



## **Wetlands and Poverty Reduction Project Demonstration Projects**

# **Striking a Balance: maintaining seasonal wetlands & their livelihood contributions in central Southern Africa**

## **FINAL TECHNICAL REPORT**



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The SAB project is a demonstration project of the Wetlands and Poverty Reduction Project of Wetlands International and it is carried out with financial support from Wetlands International under its Wetlands and Poverty Reduction Project financed by the Dutch Ministry of Foreign Affairs (DGIS).





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### **FINAL TECHNICAL REPORT**

**Project title:** Striking a Balance: maintaining seasonal wetlands and their livelihood contributions in central Southern Africa

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**Agreement holder:** Wetland Action EEIG

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## ACRONYMS

CA	Comprehensive Assessment of Water Management in Agriculture
CAW	Community Agricultural Worker
CDF	Community Development Facilitator
COMESA	Common Market for East and Southern Africa
DPTG	Demo Projects Task Group
FLA	Functional Landscape Approach
FYF	Find your Feet (UK NGO)
GAWI	Guidelines on Agriculture and Wetland Interactions
GRZ	Government of the Republic of Zambia
HH	Harvest Help
IUCN	International Conservation Union
IWMI	International Water Management Institute
MA	Millennium Ecosystem Assessment
MALEZA	Malawi Enterprise Zones Association
MDG	Millennium Development Goals
MG	Malawi Government
NLWCCDP	North Luangwa Wildlife Conservation & Community Devt Programme
OVI	Objectively Verifiable Indicators
PBN	Policy Briefing Note
PRSP	Poverty Reduction Strategy Paper
SAB	Striking a Balance
SADC	Southern Africa Development Community
SHA	Self Help Africa
TA	Traditional Authority
TLC	Total Land Care
TP	Treadle pump
VNRMC	Village Natural Resource Management Committee
WA	Wetland Action
WI	Wetlands International
WPRP	Wetlands and Poverty Reduction Programme





## **1. SUMMARY**

*Provide a summary of the project's **achievements**, specific **challenges** and **lessons learned**. Please remember that this summary is for the whole grant period and try to make maximum 300 words. Feel free to include a version in local language (such as French or other) if needed.*

The “Striking a Balance” (SAB) Project has shown that the seasonal wetlands in central southern Africa can be managed sustainably for a range of ecosystem services which help reduce poverty, improve food security and maintain environmental functioning and biodiversity. In order for this to be achieved the Function Landscape Approach (FLA) needs to be applied – ensuring sustainable land management practices are implemented in a linked unit comprising catchments and wetlands, and with local institutions (and bylaws) developed for managing this area. This approach has proved sustainable because of the increased benefits (30-60% crop yield increase and improved access to drinking water) obtained by communities from their wetlands which encourages them to apply the FLA methods.

Besides being the base for testing the FLA methods, the six SAB sites have been used for demonstrations of this approach to local communities, district level government agencies (16) and NGOs (12), for practical training of University students (60) and for wetland management training for SADC representatives (25). Video and documentary methods (technical guides, policy briefing notes, etc) have also been used to further disseminate this experience, at two international meetings and with five international development / environmental organisations. In addition, SAB material has been published in a recent FAO/Ramsar volume which was presented at the Ramsar COP 10 and is available for download from the Wetland Action website ([www.wetlandaction.org](http://www.wetlandaction.org)).

Awareness raising and advocacy work has led to the addition of “sustainable wetland management for food and water security” onto the regular agendas of two District Development Committees (Mpika in Zambia and Kasungu in Malawi), and to local and international NGO partners including wetland management in their policies and commitments. A momentum has been generated amongst government and NGO members of the Learning Networks established by the project to integrate wetlands into development policies and to revive national wetland policy processes, with SAB / FLA ideas to be added to these.

