</li> <li>• Select projects in coordination with sub-county and CPMC</li> <li>• Prepare evaluation and monitoring systems</li> <li>• Prepare proposals for funds allocation</li> <li>• Ensure release of funds</li> <li>• Receive and review monitoring reports</li> <li>• Prepare progress reports</li> </ul>

Sub-county	STPC	<ul style="list-style-type: none"> <li>• Identify and prequalify/qualify projects and beneficiaries</li> <li>• Monitor operations</li> <li>• Maintain records</li> <li>• Ensure timely payment of projects</li> </ul>
Village	CPMC	<ul style="list-style-type: none"> <li>• With the support from technical sub-county staff carry out socio-economic and biophysical survey</li> <li>• Mobilize community members to identify their needs</li> <li>• Present the identified, prioritized problems and action plan at the general assembly for discussion, amendment and approval</li> <li>• Mobilize the community for implementation of action plan</li> <li>• Manage day-to-day operations</li> </ul>

**Table 9: Roles and Responsibilities of Institutions at Various Levels**

## **21 RISK MANAGEMENT IN LIPW**

There are potential risks during the LIPW planning and implementation. The risks can arise at different levels, i.e., at community level during targeting and at programme level. Risks can be minimized by using different tools at different levels:

### **21.1 Communication**

Inadequate attention to the communication strategy can risk programme success. Thus adequate communication activities should be incorporated into project design from the onset, based on local context. Through programme communication beneficiaries should be informed clearly the programme objectives, their right and responsibilities, and those of other stakeholders. This is particularly important for rural remote areas where there is inadequate formal media access and other means of communication. The communication task should be carried out by trained programme staff.

Moreover, LIPW programmes should incorporate mechanisms for ongoing stakeholder feedback to measure the impact of the communication strategy and improve it as necessary. These mechanisms include direct feedback from stakeholder meetings, media monitoring, and tools such as focus group discussions to gauge public opinion.

A consistent communication strategy should be used by all implementing stakeholders. Incoherent information by different sources can result in confusing messages to target audiences and lead to misinterpretations. Incorporating a communication strategy is a necessary prerequisite for implementation of LIPW programme. Due to the involvement of several stakeholders in LIPW implementation error, fraud, and corruption issues may be acute.

The potential areas where pitfalls can arise include during households targeting, flow of funds, purchase of materials, monitoring of worker attendance and performance, and payment of wages.

## **21.2 Targeting**

During community targeting several risks can arise unless properly monitored. The potential risks of community targeting include rent-seeking, capture by local elites, risk of community conflict and lack of accountability.

## **21.3 Programme-Level Controls**

Internal controls are necessary to reduce programme-level risk of error, fraud, and corruption, as well as to promote transparency and accountability among beneficiaries and stakeholders to strengthen programme governance. Programme-level information draws from functioning financial mechanisms and other controls. The primary controls at the programme level involve audits, procurement, and financial management as well as mechanisms for monitoring (eg. spot checks, data matching) and for disclosure of programme information to promote transparency.

Programme audits are typically a requirement both for donor financing agreements and compliance with national legislation. At minimum a programme should conduct annual auditing of accounts by an independent auditor. LIPW programme should also involve technical audits through twice-a-year planning and implementation reviews, periodic spot checks to investigate compliance with financial rules, disbursements, payments, appeals and complaints.

A typical audit focuses on the following aspects:

- Disbursement procedures and systems
- Basic accounting records relative to the number of beneficiaries working on a daily basis
- Amount of material inputs purchased and actually used
- Adequacy of internal control system in terms of payments, purchases, requests, and authorizations
- Eligibility of expenditures under the programme.

## **21.4 Grievance Handling**

Inadequate grievance handling can poses risks for the social audit process. If the grievance handling mechanism is ineffective beneficiaries will lose trust in the grievance handling process and the programme.

## **22 ACCOUNTABILITY IN LIPW**

Accountability has to be part of LIPW core values. LIPW programme have to take responsibility for using resources efficiently, achieving measurable results and being accountable to the programme financers and to the beneficiaries. Strong commitment to improving the understanding and application of accountability approaches across the programme is essential.

In order to ensure that all LIPW programmes are equitable, efficient, and effective in meeting the needs of the beneficiaries, and that they contribute to the achievement of strategic social protection goals, accountability assessments in the following areas of operation are necessary.

- Regular information-sharing on programme operation
- Communities participation
- Handling beneficiaries feedback and complaints
- Monitoring and evaluation of programme performance

## **22.1 Information Sharing**

For effective information sharing and coordination it is necessary to establish effective structure at the various levels for information sharing. The main purpose of these consultative structures is to control the allocation of benefits and provide transparency to this activity. In the proposed institutional arrangement this can be effectively practiced at the TWG level. Overall, through its consultative councils, the programme can be instrumental to promote social cohesion.

## **22.2 Community Participation**

The communities should be encouraged to participate in various aspects of programme implementation. The involvement of communities strengthens the use of bottom-up approaches in LIPW programme implementation. Community participation also has the advantage of better design, implementation and monitoring of subprojects, if provided with the required information. Community involvement in programme implementation has also the following advantages:

- It allows communities to take ownership of the programme
- It can promote the execution of activities that genuinely respond to the needs of the poor
- It can contribute to better quality works and better subproject maintenance
- It can increase the programme's public accountability and transparency

Thus community engagement can therefore make a significant difference in how effectively the LIPW programme meets its objectives. On the other hand, community targeting may have disadvantages that can negatively affect a programme, such as rent-seeking and capture by local elites, risk of community conflict and lack of accountability

## **22.3 Beneficiary Feed Back**

Programme-level control and accountability can be supplemented with inputs from beneficiaries and communities. The essential element of beneficiaries' feedback is in the form of grievance reporting. Beneficiary feedback should be encouraged and facilitated as part of programme transparency and accountability measures.

## **22.4 Monitoring and Evaluation**

Participatory monitoring and evaluation is an essential tool to ensure LIPW accountability. Monitoring and evaluation has to be complemented by MIS tools that can facilitate the timely collection, processing, management, and dissemination of data essential for

programme operations, accountability, and policy-making. An effective MIS also helps to minimize error, fraud, and corruption by warning end users of data when there are discrepancies between the expected and realized flows of funds and inputs or outputs.

## **23 CAPACITY BUILDING**

LIPW are expected to be implemented through government structures; see Fig. (xiii). The MGLSD role is to perform coordination tasks. LIPW implementation requires the input of a multi-disciplinary team, and close follow-up with technical inputs.

