Shire River Basin Management Program
SRBMP
We All Need The Shire

MINISTRY OF AGRICULTURE,

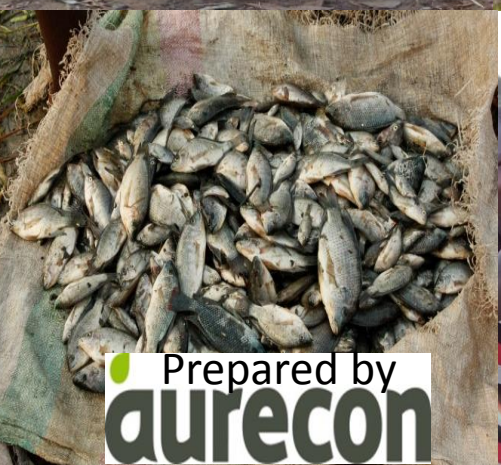
IRRIGATION AND WATER DEVELOPMENT

Government of Malawi

MALAWI NATIONAL GUIDELINES: INTEGRATED CATCHMENT MANAGEMENT AND RURAL INFRASTRUCTURE

Training Workbook



Prepared by
aurecon

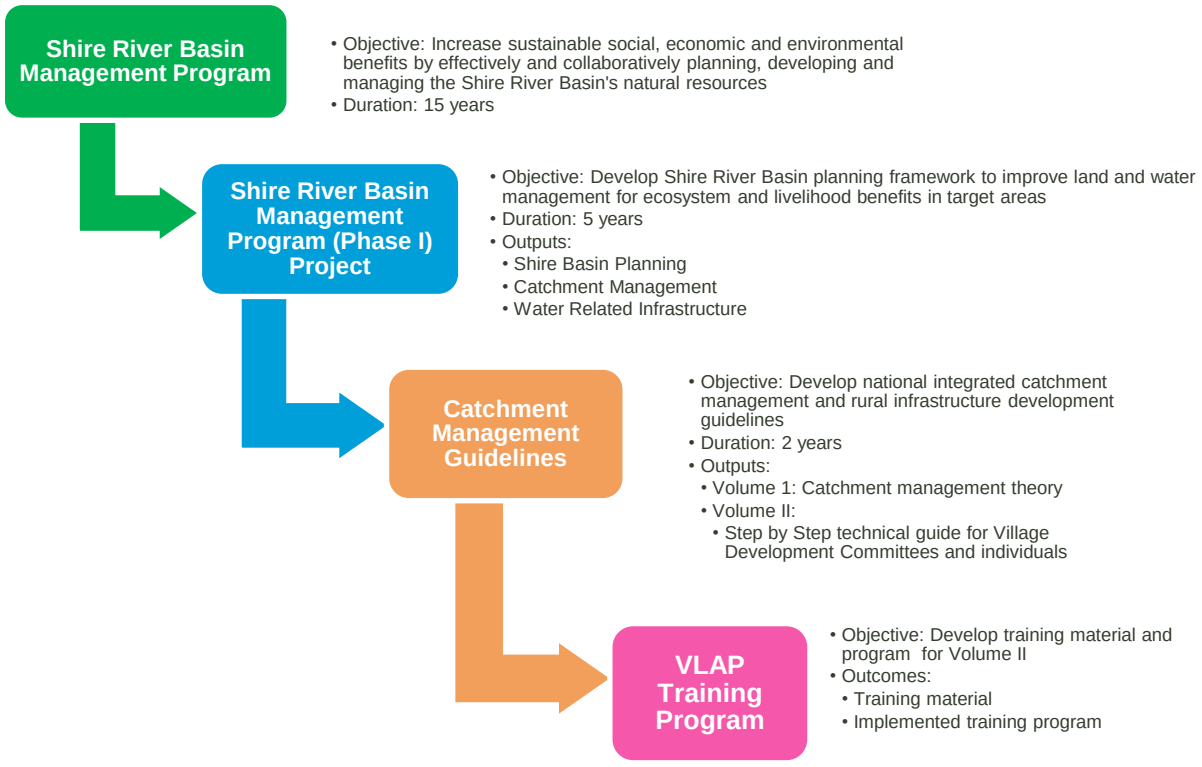
Foreword

This project was undertaken for the Ministry of Agriculture, Irrigation and Water Development of Malawi, as part of Phase I of the Shire River Basin Management Programme. Funding was provided by the World Bank, which is gratefully acknowledged. The scope of the project was for all of Malawi and the result is the National Integrated Catchment Management and Rural Infrastructure Development Guidelines.

The aim of this study is to develop national guidelines on integrated catchment management and rural infrastructure development. Integrated catchment management facilitates the management of all natural resources at a smaller scale that enables not only government but also land owners and stakeholders to become involved in the day to day management of the catchment, thereby ensuring sustainable and reasonable utilisation of the resources.

This project aims to provide national guidelines on the catchment management planning process as well as guidelines on the physical activities that have an impact on, or could improve catchment management at a grassroots level.

This training workbook is one output of a project. It forms part of the overarching Shire River Basin Management Program (SRBMP) of Malawi which aims to bring about economic growth and alleviate poverty in the country (see diagram below).



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Acronyms

Term or Acronym	Definition
CMP	Catchment Management Plan
etc.	*et cetera*, meaning and so forth
GVH	Group Village Headman
ICM	Integrated Catchment Management
LFA	Logical Framework Approach
M&E	Monitoring and Evaluation
NGO	Non-Governmental Organisation
PIC	Project Implementation Committee
PRA	Participatory Rural Appraisal
SRBMP	Shire River Basin Management Program
SMART	Specific, Measurable, Achievable, Realistic, and Time-based
SWOT	Strengths, Weaknesses, Opportunities and Threats
TA	Traditional Authority
VDC	Village Development Committee
VH	Village Headman
VLAP	Village Level Action Plan
VNRMC	Village Natural Resource Management Committee

Programme

Day	Time	Title of Presentation	Responsible	Chairperson
Day 1- Wednesday 9th September 2015	8:30	Welcome remarks Introductory remark Opening remarks Ice Breaker	DC Aurecon Rep. Ag. ED Facilitators	Master of ceremonies
	9:00	Productive public Works: Presentation -Understanding PWP in the context of MASAF IV project	Bruno Kamanga/John Ng'ambi	EP&D
	9:30	Biodiversity, Ecosystem services and Resilience	Aurecon group	E&PD
	10:30	Morning refreshments	TST secretariat	
	11:00	Catchment management -What is a catchment? -Integrated catchment management -How do we manage catchments -Principles and concepts	Aurecon group	EAD
	12:30	Lunch Break	LDF Secretariat	
	13:30	Village level Action Planning (VLAP) process -What? Who? Why? Principles and benefits of VLAP -How? Steps of the VLAP process (step by step details)	Aurecon Group	GENDER
	15:30	Afternoon break	TST secretariat	
	16:00	How to use the Guidelines	Aurecon group	GENDER
	17:00	End of day one		
Day 2- Thursday 10th September 2015	8:30	Review of day one activities	Aurecon group/TST	
	9:00	Tools for Village Level Action Planning process Resource Mapping SWOT analysis Transect walk	Aurecon	Forestry
	10:30	Morning refreshments	TST secretariat	
	11:00	Tools for Village Level Action Planning process Problem tree	Aurecon	Forestry
	11:30	Populating the action plan	Aurecon	Forestry
	12:00	Preparation for field work 1. Group- Resource mapping 2. SWOT analysis 3. Problem tree 4. Transect walk	Aurecon/Robins Gausi	Forestry
	12:30	Lunch Break and departure	TST secretariat	
	13:30	Field exercise Meeting with VDC members Split into 4 groups Group discussion with VDC members	Aurecon/Robins	Forestry

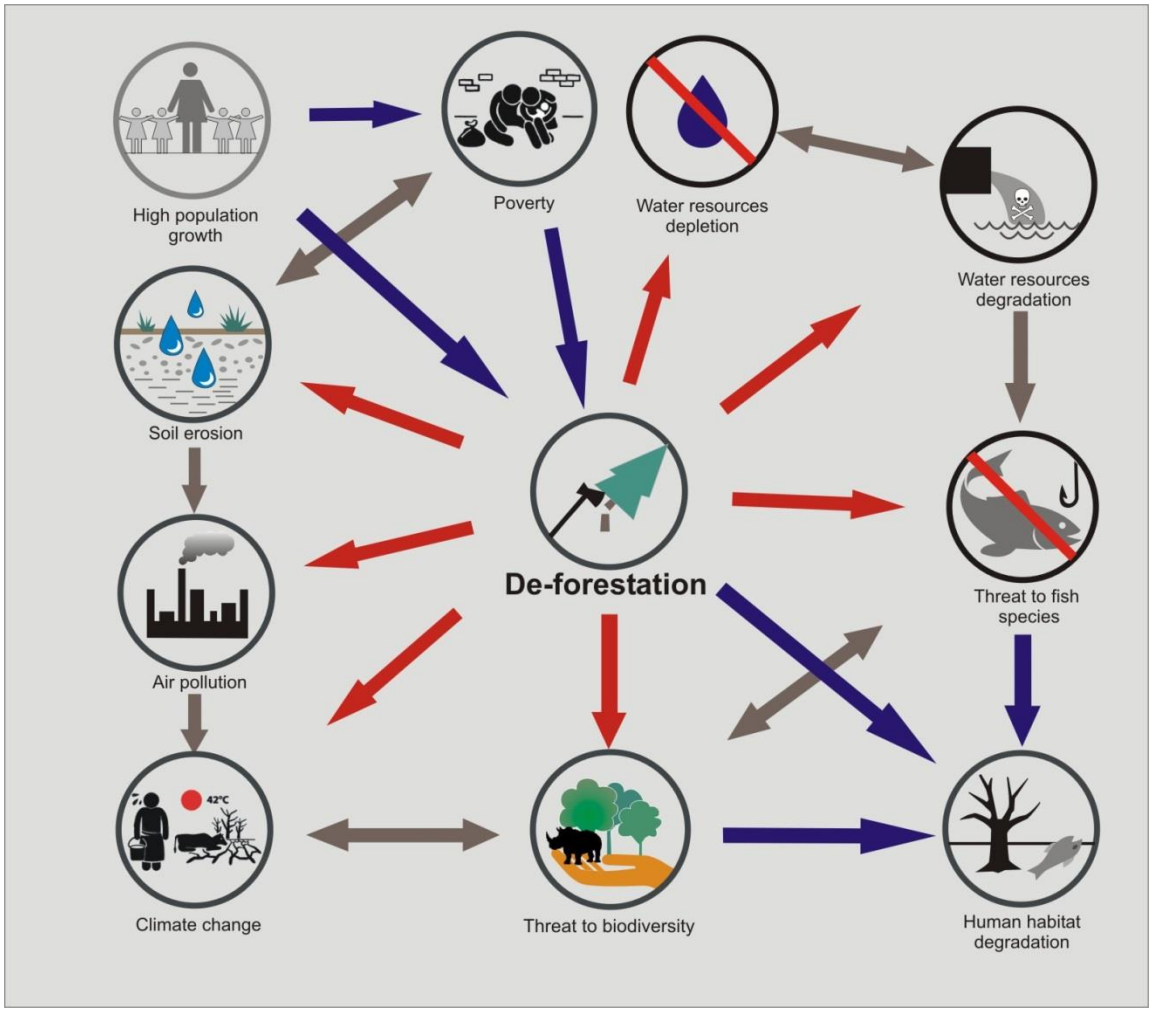
Day	Time	Title of Presentation	Responsible	Chairperson
		also split into 4 groups		
	16:30	Back at the training centre Briefs on progress made	Aurecon	Forestry
	17:00	End of day two		
Day 3- Friday 11th September 2015	8:30	Review of day two activities	Aurecon group	Master of ceremonies
	9:00	Presentation of field reports 1. Group 1 2. Group 2	Aurecon group	Water Resources
	9:30	Presentation of field reports 1. Group 3 2. Group 4	Aurecon group	Water Resources
	10:30	Morning refreshments	TST secretariat	
	11:00	Safety net plans -Summary of VDC sub-projects -Consolidated safety net plans	Tracy Msiska/Robins	Water Resources
	12:30	Lunch Break	LDF Secretariat	
	13:30	-Implementation Plan -Monitoring and evaluation of VLAP	Aurecon Group	Land Resources
	15:30	Afternoon break	TST secretariat	
	16:00	Wrapping up -Summary of guidelines -Summary of lesson learnt -Question and Answer -Certification Closing remarks by AgED/DLACE	Aurecon group Robins	
	17:00	End of day 3 and pretesting exercise Departure		

Introduction: The world we live in

We do not live in isolation to the world around us, meaning that the environment in which we live impacts on *how* we live. For example, if I live in an area that has a specific rainfall season and distinct seasons with extreme temperatures, the crops I plant will differ to someone who lives in an area that has year-round rainfall with stable temperatures.

At the same time, *we* impact the environment that we live in. For example, if I cut down all the surrounding trees in the area for firewood to cook and warm my family, one of the impacts that this action may have is soil erosion which in turn may lead to my livestock not having enough food.

> Tip: To illustrate the inter-relatedness of the environment and people, initiate a discussion to ask "What do I do to impact my natural environment?" or "How does my environment impact me?"



Examples of cause and effect linkages of drivers and impacts of environmental degradation

In order to minimise and reverse the impacts of environmental degradation so that every Malawian's life is improved the government of Malawi have initiated several initiatives, this project being one of them.

1 Meet the Workbook

This Training Workbook is aimed at empowering Extension Officers with technical and practical information to effectively facilitate the compilation, implementation and monitoring of Village Level Action Plans (VLAPs) in Malawian villages. It contains guiding information that provides context to the project, step-by-step instructions to designing, implementing and monitoring of VLAPs and practical tips as well as resources for effective facilitation of the VLAP process.

The Workbook is based on the Malawi National Guidelines: Integrated Catchment and Rural Infrastructure Volumes I and II. The outcome of the training would be to enable Extension Officers to (in conjunction with village residents) to accomplish the following Objectives.

Figure 1-1: Objectives of the training

My notes:

2 All about Catchments

Outcomes of this section:

- Gain an understanding of the water cycle, its concepts and definitions
- Be able to explain the principles, elements and importance of catchments and integrated catchment management
- Illustrate the inter-relatedness of people and their catchments
- Give examples of ecosystem functions and corresponding goods and services
- Explain what biodiversity is and why it is important to individuals
- Know what resource economics is and how to explain it with examples

2.1 What is the water cycle?

The hydrologic cycle, or water cycle (Figure 2-1), is the journey that water takes from the sky to the land and back again. As water goes through this journey, it can be in the form of a solid (ice), a liquid (water), or a gas (water vapour).

Tip: It may be useful to describe the water cycle to the villagers, as it could help them better understand catchment processes.

The sun heats the rivers, the lakes and the ocean causing water to evaporate into the atmosphere. Plants and soil also release water from the land (transpiration) into the sky. Water vapour in the atmosphere condenses to form clouds, and as the clouds become saturated the water returns to the land as precipitation. Water runoff collects in streams and rivers and drains to the ocean, or (infiltrates) the ground where as groundwater it moves to lower rivers, lower lakes and the ocean. The cycle then continues with the processes of evaporation of water from the land, plants and soil back into the atmosphere.

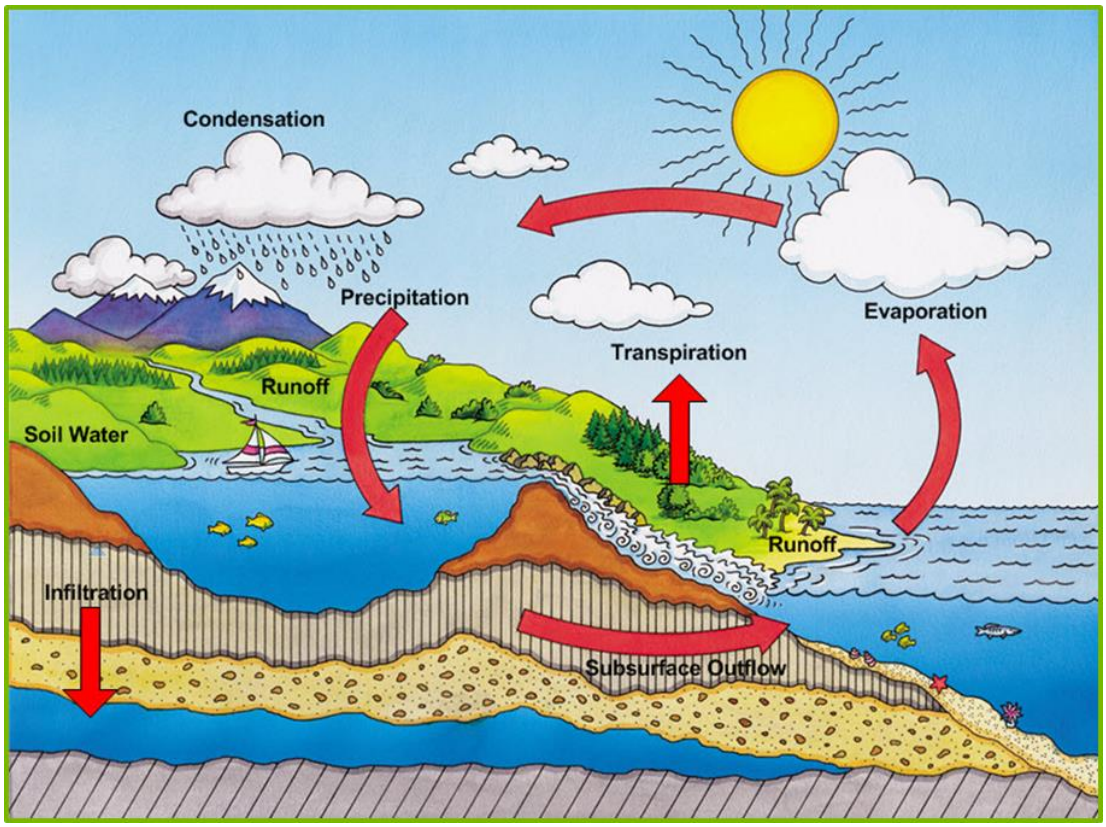


Figure 2-1: Illustration of the water cycle (Source: http://the-importance-of-water.weebly.com/the-water-cycle.html)

Table 2-1: Useful terms used when describing the water cycle

Term	Definition
Evaporation	The way in which heat makes liquid water turn into water vapour. Steam from a kettle is a form of water vapour.
Condensation	The way in which water vapour in the sky sticks together to form liquid water droplets, creating clouds and fog.
Transpiration	The process where water is absorbed from the soil by plants (through their roots) and is released into the atmosphere as water vapour through their leaves.
Precipitation	The way in which condensed water vapour in the sky falls to the land. We all know a common form of precipitation – called rain! But in some places hale, snow, fog and sleet all fall to the land as precipitation.
Resources	Natural components that can be utilised, e.g. rivers, lakes, groundwater, trees, soil, etc.
Runoff	The way in which water runs along the surface of the land. Runoff can be in the form of sheet-flow, which runs evenly along the surface without a channel, or it can be in the form of channel-flow which collects in a channel such as a river or a stream.
Infiltration	The way in which water on the surface of the land seeps into the soil and the ground. If you pour water into a bucket of sand you will see it sink to the bottom of the bucket or infiltrate.
Groundwater	Water stored under the ground. Sometimes you can see groundwater as it comes back to the surface in a natural spring, or it may be pumped to the surface from boreholes by man. Groundwater is important for providing water to streams and rivers, and eventually to the ocean. Groundwater tends to move slowly, so it can remain in natural underground reservoirs called aquifers for thousands of years.

Table 2-2 Exercise to demonstrate the water cycle

TOOLS TO USE: how to demonstrate the processes of the water cycle

You will need:

- A large plastic bowl
- A jug of water
- A sheet of clear plastic wra
- A ceramic coffee mug
- String or a rubber band

What to do:

1. Put the bowl in a sunny place outside
2. Use the jug to pour water into the bowl until it is ¼ full
3. Stand the coffee mug in the centre of the bowl – make sure it is dry and be careful not to splash water into it
4. Cover the bowl tightly with the plastic wrap
5. Tie the string or rubber band around the bowl to hold the plastic wrap in place

What you can expect to see:

After a while, take a look at the bowl as it sits in the sun. You will see a “mist” forming on the plastic wrap. If you wait a little longer you will see the mist turning into water droplets that will eventually begin to drip back into the bowl. Is the coffee mug still empty? Hopefully the coffee mug has water in it.

What you have demonstrated:

The sun caused the water to evaporate from the plastic bowl, which is like the ocean and the lakes, and form the “mist” on the plastic wrap, which is like the clouds, which turned into water droplets through condensation that eventually became saturated and dropped back into the plastic bowl (the ocean and the lakes) and into the coffee mug, which is like the land, as precipitation or rain.

The process of transpiration is of particular importance as this is the reason why deforestation has an impact on the water cycle.

Can you explain how transpiration, deforestation and the water cycle are linked?