Challenges remain to reactivate these national wetland policy processes, scale up the FLA work to include whole stream valleys, strength village institution capacity for environmental monitoring and management, and disseminate the FLA to sustainable wetland management through COMESA’s food security work scheduled for wetlands in most of its 19 member countries.

## 2. INTRODUCTION

### 2.1 Background and rationale of the Demo Project under the WPRP

Provide background information on both *wetland ecosystem/biodiversity* and the *people's livelihoods in the study area*. Why and how the project was developed; reference to preceding projects if appropriate.

#### 2.1.1 Wetland Ecosystems in Central Southern Africa

Wetlands of various types exist in eastern and central Southern Africa, ranging from permanent and extensive swamps to seasonally flooded stream and river valleys and grasslands plains with seasonally high water tables. The seasonally flooded grassland areas, which are most common in central Southern Africa, are known as *dambos*. They usually do not have a stream course within them because they are at the head of the drainage network, although similar types of grass dominated wetlands with stream courses are found further down the drainage network. *Dambos* are important because of their wide distribution and also because, being found in the upper reaches of the stream / river networks, they can influence the downstream hydrology and conditions. The precise nature of the hydrological influence of *dambos* is still subject to much debate (Bullock and Acreman, 2003) but it is generally agreed that *dambo* degradation has negative effects on ecosystem services, both regulatory services (which relate to environmental, especially hydrological, functioning) and provisioning services (which relate to livelihoods – production of natural materials and farming) (see Table 1).

**Table 1: Ecosystem services provided by or derived from wetlands (MA, 2005)**

Services	Comments and Examples
<b>Provisioning</b>	
Food	production of fish, wild game, fruits, and grains
Fresh water*	storage and retention of water for domestic, industrial, and agricultural use
Fiber and fuel	production of logs, fuelwood, peat, fodder
Biochemical	extraction of medicines and other materials from biota
Genetic materials	genes for resistance to plant pathogens, ornamental species, and so on
<b>Regulating</b>	
Climate regulation	source of and sink for greenhouse gases; influence local and regional temperature, precipitation, and other climatic processes
Water regulation (hydrological flows)	groundwater recharge/discharge
Water purification and waste treatment	retention, recovery, and removal of excess nutrients and other pollutants
Erosion regulation	retention of soils and sediments
Natural hazard regulation	flood control, storm protection
Pollination	habitat for pollinators
<b>Cultural</b>	
Spiritual and inspirational	source of inspiration; many religions attach spiritual and religious values to aspects of wetland ecosystems
Recreational	opportunities for recreational activities
Aesthetic	many people find beauty or aesthetic value in aspects of wetland ecosystems
Educational	opportunities for formal and informal education and training
<b>Supporting</b>	
Soil formation	sediment retention and accumulation of organic matter
Nutrient cycling	storage, recycling, processing, and acquisition of nutrients

\* While fresh water was treated as a provisioning service within the MA, it is also regarded as a regulating service by various sectors.

The “Striking a Balance” (SAB) Project worked in six wetland demonstration sites, three in Zambia and three in Malawi. These were within pre-existing projects run by local NGOs in Mpika District of northern Zambia and Simlemba Traditional Authority of Kasungu District in central Malawi (for location see Figure 1).



**Figure 1: SAB Project Areas at Mpika, Zambia and Simlemba, Malawi.**

Within the six demonstration sites in the two project areas (the issues in which are discussed in Section 2.5.2) *dambos* are the major wetland type. However, in both areas *dambos* with stream courses are also found, while permanent swamp areas with reeds are sometimes present. The major distinction between the wetlands in the two areas is the acidic nature of those in northern Zambia, a consequence of the high rainfall in the area. The characteristics of the six sites are given in Table 2 below.