Capacity building should focus on strengthening the capability, and ultimately the performance of the institutions to design and implement the LIPW at different levels (from national to village levels). Thus a capacity need assessment has to be conducted and the gaps identified have to be addressed for different capacity areas indicated below:.

- i) Physical capacity
- ii) Human resources capacity
- iii) Technical skill capacity
- iv) System capacity

### **23.1 Physical Capacity**

The physical capacity required to implement LIPW includes transport for staff mobility and materials, office space, furniture, supplies and means of communication (computer, internet, telephone, fax etc.). The implementing institutions should ensure that the required physical capacity is put in place.

### **23.2 Human Resources Capacity**

At the MGLSDLIPW Coordination Unit, and at the district and sub-county levels, adequate technical staff should be assigned.

The main tasks of the proposed MGLSD LIPW Coordination Unit are:

- i) Overall planning, capacity-building, implementation, monitoring and performance of the LIPW programme, and
- ii) Promotion of LIPW at national level as a major intervention to contribute to social protection and resilience building.

Particularly at the initial stage there should be a strong and dedicated LIPW CU. At the later stage the size of the unit can be reviewed and adjusted as required.

At the district and sub-county level there are several staff (department/section heads and extension staff) that can play essential role in the coordination, planning and implementation of LIPW. Human resource capacity has to be assessed based on which decision can be made to assign key staff as necessary.

### **23.3 Technical Skills**

Various institutions have been implementing LIPW in the districts, using different approaches. It is now essential for the MGLSD, with other key stakeholders, to coordinate and harmonize LIPW implementation based on the integrated watershed approach.

From a review of reports and discussion at the 2 December 2014 workshop, it was noted that planning LIPW based on an integrated watershed approach is a relatively new concept for districts and sub-counties technical staff. Nevertheless, staff particularly in some projects/institutions such as NUSAF, have a very good understanding of the integrated watershed planning approach. As a result, they are keen to engage in the integrated planning based development approach. It would be useful to build on such existing initiatives and skill capacity to address the gaps in the districts.

Before the LIPW programme is initiated, the skill capacity gap has to be assessed at all levels (national, district and sub-county), so that the required technical skills can be built through skill training and workshops. LIPW technical guidelines and reference materials have to be made available to the technical staff. To disseminate the basic principles and approaches of integrated watershed based LIPW, Training of Trainers (ToT) modules should be prepared. The ToT materials can be used to cascade down to the community level so that the concept of integrated watershed based LIPW planning and implementation can be widely disseminated, understood and practiced.

### **23.4 System Capacity**

The capacity of institutions implementing LIPW may vary from institution to institution in terms of systems, processes and internal structures, (e.g. M&E, financial management, etc.). System capacity gaps of institutions supporting LIPW has to be assessed and strengthened.

## ANNEXES

### Annex A: Socio-Economic Survey Procedure

Background Information of the area and community

Date: \_\_\_\_\_

District: \_\_\_\_\_ : \_\_\_\_\_

County: \_\_\_\_\_ Sub-county: \_\_\_\_\_

Parish: \_\_\_\_\_ Community/Village: \_\_\_\_\_

No of sub-watersheds of main relevance for the community: \_\_\_\_\_

Main sub-watershed name/location within which the community is located: \_\_\_\_\_

Total No of headed households living in the community: \_\_\_\_\_ /Male/ \_\_\_\_\_ /

Female: \_\_\_\_\_

Total No households cultivating in the community: \_\_\_\_\_ /Male/ \_\_\_\_\_ /

Female: \_\_\_\_\_

Population living in the community/target group: Total: \_\_\_\_\_ /Male:/ \_\_\_\_\_

Female: \_\_\_\_\_

Family size (average): \_\_\_\_\_

Average total landholding size (ha)/family head: \_\_\_\_\_

Average cultivated land size (ha)/family head: \_\_\_\_\_

### Community Project Management Committee (CPMC) team members

S/N	Name	Title	Gender	Signature
1				
2				
3				
4				
5				
6				
7				

Total male: \_\_\_\_\_ %

Total female: \_\_\_\_\_ %

Remarks: \_\_\_\_\_

### PROBLEM IDENTIFICATION (PI)

S/N	Problems	Main	Causes	Severe	medium	Low Rank
1						
2						
3						
4						
5						
6						

## Possible Solutions

S/N	Problems	Possible solution
1		
2		
3		
4		
5		
6		

Analysis of Community Constraints

Distribution of Household by land size ownership

Wealth Ranking and Vulnerability Assessment

Community constraints

- Crop production (Farming system on cultivated land)
- Livestock Production (animal husbandry)
- Fuel/construction wood/production and tree products
- Water Supply for domestic use and livestock
- Water harvesting and small-scale Irrigation
- Land Degradation
- Homestead development
- Women in the community and watershed development
- use of communal areas and watershed development

## Annex B: Semi-Structured Interview

Although semi structured Interview is one of the most commonly used tools in participatory planning, it is one of the most difficult to conduct well. The following guidelines would help to collect socio-economic information from a given area.

### Before the interview:

- a) Prepare yourself for the interview.
- b) Develop topical guidelines, and agree on team role
- c) Be aware of the impact that age, gender, class, or ethnicity of team members may have on the quality of the collected information (e.g. in many societies, female interviewers are better suited to interview women than males)
- d) Design a rough outline for the SSI, which will be refined during field work. Better start with general inquiries on a certain topic and add more detail and depth as the discussion progresses
- e) Choose appropriate interviewees for the topic, based on their knowledge, age, gender, status, ethnicity, and other factors as appropriate.
- f) Try to obtain a broad overview of the socio-economic stratification of a community. First find someone who is familiar with the community (community member or community development worker) who can draw a map of the community indicating the different quarters and socio-economic, ethnic, and religious groups. Select a number of interviewees from each category (male, female, old, young) based on availability.