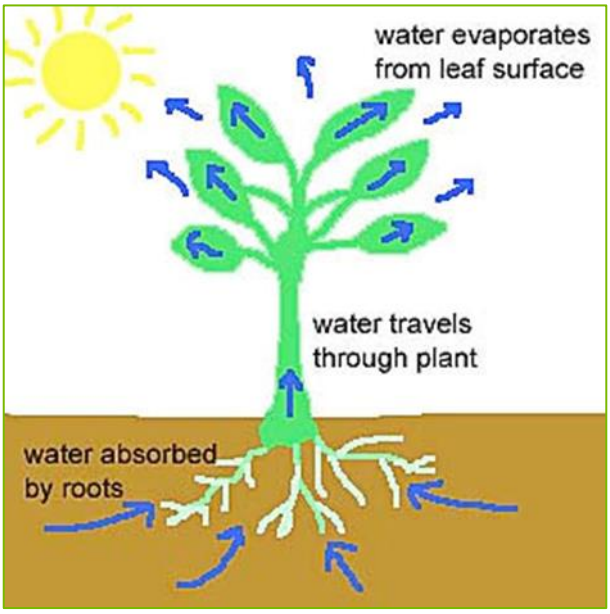


Figure 2-2 Process of transpiration

Table 2-3 Exercise demonstrating the transpiration process

TOOLS TO USE: how to demonstrate the processes of transpiration
You will need: ▪ A plant or tree ▪ A plastic bag ▪ String, rubber band or masking tape 
What to do: 1. Find a plant or tree which has a branch with a number of leaves on 2. Ensure the plant or tree is in the sun 3. Put the plastic bag around the plant or branch and fasten tightly with the string, band or tape 4. Leave it for a while, no less than one hour
<u>What you can expect to see:</u> After a while, you will see a “mist” forming on the plastic bag. If you wait a little longer you will see the mist turning into water droplets that will eventually begin to drip into the plastic bag. So the plant has given off water.
What you have demonstrated: The sun caused the plant to ‘sweat’ through its pores (small holes in the leaves). This is called transpiration and it cools the plants down as well as helping water, minerals and nutrients move around the plant. These water droplets become part of the atmosphere. Transpiration is an important part of the water cycle because it adds a lot of water to the air. For example a large oak tree can contribute about 150 000 litres of water a year to the air.

My notes:

2.2 What is a catchment?

Land and water are linked in a natural system called a catchment, which is literally an area of land that catches water and directs it to a stream, river or lake. The smallest form of a catchment is called a micro catchment. Many micro catchments may make up a larger catchment.

A catchment is drained by different types of streams and rivers, some that flow only when it rains, some that flow only in the rainy season, some that flow most of the year or all of the time.

Streams are grouped by how much water they carry	
Short-lived Streams (Ephemeral)	Small, temporary pathways that water channels in during a rainstorm or after a flood. The channels are not well defined and vary from storm to storm.
Seasonal Streams (Intermittent)	Streams that usually only flow during the rainy season, but are dry for the rest of the time.
Permanent Streams or Rivers (Perennial)	Streams or rivers that have water flowing in them all year–round, their channel is usually well–defined and they may have several smaller tributaries which join them.

Did you know: A typical catchment that you will need to work within will most likely have a network of smaller streams that do not always have water in them, and possibly a larger stream or river that flows all the time.

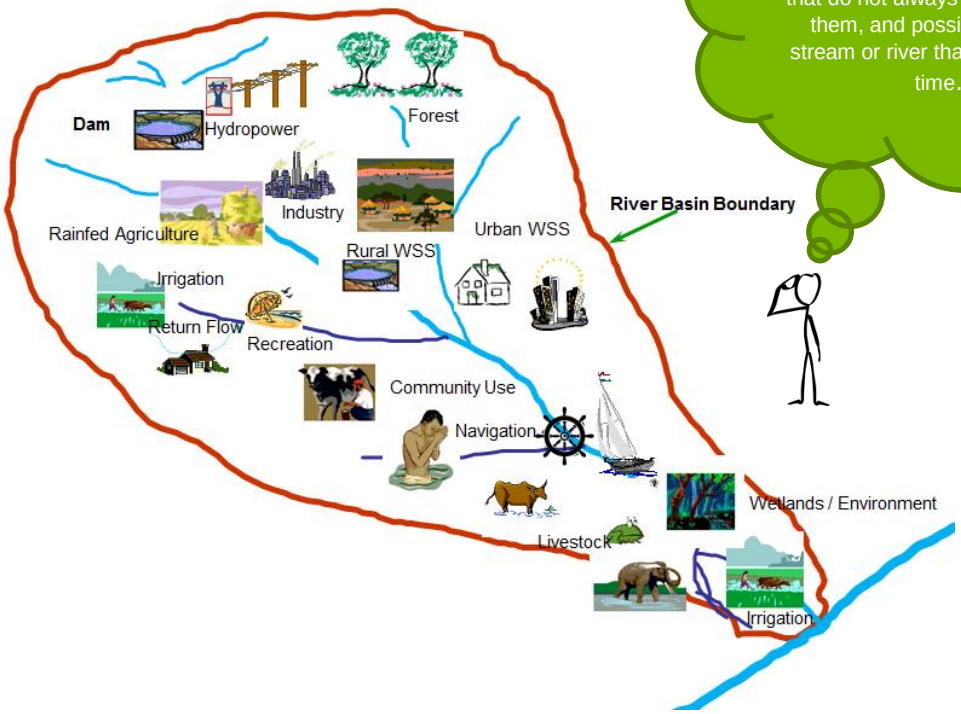


Figure 2-3 Illustration of a catchment

My notes:

2.3 What makes up our catchment?

A catchment boundary is called a watershed, which is usually on top of a ridge, hill or mountain. A watershed divides the pathways that water will follow into the catchments on either side of it. Water makes its way down the catchment slopes, either as runoff or as groundwater, into the streams and rivers, where it joins that of other catchments in bigger rivers until it reaches the sea.

Table 2-4 Activity demonstrating the idea of a catchment

TOOLS TO USE: how to demonstrate a catchment with an open egg box
You will need: ▪ An empty egg box ▪ A cup of water
What to do: Tell the villagers to imagine that the open egg box represents the earth's surface. Pour the cup of water onto the ridges of the egg box, and watch it fall into the egg cups. 
What you have demonstrated: The ridges are like **watersheds**, dividing the water as it falls into the cups, which are like **catchments**.

Catchment features

- Climate
- Slopes
- Plants and soil
- People
- Land
- Resources

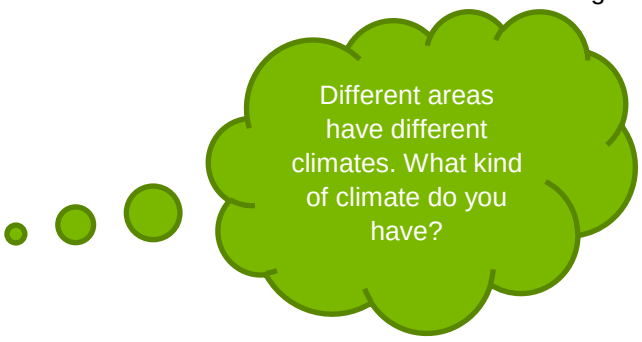
By understanding what makes up our catchment, we are better able to manage our catchment activities to ensure more and cleaner water and soil for all. Each catchment is unique, and what makes it different depends on the climate, the slopes, the plants and soil, and of course the activities of the people who live there.

What is climate?

Climate refers to the type of weather a region has over a long period of time, and describes the seasonal patterns or changes in weather.

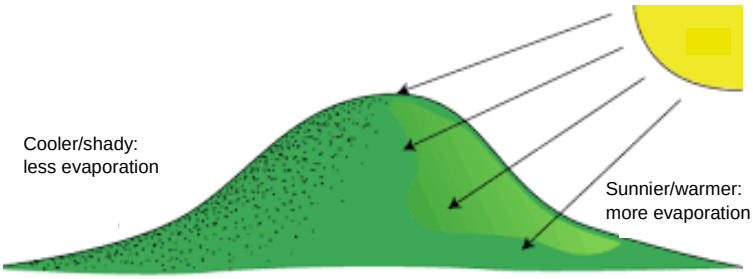
2.3.1 How does climate affect our catchment?

In Section 2.1 we discussed how land and water are closely linked through the water cycle, which is driven by energy from the sun. The amount of water in the water cycle cannot be increased, but the amount of water naturally available to a region is somewhat dependent on climate. The amount of precipitation, such as rain, and the seasonal changes in temperature determine how much water is received by a catchment. But climate not only affects how much water is received by our catchment, it also affects how much water is lost from our catchment through evaporation. In regions where climate is typically hot, dry and windy, evaporation loss from bare soil and from water surfaces will be high.



2.3.2 How do slopes affect our catchment?

The amount of sun our catchment receives affects local temperature and evaporation rates, which in turn affect how we use the land and what we are able to grow. So the kinds of plants that will grow in our catchment depend on the direction the slopes are facing. If we have a slope that gets lots of sunshine most of the day, then the water in the soil are lost more quickly to evaporation.



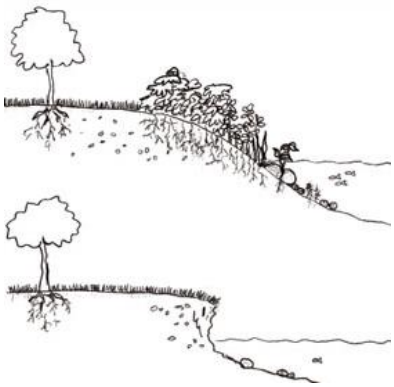
The kinds of plants that will grow in our catchment also depend on the steepness of the slope they are growing on. Water is also lost more quickly to runoff if the slopes are very steep as the water does not get a chance to infiltrate the soil, especially if the slopes have been impacted by bad farming practices, deforestation or the removal of vegetation. So the way in which water drains from our catchment is also influenced by the slopes. Water running quickly down the catchment slopes often washes the soil away with it which is called erosion. The loss of soil from a catchment reduces the ability for plants to grow. The soil is washed into the rivers and pollutes the water making it difficult for fishes, aquatic animals and plant life to exist. The soil is eventually deposited in the floodplains or washed out to sea.

2.3.3 How does plant cover and soil affect our catchment?

The kind of plants and the number of plants that grow in our catchment affect the amount of water that reaches the soil. Dense plant cover slows down the force of rain and wind, and stops soil from washing away (soil erosion). The leaves and twigs of plants also fall to the ground and add nutrients to the soil, but before decomposing, the leaves and twigs protect the soil from wind and rain. In addition, plants and decomposing material protect the soil against evaporation, preventing the soil from excessive drying out. Deep rooted plants like trees draw water from the soil and make it available for transpiration. Roots open up spaces for water to seep into the soil. Plants that are natural to an area are very good at helping prevent pollution of streams and rivers. If there are a lot of natural plants on the banks of a river, they will stop soil and nutrients from washing into the river (soil degradation and soil erosion). Too many nutrients in a river can harm the fish and plants, so natural plants on the banks of the river can help as plants use lots of nutrients to grow.

Floodplains

The floodplains are typically very important and richly fertile areas of the catchment due to the soil that is deposited there during flood events. Floodplains are often used for cultivation, and attract settlement, but as they are frequently flooded can also impact negatively on the activities occurring within them. Do remember however that although floodplains make for fertile farming areas, the river banks still need to be protected



My notes:

2.4 How do people affect our catchment?

Everything we do affects our catchment, from the way in which we farm and grow food, to the way we collect water for washing our clothes or drinking, or even the way we build our homes, roads, bridges and dams. Our catchment also affects everything we do from the type of food we grow, the number and types of animals we can sustainably support on our land, to the way in which we store water. We usually live upstream from someone, and downstream from someone else, so the way in which others impact the catchment affects us, and the way in which we impact the catchment affects others (Figure 2-4). The water quality of a catchment can therefore be impacted by activities that happen many kilometres away, for example water can become undrinkable from pollution occurring in a village upstream. It is therefore important to consider an entire catchment and all the activities being undertaken in it when trying to improve the quality and availability of water.

What is important to realise is that a catchment and the people who live in it, and the way in which they live, are all intricately linked.

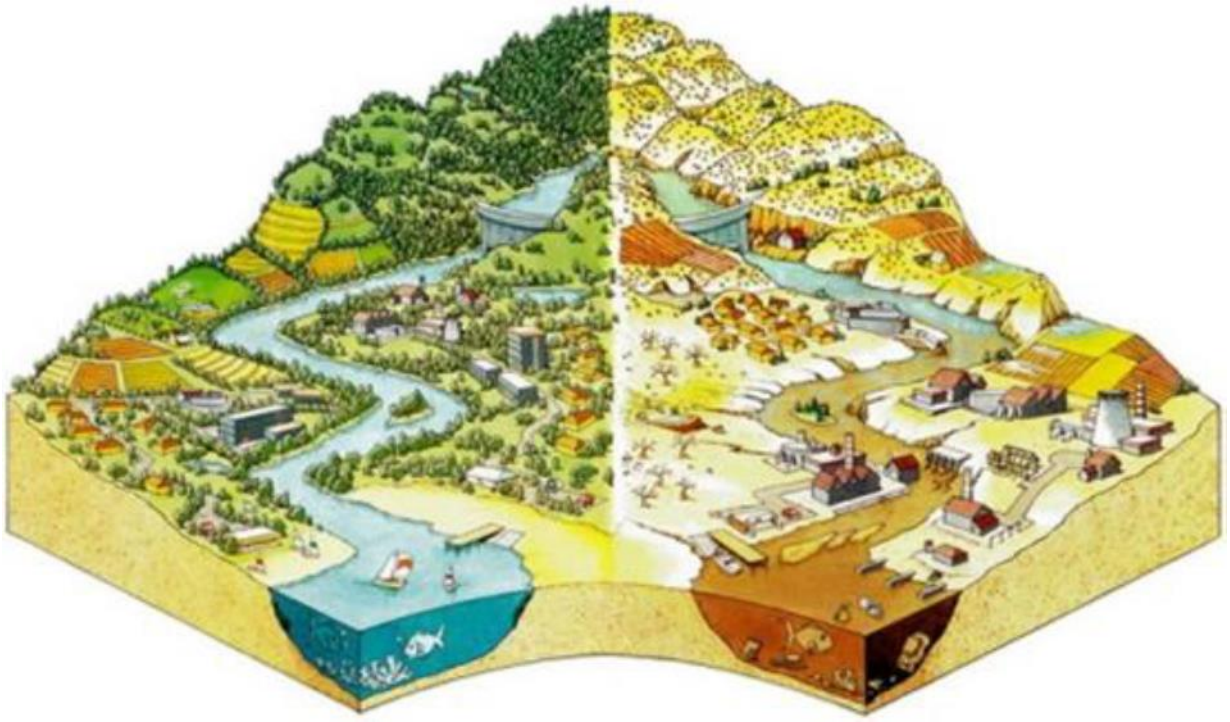


Figure 2-4: Illustration of good and poor state of both land and water resources in a catchment. (*Source: Waterwatch Queensland*)

2.4.1 Deforestation

The clearing of plants and trees, or deforestation, in Malawi is one of the biggest impacts people are having on their catchments. People cut down plants and trees to burn for heat and cooking, for building and also to clear land to plant agricultural crops. In addition, people use wood for curing tobacco and fish, as well as for brick burning, beer brewing and making charcoal. Plants and trees are very important for the quality and quantity of water in our catchment. By clearing them the soil washes away (triggering soil erosion), more nutrients leave the soil and reach the rivers (leading to soil degradation). The fewer plants there are, the less transpiration takes place, and therefore the less water enters the water cycle, thus affecting water resource availability as well.

Plants and trees also help clean the air we breathe, and provide homes for all kinds of birds, insects and animals which are also important in helping keep the catchment functioning at its best. By cutting down forests it may provide wood to burn today, but it will make farming and living more difficult in the future if the soil has washed away and the water in the catchment is polluted.

2.4.2 Water quality

Every living thing on earth needs water to survive, so conserving water quality in our surrounding environment not only allows us to survive, but to thrive. It therefore makes sense that water quality is one of the key factors impacting on Malawi's economic growth and poverty alleviation initiatives. Some of the benefits of maintaining good water quality include: lower costs (as no treatment measures are required to use the water), it stops diseases from spreading, and allows for fish resources to thrive.

The quality of both surface and groundwater in Malawi is generally tolerable for many uses. In some areas, however, water quality is often too poor to use for irrigation or crops or as drinking water without being treated. Many factors impact on the quality of our water. Sedimentation, improper sanitation and waste disposal and chemical contamination of our water are some of the ways in which our water quality is degraded and leads to increased water treatment costs.

Sedimentation

The process of sediment (e.g. soil particles) or other matter settling to the bottom of liquid (such as a pond)

Sedimentation negatively affects water quality as it increases the levels of the following in the water:

- Sediment
- Suspended solids
- Turbidity

Additionally, sediments can cause an increased level of nutrients in a lake or other body of water, which causes a dense plant growth and threatens fish resources.

In 2011, 88.6% of Malawians used unimproved pit latrines. In addition, the growing population also leads to unplanned settlements with improper sanitation and waste disposal. Pit latrines near water sources, livestock and industrial discharge contaminate ground and surface water, resulting in biological contamination and poor water quality.

Chemical contamination through run-off from crops containing fertilizers and pesticides and improper disposal of industrial waste also increases the nutrient levels in the water, damages ecosystem health, causes fish mortality and increases the threat to human health.

2.4.3 Soil erosion

Soil erosion is a natural process of weathering and transporting of solids (sediment, soil, rock and other particles) which move through the natural environment and are deposited elsewhere. They are usually transported by wind or water, and also by gravity or by living organisms themselves that burrow.

Soil erosion is a big problem in Malawi. Soil is more easily washed away when bad farming practices do not protect it from the wind and rain. We discussed deforestation in the section above where we learnt how clearing plants and trees also increase soil erosion. The site that the soil is washed away from suffers as it is less able to allow for plants and crops to grow, and the amount of crops we are able to grow decreases every year.

When the soil washes away it takes the nutrients with it into the streams, rivers and lakes. Too much soil and nutrients in the water can harm fish and aquatic animals such as crabs and prawns, making it difficult for them to breathe. Soil in the water can damage irrigation pumps and pipes. Too many nutrients help aquatic weeds to grow such as water hyacinth, water lettuce, Kariba weed and red waterfern. These weeds grow like a mat on the water surface, blocking out the sun and using up the oxygen. Weeds can also block the flow of water in the rivers making the rivers flood the surrounding land more easily. If the soil is deposited in the streams and rivers it can also cause increased flooding of the surrounding land.

Soil erosion versus soil degradation

Soil erosion = Loss of soil

Soil degradation = Loss of nutrients

2.4.4 Soil degradation

Even if the soil is not physically washed away through erosion, soil degradation can also occur. Soil degradation is when the quality of the soil is impacted, which results in a loss of nutrients. This can happen through bad farming practices such as mono-cropping which results in the depletion of specific nutrients in the soil over time. Inappropriate irrigation can also cause nutrients to leach out of the soil. So even if we include measures to save our soil resources from washing away though erosion, the very agricultural methods that are used can impact the quality of the soil that remains.

2.4.5 Population growth

The most recent population census in Malawi took place in 2008, and showed that there was a high population growth rate. The country's population was approximately 10 million in the 1998 census, and grew to 13.1 million in 2008. This is an overall growth of more than 30%, and an annual growth rate of 2.8% per annum over that period. This high growth rate, combined with a low rate of literacy, contributes to the high levels of poverty present in Malawi. Many people rely on natural resources for their livelihood, but there is a shortage of good quality arable land in the country. Malawi had a population density of 139 persons per square km in 2008, which is one of the highest in the world.

Land and other resources are threatened by the high demand for resources such as wood for fuel, subsistence agriculture and basic income generation. The growing population and its reliance on natural resources for survival are reducing both the volume and the yield of natural resources, as the carrying capacity of the land is reduced and soil fertility is reduced, i.e. there are insufficient resources to support the current generation, let alone future generations. The current population growth rate is unsustainable.

2.4.6 Human settlements

People living in urban areas and in villages impact our catchment. We clear the land to make room for our houses, schools and shops, and expose the soil to erosion. We also clear forests and natural plants to mine material to build our roads. Many of our villages and towns are located close to our rivers, streams and lakes. Hard surfaces like concrete and brick do not allow water to infiltrate the soil, and so it runs more quickly, taking with it more soil, and causing flooding of houses that were built too close to the rivers and streams.

Our settlements are not always planned and do not all have proper sanitation or waste disposal systems. Pit latrines and informal sanitation systems pollute our water resources like our rivers, streams and lake. Rubbish that is dumped in unsuitable areas also pollutes soil and water. All of the pollution to our soil and water impacts our catchment, and makes it more expensive to farm or treat water for drinking purposes.

Human settlements also have an impact on the air that we breathe, especially activities like burning land or waste. Bad air quality can pollute water, and can be harmful to our health.

2.4.7 Rights and Responsibilities

We have the right to have as many children as we want, but as a parent we also have the responsibility to feed, cloth, educate, shelter and provide health to each child. Similarly we have the **right** to use natural resources but we also have the **responsibility** to use them efficiently and sustainably. Therefore we must take responsibility for the impacts we have on our catchments.

The string story:
A story driven scenario highlighting linkages between benefits of community resources and how impacts to one resource results in knock on effects to the environment and therefore the community. Establish resource nodes, linkages, and cause and effect between these using participant interactions. (Materials: String, paper, pens)
The string story: What have you learnt?

Homework task: Goods and services in own districts
What goods and services do you have in your own districts? What are the main natural resources? What are their benefits? And how are they linked? What would happen if one was degraded? Would it cope? Link the benefits that are related, e.g. forestry and water resources are linked by rainfall.