**Table 2 Wetland Demo Sites in SAB Project**

<i>Wetland Site</i>	<i>Location</i>	<i>Wetland Area ha.</i>	<i>Wetland Types</i>	<i>Popn (HHds)</i>	<i>Comment</i>
Ckikakala	Mpika	754	Dambo head, no stream	87	Acid dambo, near road
Mwansabambwa	Mpika	1051	Dambo mid course, river	55	Acid dambo, near town
Mushishe	Mpika	357	Dambo mid course, stream	43	Acid dambo, with some game, remote
Malawila	Simlemba	13	Seepage wetland with swamp & stream	40	Community coordination issues
Katema	Simlemba	34	Dambo mid course no stream	40	Enthusiastic community
Chiota	Simlemba	15	Dambo mid course no stream	47	Sugar Cane, Eucalyptus & gully issues

The main biodiversity in the sites are outlined in the table below. Details of the individual sites and the variations within them are given in the biodiversity and wetland health reports. There were no wildlife reported in five sites, but at Mushishe, which is in a Game Management area, there are some waterbuck and duikers

**Table 3: Dominant Vegetation Complexes in Wetland Sites**

<b>Wetland Sites</b>	<b>Sedges</b>	<b>Grasses</b>	<b>Reeds &amp; Palms</b>	<b>Herbaceous Plants</b>
Mpika	<i>Cyperus spp.</i> , <i>Eleocharis spp.</i> ( Spike sedge), Ifibengansobe (L) <i>Rhychospora spp.</i> (White star sedge)	<i>Aristida spp.</i> - Chinko <i>Hyparrhenia spp.</i> - Chituki (L) <i>Hemarthria spp.</i> - Utufimba	<i>Phragmites</i> ( reeds) Palms- Utubale(L)	Edible Orchids- ( 8 species)
	<b>Sedges</b>	<b>Grasses</b>	<b>Marsh</b>	
Simlemba	<i>Fuirena cf.</i> <i>pubescence</i> , <i>Kyllinga</i> <i>cf. Melanosperma</i> <i>Scleria spp.</i> <i>Pycnostachys</i> <i>reticulata</i>	<i>L. simplex</i> , <i>Tristachya</i> <i>leucothrix</i> , <i>Fimbristylis</i> <i>spp. T. triandra</i> <i>Eragrostis spp.</i> , <i>Sporobolus spp.</i> , <i>Pogonathria squarrosa</i> , <i>Fibristylis spp.</i> <i>Hyparrhenia cymbaria</i> ,	<i>Leersia hexandra</i> , <i>Ageratum</i> <i>conyzoides</i> , <i>Phragmites</i> <i>mauritanus</i> , <i>Mariscus sp</i> , <i>Typha</i> <i>cf. latifolius</i> , <i>Typha</i> <i>domingensis</i> , <i>C.</i> <i>involucratus</i>	

The sites in Malawi are all found in the upper reaches of the Dwangwa River system, one of the largest rivers in the central part of the country. In Zambia, Chikakala and Mwansbabwa are in the upper Luapula River basin, while Mushishe is within the Lunagwa River basin.

### 2.1.2 Poverty and Livelihoods in Central Southern Africa

Poverty is extreme in the rural areas of both Zambia and Malawi. Despite both countries having developed Poverty Reduction Strategy Papers in the early part of this decade, and having had a series of rural development efforts over the last four decades since independence, for many people in the rural areas conditions have changed little, certainly not in terms of their cash income available for purchases. In Zambia, despite having a national GNI of US\$630 / head, in the rural areas 78% of the population lives on less than US\$ 1 per day. In Malawi, the national GNI is lower due to the smaller urban and mining economy at US\$230 while 66.5% of the rural population live on less than US\$1 per day (IFAD.2007). In both Zambia and Malawi the original projects had been developed in areas with extreme poverty, and so are typical of the rural areas.