### During the interview:

- a) Introduce the team, explain the objectives, and begin with polite/social conversation
- b) Be sensitive and respectful. Take a seat on the same level as the interviewee (not above) and begin the conversation with locally accepted polite conversation
- c) Disbelief to responses given by community members, such as smiling between team members or even criticisms of the responses has to be avoided
- d) If possible use the same language as the interviewee (colloquial language) to reduce barriers
- e) Ensure that questions are relevant and phrased in a meaningful manner
- f) Make the interview a process where important information develops out of casual conversation
- g) Keep your eyes open for patterns, behaviors, differences, and unusual things. Observe non-verbal indicators such as facial expressions, use of space, body language, tone of voice, touch, and eye contact, as they may reveal a great deal about the respondents' concerns or reservations and provide valuable clues for interpreting the answers
- h) Questions should always be phrased in such a way that they require explanation (open ended questions) rather than allowing the interviewee to answer with only "yes' or ' no'
- i) Formulate questions clearly and don't ask more than one question at a time
- j) Most interviews should be opened with a broad question to allow respondents to discuss the topic
- k) Make questions short and easy to understand, but aim at consistently drawing out more details

- l) Do not ask leading questions. Be objective, and avoid value judgments.
- m) Avoid making conclusions for the interviewees
- n) Choose proxy indicators for sensitive questions (e.g., household expenses and listing of sources of income as proxy indicators from amount of household income)
- o) Probe (cross-check) each sub-topic to obtain more detail and depth on the subject of study during the interview
- p) Show interest and encouragement by nodding, or saying "Yes"
- q) Pause to let the interviewee add more information, but don't make the pauses too long, as this may cause embarrassment
- r) Use neutral question, such as: "Could you tell me more about that?", "Could you give me an example?", "Could you explain that to me?"
- s) Have a mental checklist of questions but be open to new questions
- t) Prepare a list of key questions and key probes which can result in a series of new questions (e.g., "What crop varieties have you experimented with in recent years?")
- u) Case studies, stories, household history and profiles can be used to analyze how a conflict was resolved, what coping strategies were used in a crisis, and such like
- v) Use contrast comparisons - ask group A why group B is different or does something differently, and vice versa
- w) Use sequences or chains of interviews (e.g., alternate between group, individual, and key informant interviews)
- x) Finish the interview politely. Thank the interviewee.

## Annex C: Biophysical Survey

### 1. Demarcation (Mapping) and Size of the Area

Specify the agro-climatic zone (s): \_\_\_\_\_

First delineate the boundaries of the area. You can do it as follows:

- a) **If a topographic map** with a scale of 1:50,000 is available, it needs to be enlarged twice or four times to the scale of 1:25,000 or 1:12,500, on which you will draw the boundaries. Further enlargements may be needed for small planning units.
- b) If a topographic map is not available in your area, you **can draw a sketch map** following the boundaries of the selected area
- c) **To calculate the approximate size of your area** you will use a **Grid Square**. The size of your area should be given in Hectares.
- d) SIZE OF YOUR AREA (Community/target group) = \_\_\_\_\_ ha

### 2. Present land use, drainage, community infrastructure, soil and topographic surveys

#### a) Land use

On the topographic map or sketch map of your area, delineate the approximate boundaries of the major land-use types: Cultivated land (Cu), Grassland (Gr), Forest land (Fs), Miscellaneous land (Msc) and others such as villages, homesteads (H), and others. Develop your own legend for additional specific features.

Within each present land use you may find important differences in terms of slopes, soil depth texture and erosion problems. Try to delineate as accurately as possible the boundaries between the different areas within the same land use that have such significant differences (dashed or broken lines - for instance Cu1, Cu2, Gr3, Fr1, Fr2, and others).

Then **estimate the proportions of each land-use (and the subunits) type in hectares and in percentage of the total area**. For this task, you should use a planimeter or grid square. Start from the minor land-use types. Subtract from the total area the sum of all minor land uses and find the major land-use type area.

#### b) Drainage and community infrastructure

While mapping your area, indicate the drainage pattern of your area ( which can be main river, tributaries and gully lines). Indicate infrastructure such as schools, health posts, churches, mosques, roads, stores and nurseries which are present in the area.

#### c) Slopes, soil texture and soil depth

During the area mapping and transect walks, measure the slope of each land use and sub-class based on differences in soil type or slope. Mark the slope with cross (es): very common (xxx), common (xx), rare (x) and nil (o) for each land use (on the same units as above). Use a clinometer or levels to measure slope.

Slopes are categorized based on the appropriate range agreed on by technical staff. eg Flat (0-3%), Gentle slope (3-10%), etc. Mark with a cross (es), very common (xxx), common (xx), rare (x) and nil (o) for each land use (on the same units as above) the nearest

Soil Texture Group - Mark also with a cross(es) the **Soil depth**: very common (xxx), common (xx), rare (x) and nil (o) for each land use (on the same units as above). The soil depth includes the total depth of the soil to a contrasting layer significant for soil conservation requirements (rooting depth, presence of hard pan, hard sub-soil, and others). Use a soil auger or look at profiles near edges of footpaths, gullies, and ask farmers their view. In general, observe and measure soil depth at least every 100 meters in most terrains, at different changes in slope and soil colour. Soil depth classes can be deep to Very deep > 100, Moderately deep 50-100, Shallow 25-50, Very shallow <25, etc.

Erosion and deforestation problems in the area - First observe signs of sheet erosion (tree roots exposed, big concentration of stones or gravel in the fields, rock exposure or shallow soil depths) for each land-use type. Then observe rill and gully erosion for each land-use type. Mark with cross(es) and complete the table, the **extent of past erosion**: very severe (xxxx), severe (xxx), moderate (xx), slight (x) and nil (o).

Similarly, provide information on **deforestation** in a particular type of land (mark with crosses): very severe (xxxx), severe (xxx), moderate (xx), slight (x) and nil (0).

### Key for deforestation

Nil	No erosion noticeable	0
Slight	Forest start to be affected, few gaps & clearing observed. Some sheet and rill erosion generated from those gaps. Some species start to become rare. Underground bushes moderately affected.	X
Moderate	Several gaps start to appear. Sheet erosion and rills common under trees. Some land below forest start to become affected by run-off generated from cleared areas. Underground bush mostly affected. Most valuable trees become rare. Forest management poor. Regeneration of new trees almost nil	Xx
Severe	Most forest cleared. Scattered trees. Most valuable trees disappeared. Severe erosion frequent between trees and open gaps. Several patches of topsoil removed. Tree roots almost completely exposed.	Xxx
Very Severe	Forest disappeared. Most of the land is severely eroded. Only very few trees and scattered bush present	Xxxx

## **Annex D: Problem Identification Procedure**

A number of participatory planning tools and methodologies have been used to facilitate people's participation in development planning and implementation process. Most of these approaches emanate from combination of planning tools motivated by various methodologies and adaptations at the local level. However, the common ones are:

- a) Participatory Rural Appraisal (PRA);,
- b) Farming Systems Development;,,
- c) Participatory Land Use Planning;,, and
- d) Participatory Watershed Planning.