2.5 What is Integrated Catchment Management?

Integrated Catchment Management (ICM) is a strategy, a plan and a set of actions to manage the natural resources, as well as people's actions and livelihoods in a catchment. The plan aims to set a balance between how we use our resources in our catchment for today's needs (like harvesting wood, planting crops, herding livestock and building houses) and protecting those resources for tomorrow's needs. Catchment management recognises the way in which all of the resources in our catchment, and the way we use them, are interdependent and linked. Integrated catchment management should not just focus on what is damaged or degraded but should also promote good practices.

Catchment management can be difficult to coordinate, because catchments do not respect political or tribal boundaries, and in many instances fall over several economic, cultural or even national boundaries. Catchment management planning is therefore carried out at various scales from a district level strategy down to village level planning, but this all has to be integrated so that everyone is aiming and working towards achieving the same goals.

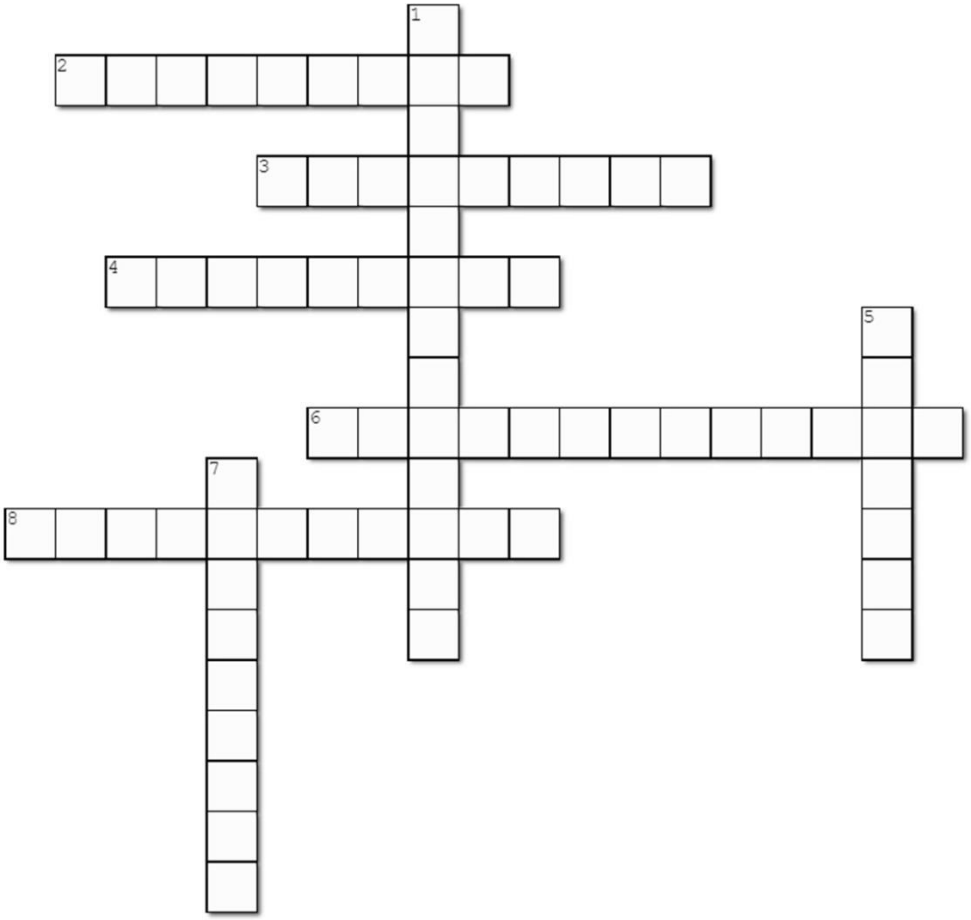
For integrated catchment management to work, it needs the input of all stakeholders and the whole community. It is best to get everyone involved early on in the process to achieve the best results.

My Notes:

Tip: Use this crossword puzzle as a fun activity to emphasise terms related to catchment management

Catchment Management

Complete the crossword below



Across

2. Group of environmental components and interconnections (p20)

3. Natural goods and services used to grow, live, earn etc. (p9)

4. Water and land are linked in a natural system (p11)

6. Plants and trees release water into the air (p9)

8. Loss of nutrients from the soil (p16)

Down

1. Clearing of trees and plants (p14)

5. Loss of soil (p15)

7. The boundary between different catchments (p12)

My notes:

2.6 Resource economics and ecosystem services

2.6.1 Why is biodiversity important for me?

All economic activity and most of human well-being is based on a healthy, functioning environment. By focussing on the various benefits from nature – ecosystem services – we can see more clearly the direct and indirect ways that human well-being depends on the natural environment.

What is?:

Biodiversity: This is the variety of life on earth – at the level of ecosystems, but also at the level of the components of ecosystems (for example species and genetic material). Biodiversity of ecosystems and within ecosystems is integral to their functioning and the provision of ecosystem services.

Ecosystem: This is a way of describing nature's functioning and it consists of components (plants, animals, microorganisms, water, air etc.) as well as the interactions between these components. Functioning ecosystems are the foundation of human wellbeing and most economic activity, because almost every resource that humankind utilizes on a day-to-day basis relies directly or indirectly on nature. The benefits that humans derive from nature are known as ecosystem services. The different types are listed in the table below.

Ecosystem Functions: Ecosystem functions are the physical, chemical, and biological processes or attributes that contribute to the self-maintenance of an ecosystem; in other words, what the ecosystem does.

Ecosystem Services: Ecosystem services are the outcomes of ecosystem functions that directly result in benefits for people. Refer to Table 2-5 below.

Nature's benefits are multiple and include all our food; our water; safe places for living; materials such as timber, wool and cotton; and many of our medicines. Healthy natural systems regulate our climate, protect against hazards, meet energy needs, prevent soil erosion, and offer opportunities for recreation, cultural inspiration and spiritual fulfilment. See the list of ecosystem functions and examples of resulting services in the table below:

Table 2-5 Ecosystem functions and relevant examples (Adapted from Soman et al., 2007)

Provision function:		
▪ Food		▪ Conversion of solar energy into edible plants and animals.
▪ Water supply		▪ Filtering, retention, and storage of fresh water. ▪ Infiltration of surface water that helps maintain baseflow. Water supply and ground water recharge.
▪ Raw materials		▪ Conversion of solar energy into biomass for construction and other uses. ▪ Genetic materials.
▪ Medicinal resources		▪ Provide plants used in traditional medicines and pharmaceutical industry.

Regulation function:		
▪ Disturbance prevention		▪ Influence of ecosystem structure on dampening environmental disturbances such as: flood attenuation, ice damage control, stream bank stabilization, maintaining channel morphology. Biological control mechanisms.
▪ Water Regulation		▪ Role of riparian cover in regulating runoff and stream flow. ▪ Infiltration and maintenance of stream flow.
▪ Filtration / Water filtration		▪ Riparian buffers filter sediments, nutrients, pathogens, pesticides, and toxins in runoff. ▪ Infiltration of surface water that helps maintain the base flow for water supply and ground water recharge.
▪ Soil retention		▪ Role of vegetation root matrix and soil biota in soil retention. Reduce soil erosion and sediment control.
▪ Soil formation		▪ Weathering of rock, accumulation of organic matter. Maintenance of top soil and soil fertility.
▪ Nutrient regulation		▪ Storage and recycling of nutrients such as N and P and organic matter. ▪ Contribution of organic matter to stream from adjacent vegetation
▪ Gas regulation		▪ Role of riparian ecosystem in biogeochemical cycles. ▪ Provides clean breathable air.
▪ Climate regulation		▪ Influence of land cover and biological mediated process on climate. ▪ Influence terrestrial and stream temperature, human health, recreation and crop productivity. ▪ Thermal refuge for aquatic species.
▪ Waste treatment		▪ Role of riparian vegetation & biota in removal or breakdown of xenic nutrients and compounds. Storage and recycling of human waste.
Habitat provisioning function:		
▪ Pollination		▪ Role of biota in pollination.
▪ Refuge function		▪ Suitable living space for wild animals and plants. ▪ Woody debris in the stream provides habitat and shelter for aquatic organisms. Terrestrial riparian ecosystem provides habitats for amphibians, mammals and birds. Habitat for rare threatened and endangered species. ▪ Provide travel corridors for migration and dispersal.
▪ Nursery functions		▪ Suitable reproduction habitat for aquatic organisms and amphibians.
Information / cultural function:		
▪ Aesthetic Information		▪ Attractive landscape features. ▪ Clear and clean water enhances sensory and recreational qualities
▪ Recreation		▪ Water quality for recreation, boating, swimming
▪ Science and Education		▪ Variety in nature with scientific and educational value.

There needs to be an understanding of the value of ecosystem functions and resulting goods and services they produce to ensure they are properly managed and the '**natural capital'** is not lost. It is necessary to maintain a healthy environment because there is a point (known as the '**tipping point'**) at which a degraded ecosystem will cease to function and therefore cease to supply the goods and services that we rely upon, and it can be extremely expensive, time-consuming, or sometimes even impossible to restore the ecosystems and/or find another solution. For that reason ecosystems need to be factored into village level planning to outline the costs and benefits of different management actions, and therefore make better informed decisions.

A note on tipping points

Ecosystems have a capacity to adapt to change and to recover from disturbance, but when tipping points are reached they can change character – and no longer produce certain services.

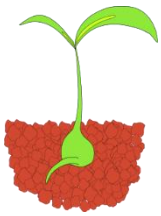
Ecosystems change naturally due to events like fires, diseases or changes in weather, all of which can influence ecosystem components and thus the flow of services. However, human impact on ecosystems is now the greatest driver of ecosystem transformation. These changes are often gradual, and to a certain extent plants and animals are able to adapt to them.

However, if human impact and the pressures we place on ecosystems exceeds the capacity of ecosystems to recover- they can degrade or even collapse and can no longer provide the desired combination or quantity of services. The unsustainable use of one service (e.g. water) can cause the entire ecosystem to degrade leading to the loss of other important ecosystem services which may have major impacts on our economies, our health and our well-being. Once ecosystems are heavily damaged, restoration is very costly and takes a long time, and in some cases is impossible and it is our responsibility as citizens and natural resource managers to make sure this does not happen.

An example of a tipping point is a fish population which suffers from an accumulation of negative impacts such as sedimentation from deforestation and erosion, overfishing, and pollution of rivers. This population will survive until the tipping point is reached, whereby the environment is too hostile for survival and the remaining fish community will be lost.

Tip: Refer to the 'string story' in Section 2.4 of the Workbook to demonstrate how people's activities affect catchments.

2.6.2 A potential not fully recognised



Environmental concerns are often considered to be unpopular or costly, and the value of nature can be side-lined by village decision-makers for a variety of reasons:

- **Services that nature provides are often not visible.** For example wetlands are converted or degraded in favour of more profitable options such as dams or irrigation schemes. But the problem is not that wetlands have no economic value, but rather that this value – e.g. water regulation is not well understood.
- **Competing demands on nature.** While conserving nature in its own right is very important to some people, others consider it to be a luxury. A growing population increases the demand for all kinds of services and this leads to more intensified use of natural ecosystems. Even where populations are not increasing, there are often conflicting interests. Some groups may benefit from cutting a forest while others lose important sources of income.
- **Time lags.** The loss of biodiversity and the degradation of ecosystems may not have an immediate impact. For example, the loss of vegetation that helps stabilise slopes and retain rainwater in soils, is only noticed once the vegetation disappears and landslides or flooding occurs. On the other hand, immediate needs such as timber requirements for charcoal are often more urgent.
- **Poor understanding of natural cause and effect.** The long-term impacts of destroying ecosystems are sometimes difficult to anticipate. The benefits provided by biodiversity in meeting future developmental challenges are often difficult to apprehend and information is not readily available.

Refer to the case studies below for examples of reversing land degradation:

Case Study 1

In a village in India, very low annual rainfall in combination with extreme rainfall events and increased run-off resulted in reduced water levels and shortages. The cause was deforestation and removal of vegetation in the catchment. Over time, about 10% of the arable land could be farmed and this led to a crisis forcing people to move away from the area.

Village elders and leaders realised that the way out of this vicious poverty cycle was better management of water and forests.

They drew up and implemented an integrated natural resource management plan assisted by a grant scheme provided by the Indian government. These additional resources and good coordination between government departments who supported the scheme helped the village members to regenerated 70 ha of degraded forests and build 40,000 contour bunds around the hills to save rainwater and recharge the groundwater. This renewed groundwater meant that the number of wells doubled in size and the area of land under irrigation could be expanded.

- The arable area expanded 120 to 260 ha between in 7 years
- Grass production went up from 100 to 6,000 tonnes
- As a result, livestock increased dramatically and milk production went up from 150 litres to 4,000 litres per day
- This meant that the income generated from agriculture alone amounted to the annual equivalent of US$ 550,000

In less than a decade, poverty reduced by 73% and there was an overall increase in the quality of life with people returning to the village.

Case Study 2

Loess Plateau, North-Central China is home to 50 million people. Meeting the needs of the population that relied on natural resources caused significant environmental stress, ultimately leading to large scale land degradation. The goal was to reduce land degradation and protect the livelihoods of the people and a thorough assessment was needed. They broke the goal down into objectives and tasks which focused on re-establishing natural systems and improved farming practices.

Some of the actions were as follows:

- To re-establish forests and wetlands sensitive areas were protected; grasslands, trees and shrubs were replanted; and levees and dams were made to capture runoff.
- Small dams were built to provide water when rainfall is low. In doing so they were able to reduce sediment by 100+ million tons / year.
- Livestock was limited and grazing banned, and those affected were compensated.
- Grasslands were also not burnt as had previously been the case.

They were able to improve agricultural practices through:

- Avoidance of mono-cropping, by implementing crop rotation and practicing multiple land uses such as orchards, vineyards, greenhouses and pig-sties. (However there is still an overuse of fertilisers due to increased yield and the nitrate levels in Yellow River currently exceed WHO standards).
- A reduction in tillage was achieved through minimum/no tillage practices, and the adding of straw mulch. This has positively impacted surface water:
    - Reduce run-off up to 35%
    - Increased infiltration up to 39%
    - Decreased soil erosion
    - Decrease evaporation

The natural systems are recovering:

- Forest and wetland rehabilitation have reduced sediment by +100 million tons/year.
- Water capacity is increased with small dams for droughts and the need for emergency food aid is removed.
- The natural environment has benefited through improved livestock practices; eliminating grazing restored natural environment and perennial vegetation has since increase from 17% to 34%.
- Furthermore, agriculture has diversified and increased productivity. The next challenge is the reduced reliance on fertilizer application.

Ultimately these good practices have increased yield by up to 10% (grain by 18%). These benefits have been passed on to +- 20 million people. They have seen income double and an increase of 10% employment.

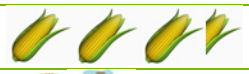
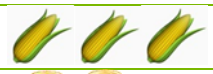
Figure 2-5: Case Study - Reversing land degradation in the Loess Plateau, China

Corn exercise: Goods and services

Good or bad environmental practices will have a positive or negative effect on the community's natural resources over time. Resource economics can be understood by looking at the simple example of a corn farmer and how different practices have long term benefits or consequences. Using the corn scenario as a reference, discuss in groups some examples of how good and bad practices in your area may be impacting natural resources and what are the benefits or problems associated with these actions?

Bad	Good

Tip: This corn exercise can be used to help explain resource economics

	Year 1 / Season 1	Year 2	Year 3	Year 4
Bad farming practice	Year 1 Situation is the same/ have the same inputs (costs) and same outputs (benefits)	Picture indicating tillage, no mulching, no contour ridging; loss of top soil, erosion of soil, reduced yields Loss nutrients leads to need for fertilizer (money)	Picture indicating tillage, no mulching, no contour ridging; loss of top soil, erosion of soil, reduced yields Loss nutrients leads to need for fertilizer (money) Clear more land for farming (more labour effort) deforestation	Picture indicating tillage, no mulching, no contour ridging; loss of top soil, erosion of soil, reduced yields Loss nutrients leads to need for fertilizer (money) Clear more land for framing (more labour effort) deforestation
Benefit				
Cost				
Good farming practice	Year 1 Situation is the same/ have the same inputs (costs) and same outputs (benefits)	Picture indicating no tillage, mulching, contour ridging; good top soil maintenance, maintain nutrients, good yields	Picture indicating no tillage, mulching, contour ridging; good top soil maintenance, maintain nutrients, improved yields, farm size stays the same	Picture indicating no tillage, mulching, contour ridging; good top soil maintenance, maintain nutrients, improved yields, farm size stays the same
Benefit				
Cost				

Key:

Crop yield from annual harvest

Money spent on farming practices

Labour effort required to cultivate

Tip: try this word search fun activity to help with explaining resource

Resource Economics

Search for the list of words in the soup of letters.

O	J	Z	B	A	L	X	R	A	W	A	T	E	R	N	Y	X	P	M	Y
R	J	H	V	E	U	C	L	I	M	A	T	E	O	K	Y	D	T	C	H
L	V	A	D	S	X	F	E	G	B	M	H	I	S	Y	X	F	T	Q	Q
O	L	B	O	T	C	J	C	D	M	A	T	E	R	I	A	L	S	N	Z
R	X	I	L	H	W	G	O	M	F	A	P	W	A	T	E	R	U	U	C
J	E	T	G	E	H	O	M	Y	U	I	S	E	D	I	M	E	N	T	I
M	D	A	E	T	F	S	K	N	S	O	L	J	N	Y	T	Q	I	R	Q
C	U	T	X	I	X	U	E	W	P	S	I	T	U	U	V	J	J	I	U
U	C	R	F	C	R	T	R	X	I	C	N	H	R	Y	V	A	E	E	A
L	A	R	Y	T	T	W	N	B	R	I	F	D	S	A	B	J	D	N	L
T	T	P	E	A	W	Z	D	V	I	E	O	I	E	A	T	T	E	T	I
U	I	R	R	G	E	L	D	B	T	N	R	N	R	J	T	I	P	S	T
R	O	O	E	E	U	F	L	O	U	C	M	O	Y	K	P	Z	O	X	Y
A	N	V	F	I	S	L	L	Z	A	E	A	Z	D	I	J	O	L	N	R
L	K	I	U	T	E	I	A	O	L	H	T	R	A	P	P	I	N	G	A
M	Y	S	G	B	X	F	J	T	O	W	I	Y	T	O	U	R	I	S	M
D	I	I	E	U	I	S	O	K	I	D	O	S	U	I	D	D	F	S	T
T	P	O	L	L	I	N	A	T	I	O	N	P	H	H	F	D	Q	O	O
V	A	N	M	X	L	L	C	U	K	M	N	R	P	Q	A	P	G	U	M
R	L	S	D	B	I	I	G	S	I	B	F	R	E	S	H	W	G	W	Z

PROVISION
CULTURAL
RAW
POLLINATION
SEDIMENT
WATER
SPIRITUAL
NURSERY
EDUCATION

REGULATION
WATER
MATERIALS
FLOOD
TRAPPING
TOURISM
FILTRATION
REFUGE
INFORMATION

HABITAT
QUALITY
FOOD
ATTENUATION
FRESH
AESTHETIC
NUTRIENTS
SCIENCE
CLIMATE

Note: Words can be horizontal, vertical and diagonal.

2.7 How do we manage catchments?

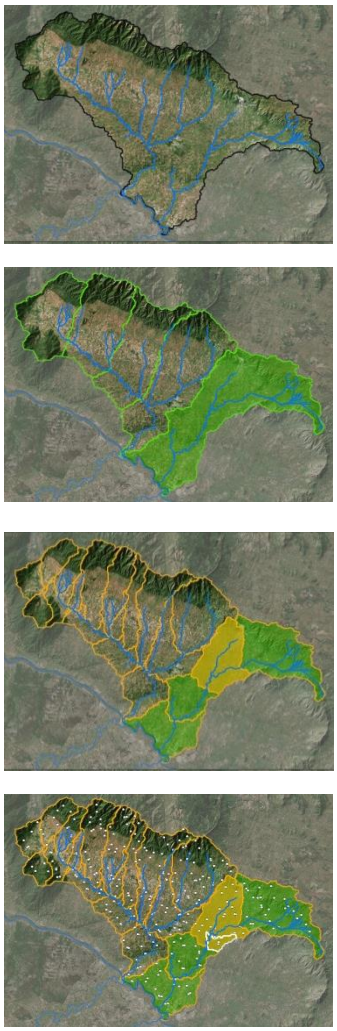


Figure 2-6: Diagram of different catchment scales

Catchment Management Strategies (CMS) focus on the broadest catchment scale. They reflect strategic thinking, such as national strategic objectives, to provide for the management of natural resources of a particular catchment. The CMS should be for a period of not less than 5 years and address issues of strategic importance for the catchment. It should be driven by principles (for example equity and sustainability) and should recognise the major drivers in the catchment (e.g. degradation, soil erosion, economic development opportunities and demographic issues). It should acknowledge that the catchment is a system with many inter-connections. A CMS usually does not have any details on budgets and implementation plans, nor does it identify any individuals and institutions. It provides the opportunity to apply national policies, objectives and activities from other sectors to the catchment scale.