Seasonally flooded wetlands account for between 2% and 4% of the area of Zambia and Malawi, and have long been important for a range of livelihood benefits. Almost throughout these two countries there are *dambos* or some type of wetland which can be accessed by communities. Hence it is probably more than half of the rural population who use wetlands in these countries in some way. Uses include the collection of domestic water, watering livestock, dry-season cultivation, pasturing cattle, collection of wild plants for crafts, building and relish (food), and fishing (Trapnell & Clothier, 1943; Wood, 2005a). In general these contributions by wetlands (apart from domestic water)

are supplementary livelihood activities providing seasonal income to support the main livelihood activities which are rain-fed upland farming.

In all the study sites for the SAB Project, upland farming is primarily hoe cultivation, but with very different crops and systems. In Zambia, because of the poor and acid nature of the soils, which results from the high rainfall (+1200mm), upland cultivation is primarily a long woodland fallow system, called “*chitemene*”. This involves pollarding trees over an area some 4-8 times the size of the 0.5 ha plot which is cultivated. The ash from burning this wood addresses the problems of soil acidity and lack of soil fertility, but cultivation is only possible on such sites for two years, before they are abandoned for 20 or more years. The main upland crop is finger millet, with beans and some sweet potatoes and pumpkins also grown. In Malawi, the rainfall is lower (700-1000mm) and the soils more neutral in their pH. Hoe cultivation is used on permanently cleared upland fields, with ridges made every year to help overcome shallow soils and waterlogging in the heavy rains. The main upland crops here are maize or sorghum, with beans and pumpkins also grown. Soil fertility is maintained at a low level through field rotation and the use of chemical and organic fertilisers, the population density being so high that even bush fallowing cannot be afforded.

The contribution of wetlands in these systems is given in Table 4 below.

**Table 4: Livelihoods Benefits / Provisioning Ecosystem Services of Seasonal Wetlands in central Southern Africa**

<i>Benefits</i>	<i>Mpika</i>	<i>Simlemba</i>
Domestic water	Common	Essential – no other source
Water for livestock	Little practised – few animals	Essential – no other source
Dry season gardening	Common	Common
Wet season gardening	Developing	Not present
Livestock grazing	Limited	Essential
Reed harvesting	Not present	Limited
Relish collection	Present	Limited
Grass collection	For brushes	For thatching
Clay collection for pottery	Not present	Not present
Fishing	Not present	Not present

Sources: Trapnell & Clothier, 1943; Wood, 2005a and baseline surveys.

The importance of wetland supplements to upland farming has increased in the last two decades for a number of reasons. These include periodic droughts, declining soil fertility in the uplands, increasing prices for chemical fertilisers (now used in some upland fields) and increased pressure upon upland fields as a result of population growth. This has led to declining harvests in the uplands which have led to the need for increased use of seasonal wetlands for winter / dry season gardening by households seeking to supplement their reduced upland harvests. This has even extended to the development of wet season cultivation in the *dambos* of Northern Zambia. While in most cases wetland use has been a coping or survival strategy, in some cases the expansion of wetland gardening has been an adaptive, or diversification, strategy by “better-off” farmers who seek to take advantage of new market opportunities (Arnold and Townson, 1998).

Use of seasonal wetlands has been facilitated in both areas by technological innovations, although of a different sort. In Zambia, an improved method for wetland cultivation, based on traditional practices, has been developed by an agriculturalist (Jonas Sampa) and popularised by a local NGO (NLWCCDP - a partner in the SAB Project). This method has allowed year round cropping in the *dambos*, despite the acid soils. In Malawi, the introduction of the treadle pump, from Asia, (as has occurred in many parts of East and Southern Africa), together with the wider availability of watering cans and the development of stream diversion technology have led to increased irrigation within seasonal wetlands. The local partner there, MALEZA, along with other NGOs has been supporting wetland cultivation with these methods.