The following tools are extracted from several of these to provide guidelines for watershed planning. It helps the sub county and technical staff on how to engage and consult with communities to jointly prepare a workable, socially acceptable and technically sound community-based watershed plan.

### **Participation**

Community participation is a method in which the community is motivated to function and contribute as a group to perform various tasks they all contributed to identify, select and design. This includes use and management of land resources, people's assets and farming system, economic activities and coping mechanisms. Participatory development planning should capture the necessary steps, elements and interactions to formulate a development plan that satisfies both the community in terms of addressing the main needs and aspirations of its members, as well as fulfil the principle of sustainability of the use/management of natural resources. Unless the direct and visible benefits of the programme are in line with the interests of the people, genuine participation is not likely. Participation creates strong communities ownership over the programme and assets being created.

Rural organizations are a key element both for participatory planning and for the sustainability and continuity of the project once implementation begins. Without them, no dialogue can take place between government agencies and the watershed beneficiaries. Consequently, bottom-up planning cannot exist. Government agencies need to identify appropriate rural institutions, and formal as well as informal leaders that could speak on behalf of the group or community.

For planning, a common interest group such as CPMC should be established. Its members should be elected fairly and represent the main interests of households and their livelihood profile, including vulnerability and social status.

### **Problem Identification**

Problem identification is a process to identify the major socio-economic problems of the community. The problem identification process should be followed by possible solutions to overcome the problems. Watershed management is a problem-oriented approach. It is important that major problems be carefully defined at the beginning (the first step) of the planning process.

Generally problems are recognized as related to crop, livestock production, environmental (drought, deforestation, soil erosion), economic (lack of credit, limited purchasing power, low incomes, etc.), infrastructure-related (access roads, access to basic services such as health and education), institutional, social or cultural factors, and the like.

During problem identification attention should be paid to the following key issues:

- a) Distinguishing problems from causes and solutions;
- b) Distinguishing between symptoms and problems;
- c) Interactions between problems.

There should be consensus among the farmers in the ranking and in determining the severity of the problem. Problems have to be ranked using well-defined criteria such as distribution and seriousness of the problem. Example of a problem analysis and ranking format is shown below.

### Problem Analysis and Ranking Format

Problems	Main causes	Severe	medium	low	Rank
Shortage of drinking water					
Shortage of crop land					
Shortage of food crops					
Shortage of fuel wood					
Shortage of construction wood					
Shortage of grassland					
Shortage of fodder					
Problem of pest					
Problem of rodent					
Problem of soil erosion					

Generally problems are interconnected. During problem identification and ranking the community should discuss and highlight the main causes of these problems. This is useful to start making the community aware about why problems occur and their relationship with the land resources and socio-economic issues.

The sub county and technical staff and the community can also group problems by main category and undertake the problem identification. Problems can also be identified by gender groups.

After the PI and ranking exercise, the community needs to understand the reasons why problems occur, and identify the problems as principal and secondary problems, or into major causal ones and others more related to the effects of specific interrelated problems. For example, low fertility is not to be associated to lack of fertilizers, but to erosion and lack of proper rotation, insufficient organic recycling, and others.

This, in turn, could be caused by lack of sufficient energy for firewood, thus the use of cow dung as combustible, the complete removal of crop residues for livestock and the use of monoculture of cereals to fulfil basic food needs, and the like. It should be noted that linkages to problems should guide linkages to solutions and those should be discussed along the identification of problems and their ranking.

### **Problem Ranking and Analysis**

Ranking can be used as part of an interview, or as analytical tool by itself. Ranking reveals differences in priorities, and help to understand the criterion used in doing so. Ranking also helps to compare priorities and discuss opportunities for community members of different social status. Ranking differs from poorest to better off members in the community. However, understanding the priorities of different groups is very useful as it allows finding common interests and relationships between those groups and avoids potential conflict.

Ranking methods are also useful to deal with some sensitive information, especially for income or wealth. Informants tend to be more willing to provide relative values regarding their wealth than absolute figures.

For instance, it is easier to ask a farmer to rank his income sources by importance rather than asking him how much he earns. Ranking scores are easier to obtain than absolute measurements. Types of ranking commonly used in participatory planning are:

- a) Preference ranking (ranking by voting);,
- b) Direct matrix ranking;,,
- c) Pair-wise ranking; and
- d) Wealth ranking.

While undertaking any ranking exercise: -

- a) let people do it their own way;
- b) use people's own unit of measurement;
- c) use local names and materials; and
- d) be patient, probing and eager to learn.

Preference ranking implies voting for selecting priorities. Use card sorting or tally people's preferences by vote. Wealth ranking (WR) is an exercise used to assess and understand household profile in terms of assets and income levels, thus related to capabilities, resilience to shocks, food security and other socio-economic parameters. Further, wealth ranking is used to understand and address factors determining vulnerability. WR is also used to have fair representation in planning teams, i.e. select members of different wealth groups so as to voice every category's needs and aspirations.

### **Socio-economic Survey and Analysis**

The socio-economic survey reinforces the PI exercise. PI serves to outline main problems and start identifying possible solutions, bringing the community and field staff to visualize the main causes and interrelations between problems and list some main activities that need to be done to address those problems.

Socio-economic and biophysical assessments follow next to:

- a) verify the PI findings and consolidate understanding of both problems and solutions;
- b) build ownership over the solutions;
- c) visualize the watershed logic and the priorities in terms of where, what and how to start the treatment of the various parts of the watershed;
- d) link the biophysical aspects to the socio-economic problems in detail to highlight new opportunities based on watershed logic;
- e) understand the linkage between communities influenced by a common sub-watershed line and the benefits of joining hands to carry out specific measures.

Socio-economic information can be obtained from:

- a) Review of existing reports;
- b) Socio-economic baseline survey;
- c) Design and use of questionnaire;
- d) Collection and analysis of secondary data; and
- e) Semi-structured interviewing.