Catchment Management Plans (CMPs) are based on the principles in the CMS and form specific management plans relating to these. CMPs should address specific areas of strategic importance and provide details related to: how, what, who, when, and why? The CMPs should contain information on timeframes as well costs and a description of how the plan will be implemented. CMPs might focus on specific issues such as climate adaptation, disaster management, infrastructure development and so on. There should be some prioritisation of the most important and urgent issues for the catchment, for example flood management.

Village-Level Action Plans (VLAP) are plans focused at the village level for managing the resources and infrastructure at a village level and in-field activities and typically cover a period of five years. The focus of the village plans should be on how to conduct preventative maintenance and sustainable use of parts of the ecosystem that provide resources and support village livelihoods. Another part of the plan should address restoration or rehabilitation of damaged ecosystem services that support the village.

Although it is important to understand the linkages between broader catchment planning initiatives and village level initiatives, this workbook sets out the methodology specifically for planning and implementing VLAPs at the **grass roots level**. It offers an exciting opportunity for relationship building, collective learning and empowerment of village members to take control of their natural resources.

My notes:

2.8 Catchment management and the law

Catchment management in itself is a cross-cutting discipline which cuts across many sectors, geographic areas and political/administrative jurisdictions. It is therefore not only the responsibility of one institution.

This section summarizes the key sectors and legal framework in catchment management planning and implementation. Further detail can be found in Chapter 4, Volume I of the Village Catchment Management Guidelines (Malawi National Guidelines: Integrated Catchment Management and Rural Infrastructure).

Sector	Responsible Agency	Law / Policy
Overarching	Government of Malawi	Constitution of the Republic of Malawi, 1995
Environment	Ministry of Natural Resources, Energy and Environment: Forestry Department: Environmental Affairs Department	National Environmental Policy (NEP), 1996
		Environment Management Act,1996
Forestry	Ministry of Natural Resources, Energy and Environment: Forestry Department: Forestry Department	Forestry Act, 1997
Water resources	Ministry of Irrigation and Water Development: Water Resources Board Water Abstraction Control Subcommittee	National Water Resources Policy, 2005
		Water Resources Act (NWRA), 2013
		Irrigation Act, 2001
Local Government	Ministry of Local Government and Rural Development: Local Assemblies	Local Government Act, 1998
Land	Ministry of Lands, Physical Planning and Surveys: Town Planning Board	Land Act, 1965
		Customary Land (Development) Act, 1967
		Registered Land Act, 1967
		National Lands Policy, 2002

Importantly, the Local Government Act, 1998 sets out the institutional structures at a local level; for example the role of the VDC and how it relates to the other levels above it.

My notes:

2.9 Who is responsible for Integrated Catchment Management?

Ultimately catchment management is practiced by everyone who lives in a catchment, as all the activities conducted in the catchment, impact on the catchment. Catchment planning and management is carried out at different scales, refer **Figure 2-6**. The different scales of catchment management are carried out by different institutions and levels of institutions. At the Village level, catchment management activities are carried out on the farm and other land uses by the farmers. Planning is conducted by the VDC or VNRMC.

My notes:

3 Village Level Action Planning

Outcomes of this section:

- Realise the importance of community driven catchment managing planning
- Gain an understanding of the VLAP process and be able to explain it
- Be able to facilitate planning and implementation of a VLAP

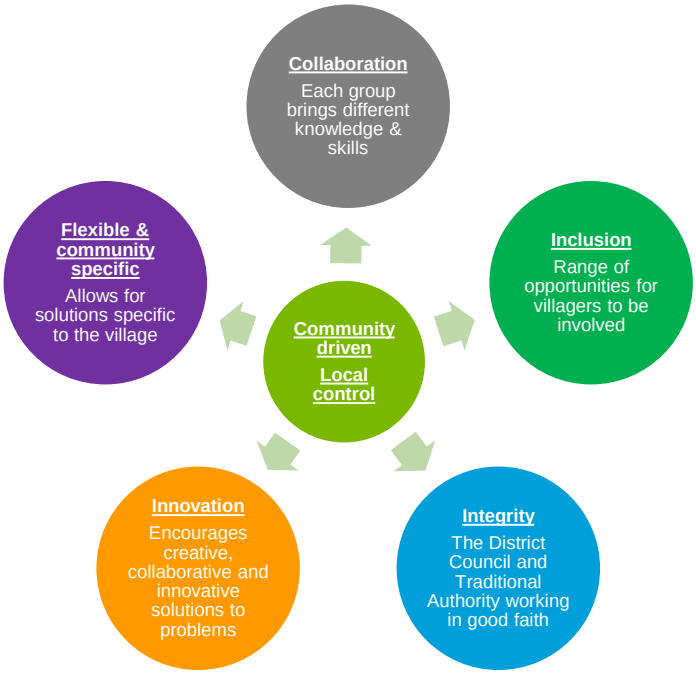
3.1 What is Village Level Action Planning?

Village Level Action Planning (VLAP) is undertaken ***by*** the villagers, ***for*** the villagers. The planning process looks at natural resources available to the village, especially water, and the needs of the village. It then allows for the planning of the most efficient and sustainable use of these resources.

The planning will ensure the outcomes are streamlined with a higher level broader catchment management plan which also provides for national objectives. This allows for village activities to assist in achieving national objectives.

3.2 Principles

At its core, the VLAP is **community driven** allowing for **local control**. The village and community members are the active participants who compile the VLAP; they identify their vision for their community and the ways to achieve it. They then work to improve their place though collective action and collaboration with other groups. Local control allows for the decisions to be made at the local level. Other key principles are shown below:



My notes:

3.3 What is a Village Level Action Plan?

The villagers develop a VLAP which starts with setting a vision towards which the community works. The **vision** is broken into different goals; each **goal** is for a different aspect of catchment management and village life. Goals could include having water for drinking, erosion rehabilitation and prevention or improved soil fertility. Under each of these goals specific **activities** are identified that can help achieve the goals. Achieving the goals then achieves the vision. Figure 3-1 below shows an example of part of a VLAP.

Figure 3-1: Part of the Kapichira 2A4 area 'Actions Table' showing interventions on forest regeneration, afforestation, multipurpose tree nurseries and riverbank protection (Source: Mott MacDonald)

My notes:

3.4 Who do you involve and why?

The following table and diagram shows the responsibilities of the different roleplayers involved in developing a VLAP.

Roleplayers	Responsibility
▪ District Extension Officers	▪ Existing extension officers mandated by the legislation e.g. Forestry Act ▪ Trained to facilitate the VLAP processes in selected villages
▪ Village Development Committee (VDC)	▪ Existing committee mandated by the village ▪ Develops the VLAP
▪ Village Headman (VH)	▪ Existing traditional leader of the village ▪ Must be consulted during VLAP process for support
▪ Group Village Headman (GVH)	▪ Existing traditional leader of a group of villages ▪ Must be consulted during VLAP process for support
▪ Traditional Authorities (TA)	▪ Traditional or cultural head of an area ▪ Must be consulted during VLAP process for support
▪ District Council (DC)	▪ Decentralised government responsible for administering an area ▪ Must be consulted during VLAP process for support
▪ Village Natural Resources Management Committees (VNRMC)	▪ Existing committee mandated by the village focusing on village development (services and facilities) ▪ Can be approached for contribution to the VLAP process
▪ Project Implementation Committee (PIC)	▪ Set up specifically for the VLAP ▪ Implements the VLAP
▪ Non-Governmental Organisations (NGO)	▪ Existing NGOs with natural resource management / development focus ▪ Approached by the village, or may approach the village, to assist in facilitating the VLAP process
▪ Donors	▪ Approached to fund actions in the VLAP

Since collaboration and inclusion are key principles, everybody in the village and community is a stakeholder who could be involved. Representation from a broad range of local stakeholders will help strengthen support for the VLAP and make implementation easier. The broad types of stakeholders are shown below:

Roleplayers and stakeholders: Identify the different roleplayers and stakeholders in your area.	
Roleplayers	**Stakeholders**

My notes:

3.5 What are the benefits?

Developing a VLAP has many benefits which can be communicated to the villagers to get support. These include the following:

- It **brings together** residents, businesses, traditional authorities and other organizations to share ideas and work together on **issues that are important to everyone**.
- It improves information collection, **sharing of knowledge**, communication, focuses ideas and builds consensus. It **builds partnerships** both within and outside the village.
- It helps a village or community identify its **strengths** and evaluate its own resources.
- It increases the level of concern in the village and community about the **problems** that affect them. It encourages **creative thinking.**
- It helps to turn community concerns into **action**.
- It enables others to become **more informed and responsive** about what needs to be accomplished.
- It can **influence the policy and financial decisions** of local government, development partners and the business community.
- It helps the communities to build their capacities in **implementation** and **monitoring** of their activities in a sustainable manner.
- It helps communities in **identifying** and **mobilizing** local and external **resources**.
- It creates a sense of **commitment**, **ownership** and **belonging** in the community and at village level.

My notes:

3.6 Who benefits?

Everyone who lives farms, lives, works, and plays in the village benefits from a VLAP!

Neighbouring villages also benefit.

The plan will allocate, utilise, develop and conserve resources in a more efficient and sustainable manner, that will benefit the **villagers**.

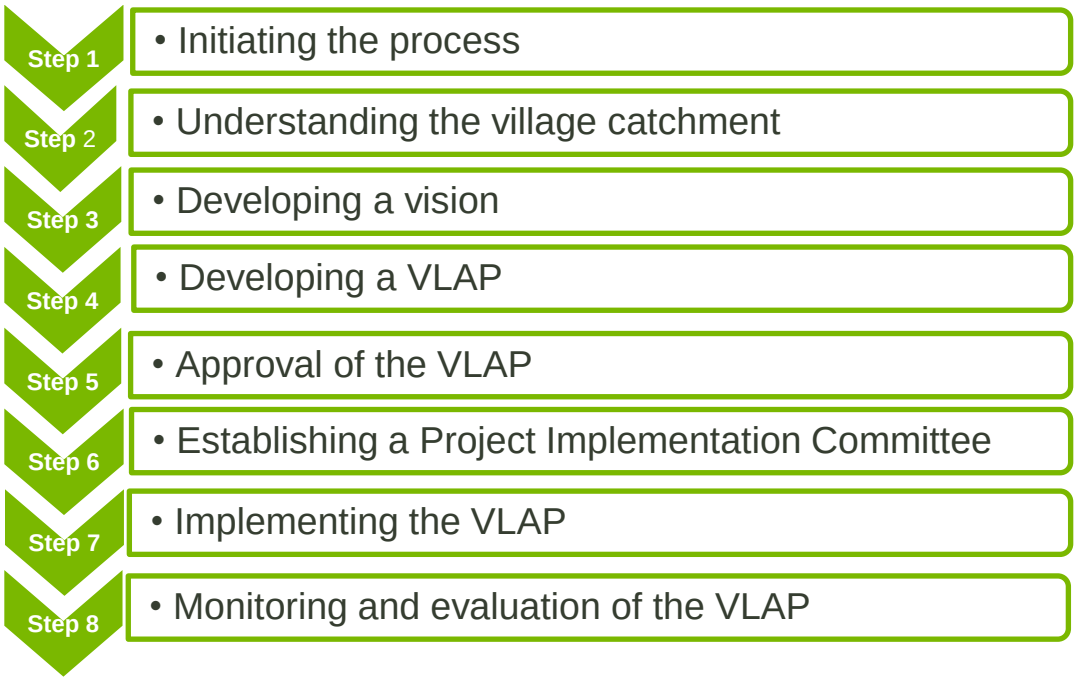
The planning helps the **District Council, civic society** and **NGOs** better understand the priorities of the village.

… so that they can assist the **village** efficient and effectively.

My notes:

3.7 How to develop a VLAP

The **eight steps** to develop a VLAP are listed below and these are detailed next in Section 4:



My notes:

4 Eight Steps to Village Level Acton Planning

4.1 Step 1: Initiating the process

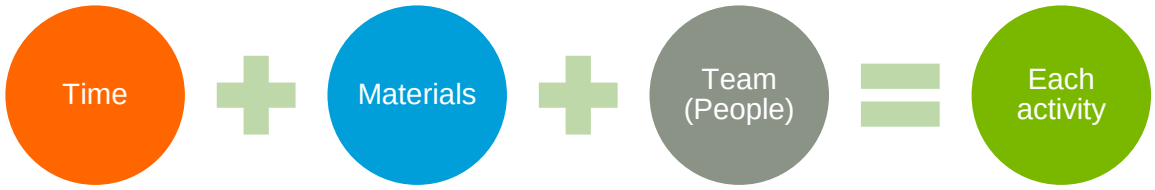
The plan must come from the people of the village. It depends on local leadership and participation to be successful. To help get started, here are some important first steps:

4.1.1 Organise the VDC for action

Before starting to develop the plan, here are some important things the VDC should think about:

- Decide **who** is going to take ownership of the plan and follow up with implementation activities by the village and community;
- Decide **where** and **how often** the VDC meet;
- Decide whether a **chairperson** to keep order, call meetings or assign work, will be appointed;
- Decide who will **record minutes**, so that everyone is clear about what has been decided at meetings; and
- Development of a rough **schedule of activities** that may be required to develop the plan.

Some things for the VDC to think about include with respect to each activity:



4.1.2 Check for village interest

As the VDC, the first step is to find the **core group** of opinion leaders, local leaders, and village/ community committee who are prepared to help develop a VLAP. It is important to ensure that involvement is not influenced by vested interests. Here is who to approach:

- The **Group Village Headman** (GVH) or Village Headman for permission and support.
- The **Village Natural Resources Management Committee** (VNRMC) and/or other community or village-based resource management committees. They will ultimately need to take ownership of the implementation of the VLAP.
- **Other village elders** or key village community or village members to be involved in the planning process.
- **Neighbouring villages** so there is integration.

For example, it doesn't help to plan activities along a river bank, if the other bank falls under a different village and they don't know what or why you are implementing such activities.

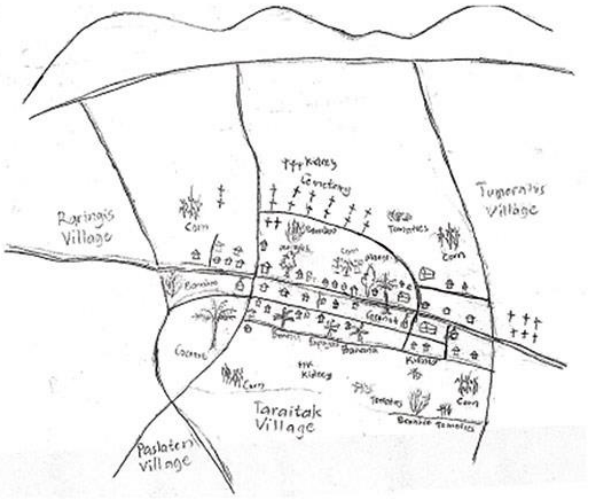
You can hold a village **community meeting** or workshop to assist identification of the champions.

Tip: Support is very important!! You need to get people to buy-into the idea, so emphasise the benefits of the plan to them and demonstrate other successful examples.

4.1.3 Characterise the planning area

Before you start to plan, you need to define the village with help from the people identified in the task above. As the facilitator, the following questions can be asked to establish the character of the village:

- What are the **physical** boundaries that describe the village?
- What are **traditional** and/or cultural boundaries of the village?
- What is the **extent**, and **features** of the catchment within which the village is located?
- What **social, economic and other characteristics** best describe the make-up of the village (such as age, health, cultural or religious traditions, income, community facilities and services available etc.)?
- What are the **main activities** of the village?



Tip: A map of the village is a good place to start, either printed or hand drawn. You will need a pencil and paper to write down the other information.

4.1.4 Communicate with the village

It is important that the VDC communicates with the village for their input. This can be undertaken in two stages:

4.1.4.1 Stakeholder analysis

The VDC needs to identify who the stakeholders of the village's natural resources are, both from within the village and surrounding areas. These can be either **individuals** or **groups** of people who **impact** or **benefit** from the **village's resources** in different ways (user groups), or may only be interest groups. The Figure 4-1 below illustrates an example of a stakeholder analysis diagram.

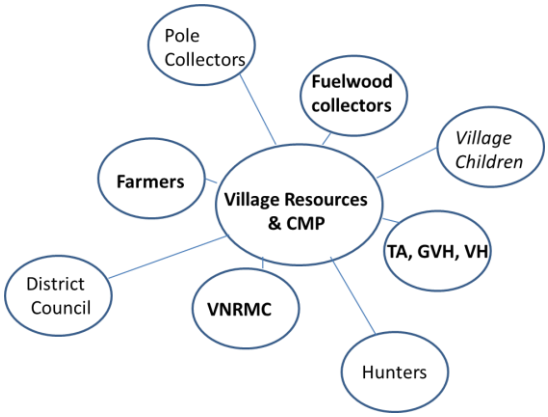
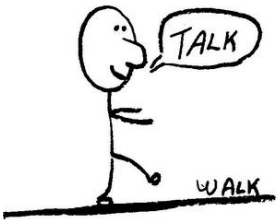


Figure 4-1 Stakeholder analysis: User groups and Interest Groups

4.1.4.2 Community dialogue



"Getting the word out" to people in the village as the plan develops is important for a number of reasons:

- It keeps everyone **informed** as the process unfolds;
- It invites members of the community to **participate** through meetings, focus groups, round table discussions and information events; and
- It helps the VDC determine the village's **response** to its ideas and proposals.

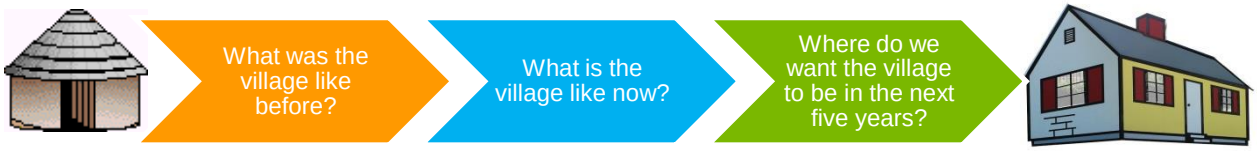
It is important to develop a **communication strategy** at the outset and stick with it. People are more likely to participate if they are kept informed about the process as well as the benefits of the process. The plan is only limited by the VDC's imagination and creativity! The communication strategy identifies what communication activities need to be conducted by whom, how and when.

There are several ways that the VDC can get messages out to the village. Here are a few ideas:

4.2 Step 2: Understanding the village catchment

The VLAP vision will define what the village wants to achieve for the village today, and in the future. It should be realistic, clear and inclusive.

To determine the **vision**, the team should ask the following questions:



To answer these questions, the VDC can use the following approaches:

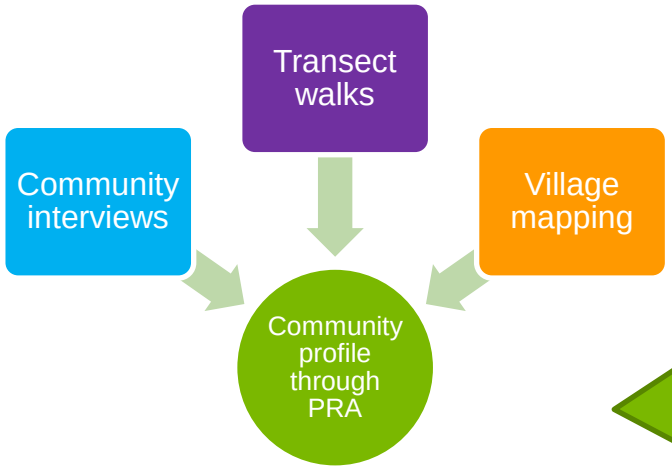
4.2.1 Gather information about the village

A clear picture of the village's key characteristics, past and present, is needed. This is called a community profile. The community profile can include:

- **Land use mapping** – established through Participatory Rural Appraisal (PRA) described below, defines location and types of residential, commercial, institutional uses, etc.;
- **Population characteristics** – statistics about the people who live in the village;
- **Community assets and resources** – an inventory of village natural resources, natural forests, water sources, boreholes, dambos, services and facilities and local agencies, organisations and groups;
- **Community perceptions** – what people are saying about the natural resources and catchment management in the village; and
- **Other information**, such as how the village is currently laid out, its physical assets (e.g. borehole, church, mill, woodlot, etc.) provide a snapshot of the village.

Researching village organisations, community associations, cultural, religious, social and other community groups (with roots in the village) will provide information on the resident involvement in the village, and cultural and traditional roles that influence resource management within the village.

The community profile is created by various **participatory techniques** that are used during PRA (further described below):



In addition, basic statistical data on the village (including population, household size, family composition, incomes, length of residency, etc.), provides a profile of the people who make up the village. This information should also be available through socio-economic studies, household surveys and government census.

4.2.2 Participatory Rural Appraisal (PRA)

What is PRA?
This method involves local people carrying out their own appraisal, analysis and actions. It uses group exercises and interactive visual tools to facilitate information sharing and analysis

The VLAP encourages village participation and therefore PRA is the best method for collecting information about the community. PRA encourages shared learning and gives people the freedom to try and fail, or succeed. It views mistakes as learning opportunities and chances for constructive criticism. In this way the people own the decisions and are committed to the work.