### 2.1.3 Project Development and Previous Projects

This project had a long gestation period. The first work in the area of cultivation within seasonal wetlands began in 1997 in south-western Ethiopia when the University of Huddersfield undertook a three year research programme to explore the impact of drainage agriculture on livelihoods and wetland micro-environments. Related to this work was an exploration of the international agenda on wetlands and the available guidance for such situations. This led to the conclusion that at that time (1998) small seasonal wetlands, of local importance for agricultural use, were of little interest to the international wetland community which, at that time, focused its attention on wetlands of international importance and the biodiversity conservation aspect, especially for migratory bird species. Reflections on this situation, and the neglect of small-scale farmers struggling to achieve the sustainable use of wetlands, led to the development of a local NGO in Ethiopia to work with farmers on wetland management, and to the establishment of a international technical support NGO, Wetland Action, to offer support to frontline, implementing NGOs developing wetlands for livelihood purposes. This support was designed to help achieve sustainable wetland use, with a view to balancing sound environmental functioning and socio-economic needs.

This initiative was timely as without any major publicity Wetland Action (WA) was requested to undertake advisory work in a number of countries for several NGOs, research organisations and international conventions.

This work confirmed a number of understandings which formed the basis for the SAB project:

- critical role of wetlands in food security, health, relief and development,
- growing pressures on wetlands from different sources,
- degradation in wetlands and declining ecosystem services, including livelihood benefits,
- lack of technical advice of how to manage wetlands sustainably,
- absence of policy guidance,
- institutional development needs to develop local management capacity,
- government and donors pressures to use wetlands for food security,
- private sector pressures to sell wetland technology for irrigation,
- lack of perspective – temporal and spatial/landscape in understanding how

- wetlands function, and
- climate change and its influence on the role of wetlands.

These are explained in Annex 1 to reduce the length of this section of this report.

This analysis contributed to the conclusion being reached that there was an urgent need for field trials and experiments to test ways of coping with the increased agricultural pressures on wetlands in Africa. It was envisaged that experience from such trials would feed this into policy dialogues and so create a policy environment, locally, nationally and more widely, which would be supportive of sustainable wetland management, thereby maintaining multiple ecosystem services.

#### 2.1.4 How the Project was developed

It was with this set of understandings and conclusions that Wetland Action approached the call for proposals by Wetlands International with respect to the WPRP Demo Projects. It was clear that any demonstration project would have to develop technical advice, institutional arrangements and policy guidance in order to achieve sustainable land use regimes in wetlands and their catchments to ensure that wetlands could be protected and the full range of their ecosystem services used sustainably for the benefit of rural communities and the environment. It was also clear that by exploring this on the ground in demonstration sites it should be possible to inform other practitioners and build up a groundswell of opinion about the appropriate technical measures and the need for a supportive policy environment for sustainable wetland use. However, at the same time it was recognised that these sustainable land use regimes would be difficult to achieve under the pressures of rural poverty and the drive to address the Millennium Development Goals. Hence it was agreed that the theme for the work should be “Striking of a Balance” (SAB) between wetlands use for the creation of economic benefits and the maintenance of wetlands in their natural state for environmental functioning (Wood, 2005c). It was this challenge which was chosen as a title for the project.

Having considerable field experience in Zambia and Malawi with Harvest Help (HH – now Self Help Africa – SHA), and recognising their participatory and grassroots approach to sustainable community development, as well as their support for wetland use to achieve food security, a partnership was developed between WA and HH to develop a proposal for the WPRP. This was done by reviewing the HH projects where wetland work was already undertaken to some extent and identifying the challenges to sustainable use in each. Two projects, the CHIMU Project in Mpika District of Zambia, and the Simlemba Rural Livelihoods Project in Kasungu District of Malawi were chosen as appropriate bases for the SAB project. (See Figure 1).

The timing of this project’s development seemed appropriate in both Zambia and Malawi. In Malawi, the NGO Civil Society Network on Agricultural (CISANET) had identified the pressures for increased irrigation in wetlands, especially through the use of treadle pumps, as an area for investigation given concerns over sustainability issues. At the same time a new Water Policy had been developed which suggested that most wetlands should

not be used as they are within the 50 year flood level. This added to the conflicting views between agriculturalists and environmentalists within the Malawi government agencies which had already led to the collapse of the original initiative on wetland policy development, without a draft policy being formulated. Further, the Ramsar focal point had expressed an interest in using the functional landscape approach to start a renewed wetlands policy initiative because the discussion of land use and land husbandry could provide a basis for inter-agency dialogue.