## Annex G: Typical Public Works Subprojects and Expected Outcomes

Typical Subprojects	Expected Outcomes
<ul style="list-style-type: none"> <li>• Area closures/wood lots</li> <li>• Multi-layered/storied agro-forestry</li> <li>• Physical conservation measures, e.g. hill side terracing.</li> <li>• Micro-niche development</li> <li>• Biological measures</li> <li>• Mulching of degraded areas</li> <li>• Removal of invasive plant species</li> </ul>	Improved land productivity and soil fertility restoration
<ul style="list-style-type: none"> <li>• Gully control</li> <li>• Land reclamation of extremely degraded land</li> <li>• Roads and bridges</li> </ul>	Increased land availability
<ul style="list-style-type: none"> <li>• Market yards and storage</li> <li>• Stock routes</li> <li>• Stream diversion</li> </ul>	Improved market infrastructure
<ul style="list-style-type: none"> <li>• Spring development</li> <li>• Shallow wells</li> <li>• Small dams</li> <li>• Water ponds</li> <li>• Drainage and water canals/conduits</li> <li>• Infiltration pits</li> <li>• Seepage control measures</li> <li>• Vegetative fencing and fodder belts</li> </ul>	Improved access to drinking and irrigation water
<ul style="list-style-type: none"> <li>• Conservation measures</li> <li>• Fodder seed collection</li> <li>• Paddock systems</li> <li>• Water logging control</li> <li>• Multi-purpose nurseries</li> <li>• Repairing classrooms and health facilities</li> </ul>	Increased availability of fodder
<ul style="list-style-type: none"> <li>• Build latrines</li> <li>• Build classrooms and health facilities.</li> </ul>	Improved school and health facilities
<ul style="list-style-type: none"> <li>• Build child care centre</li> <li>• Run child care centre</li> </ul>	Improved child care-crèches

## Annex H: Examples of ESMF Screening Checklists for LIPW Subprojects

a) Physical and biological SWC measures	Potential for Adverse Impacts				
	None	Low	Med	High	Unknown
New access (road) construction					
Wet season soil disturbance					
Potential for debris flows or landslides					
Sensitive downstream ecosystems					
Removal of native plant/tree species					
Introduced plant/tree species invading native species					
Wildlife habitats or populations disturbed					
Environmentally sensitive areas disturbed					
Insufficient capacity to manage catchment ponds					
Insufficient capacity to prohibit or control open grazing					
Insufficient capacity to manage new plantations/pastures					
Other (specify):					

b) Access Roads construction	Potential for Adverse Impacts				
	None	Low	Med	High	Unknown
Soil erosion or flooding concerns (eg, due to highly erodible soils or steep gradients)					
Number of stream crossings or disturbances					
Wet season excavation					
Creation of quarry sites or borrow pits					
Significant vegetation removal					
Wildlife habitats or populations disturbed					
Environmentally sensitive areas disturbed					
Cultural or religious sites disturbed					
New settlement pressures created					
Other (specify):					

c) Drinking Water Projects	Potential for Adverse Impacts				
	None	Low	Med	High	Unknown
New access (road) construction					
Existing water sources supply/yield depletion					
Existing water users disrupted					
Downstream water users disrupted					
Increased numbers of water users due to improvements					
Increased social tensions/conflict over water allocation					
Sensitive ecosystems downstream disrupted					
Local incapacity/inexperience to manage facilities					
Other (specify):					

d) Irrigation Projects	Potential for Adverse Impacts				
	None	Low	Med	High	Unknown
Existing water sources supply/yield depletion					
Existing water users disrupted					
Downstream water users disrupted					
Water storage requirement and viability (soil permeability)					
Vulnerability to water logging (poor drainage)					
Vulnerability to soil and water salinization					
Sensitive downstream habitats and waterbodies					
Environmentally sensitive areas disturbed					
Cultural or religious sites disturbed					
Increased agric. chemicals (pesticides, etc) loading					
Increased social tensions over water allocation					
Local incapacity/inexperience to manage facilities					
Local incapacity/inexperience with irrigated agriculture					
Other (specify):					

e) Infrastructure such as School and Health Facilities	Potential for Adverse Impacts				
	None	Low	Med	High	Unknown
New access (road) construction					
Alteration of existing drainage conditions					
Vegetation removal					
Wet season soil disturbance					
Construction materials impact on adjacent forests/lands					
Quarries and borrow pits created					
Cultural or religious sites disturbed					
Water supply development effects in available supply					
Effect of sanitation development on existing disposal sites					
Effects of medical waste on existing disposal system					
In-migration/settlement induced by facilities development					
Local incapacity/inexperience to manage facilities					
Other (specify):					

## Annex I: Example Community Watershed plan

### 1. Background Information of the area

District:	Kapchorwa
County:	Kapchorwa
Sub County:	Kaserem
Parish:	Were
Village:	Sembur
Watershed/Sub Watershed:	Sembur village Sub Watershed
Area of the watershed:	155 hectares

### Description of the Area

#### a. Socio economic

Sembur village is located in Were parish, Kaserem Sub County in Kapchorwa District in eastern Uganda about 45 Kilometers east of Mbale town. It is located approximately at 1400 masl. The total population of the parish is about 115 people with high density. Average household size is approximately 6 individuals per household. The parish is located in rural area. The economy of the Parish can be classified as "cereal-major/livestock-minor." Major crops are banana, coffee, maize and beans. Agriculture is almost entirely rain-fed. Livestock holding per household is 1-3 cattle due to limited grazing area/animal feed. The cattle breed is local with low milk production.

There is only one improved spring/water point for the population. Within the parish there is one perennial river that is currently used only for livestock consumption. One school and health center is located 2 kms away from the community.

#### b. Biophysical data

**Topography, Climate and Soils:** Terrain is moderately rolling, with compression ridge systems and isolated hills and small mountains. Rainfall is bimodal, 920-1650 mm with erratic characteristic, low frequency and high intensity. Most of the annual precipitation received is received between April and September.

The soils are volcanic ash. This soil type is easily eroded; slopes are particularly susceptible to water and wind-blown erosion.

**Vegetation** - The area is heavily agricultural. However, some natural vegetation cover exists, and range from thinly wooded savannah to heavy brush. Vegetation is much better in drainages and erosion gullies. The vegetation has to a large extent been modified by human activities including planting of especially eucalyptus woodlots and crops. The area occupied by natural vegetation is less than 10% of the total land area of the village.

Due to the proximity, much of the production is sold at Kapchorwa town, about 20 kms away. As a result of variation in rainfall distribution and timing the moisture stress frequently suppresses agricultural production.

Three major limiting factors for agricultural crops production are:

**Poor and declining soil fertility-** The dominant soil type is volcanic ash with high erosive property and low water holding capacity. A soil fertility decline is widespread, and is attributable to (1) erosion of topsoil, and (2) nutrient depletion due to repeated cropping. Use of chemical inputs and manure is very low.