4.2.2.1 Community interviews

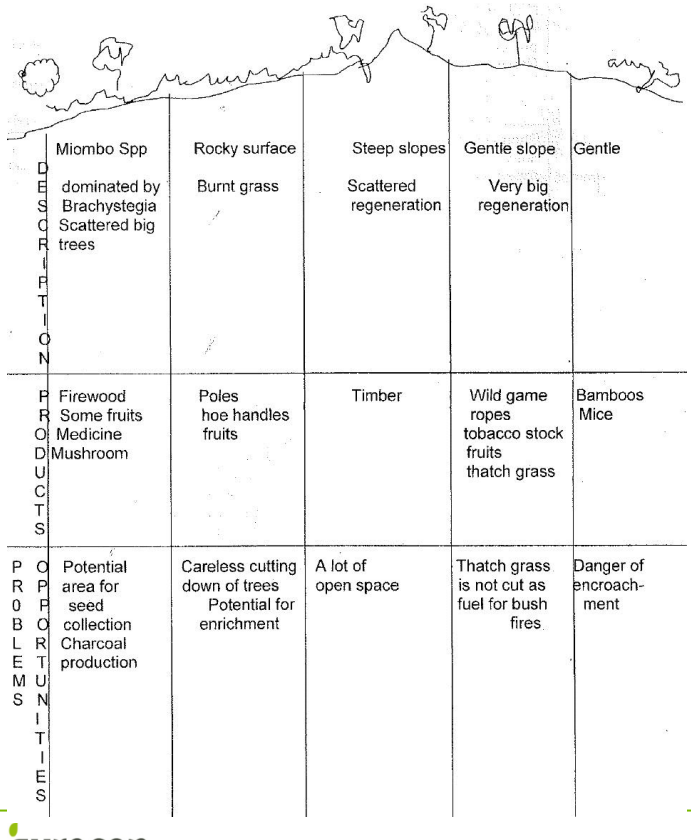
Semi-structured (or conversational interviews) have a loose structure that responds to the person or group being interviewed and allows for a free flow of conversation. This method can be used alongside the other methods described.

They can be undertaken as part of one-to-one interviews or focus group setting. One-to-one interviews are better when the issues being discussed are specific or sensitive, but a semi-structured group interview also works when a topic is applicable to many people.

Tip: In a group interview, be aware of one or two strong participants' hi-jacking the conversation and be sure to enable everyone to participate and contribute their own views in the discussion.

4.2.2.2 Transect walks

Transect is a cross-cutting or **straight cut through the village** in order to capture the greatest diversity or ecosystems, land use and location of resources, etc., for example refer Figure 4-2.



A **geographical transect** is a diagram of the main land use zones across the village. It compares the main features, resources, uses and problem of different zones.

A **historical transect** is a time line that cuts across time (these can be useful for indicating historical flood heights and flooded areas, original village size and expansion over time, even original forest size and shrinkage by encroachment and deforestation) and may be used if relevant.

Figure 4-2 Example of a transect (Source: Moyo-Mauni Village Forest Area)

Tip: Mapping and transects are complementary. Often a map can be used to identify a suitable transect line. See 4.2.2.3 below.

A transect walk should involve careful observation and semi-structured interviewing. See 4.2.2.1 above.

The following steps can be taken when walking a transect:

- The VDC should **find village members** who are knowledgeable and willing to participate in a walk through the village and surrounding area;
- Discuss with them the **different factors to be drawn** in the transect (crop types, land use, trees, slopes, soils, springs / water points, erosion gullies, pathways) and agree to the route;
- Seek a transect that shows the greatest diversity in a short distance;
- Observe, ask, listen while walking, and **take notes** along the way. Note each different zone observed, note its description e.g. slope, character, land use, vegetation type. Also take note of problems or issues occurring within or affecting each zone, as well the opportunities or available resources located in each zone.
- **Discuss problems and opportunities** identify the main agricultural zones and sketch the distinguishing features. For each zone describe: soils, crops, livestock, problems, solutions, opportunities. **Draw the transect** and **cross-check the findings** with the informants.
- When completed, **write up the transect**, making notes against the different sections of the transect map.

Transect Walk Worksheet: During this exercise, you will walk and take note of different significant areas. In each be sure to take note of the physical environmental characteristics, notable products and environmental opportunities or problems. From this, you will have contextualised a lot of different spatial information in a simple way. This forms the basis for further planning.	
Illustrate and Describe: What does each section look like? Try and describe it both in terms of the environmental and social characteristics.	
Products: What are some of the goods that the ecosystem provides?	
Problems and Opportunities: Where can this be improved?	

4.2.2.3 *Village resource map*

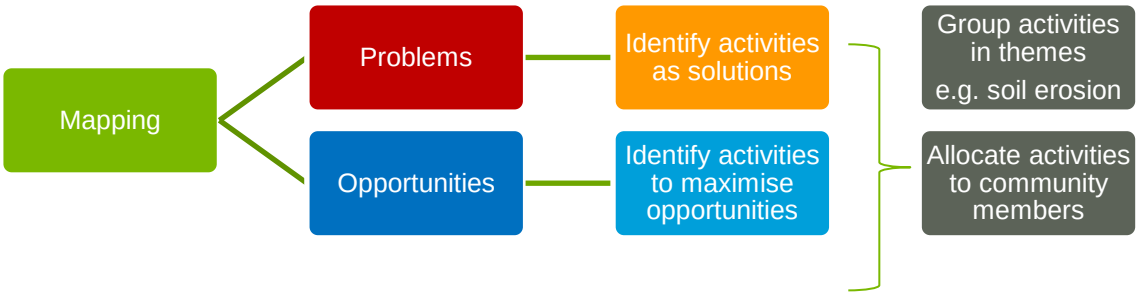
Using maps makes it easy to **visually indicate** resource availability, land use activities, infrastructure and access points, and to identify relationships within and between the villagers and resources. Maps help to plan as they enable the village to visualise the outcomes of activities before the activities have occurred, and therefore to plan and locate activities appropriately. Maps can therefore be used as a tool to **record the intended vision for the village**.

> Tip: Several different maps, indicating different types of information can be drawn during this process, such as drainage map, resource based map, land use map, etc.

Steps for participatory mapping:

- Decide on the **type of map.**
- Involve **villagers that have knowledge** about the village and lands, and who are willing to share this.
- Choose a **suitable medium** (ground, floor, wall, paper) and **marking instruments** (sticks, stones, seeds, pens, paint, pencils, chalks) for drawing the maps.
- The participating members then **draw a map using the information gathered and shared**. By facilitating, the VDC will ensure that all members participate and the process is not dominated by individuals.
- If the area of the village is a large area, then **several maps** should be compiled for different parts of the village catchment area.
- Once the map is compiled, **keep a permanent record**, e.g. a photograph, paint it on a wall etc.
- Where **other resources** such as topographic maps are available these can be used as a starting point for mapping and transect walks, but not as the main map. The aim of the exercise is for the community to draw the maps as they experience their environment.

The process of mapping should lead to the identification of the following:



The outcome of these discussions informs the management actions and detailed activities of the VLAP.

4.2.3 Assess the village's strengths and weaknesses

There are two other planning tools that can assist in assessing the village and developing the village vision statement.

4.2.3.1 SWOT analysis

What is SWOT Analysis?
SWOT Analysis is a tool to help identify the **strengths** and **weaknesses**, and to examine the **opportunities** and **threats** that face the village resources.

In catchment management, as there are **so many different activities that impact on the water resources** both to the village and by the village - it is important to identify what these strengths, weaknesses, opportunities and threats are, especially in light of the recent floods, and the ongoing deforestation in Malawi.

To carry out a SWOT Analysis the VDC writes down the answers to the following questions. Additional and variations of the question can be asked. The questions can be asked about different themes or sectors, for example, water management, soil erosion, crop management, soil health and fertility etc.

Table 4-1: Questions to ask when undertaking a SWOT Analysis

Strengths:	Weaknesses:
▪ What does the village do well? ▪ What advantages do you have? ▪ What resources (people, places, programs and services) does the village have?	▪ What in the village / household / farm level can be improved or changed? ▪ What do you struggle with? ▪ What should you avoid?
Opportunities:	**Threats:**
▪ Where do good opportunities exist? ▪ What are the favourable trends of the village? ▪ What do you need to make the village a better place to live?	▪ What barriers are preventing change? ▪ What threats face the village / the land? ▪ Could any of your weaknesses seriously threaten the homestead / farm / village?

Tip: To help focus the discussion, consider asking the following questions… How can our village:
- - Improve water management?
- - Reduce erosion?
- - Improve livelihoods?
- - Reduce pressures on land resources?

Table 4-2: Example of a SWOT Analysis

Strengths:	Weaknesses:
▪ Good, regular rainfall ▪ Village tree nursery ▪ Strong borehole	▪ Lots of exposed soil ▪ Encroachment into forest reserve ▪ Disjointed contour rows on hills
Opportunities:	**Threats:**
▪ Water storage to facilitate irrigation and second crop ▪ Tie-in contour rows for water harvesting	▪ Some sandy soils ▪ Deforestation ▪ Pit latrines close to boreholes

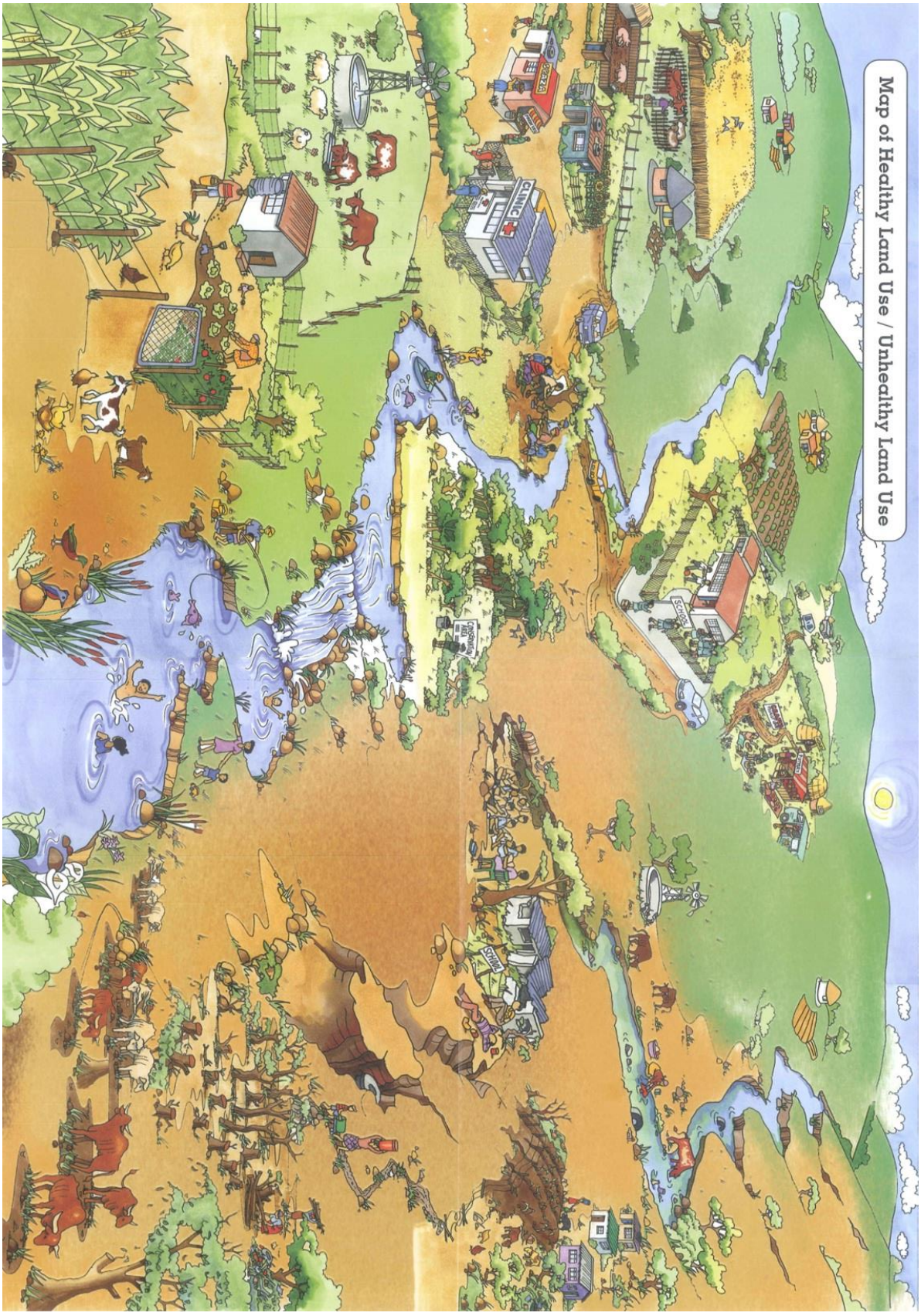
SWOT Analysis Worksheet: During this exercise, you must assess the strengths, weaknesses, opportunities and threats in an area. Ask questions such as what is this area doing well? What isn't doing well? Does it have any resources, advantages? What should be improved? Are they struggling? What opportunities are there in the area? What is preventing positive change from happening? This will provide more context to the area and inform the planning process further.	
Strengths	**Weaknesses**
Opportunities	**Threats**
Notes:	

Practice identifying good and poor land use practices: Look at the picture below and list 10 good and 10 poor land uses practices. **NOTE:** This is just an example, your area may have other healthy or poor land uses practices.	
Healthy land use practice	**Poor land use practice**
1	**1**
2	**2**
3	**3**
4	**4**
5	**5**
6	**6**
7	**7**
8	**8**
9	**9**
10	**10**

Use the activities of the strengths, weaknesses, threats and opportunities to identify the types of actions that the VLAP plan needs to include. For example:

- **Strengths:** what actions need to be implemented to maintain or preserve these strengths; what types of actions can be done to extend or replicate these strengths; what types of actions can be done to grow or develop these strengths?
- **Weaknesses:** what activities can be implemented to reduce or minimise the weaknesses; what activities can be implemented to improve the weaknesses?
- **Opportunities:** what activities can be implemented to develop these opportunities?
- **Threats:** What activities can be implemented to mitigate or reduce these threats?

The particular issue identified in the SWOT analysis can be the management action (worded in a positively e.g. to improve poor farming practices). The various actions identified and the activities needed to implement those activities then form the details of the VLAP plan.


Map of Healthy Land Use / Unhealthy Land Use
CLINIC
SCHOOL
SCHOOL

4.2.3.2 Problem tree analysis

A Logical Framework Approach (LFA), or **problem analysis tree assessment**, helps to identify the **cause and effect of activities**. In order to sustainably manage resources, the cause of harmful activities needs to be identified and stopped to prevent further negative effects. Similarly, the cause of positive impacts also needs to be identified in order to be able to apply similar activities elsewhere.

Some themes to start with:

- Water management – runoff, storage, supply
- Soil erosion – occurring, prevention
- Crop management – yield
- Soil health – fertility
- Other natural resource management

To conduct an LFA, use the following steps:

- **Identify a key issue**, e.g. deforestation, and write this on a card. Place it in the centre of the board.
- Then **identify all the aspects, issues, effects**, etc. and also write these on cards. Place them on the central card.
- **Reorder these issue cards** to indicate which activities are causing the problems - these cards are placed below the central theme card, like the roots of a tree. The activities that are a result of the central theme are placed above the central card, like the branches of a tree.
- Identify what types of **management activities** are needed to prevent, remediate or resolve the cause and effect impacts.

Note: *you can also simply write these out on a piece of paper. Using the cards is useful for a group exercise.*

The cause and effects of a problem, using deforestation as an example, are depicted in Figure 4-3 below.

Notes:

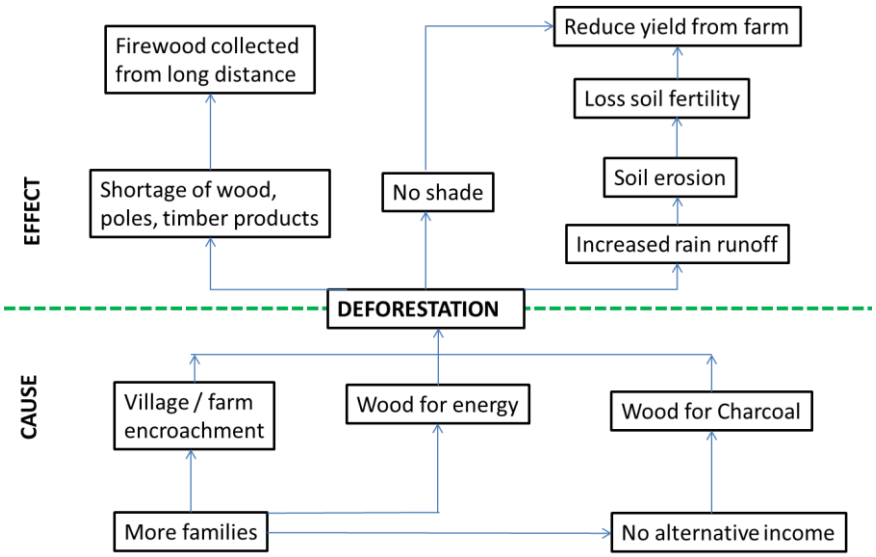


Figure 4-3 Example of a LFA problem analysis tree

The next step is to identify what types of management activities are needed to prevent, remediate or resolve the cause and effect impacts. This is illustrated in the Figure 4-4 below.

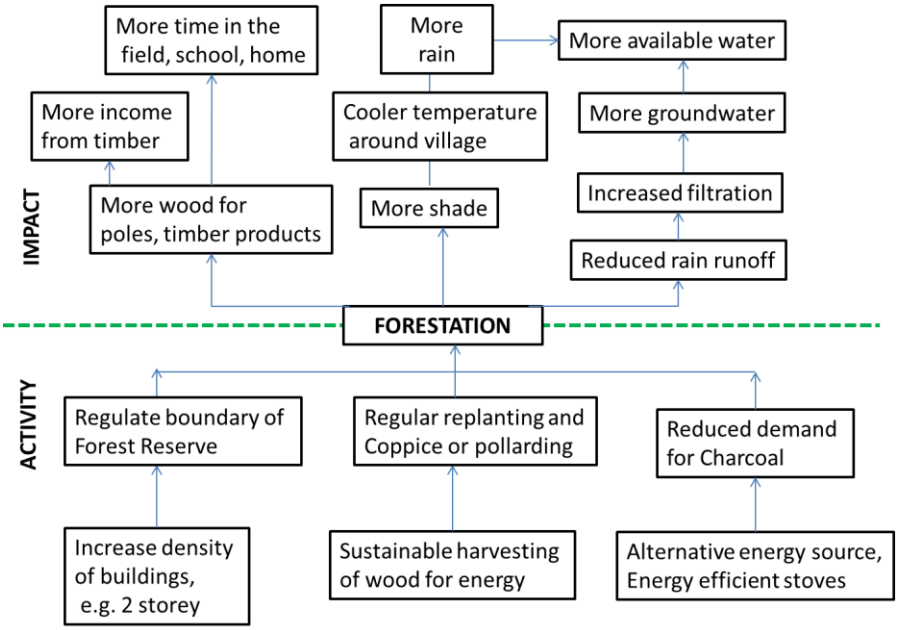


Figure 4-4 LFA management activities in an objective analysis tree

Tip: The strengths and weaknesses, opportunities and threats identified during the SWOT analysis as well as the problems and objectives identified in the LFA Problem Tree analysis will be helpful when you get to developing the VLAP in Step 4!

Logical Framework Approach (LFA) / Problem Analysis Tree Worksheet: this exercise is a simple way of mapping out the feedbacks causing a particular problem. Below, highlight a known problem. What caused the problem in the first place? Are there several linked causes? What are the impacts of this problem? What other sectors will it impact? Can any intervention be done?

EFFECT

Problem:

CAUSE

IMPACT

Solution:

ACTIVITY

4.3 Step 3: Developing a vision

What is a Vision Statement?
A vision statement describes where the village wants to be in the next five to ten years.

4.3.1 Developing a vision statement

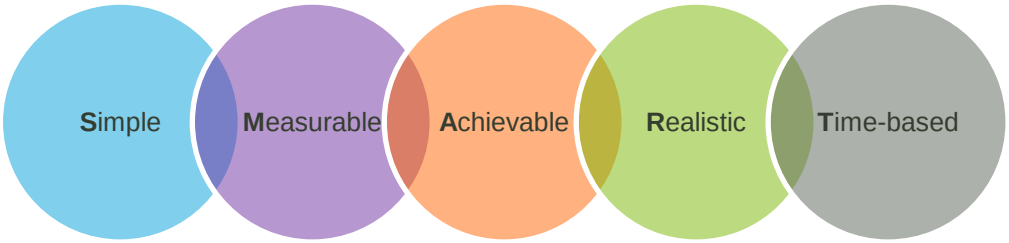
The information obtained from the village assessments and the community consultations will allow for a vision statement to be developed. There may be a number of statements, or a single statement describing the desired future for the village.

A vision is a simple statement of the desired outcome over time.

There is no right or wrong way of doing this, whatever process is followed in preparing the vision statement, the VDC should:

- Encourage **full participation** in discussion by all VDC members.
- Focus on a **realistic and achievable** future based upon the village assessment.
- Be conscious of the village's people and their values.
- Be conscious of the need for **sustainable development** that respects the environment (physical assets) as well as strengthening the village economy.