In Zambia too, the Zambian Wildlife Authority (ZAWA), which is responsible for wetlands and wetland policy, was reported to have recognised that, after the Ramsar COP 9, a wider range of stakeholders needed to be engaged with in its attempts to revitalise the National Wetlands Committee and produce a wetland policy. Similarly concerns about the need to integrate sectoral views had been expressed in the work of the planning team heading up the new Five Year Plan, the next policy development beyond the PRSP. Further, the Environment Policy, which was being developed, recognised the need to link environment and poverty reduction through the ecologically sound functioning and use of the landscape.

At an international level, there were also interesting and relevant developments in the Ramsar Convention with work starting on Guidelines for Agriculture and Wetland Interactions (GAWI), an initiative in which Wetland Action later became one of the lead researchers (FAO, 2008). Further, the work of the Global Mechanism of the Convention to Combat Desertification had recognised the importance of wetlands in drylands and their role in maintaining livelihoods and possibly acting as a focal point for measures to control desertification.

Hence, it seemed that this project was timely at local, national and international levels given that it would address a number of current interests, could generate relevant experience through its field activities, build local capacity and institutional development, and exchange experience at various levels from the field to the international community.

## **2.2 Problem Analysis**

*Describe the **problem(s) the project addressed**. Problem identification: wetlands degradation; **poverty**; (lack of) **awareness**; (absence of or failing) **policies**; lack of **technical or institutional capacity**; other...*

### 2.2.1 Problem Identification

The previous work on sustainable wetland use had identified a series of issues which needed to be addressed as outlined in the Section 2.1.3 and Annex 1. These informed the discussions with Harvest Help, its country offices in Zambia and Malawi, and two local NGO partners, MALEZA (Malawi Enterprise Zones Association) in Malawi and NLWCCDP (North Luangwa Wildlife Conservation and Community Development Programme) in Zambia. Workshops and field visits allowed the joint identification with communities of specific problems within the project areas in Simlemba TA of Kasungu

District in Malawi and Mpika District in Zambia as follows.

**a) Simlemba, Malawi**

Wetlands had been identified as an under-used resource in the initial development phase of the Simlemba Rural Livelihoods Project (2002-04). Farmers had been encouraged to try to grow maize and vegetables in these areas during the dry season, once the upland harvesting was completed and they had labour available. Domestic use of these crops for food security was the first goal, but sales to local markets were also envisaged. However, no technical guidance had been provided and farmers were experimenting, often unsuccessfully, with small gardens scattered across these wetlands and there was a growing concern that wetland degradation could result. There was clearly a need for technical advice on how best to grow vegetables, where to grow them, and most importantly how to ensure long term sustainability of agricultural use in the wetlands which minimised the environmental impacts. Land and water management in the wetland, as well as the linkages to catchment land use management, clearly needed to be explored with these communities to ensure sustainability, while community institutions needed to be developed to coordinate this land use and achieve sound management of the natural resources, both in the wetland and catchment.

**b) Mpika, Zambia**

In the CHIMU project a technique for using the acid *dambos* had been developed by project staff. This allowed certain parts of these formerly neglected *dambos* to be brought into continual cultivation, in both wet and dry seasons, for two years at a time. While training in careful land preparation methods had been developed, so as to ensure successful crop production to address food insecurity and generate income benefits, the methods developed paid little attention to the need for careful management of the wetlands to avoid environmental damage, and there was no consideration of how upland farming could negatively impact upon the water supply to the *dambos* in the dry season. Clearly work was needed to develop, with the communities, land use management practices at the macro scale which could address the potential problems which could occur and undermine these new livelihood methods and the other eco-system services provided by the wetlands. Sustainability again was the neglected dimension, sustainability of both wetland agriculture and of wetland functioning.