**Moisture stress –** The soil (dominated by volcanic ash) has low water holding capacity and the rainfall is frequently erratic.

**Population Pressure-** High population growth rates are acting to reduce average plot size and increasing the number of landless households. The population pressure has contributed to the level of high deforestation. There is no tree-planting practice and fuel wood is becoming a serious problem for women who are responsible for fire wood collection.

The increasing population pressure forces cultivation of marginal lands. These lands often possess lower fertility, and are more prone to erosion.

Consistent with most subsistence agriculturalists, local farmers prioritize production of food security (cereal and pulse) crops over cash crops. Cash crop production is banana, coffee and bean. Vegetables production is on small scale under rain-fed and small-scale irrigation. Small scale famine is common in some years in the months of May and June. During the period of food shortage the community relies on cassava and Irish potato as strategy to fill the food gaps.

## 2. Community Project Management Committee

	Team member Name	Title	Gender
1	Mahimudin Ali	CPMC chairperson	M
2	Peter	Treasurer	M
3	Joyce	member	F
4	Miriam	member	F
5	Timothy	member	M
6	Isaac	member	M
7	Christine	member	F

### 3. Major Problems Identified by the Community During Field Survey and Prioritized

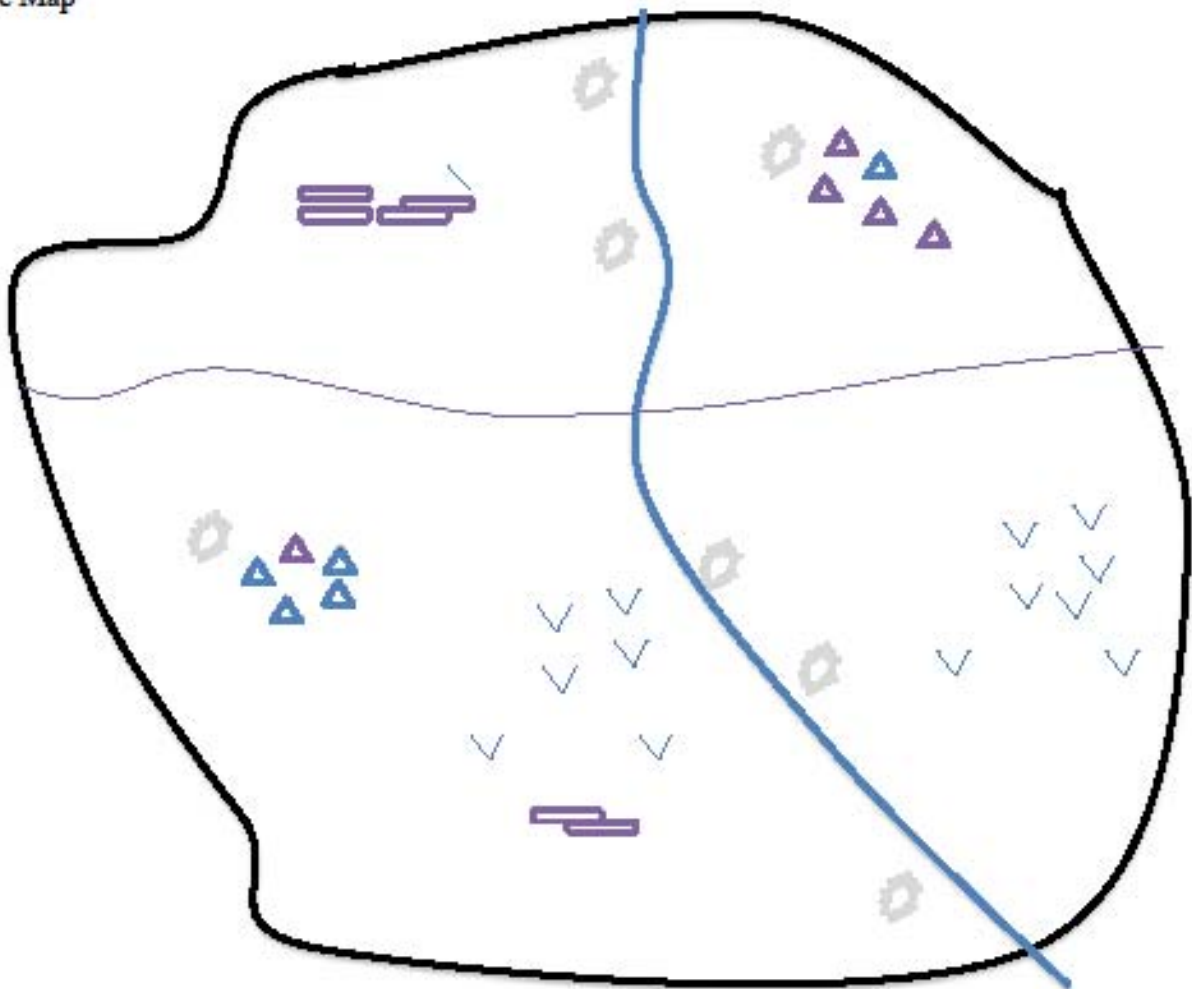
	Land slide	poor land productivity	Limited extension	Crop pests	Firewood shortage	Limited access road	Limited water supply	Limited access to education	Limited health facility
	1	2	3	4	5	6	7	8	9
Land slide	x								
poor land productivity	2	X							
Limited extension	1	2	X						
Crop pests	4	2	4	X					
Firewood shortage	5	2	5	5	x				
Limited access road	6	2	6	6	5	x			
Limited water supply	7	2	3	7	5	7	X		
Poor access to education	8	2	3	4	5	6	7	x	
Limited health facility	1	2	9	9	5	6	7	9	X
Score	2	8	2	3	7	5	5	1	3
<b>Ranking</b>	<b>7</b>	<b>1</b>	<b>8</b>	<b>6</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>9</b>	<b>5</b>

**Table 1: Major problems identified and prioritized using Pair wise ranking**

Problem	Proposed solution
poor land productivity	Promote soil and water conservation measures (Terraces, contour bunds and hedgerows, agro forestry, stone embankments, retention ditches, mulching, planting trees, roof rain water harvesting)
Firewood shortage	planting fire wood tree plants/seedlings
Limited water supply	Pond and valley tank construction
Limited access road	Construction of gravel road and bridge