The SMART tool can be used:



The vision can also be visual, see the examples below in

Figure 4-5 and Figure 4-6:

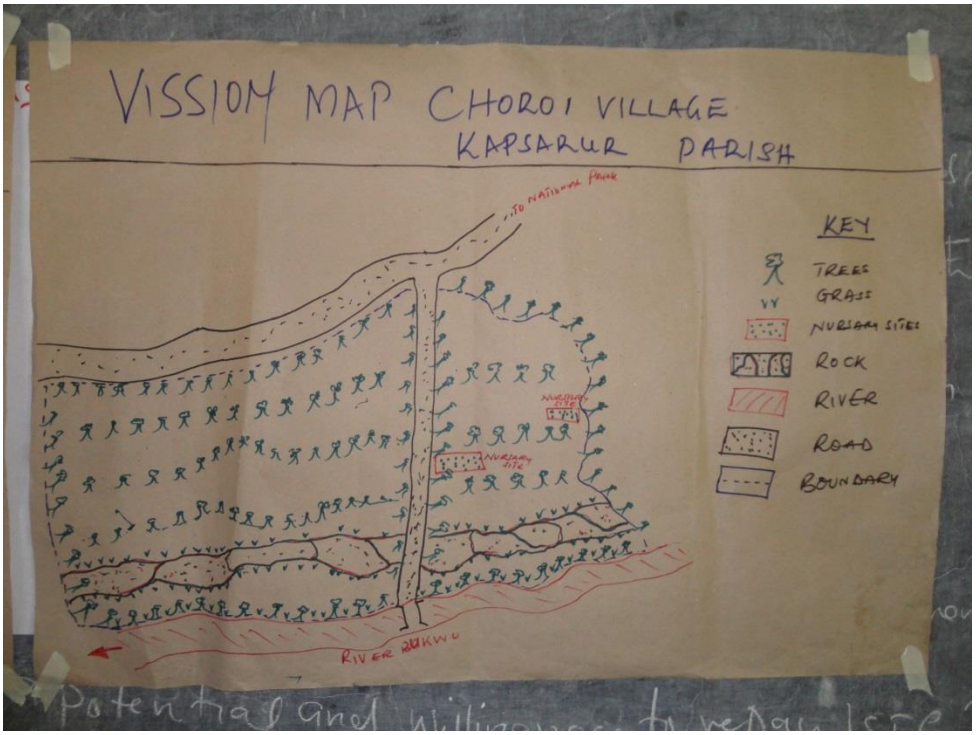


Figure 4-5: A vision map for the village (source: Mott MacDonald)

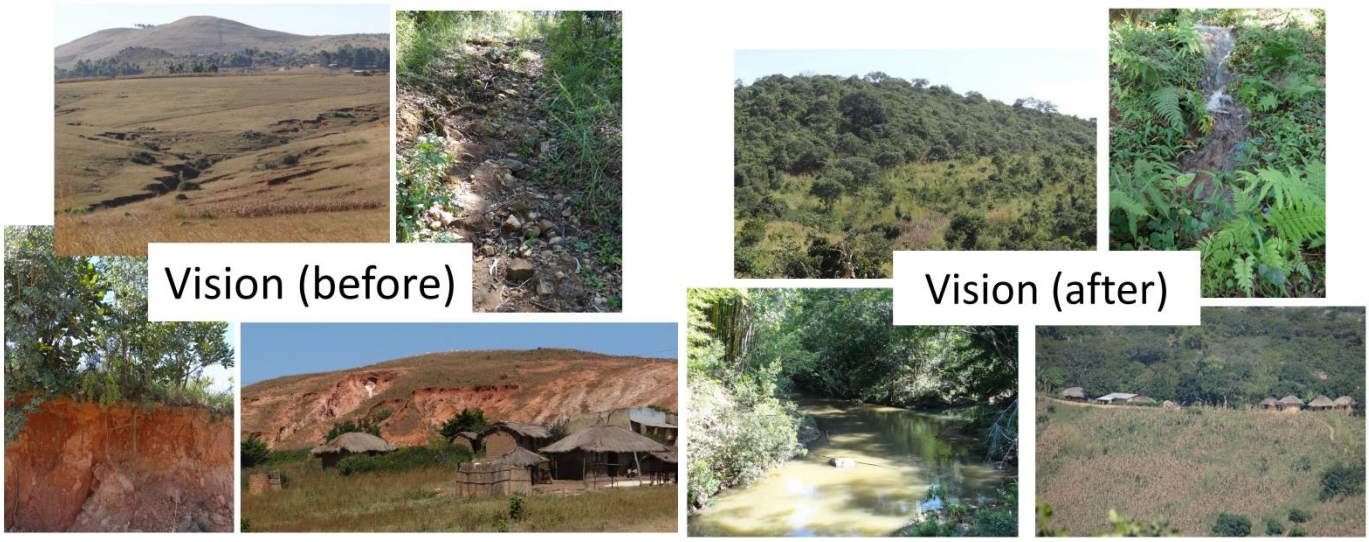


Figure 4-6: A visual of a potential vision for the village

Vision Worksheet: (S.M.A.R.T.) Write a vision for your village that is specific, measurable, achievable, realistic, and has a time-reference.

4.3.2 Getting village support

Village support of the vision statement(s) is **essential to the success** of the VLAP!

There are many effective ways to seek village input and support. For example:

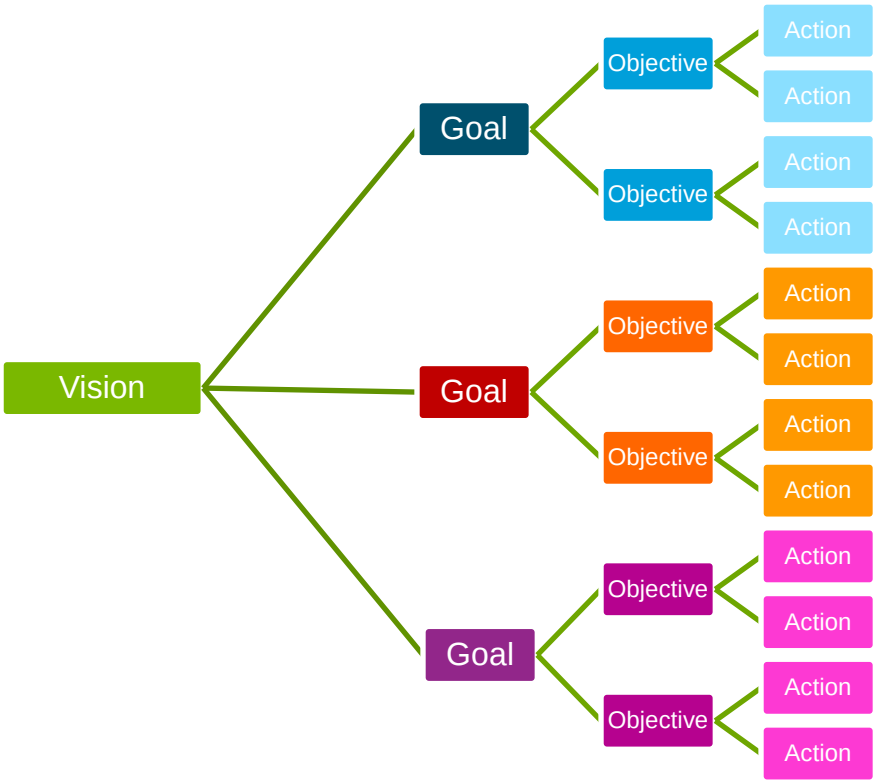
- Meet with traditional authorities and community groups to support the vision.
- Organise informal discussion groups.
- Hold public meetings.
- Feedback to the village after such consultations and allow villagers to **verify the feedback**.
- When agreed and supported, paint it on the side of public buildings throughout the community or village to **remind the village of the vision**.
- **Publish** information in the local newspaper.
- Input from consultations like these will help to clarify the vision statement(s) and build support in the village so that the process can move forward to action planning.

My notes:

4.4 Step 4: Developing a VLAP

4.4.1 Contents of a VLAP

A VLAP sets out **goals** and **objectives**, and identifies **actions** to achieve them.



A **goal** describes something you want to achieve to help realise the vision. The village may have a long list of goals they want to accomplish. Grouping the village goals by themes or categories may help to focus the discussion and plan development. Some questions that may help to set priorities:

- What goals are **most important** to the village?
- What goals are the most **practical and achievable**?

An **objective** is something that must be done to achieve one of the village goals. Objectives should be specific and have a measurable outcome in a given time frame. It is a good idea to include the benefits of each objective, as a reminder of why the activities are being carried out.

An **action plan** describes:

- **what** needs to be done , i.e. the activity and each of its steps;
- **when** it needs to be done, i.e. time of the year, before or after crop planting, etc.;
- **who** will do the activity;
- **where** will the activity take place; and
- **resources and costs** what resources and funds are necessary to carry out the activity**,** e.g. hoe, spade, watering can, A-level measure, labour, seeds, etc.

Use the actions and activities identified in the transect walk, SWOT analysis, problem tree analysis to start completing the action plan. Actions and activities can include land use practices, market practices, farm or household activities, etc. The action plan will include both activities that will have a quick time to produce results and a longer time to produce benefits, like tree planting. Some activities may be quick temporary measures until more resources are available to upgrade activities. Actions may also include “wish” lists of things for the future.

Tip:
Don't forget – you've already come up with some ideas from the SWOT analysis and the Problem Tree in Step 2!

Here is an example of an action plan:

Goal	To improve catchment health				
Objective	To prevent and control soil erosion				
Benefit	1. Keep water in the soil for longer to support crop growth 2. Keep top soils in the field for farming, not in the river				
Management Action	Improved farming activities				
Action	**Activity / What**	**Who**	**Where**	**When**	**Resources & Cost**
1. Implement contour ridging	2. Measure and peg ridges.	Farmers	All farm lands	Before wet season. Before planting	Line level or A-frame Labour
	3. Align ridges across farms.	Farmers	All farm lands	Before wet season. Before planting	Labour
	4. Dig trenches and make ridges	Farmers	All farm lands	Before wet season. Before planting	Hoe or spade Labour
	5. Plant vetiver or other grass	Farmers	All farm lands	Before wet season. Before planting	Vetiver grass Labour
2. Mulching	1.Collect vegetation material	Farmers	All farm land	Before wet season. After planting	Vegetation materials Labour
	2. Place mulching materials on farm lands	Farmers	All farm land	Before wet season. After planting	Labour

4.4.2 Developing indicators to measure progress

Developing village indicators to measure progress will help to build on the success of the plan and make adjustments to the village plan, based upon what has been learnt. Such measurements are called indicators. Once it has been decided what activity will be measured and how, the village PIC can monitor the progress, stimulate discussion and feedback from the village and adjust the action plan to reflect what has been learnt. Refer to Section 0 (Step 8 below) for more information.

Using the example above, the alignment of contour ridges across adjacent plots can be measured visually by observing if the contour ridges link up across farm plots or not This can be reported on by noting if all of the contour ridges align, the majority of the contour ridges align, some, or none of the contour ridges align across adjacent farm plots.

Action Plan Worksheet: What are you trying to achieve and why are you doing it? How can this be broken down into smaller, more manageable objectives and activities?

Goal	
Objective	
Benefit	
Management Action	

Action	Activity / What	Who	Where	When	Cost and Resources

4.5 Step 5: Approval of the VLAP

Communication is crucial to make sure the vision, goals, and proposed actions are widely known and generally agreed upon by the village. The more the village's organisations and individuals are involved in compiling the proposed plan, the greater the acceptance of the plan is likely to be. It is critical that the TA and District Council both approve and are in support of the plan.

Some examples of consulting the village on the plan include:

- A series of "**meetings at homes**" at different times and at accessible location to encourage all members of the community to attend.
- **Parish or religious group meetings** to engage debate and discussion on the plan.
- Segment on community **radio**.

Tip: Whatever method is chosen, keep the communication open and be prepared to modify the village plan in response to concerns raised by the community.

4.6 Step 6: Establishing a Project Implementation Committee Team

4.6.1 Establish a PIC

What is a PIC?
The Project Implementation Committee (PIC) will be a group of people selected by the village who will be responsible for the implementation of the VLAP.

The PIC must **champion** the implantation of the VLAP. Each PIC should be comprised of the following members as listed in Table 4-3 below.

Table 4-3: Composition of the PIC

PIC Composition
Member 1 (Chairperson)
Member 2 (Treasurer)
Member 3 (Secretary)
Member 4 (PIC member)
Member 5 (PIC member)
Member 6 (Chairperson Procurement Sub-Committee)
Member 7 (Secretary Procurement Sub-Committee)
Member 8 (Procurement Sub-Committee member)
Member 9 (Procurement Sub- Committee member)

A selection process that is fair, open and inclusive will ensure community support. Some suggested approaches are:

This initial community selection process is time consuming but important for the success of the plan!

- Election by **representation** (i.e. decide the number of members from each sector of the community and establish a democratic process to elect members);
- Election by **geographic boundaries** (i.e. if the village is large, break it down into manageable parts and host meetings to elect representatives from the smaller areas); and/or
- **Interim appointments** followed by a meeting to present PIC members and seek **endorsement from the village** for the PIC (this could be an election).

Tip: Refer to **Section 5** for guidelines that the villagers should consider when selecting a PIC.

4.7 Step 7: Implementing the VLAP

Once there is community consensus on the VLAP and it is supported by the main stakeholders, then the first steps towards implementation are to prioritise the activities and develop budgets for the proposed projects.

4.7.1 Compiling the implementation plan

Using the details from the action plan, the different activities need to be prioritised and ordered based on their timing. Prioritisation can be done using various criteria, for example:

- Quick benefits: activities can be implemented with the least resources and costs and provide the quickest benefits. Longer term activities may require more time to source resources or funding.
- Progression: activities that need to occur in a sequence, or that rely on other activities to occur first, for example, a diversion weir should only be built after the furrows in the fields are constructed.
- Timing: some activities need to be implemented in the dry months and some activities need to be implemented in the wet months; similarly some activities need to occur prior to farm planting and some after farm planting. Some actions may have long periods in between activities for example compost making, this should be initiated early so the different stages can progress over time.
- Location: some activities are site specific and may influence other activities because of their location. For example, if carrying out several activities on a slope to reduce runoff, start with the interventions at the top of the slop and work your way down.

Once the different actions and activities are prioritised and ordered, these can be summarised into an implementation plan. The implementation plan lists the action and activities, when it should occur and what resources are needed and who is responsible for each activity. An example is provided in

Table 4-4. Compiling the implementation plan is done by the PIC.

Tip: It is a good idea to start implementing the actions that can be accomplished in a short time frame. The success of these initial efforts will demonstrate to the villagers and community that changes are happening, and will help sustain and build interest and involvement as implementation of the plan progresses.

Table 4-4 Example of an implementation plan template

Action	Activity	Months of the year												Resources	Who
		J	F	M	A	M	J	J	A	S	O	N	D		
Nursery	Plant vetiver		X	X	X									Parent grass; Nursery area	VNRMC
Build contour ridges	Measure and peg ridges					X								A-frame measure; Pegs or markers; Labour	Famers
	Align contour ridges					X								Pegs or markers; Labour	Famers
	Dig ridges						X	X						Labour; Hoes; Shovel	Famers
	Plant vetiver grass on ridges						X	X						Labour; Watering can; Vetiver plants	Famers

The action plan provides all the details of the various actions and activities, including the vision, goals, objectives, benefits. The implementation on the other hand indicates the order that the activities should be implemented in, what resources are needed and who is responsible for each activity.

Both these plans should available to the village, e.g. paint them on the side of the school wall, so everyone is reminded of what they are working towards.

4.7.2 Preparing a budget

Once the activities have been prioritised and ordered, you can compile a budget. The implementation plan will inform you what resources and costs you need and by when. As we have seen in Step 4: Developing a VLAP, it is important to consider the cost and resources that go into each activity planned to reach an overlying goal. Resources such as people, materials, services and transport usually mean that money needs to be spent. Budgets should be calculated for each year of the plan.
The basic steps to compiling a budget include:

Step 1: Identify what resources are needed.
Step 2: Price each of the resources.
Step 3: Calculate each budget.
Step 4: Review budget each year and adjust accordingly.

Keeping track of the amount of money needed for a project is an important part of the planning process. To start with a budget, you need to look into what inputs/resources are required for each activity. It is also important to consider the running costs over the future years too for example maintenance. Sometimes the costs and resources needed to implement an activity might be high and therefore it is important to see how much they will all cost to go forward. This might impact on which activity happens when if the money is only available at a certain time.

It is also important to keep track of the money during the implementation of the project for good management. In this way you can see how much money has come in (i.e. income) and what it is being spent on (i.e. expenses). Some items in the budget items may cost more or less than budgeted. By keeping record helps to see if there are additional funds available or needed, as well as to properly inform the next year's budget. Budgeting is also useful to see how much money was estimated during the planning exercise and what is actually being spent; this is helpful for future planning.

Here is an example of compiling a budget for constructing contour ridges in a 3 year plan.

Step 1: Identify what resources are needed, e.g. for a 3 year plan.

In the first year of constructing the contour ridges there is a requirement for equipment and labour to dig the ridges. However in year 2 and year 3, there is little equipment required but there is still some labour to maintain the ridges.

Resource items	Year 1 (quantity)	Year 2	Year 3
Pegs	20	0	0
Hammer / stone	1	0	0
Spade	3	1	1
Line level / A-frame or Phiri-Lino-frame	1	0	1
Labour (people / days)	3 people 3 days	1 person 1 day	1 person 1 day

Step 2: Price each of the resources.

The general cost price is obtained for each of the items of equipment / resources that are required to construct the contour ridges. This needs to be fairly accurate as this will form the foundation of your budget.

Resources	Unit price
Pegs	KW 50
Hammer / stone	KW 150
Spade	KW 1000
Line level / A-frame or Phiri-Lino-frame	KW 500
Labour	KW 1000 per person per day

Step 3: Calculate each budget. Don't forget to consider inflation if prices go up each year as well as taxes such as VAT. (Budget = resource unit price x quantity)

Calculate how many of each resource / equipment item you will need for the initial construction in year 1, as well as for the maintenance in year 2 and year 3.

Resources	Year 1 Budget	Year 2 Budget	Year 3 Budget
Pegs	KW 1000 (20 x kw50)	KW0 (0 x kw50)	KW0 (0 x kw50)
Hammer / stone	KW 150 (1 x kw 150)	KW0 (0 x kw 150)	KW0 (0 x kw 150)
Spade	KW3000 (3 x kw 1000)	KW1000 (1 x kw 1000)	KW1000 (1 x kw 1000)
Line level / A-frame or Phiri-Lino-frame	KW500 (1 x kw500)	KW0 (0 x kw500)	KW500 (1 x kw500)
Labour (people / days)	3 people 3 days KW9000 (3x3xkw 1000)	1 person 1 day KW1000 (1x1xkw 1000)	2 person 1 day KW2000 (2x1xkw 1000)
TOTAL	**KW 13650**	**KW 2000**	**KW 3500**

Step 4: Review budget each year and adjust accordingly.
Keep records of how much you actually spent each year. Note that although the unit price of specific items may have changed, these changes are balanced out and a general saving was made.

Year 1	Budget			Actual Cost		
	Unit price	Quantity	Budget KW	Unit price	Quantity	Spent KW
Pegs	KW 50	20	1000	KW 30	50	1500
Hammer / stone	KW 150	1	150	KW 200	2	400
Spade	KW 1000	3	3000	KW 1800	2	3600
Line level / A-frame or Phiri-Lino-frame	KW 500	1	500	KW 1000	1	1000
Labour: 3 days (kw1000 per day)	KW 1000	3 x 3	9000	KW 1000	2 x 3	6000
TOTAL			**KW13650**			**KW13500**
Difference (=Actual – Budget)				**-KW150** (saving)		

Note: A **saving** is made if the Actual cost is less than the budget cost. **Over expenditure** is when the actual cost is more than the budget cost.

Some projects will require little or no funding, but will rely on community action. Others may require additional funds.

To work out a **realistic budget**, the PIC may want to consider asking for input from the District Council to work out the details of the management actions and activities.

Villages may not have the time to wait for government to help them address important environmental challenges. In such cases there is a need for affected villages to **raise their own funds** to implement the priority actions identified in the VLAPs.

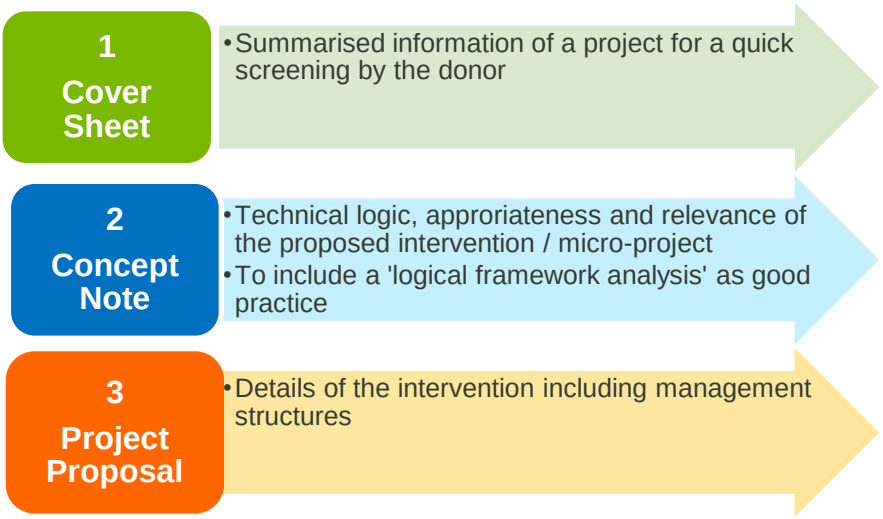
4.7.2.1 Getting funding through a donor

There are many **development partners** (either **donors** or **Non-Governmental Organisations** (NGOs)) in the region who are prepared to offer special grants to communities wishing to improve the environmental health of their landscapes and reduce environmental degeneration in a sustainable manner.