**c) A Comparative Demonstration Project**

While these two areas are in different ecological zones, and have contrasting wetland conditions, they had a number of issues in common at that time which the problem analysis undertaken during the project development identified. The most important of these was the need for sustaining wetland use under the conditions of growing pressures from agriculture to achieve a balance between the sustainable use of seasonal wetlands and so reduce poverty whilst also maintaining the ecological functioning of these areas under different conditions.

**d) Problem Solving Activity Areas**

These five areas of project activities were developed as follows for field testing and / or implementation.

### Activity 1: Sustaining Wetland Use - the Functional Landscape Approach.

Technical solutions for the sustainable use of wetlands and the sustained provision of a range of ecosystem services (regulatory, cultural, supporting and provisioning) were developed around the concept of the Functional Landscape Approach (FLA). This draws on an understanding of the hydrological basis of wetland functioning and the consequent links between wetlands and catchments (see Annex 1 Section “i” for the academic literature supporting this). The project, through discussions with farmers, sought to make this approach, and the necessary land management practices related to it (see Figure 2 below), attractive for farmers to implement without specific incentives, by making the increased and sustained benefits which could be obtained from the wetlands the specific incentives. By adding value to the wetlands for farmers, it was hoped that these areas would become increasingly valuable for them and that this would encourage the adoption of the FLA land management measures in order to sustain these benefits. For instance, one aim was to help communities see that the maintenance of natural vegetation and biodiversity in wetlands contributes to the functioning of these areas, especially water storage and erosion control, and so supports local economic benefits, through sustainable vegetable growing, and environmental benefits which are felt more widely. (See Policy Briefing Note (PBN) 1).