**Table 2: Proposed solutions for the top (rank 1-4) problems identified**

Base Map

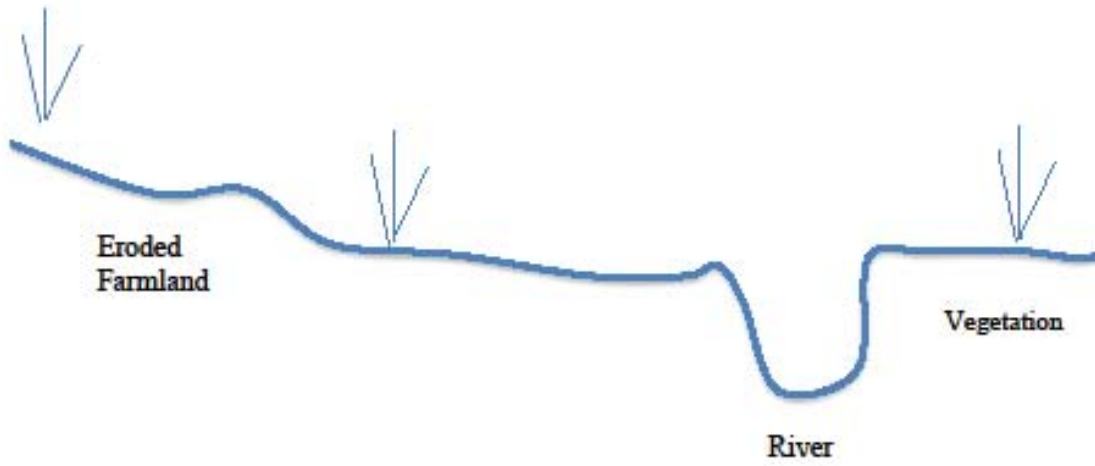


Legend

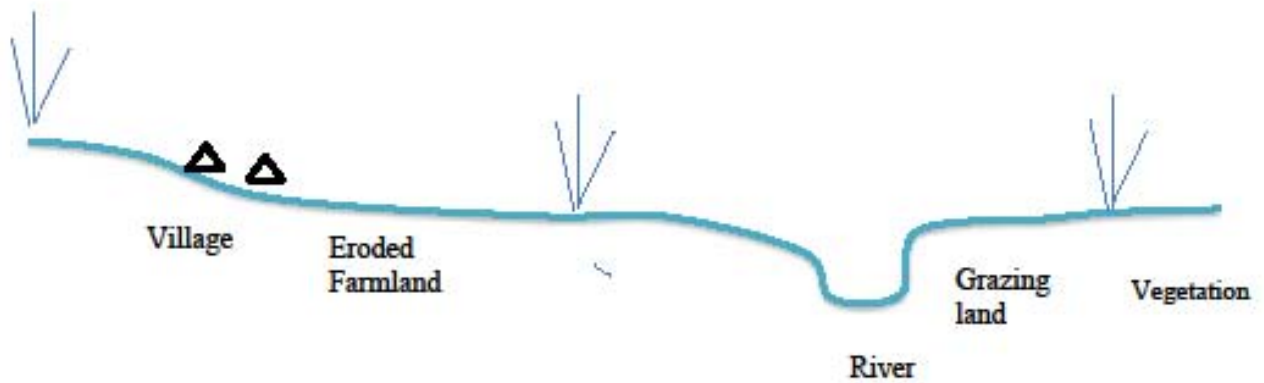
- |              |   |
|--------------|---|
| River        |  |
| Farmland     |  |
| Village      |  |
| Foot path    |  |
| Grazing land |  |
| Vegetation   |  |