Villages will be expected to **submit a proposal** to a specific donor or NGO to access the funding. Although different donors / funding agencies require specific formats for the applications, they all look for relatively similar information.

Below are the **standard requirements** for accessing donor funding (either at District Commissioners' Office or a stand-alone donor / NGO). There are normally three main sections:

Tip: Refer to **Section 5** for more details on the type of information that should be included in a funding proposal or grant application.



Some factors which the donors / NGOs use to evaluate your application can include the following:

- Financial and operational capacity
- Relevance of the action
- Effectiveness and feasibility of the action
- Sustainability of the action
- Budget and cost-effectiveness of the action

Tip: Refer to **Section 5** for more details on how donors evaluate proposals and what you should be sure to include.

Demonstrated community support, complementary funding and volunteer commitment all help to strengthen the funding proposals. Most funding grants require an agreement or contract in order to proceed with the project. The PIC must have a method to be accountable for the monies it receives.

Tip: Given the shortage of funds available for direct use by villages in Malawi, grants are usually competitive, and thus much effort and research should go into developing village ideas into workable and manageable action plans.

4.7.2.2 *Setting up village savings groups*

Smaller scale funding can be done through village loans and savings clubs. So, how does a savings group work?

A savings group is a voluntary, self-managed group of people from the village who meet regularly to contribute their own savings to a joint fund. The initial savings become 'shares' for the members. These and additional regular savings are kept as a loan fund from which members can borrow in small amounts. In most cases, interest (or service fee) is charged. The group decides the terms by which members may borrow, and often set a maximum ratio of loan size to a member's savings. Almost all savings groups charge a service charge (interest rate), determined by the members (Trickleup, 2015).

Importance of collecting rural savings

Other than generating savings for projects such as the VLAP, savings in rural areas are important because:

- Many households have their savings in the form of physical assets such as inventories (e.g. foodstuff) and consumer durables (e.g. bicycles).
- There are normally many people who save and fewer people wanting to invest in projects or assets.

Loans and savings clubs encourages savers to hold savings in the form of financial assets, rather than physical assets. This money can then be borrowed by people or groups who wish to use this credit for projects or businesses, for example to increase the stock of productive assets.

Table 4-5: Type of grants available in Malawi

Grants available in Malawi
▪ Shire River Basin Programme Livelihoods Investment Grants
▪ CIDA's Canada Fund for African Climate Resilience Partners supports projects that focus on reducing the effects of climate change and improving local adaptation to the impacts of weather related challenges in Africa
▪ Pilot Program for Climate Resilience (PPCR) (AfDB)
▪ Rockerfeller Foundation Climate Change Resilience Initiative
▪ AfDBs Africa Climate Change Fund
▪ NEPAD Climate Change Fund
▪ DfID's Climate Resilience Infrastructure Development Fund (especially for scoping, pre-feasibility studies and detailed design etc. especially for projects with a transboundary emphasis – this closes in 2018. The project HQ is based in Pretoria run by WYG International and Adan Smith Institute
▪ African Water Facility (AfDB)
▪ EU Global Climate Change Alliance – EUR 8.0 million allocation to Malawi – grants provided to implement community lead projects in four pilot districts (Nano, Zomba, Phalombe and Blantyre). Grant applications under evaluation, M&E component being implemented (evaluation of grant applications and follow-up during implementation, component to capacitate Department of Irrigation personnel and district development committees and associated non-state actor organisations.

▪ Millennium Challenge Account
▪ More EU funds are likely to be made available for this type of activity in the next five year programme cycle in the European Development Fund (EDF XI) which is currently in the planning phase.

The process of setting up a Community Based Savings and Loans Group (CBSL) generally known as "Bank Mkhonde":

Table 4-6: Steps to set up a CBSL (LUPP, undated)[1]:

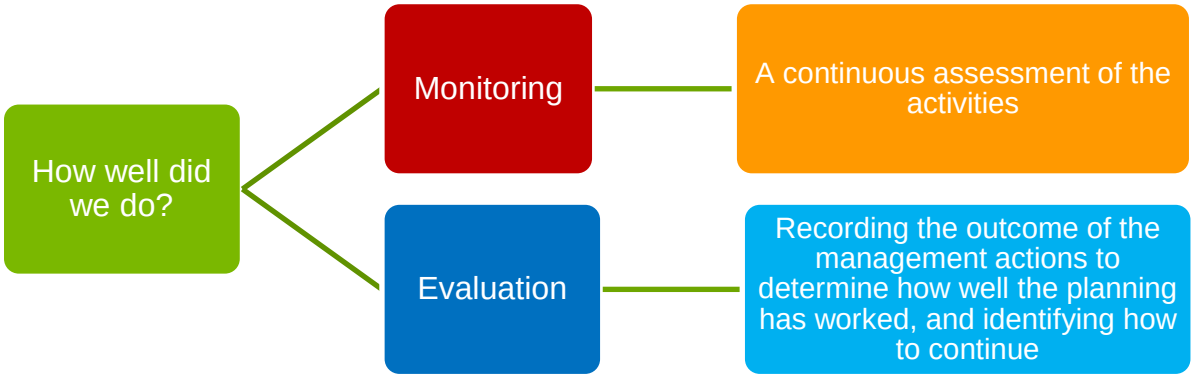
Steps
▪ Identify the participants: in the case of the VLAP there should already be a group that have a shared interest in wanting to invest in the actions of the VLAP, but there may be other community members that may wish to be involved. Between 5 to 25 members is ideal. ▪ Form a committee: members of the committee are democratically elected by the general meeting. The committee should comprise of chair, treasurer and secretary and two money counters. They should be people of good credit history and of good standing in the community. It must be ensured that there is representation of gender and youth. The committee can be rotated every few years. ▪ Write a set of rules: These rules can form a 'constitution' and should set out how the savings will be regulated and how disputes will be settled. It can also be decided how often the group must meet and where the money can be kept for safety if there is no access to a bank account. ▪ Decide on the operational cycle: Before any savings begins, the following must be decided: • The amount of savings to be contributed. • How long the group will operate for before a loan can be taken out. • How long before members receive shares from the saved money. When deciding on this cycle, the group should consider when there will be a need for it the majority of members to have access to large sums of money (for example: Christmas or during the rainy season). In such cases, members have a right to withdraw from the group without penalty, taking their share with them and thereby ending the cycle. At times like this, new members can be admitted to the group. • The maximum loan (this could be based on how much the individual has contributed, e.g. three times their savings) • The repayment period and interest rates - interest rates vary but the average is 10%. ▪ Start saving!
▪ When the operational cycle comes to an end the group may receive back its share or conduct a collective investment such as implementation of the VLAP

Tip: The PIC should take time out to celebrate achievements with the members of the village or community! Village members and the community need to feel that they are valued for their contributions. A function to celebrate successes will go a long way in helping the community members see that their efforts are needed and that there are visible results of their work in their village and community.

[1] LUPP (Editor) (undated): Community-based Microfinance: Community Savings and Loan Groups. Good practice in the musseques of Luanda. Luanda Urban Poverty Programme (LUPP). URL http://www.sswm.info/sites/default/files/reference_attachments/LUPP%20ny%20Community%20Based%20Microfinance.pdf [Accessed: 06.04.015].

4.8 Step 8: Monitoring and evaluation

It is the responsibility of the PIC to monitor and evaluate the process during and after implementation, known as monitoring and evaluation (M&E). Village stakeholders, government, donors and other communities can all benefit from the information that is obtained from monitoring and evaluation.



To undertake an **evaluation**, they should decide on the methods for gathering feedback/ results (i.e. interviews, surveys, photographs, etc.), then ask the following:

- Did we achieve what we wanted?
- What **lessons** did we learn from this experience that we could apply in future?
- Did the village / community **appreciate** the process?
- Would you **recommend** the process to another village?
- **Communicate** the progress to all of the village stakeholders – the TA, GVH, VH, District Councils, the community at large, the other interested parties and any funding partners.
- **Use the outcomes** of the evaluation when updating the plan or compiling the next management plan.

Activity: Trees and River Game
This game is very similar to traditional snakes and ladders. When you land at the base of a tree you go up to the top of the tree because of implementing a good monitoring and evaluation practice and therefore improved the catchment. When you land at the top of a river, you go down the river due to failing to adhere to best practice and thereby end up damaging the catchment. There are also interesting things to learn on the way.
My notes:

4.9 Next steps

The VDC and PIC may want to **review the plan on a regular basis** to set new goals. This may be based upon lessons learned from the monitoring and evaluation process or based on changes that are occurring naturally in the village. Some questions they could ask:

- Do some projects need more attention than others?
- What new issues have arisen?
- What new opportunities do we have?
- What new resources have we created or found?
- What new goals can we decide upon?
- What new strategies could be employed?
- What assistance or resources do we need?
- Should the VDC/PIC continue?

This group has played a valuable role in guiding and assisting local initiatives, and could continue to do so in the future. Keep together and keep the momentum going. The VDC and PIC have worked long and hard to get to this point. It is important they stay involved in future action plans that may need pursuing in the quest to meet the village's goals.

My notes:

5 Templates

5.1 VLAP Template - for District Extension Officers

Village Level Action Plan			
Name of Village:	**Micro-catchment number:**	**Sub-Catchment Number:**	**District:**
Village Headman:	**Group Village Headman:**	**Traditional Authority:**	**District Extension Officer:**
Objective(s) of this VLAP: *E.g. Identify the problems and opportunities within the village scale catchment; Compile a VLAP to guide sustainable management of the _____ village resources.*			
Aim(s): *E.g. To plan the activities of the village to make use of available resources in an efficient and sustainable manner. To empower the people of the _____ village to make decisions, take responsibility for and promote the collective action for the sustainable management and utilisation of their natural resources.*			
Timeframe of this VLAP: *E.g. This plan commences on 1 September 2014 for a period of five years until September 2019. This VLAP will be reviewed every year in order to determine its validity and alignment with the needs of the Village.*			

Step 1: Initiate the Process

1.1. Organising VDC for Action:

Members of the VDC:

VDC Owner of the plan (will see the to the effective implementation of the Plan):

VDC Meetings (how often and where; who will take minutes, attendance registers etc.):

Schedule of activities to develop the plan (when the next steps are planned to take place):

- Step 2:
- Step 3:
- Step 4:
- Step 5:
- Step 6:
- Step 7:
- Step 8:

1.2 Village Interest: (e.g. meeting with stakeholders i.e. villagers) - GVH and/or VH permission and support obtained for VLAP: (Name(s), date, location) - VNRMC and/or other village committees' support obtained for VLAP: (Name(s), date, location) - Other Village Elders' support: (Name(s), date, location) - Surrounding villages involvement: (Name(s), date, location) Communicate with core group of opinion leaders, local leaders and village/community committee who will help with the VLAP: - Date: - Summary of outcomes of meeting: (*Attach attendance register, and minutes as appendix to VLAP).*	*Signatures*

1.3 Characterising the Village

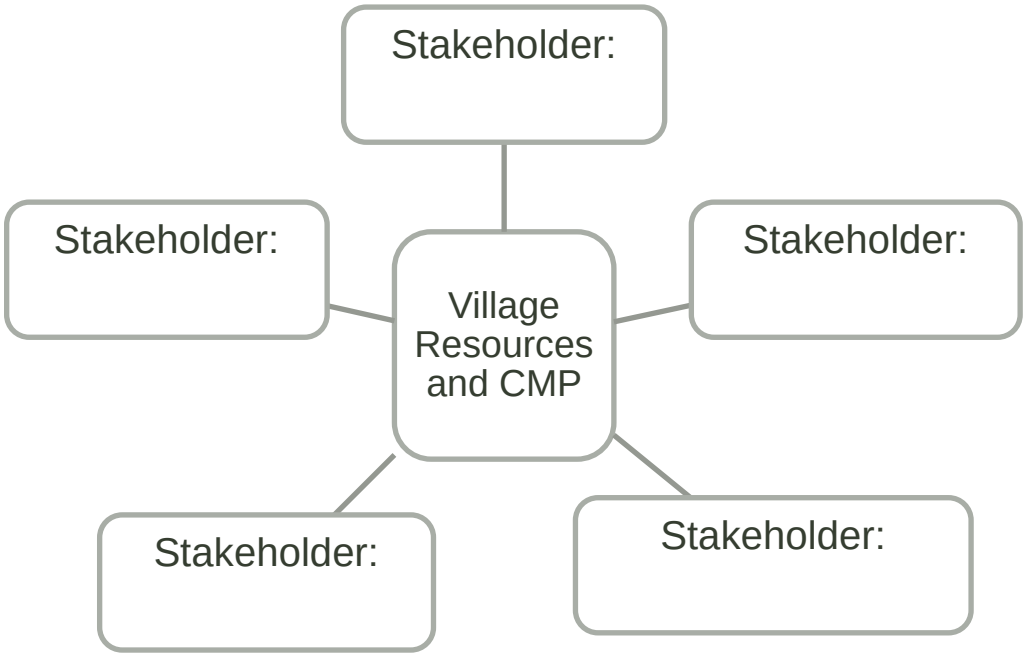
Village Mapping: (i.e. physical and cultural boundaries; where does the catchment fall within these boundaries; main activities of the village; age, health, cultural or religious traditions, income, community facilities and services available to the village)

Tip: use village map as starting point (attach to the final VLAP as appendix)

1.4 Communicating with the Village

Stakeholder Analysis:

i.e. Individuals and/or groups identified by VDC that impact or benefit from village's resources



List of Stakeholders (Name, contact details):

Community Dialogue:

E.g. Communicate with Village via activities such as a Village Meeting; Posters, Bulletin Boards, Community Radio Station interviews, Local Newspaper articles, mobile phone text message:

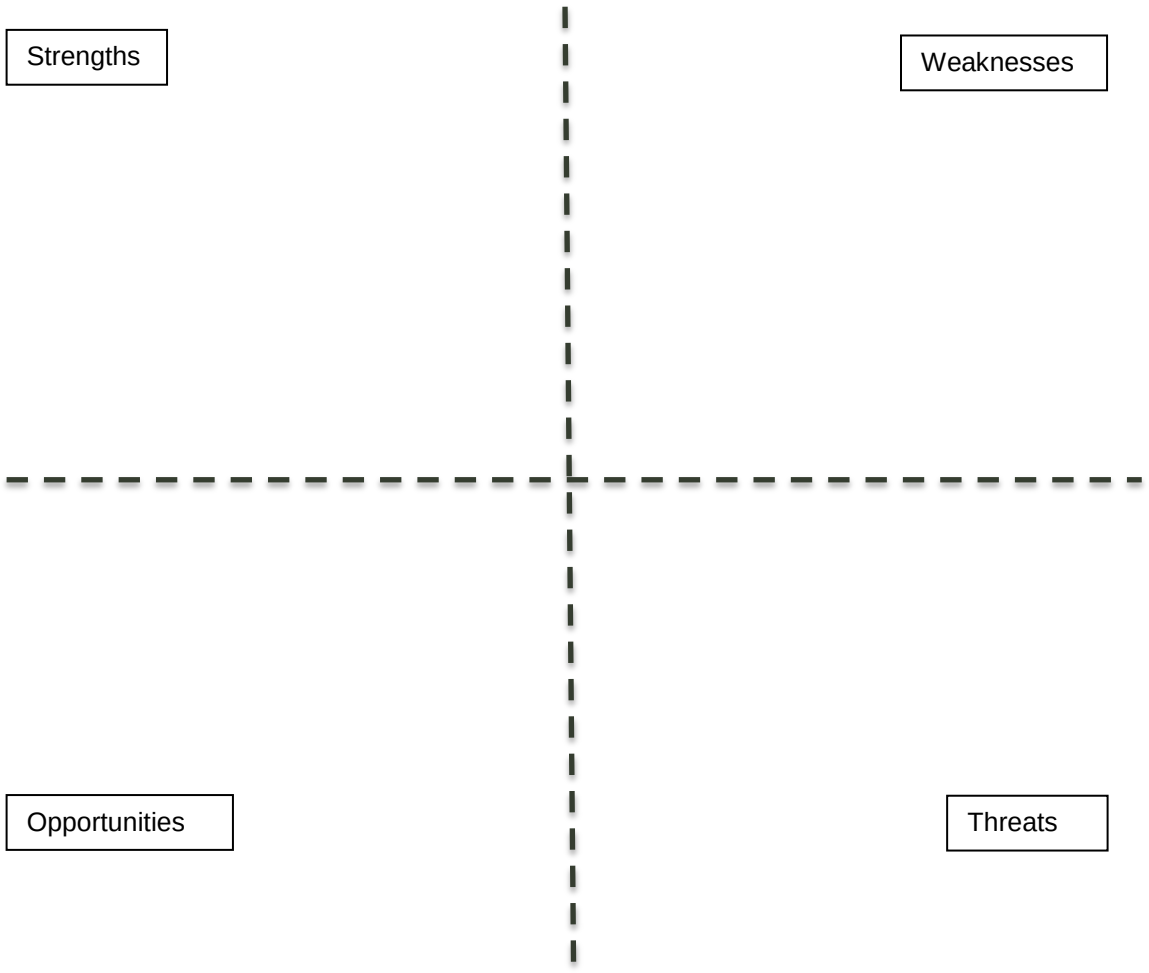
- Date of activity(ies):
- Summary of outcomes of activity(ies):

Step 2: Understanding the village catchment

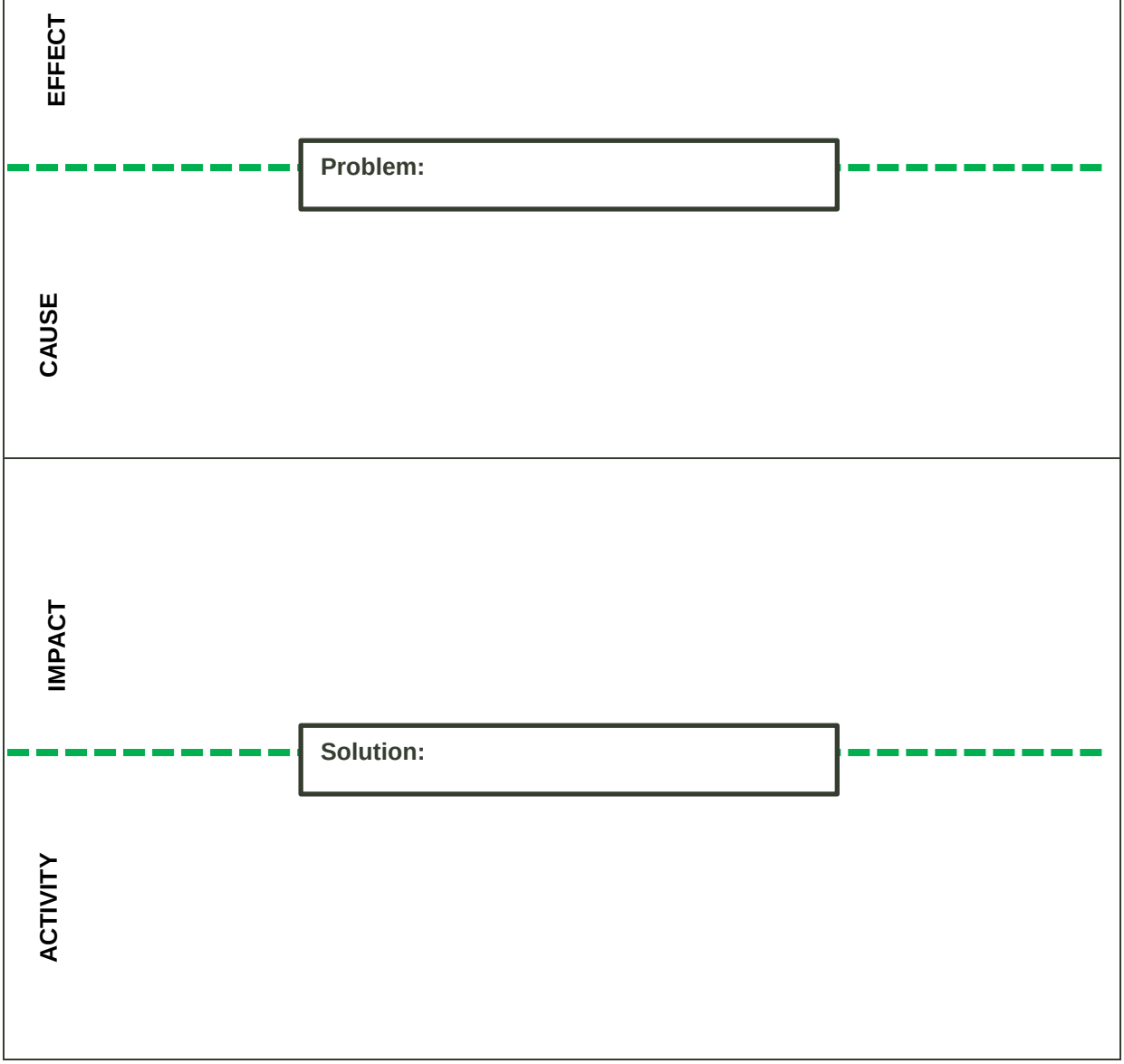
Gathering information about the village:

- Community Profile (e.g. land use mapping, PRA, population characteristics, community resources and assets, community perceptions etc. refer to Chapter 3 Step 2 of the National Guidelines Volume II)

Village's SWOT (outcome of PRA):



Village's Problem Tree (outcome of PRA):



Step 3: Developing a vision

Statement to describe a possible future for the village (visual representation, SMART, Vision Map)

Getting village support: (activities such as meetings with Traditional Authorities, community groups; Informal discussion groups; Public meetings etc.)