## Transect Walk

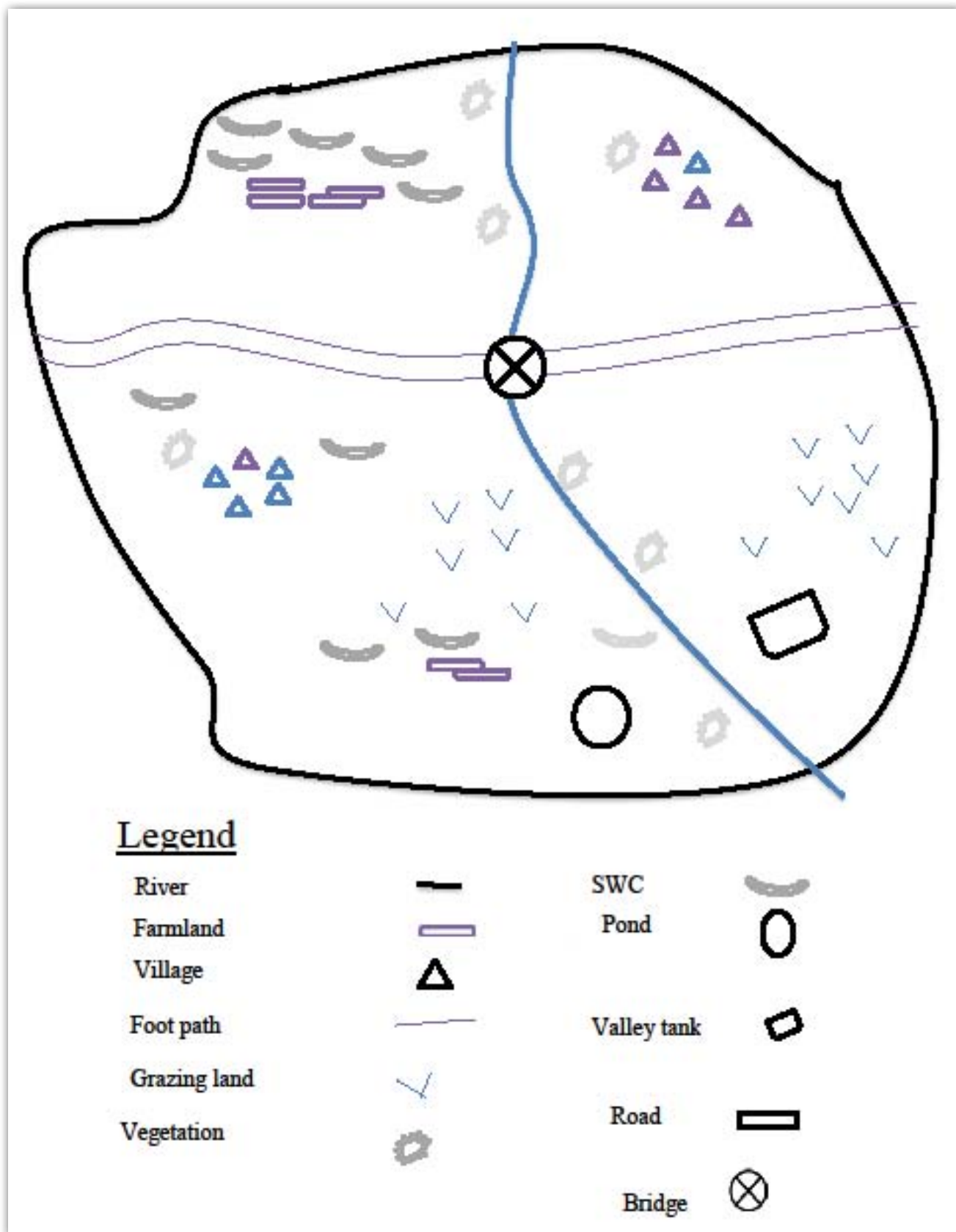
a) Upper part of the village/catchment



b) Lower part of the village/catchment



Development map



S/N	Selected Measures	Unit	Quantity	Year1	Year 2	Year 3
1	Promote soil and water conservation measures	Hectares	55	10	30	15
2	planting firewood tree plants/seedlings	Hectare	17	0	10	7
3	Valley tank Construction	Number	1	0	1	0
4	Pond Construction	Number	1	1		
5	Construction of gravel road and bridge	Km	5	2	3	0

**Table 3: Multiyear (3-5) Targets for Implementation**

Selected Measures	Unit	Qty	Work-norm (PD/unit)	Person days (PD)	Year 1	Year 2	Year 3
Promote soil and water conservation measures	Hectares	55	2,500	20,000	10	30	15
Planting fire wood tree plants/seedlings	Hectare	17	500	150	17	0	0
Construction of valley tank	Number	1	12,000	8,000	00	01	01
Pond construction	Number	1	5,000	5,000			
Construction of gravel road and bridge	Km	05	2,500	2,000	02	03	0

**Table 4: Required Labour Inputs**

List of materials	Unit	Qty	Cash (UGX)	Year 1	Year 2	Year 3
Cement	Bags	50	1,500,000	500,000	500,000	500,000
Sand	Trips	5	500,000	200,000	150,000	150,000
Stone	Trips	5	500,000	200,000	150,000	150,000
Hoes	Pcs	250				
slashers	Pcs	100				
String	Roll	5				
spades	Pcs	150				
Measuring Tape	No	5				
Culverts	No	30				
Tape measures						
Sensitisation meetings						

**Table 5: Non-Labor Cost Requirement**

Type of Activity	Unit	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Promote soil and water conservation measures	hectare												
planting fire wood tree seedlings	hectare												
Construction of valley tank	number												
Pond construction	number												
Construction of gravel road and bridge	km												

**Table 6: Annual detail action plan**

**a) Implementation Strategy:**

- Community mobilization and sensitization
- Formation and training of Community Project Management Committees (CPMC) and operation and maintenance committees.
- Joint identification of local materials
- Purchase of the tools and selection of Lead Local Artisan to provide technical guidance in the implementation process.
- Coordination mechanisms in terms of community review meetings to assess the progress registered.

**b) O&M Plan**

- Community sensitization on maintenance requirements
- Formation and training of water user committee members for valley tank and pond
- Establish community by-law for the management of the asset created
- Clearly explain the roles and responsibilities of stakeholders including emphasizing to the community that the role of O&M is vested on them

## GLOSSARY OF KEY TERMS

Agroforestry	Land use management system in which trees or shrubs are grown around or among crops or pastureland
Appropriate technology	Technological choice and application that is small-scale, decentralized, labor-intensive, energy-efficient, environmentally sound, and locally controlled
Awareness	The ability to perceive, to feel, or to be conscious of events, objects, thoughts, emotions, or sensory patterns
Baseline	In project management, a baseline is a known state by which something is measured or compared
	Present land use map
Baseline map Biomass	The mass of living biological organisms in a given area or ecosystem at a given time
Biophysical Environment	Biotic and abiotic includes the factors that have an influence in their survival, development and evolution
Bund	Soil conservation barrier made of earth, stone or vegetation.
Catchment	That area determined by topographic features within which rainfall will contribute to run-off at a particular point under consideration.
Check dam	A small structure constructed across a gully to slow down water flow in the gully and thereby reducing stream and river bank erosion in the downstream.
Compost	A mixture of organic residues such as decomposed vegetation manure used as a fertilizer.
Development map	A map created by community illustrating major proposals/development plans
Disability	Impairments, activity limitations and participation restrictions
Disaster	Serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources
Drainage line	Dry streambed or gully where water concentrates during rainfall
Gully	Landform created by running water, eroding sharply into soil, typically on a hillside
Graduation Line	??
Hydrology	Study of the movement, distribution, and quality of water on earth
Integrated Development	Development approach that involves the entire community in finding the best solutions to achieve good long-term development
Land Degradation	Process in which the value of the biophysical environment is affected by a combination of human-induced processes acting upon the land
LIPW	Subprojects undertaken by predominantly unskilled persons with the ability to work and who are seeking employment. The LIPW programmes should have a labour content of at least 70% and non-labor component 30% of the budget
Livelihood	Means of securing the basic necessities -food, water, shelter and clothing
Micro-watershed	Watershed size 100 to 1000 hectare
Percolation tank	Artificial pond that collects run-off water, causing it to infiltrate into the ground to recharge ground water aquifer
public works	Government-financed activity involving mass labour in projects for the public good

Resettlement	The movement of people from one region/area to another
Resilience	Speedy recovery from problems
Sensitization	Make someone more aware of something
Small-Scale Irrigation	Irrigation farm with plot size less than a hectare up to 200 hectares in which farmers have controlling influence.
Social protection	Preventing, managing, and overcoming situations that adversely affect people's well being
Socioeconomic	Relating to, or involving a combination of social and economic
Soil and water conservation	Prevention of soil and water loss by means of erosion and run-off
Subproject	Project that is part of a larger project
Transect walk	Is a tool for describing and showing the location and distribution of resources, features, landscape, and main land uses along a given transect
Value for money	Measure of the benefit provided by a good or service to an economic agent
Vulnerable	Susceptible to harm or damage
Watershed	The total land area that contributes to the flow of a water body, upstream of a given point
Watershed management	The "use and control" of all resources within the watershed, in order to attain specific objectives.

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