Activity:

- Date:
- Venue:
- Outcome:

Activity:

- Date:
- Venue:
- Outcome:

Activity:

- Date:
- Venue:
- Outcome:

The Vision for the _____ Village is:

Step 4: Developing a VLAP		
GOAL	**OBJECTIVES**	**ACTIONS**
e.g. Sustainable crop yield	e.g. Objective 1: To retain and infiltrate rain runoff i.e. keep water in the soil for longer to support crop growth - Reduce speed of runoff and therefore erosion - Keep top soil in the field for farming (not the river)	e.g. - Action 1: Implement contour ridging on all farm land. Neighbouring farms to link contour ridges. - Action 2: Vegetate contour ridges e.g. Napier or Gautemala grass. - Action 3: Raise footpaths and dig swales along footpaths to prevent water running off footpaths - Action 4: Construct check dams or silt traps in erosion gullies.

Detailed Action Plans:

e.g. Action Plan 1:

- *Goal:* Sustainable crop yield
- *Objectives:* To retain and infiltrate rain runoff
- *Benefit:*
    - Keeps water in soil for longer to support crop growth;
    - Reduce speed of runoff and this erosion;
    - Keep top soils in the field for farming
- *Management Action:* Implement contour ridging on all farm land.
    - What: Dig contour ridges on all farms
    - Who: All farmers
    - Where: All farm lands
    - When: By next wet season
    - Cost and resources: Labour

GOAL	OBJECTIVES	ACTIONS

Detailed Action Plans:

Action Plan 1:

- Goal:

- Objective(s):

- Benefit(s):

- Management Action:

Action	Activity / What	Who	Where	When	Cost and Resources

Action Plan 2:

- Goal:

- Objective(s):

- Benefit(s):

- Management Action:

Action	Activity / What	Who	Where	When	Cost and Resources

Action Plan 3:

- Goal:

- Objective(s):

- Benefit(s):

- Management Action:

Action	Activity / What	Who	Where	When	Cost and Resources

Action Plan 4:

- Goal:

- Objective(s):

- Benefit(s):

- Management Action:

Action	Activity / What	Who	Where	When	Cost and Resources

Action Plan 5:

- Goal:

- Objective(s):

- Benefit(s):

- Management Action:

Action	Activity / What	Who	Where	When	Cost and Resources

Action Plan 6:

- Goal:

- Objective(s):

- Benefit(s):

- Management Action:

Action	Activity / What	Who	Where	When	Cost and Resources

Step 5: Approval of the VLAP

Consult the village organisations and individuals as to the goals, vision and proposed actions in the VLAP

Consulting activities: (e.g. meeting at home; religious group meetings; notice on community radio)

Date:

Location:

Attendees:

Date:

Location:

Attendees:

Date:

Location:

Attendees:

Date:

Location:

Attendees:

Date:

Location:

Attendees:

Date:

Location:

Attendees:

Date:

Location:

Attendees:

Step 6: Establishing a Project Implementation Committee (PIC)

Establish PIC:

Member 1 (Chairperson): _____

Member 2 (Treasurer): _____

Member 3 (Secretary): _____

Member 4 (PIC Member): _____

Member 5 (PIC Member): _____

Member 6 (Chairperson Procurement Sub-Committee): _____

Member 7 (Secretary Procurement Sub-Committee): _____

Member 8 (Procurement Sub-Committee Member): _____

Member 9 (Procurement Sub-Committee Member): _____

Step 7: Implementing VLAP

Prioritise and order the actions and activities and summarise them in their order into an implementation plan:

Action	Activity	Months of the year												Resources / cost	Who
		J	F	M	A	M	J	J	A	S	O	N	D		

Review what activities can be done with available resources in the village, and what activities will require additional resources. Identify what these resources are, e.g. tools and equipment, specialist assistance, purchasing of seeds, etc. Compile a budget of the resources that will need to be obtained and how much financial assistance will be required.

Budget:

Item: Resource / cost	Budget cost	Actual Cost
Equipment:		
Equipment:		
Equipment:		
Equipment:		
Equipment:		
Equipment:		
Equipment:		
Other:		
Other:		
Running Cost Year 1		
Running Cost Year 2		
Running Cost Year 3		
Unexpected costs:		
Unexpected costs:		
Unexpected costs:		
Unexpected costs:		
TOTAL		

Is funding required for any of the activities?

(*If so, see 'Funding Grants and Writing Proposals' section in Guideline Volume I*)

Step 8: Monitoring and evaluation of the VLAP

The following methods (e.g. interviews, surveys, photographs etc.) will be used during the evaluation phase of the management actions:

- Method 1:
- Method 2:
- Method 3:
- Method 4:

Results communicated to the following Village stakeholders:

Date:

Location:

Attendees:

Date:

Location:

Attendees:

Date:

Location:

Attendees:

5.2 Technical guidelines

The following technical guidelines are available in Volume II of the Village Catchment Management Guidelines (Malawi National Guidelines: Integrated Catchment Management and Rural Infrastructure). The technical guidelines provided basic detailed instructions when and how to implement the different interventions.

5.2.1 Soil and water conservation / erosion control measures

Conservation agriculture	Gully management
▪ Conservation tillage	▪ Gully prevention
▪ Crop rotation and intercropping	▪ Gully reclamation (small gullies)
▪ Soil cover (mulching)	▪ Stone check dams
▪ Designing a permaculture garden	▪ Brushwood check dams
▪ Preparing a permaculture garden	▪ Vegetation barriers and fences
▪ What to plant and where	**Sediment trapping**
▪ When to plant and what	▪ Road side erosion prevention – sediment trapping
Rangeland management	**Erosion and runoff control measures**
▪ Rotational resting of rangeland	▪ Contour ridging
▪ Preventing and rehabilitating overgrazing	▪ Contour vegetation
Soil fertility management	**Stream / river bank management**
▪ Compost making	▪ Riparian buffer zones
▪ Inorganic fertilizer	▪ Earth berms / dykes / flood levees
▪ Agroforestry	▪ Rock filled gabion baskets

5.2.2 Water harvesting and irrigation

Water use efficiency	Small-scale irrigation schemes
▪ Water use efficiency	▪ Diversion weirs
Water harvesting and recycling	
▪ Domestic greywater re-use	▪ Excess water re-use
Water harvesting	
▪ Roof – rain water	▪ Ridging
▪ Roads (swales)	▪ Hillside runoff
Micro water storage	**Infiltration**
▪ Below ground – water storage tanks	▪ Contour bunds
▪ Above ground – water storage tanks	▪ Zai planting pits

5.2.3 Farm management

Farm management	Sanitation
▪ Living fences and windbreaks	▪ Constructing a composting toilet
▪ Borehole pump maintenance	▪ Constructing an arborloo
▪ Improved grain storage	▪ Closing a filled pit latrine
▪ Tree nursery	

5.2.4 Natural resource management

Forestry	Fishing
▪ Sustainable woodlot management	▪ Sustainable fishing practice
▪ Sustainable plantation forestry	▪ Small holder aquaculture
▪ Natural forest management	**Wetlands (dambos)**
▪ Protected forest reserves	▪ Sustainable utilization of wetlands
▪ Beneficial trees for afforestation projects	▪ Wetlands - conservation
Energy	**Alien and invasive species management**
▪ Solar cooker	▪ Controlling alien invasive plants
▪ Solar electrification	▪ Control and utilise blue gum trees
▪ Solar borehole pump	▪ Control and utilise pine trees
▪ Wind pumps	▪ Control and utilise bamboo
▪ Micro hydropower	▪ Control and utilise Prosopis species
▪ Biogas digester	▪ Controlling water weed / hyacinth
▪ Energy efficient stoves	**Waste management**
▪ Heat retention cooker	▪ Household waste management
▪ Earth oven	▪ Market waste management

5.2.5 Disaster management

Fire management	Health
▪ Fire-fighting wild fires (practical)	▪ Malaria prevention and response
▪ Fire-fighting tools (construction and usage)	▪ Bilharzia prevention and response
▪ Fire breaks	▪ Cholera response – oral hydration
Emergency response procedures	▪ Cholera response – food hygiene
▪ Community emergency response	▪ Water borne illness
▪ Community flood emergency response	▪ Good practice at funerals – communicable diseases
▪ Community drought emergency response	

5.3 Standard requirements for accessing donor funding

5.3.1 Cover sheet

1. **Title:** The project title should reflect what the community /area development committee intends to address, e.g. inadequate knowledge of catchment management or rehabilitation of catchment structures.
2. **Donor:** Local Development Fund (LDF) or Constituency Fund (CF) or General Resource Fund (GRF) or specific NGO in the district.
3. **Applicant:** Name of the Area / Village Development Committee or Catchment Management Committee.
4. **Key intervention areas:** As examples but state the activities that the committee wishes to implement:
   - Tree planting of 10,000 trees /year around Chiuta hill (catchment area of Kawirawira river)
   - Awareness creation Meetings (1,000 house-holds/year)
   - Conservation Farming introduced to 1,000 farm families covering Kanthole, Chiwera, Yamwala, Chiluwamba villages
   - Construction of two earth Dams (1) per year over Kawirawira and Chasato rivers.
5. **Mission:** To increase the knowledge of catchment management and rehabilitate catchment areas.
6. **Geographical coverage:** Villages around the catchment area (mention specific villages e.g. Kanthole, Chiwera, Yamwala, Chiluwamba etc.).
7. **Total population covered:** As an example: 18,000 people and disaggregated based on gender too such as:
   - Women : 6,000
   - Men : 4,000
   - Boys : 3,800
   - Girls : 4,200
8. **Total expected project cost:** In local currency but pegged to USD since the Malawi Kwacha tends to fluctuate significantly within a short period of time e.g. MK8 million (18,000 USD)
9. **Time framework** (e.g. January to December 2015)

5.3.2 Project concept note (Proposal Narrative)

The purpose of this note (narrative) is for a donor to quickly understand the activity that needs its support. The community /applicant should expect to provide a brief description of the likely impact and outcome of the proposed initiative. This should also outline the outputs (maximum 6), and activities (main ones – 4 per Output) as the donors do have many applications to screen each period. In addition it should indicate how the communities will participate (self-help component) and clear benefit for the project.

The structure of the project concept note is as follows:

1. **Name of applicants:** Here simply state the name of the community e.g. Kanthole area/ Village Development committee or name of community based – organization
2. **Contact details:** State physical address, Traditional Authority, district, postal address e.g. the nearest primary school (as most people in Malawi do not have personal postal address), cell phone of the chairperson, name of the chairperson or vice.
3. **Description of your organization**- History and composition of the organization. If you have registered your organization with District Council provide registered documents or letter of recognition from the District Commissioner which provides legitimacy of the committee.
4. **Life span of the project:** State the proposed start and end dates of the micro-project. Most projects are implemented within one to five years. Therefore be realistic in establishing implementation period of your project.

5. **Name of the project/project Title:** State the name of the initiative, for instance, planting of Tree around Kawirawira catchment area.
6. **Location of the project:** State the villages that project will be physically located or village whose residence will directly benefit from the project.
7. **Development challenges:** Give a brief description of the current state of environmental challenges. At this stage the committee members should brainstorm "a number of issues affecting the catchment area in order to address the "cause" not the "effect". The Problem Tree Analysis technique would be useful at this stage.
8. **Project goal/impact:** State the likely change the project will make if implemented at catchment area or beyond.
9. **Project outcomes:** List the expected outcomes that would results from project e.g. the behaviour of the people or households such as the farming methods or reduced making of charcoal etc.
10. **Expected outputs:** This is what the project will put in place if implemented e.g. a number of tree planted or a dam constructed etc.
11. **Activities:** List the main proposed activities that the community will undertake to address the environmental challenges e.g. plant trees, provide credit, train small scale farms, etc.
12. **Project management:** Provide information on people that will provide daily steering of the project including any technical support from area executive committee members. Since this is a community-based initiative, the committee members are expected to *directly manage* involvement of households from the surrounding villages and the *finances* provided by the donor. If several community- based committees are involved, their respective roles and responsibilities should be stated.
13. **Project implementation:** State how the surrounding villages will contribute to the project e.g. community nursery or felling of sand to the dam site etc.
14. **Direct beneficiaries:** Who are likely to benefit from the results of the project? State in both quantity and quality.
15. **Estimated cost:** Do a research about actual expenses that will be involved and be realistic too. If a donor suspect that your financial proposal is not the exact cost of equipment e.g. wheel barrow, they will ignore it. Get an exact price of anything that is needed and preferably indicate the source.
16. **Contribution by community:** Most donors require a minimum of 10% contribution by the community that is applying for a grant. This is an indication of commitment to the cause. Therefore give a brief description on how you plan to provide self-help input into project.
17. **Sustainability:** Ensure that the donor knows that the project will continue remaining after the period of support. Indicate how you are going to contribute to the sustenance of the initiatives after the donor support is concluded.

5.3.3 Project Proposal Document

The format of the Project Proposal is similar to that of the concept note and should include a Logical Framework (Annex 1). The Project Proposal requires the project procedures and activities to be explained in more details as set out below.

Structure of Project Proposal

1. **Project Title:** Simply state the name of the project.
2. **Description of project area:** Briefly describe the location, climate, vegetation, relief, population and occupation of the people.
3. **Description of the development issue:** Give a clear description of the nature of the issue and suggest the possible causes of the issue you have just described. As stated under (C) the "problem tree analysis" technique is useful at this stage. Photographs or sketches of the area may help provide additional information and present your environmental situation much clearer and better.
4. **Impact/goal of the project:** What the project wants to achieve – the main aim of the project.
5. **Outcomes:** List the specific outcomes that the project is expected to attain

6. **Outputs/ possible solutions**: Suggest possible solutions or means of addressing the issues that are experienced around or within the catchment area.
7. **Activities:** Explain the course of action and the nature of activities to be undertaken to address the issue, and decide on the roles and responsibilities of interested and affected communities/areas. An outline of the roles and responsibilities of elected officials is also helpful. State whatever the community alone can do for the planned activities and what you wish the donor to assist with.
8. Inputs
    a. **Budget**: Provide estimated costs for items as shown below and explain the costing:
        - Technical assistance fees – technical assistance should only be used when required and all human resources should be met by the project committee.
        - Operational/Service Costs - e.g. goods (such as material items).
    b. **Cost Sharing:** Project costs sharing between donor and applicant/community can be done in many ways. The most common and practical way is the community's contribution of material and services such as sand, land, community volunteer time and other resources. Efforts should be made to have these contributions expressed in monetary terms or as a percentage of the total project cost. Experience has shown that conservation/ development activities where communities contribute more than 10% to the total cost of the activity are more sustainable.
9. **Complementarity:** Do the proposed project activities assist or promote the work of other existing local projects in the area? If Yes, explain how the proposed will assist in achieving the goals of the already existing project. State if the project you are proposing is new and original or a modified version of an already existing one? If it is an already existing project, explain at what stage of implementation the project is.
10. **Proposed duration:** State the proposed starting date and estimate how long it will take to complete the project, considering factors such as availability of community volunteer time, materials and weather.
11. **Project management experience**: Most donors are interested to know if this is the first project that the applicant has designed, developed and proposed to implement. If it is the first time the applicant is managing a project, they should state the training and /or technical assistance they may need to ensure efficient implementation of the project. Should the community/committee have managed projects before, then what relevant experiences are they transferring to the new project? Please indicate levels of ability in financial and project management skills. Has the proposal been submitted elsewhere for support? If yes, please supply details of previous support.
12. **Action plan**: The action plan is intended to indicate to a donor how the proposed project will be managed and implemented i.e. its impact, expected outcomes, planned outputs, activities, performance indicators and assignments/responsibilities. Budget, community contribution and areas where the community will need external technical support or assistance should also be explained clearly with suggestion for possible support agencies. A list of committee members with their responsibilities and their signature is also required. An acceptable action is the one that has been developed by the community themselves through active participation in discussions and decision making to reach a common agreement. The action plan is normally an attachment that has to accompany the detailed Project Proposal. Community –based activities must be arrived at through participation in order to justify consideration for funding.
13. **Proposed approach to monitoring progress:** Provide a summary of key indicators to be used for monitoring progress of the project including changes in the catchment area. These are normally outlined in the action plan. Indicate the frequency of monitoring and reporting and this should indicate the recipients of these reports.

Additional Documentation for a Community-Based organization such as Area Development Committee. Application should be accompanied by a letter of recognition by the District Commissioner or Senior Chief within the District. It is also good practice to present Items 4 to 8 in a summary and logical format called Logical Framework (See annex 1 below).

Annex 1: Logical Framework

Kanthole Area Development Committee: Kawirawira Catchment Management Plan: Five Years (2015-2019)

Narrative Summary of Impact, Outcome, Outputs and Activities	**Objectively Verifiable Indicators (OVI)**	**Means of Verification (MoV)**	**Assumptions**
Impact Kawirawira River catchment area conserves water, natural resources to meet basic human needs and sustains ecosystem	*An Indicator that measures contribution of the initiative to Impact (at District Level)* e.g. Kawirawira Catchment Management Initiative contributes to sustainable utilisation of natural resources in the district.	District Council Report (e.g. State of Environment Report) or Department Of Environmental Affairs	No floods or drought occur during the lifetime of the project.
Project Outcome Mechanism for implementing Kawirawira River catchment management plan established by the end of 2019.	*. . . that measure achievement of Project Outcome* - State of catchment conditions: Baseline: Poor, Target: Improved (criteria should be provided). - Number of institutions managing water resources under Kawirawira catchment and sub-catchments feeding river into Kawirawira: Baseline: 0 (2015), Target: 3 (2019).	- Report (Kanthole Area Development Committee) - Presence of functional institutions for catchment water resource management in the area	The local communities, village/area development committee's members and district council are willing to support the catchment management efforts.
Output 1: Awareness of catchment natural resource issues and management increased,	Number of Villages with Knowledge about key natural resource issues: Baseline: 0(2015), Target: 5 (2019).	Progress Report on interventions and participation of Kanthole Area Development Committee	Villages attend awareness creation meetings
Output 2: Action plans for catchment and water resources management established.	Village Action Plans with Catchment Management Plans: Baseline: 0 (2015), Target: 5 Villages (2019	Progress Report of Kanthole Area Development Committee	Catchment management are considered as priority by local communities
Output 3: Capacity building gaps in catchment management identified and supported.	Number of villages with catchment management skills and financial and technical support received: Baseline: 0 (2015), Target: 5 (2019)	Capacity building assessment/baseline report	
Output 4: Activities outlined in action plans implemented.	Identified and prioritized interventions: Baseline: 0 (2015), 2017 (50%), (80% by end of 201.)	Reports and direct verification of activity interventions	Donors are willing to support the activities identified in the Action Plan
Main Activities a) Earth dam construction, river training, planting trees, conservation farming; MK2,500,000 b) Awareness creation meetings, MK470,000 c) Catchment management training of the local communities, d) Monitoring and review of catchment management plan. Total Estimated Cost		**Resource Summary (MK8,000,000)** **a) MK5,500,000** **b) MK400,000** **c) MK1,400,000** **d) MK700, 000.**	The local community will contribute 25% of the project cost through providing stones, water, land and venue.

6 References

- Growing Green. Food & Trees for Africa. [Online] www.trees.co.za
- Malawi National Guidelines: Integrated Catchment Management and Rural Infrastructure Volume I: Procedural Catchment Management Guidelines
- Malawi National Guidelines: Integrated Catchment Management and Rural Infrastructure Volume II: Village Catchment Management Guidelines
- Participatory Forest Management Plan. Moyo-Mauni Village, Ntcheu District.
- Soman, S., S. Beyler, S.E. Kraft, D. Thomas, and D.Winstanely. 2007. Ecosystem services from riparian areas: A brief summary of the literature. Prepared for the Scientific Advisory Committee on the Illinois River Coordinator Council, Office of the Lt. Governor. United States of America.
- Trickleup (undated). Savings groups URL http://www.trickleup.org/solution/savings-groups.cfm [Accessed: 06.04.015].
- LUPP (Editor) (undated): Community-based Microfinance: Community Savings and Loan Groups. Good practice in the musseques of Luanda. Luanda Urban Poverty Programme (LUPP).
  URL http://www.sswm.info/sites/default/files/reference_attachments/LUPP%20ny%20Community%20Based%20Microfinance.pdf [Accessed: 06.04.015].
- Water Resources Investment Strategy Component 1 – Water Resources Assessment, Main Report, April 2011. Undertaken by WS Atkins International Ltd in association with Wellfield Consulting Services for the Government of the Republic of Malawi, Ministry of Irrigation and Water Development, Second National Water Development Project (NWDP II). Funded by the World Bank. World Bank, 2011.
- Welfare Monitoring Survey (WMS), 2011 conducted by the Malawian Agriculture Statistics Division of the National Statistical Office (NSO) between September 2011 and February 2012.

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