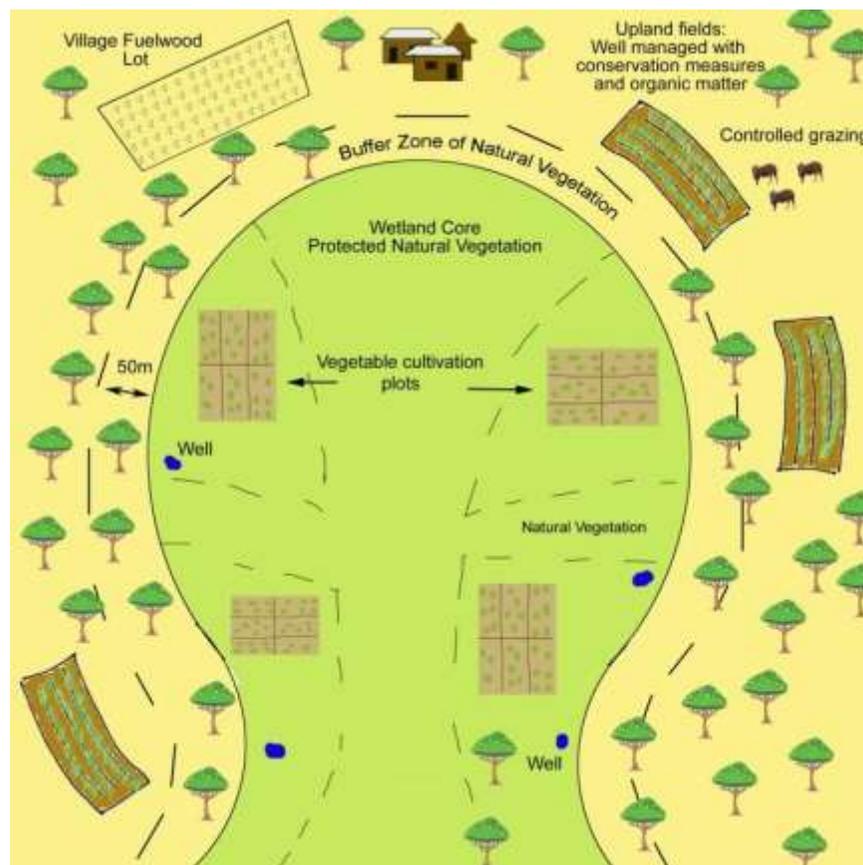


Figure 2: A well managed wetland and catchment, creating a functional landscape

### **Activity 2: Poverty Reduction and Improved Food and Water Security through Improved Wetland Use**

This project sought to address poverty through improved wetland use by farmers. This was envisaged to occur through improved cultivation practices in wetlands which could ensure better quality crops which could achieve higher market prices, and also through improved choice of crops to respond to market opportunities and avoid some of the seasonal surpluses and collapse of prices in the markets. In addition, there was a search for other sustainable wetland related uses, such as bee-keeping and crafts, which could encourage the retention of natural vegetation in the wetland and catchments and so contribute to the rehabilitation of these land facets, as well as supporting the FLA and wetland functioning.

### **Activity 3: Developing Local Institutions and Capacity**

The management of land is close to the heart of a rural community and is closely linked to the village headman and chiefs who exercise power either themselves or through local institutions. It was envisaged that sustainable multiple use of seasonal wetlands had to be rooted in the community if it was to be sustained. Hence, support was needed for the development of local institutions which could manage land use patterns and support arrangements for the managed and sustainable harvesting of natural products. In both project areas the local NGOs had already been working with the village and local structures and building on these to address natural resource management and economic development issues. Hence, the project sought to support this work with Village Natural Resource Management Committees (VNRMCs) and achieve in these institutions an increased sensitivity to wetland issues and environmental dynamics, as well as the development of appropriate local guidance and by-laws. (See PBNs 2 and 3).

### **Activity 4: Policy Development Support**

The project sought to support field level activities by communities through the development of positive attitudes at the district, national, NGO and international levels in terms of wetland sensitive policies, or at least recognition of the role of wetlands in poverty reduction and the need to manage these areas with specific measures. Preliminary analysis had identified a concern that the policies of most development agencies - government or NGO, had been simplistic in terms of seeing wetlands as areas to be transformed in their entirety without reference to their environmental functions and the sustainability of the diverse wetland livelihood benefits – wild plants, crops and water supply. Conversely, some policies saw wetland conservation as a goal which could be achieved without reference to the livelihood needs of communities. Hence the need was identified for policy development related to wetlands which would link poverty reduction and environmental sustainability through recognition of the needs of all stakeholders, especially the rural communities. Hence, policy development in support of rural communities, and driven by their needs, was seen as central to the project. (See PBN 4.)

### **Activity 5: Learning Network Development**

The project development process encountered a lack of communication amongst the different agencies involved in wetlands whether they be government, private sector or

NGO. A degree of rivalry and competition was found to exist amongst a number of the agencies, especially where access to international funding was concerned. The project felt that in order to achieve its goals it would have to seek to develop greater understanding and trust amongst the various actors through the development of Learning Networks at the local area and national levels. In part this was seen as necessary for disseminating the lessons from the project, but it was also to draw in others working on wetlands and livelihoods / poverty reduction and encourage them to share their experience. Local communities, government field staff and local NGO staff were to be involved in the local area networks in Mpika and Kasungu, while at the national level government staff and policy makers from different line agencies were to be brought into discussions alongside representatives of national and international NGOs.

The aim in these discussions was to develop multi- and inter-sectoral sensitivity based around the sustainable use of wetlands to help achieve the MDGs of poverty reduction and environmental sustainability. In particular, a need was identified to recognise that single use within wetlands, especially intensive agriculture, is often not sustainable and usually leads to wetland degradation and the loss of a range of important ecosystem services. Hence there is a need for a balance to be struck between environmental functioning and economic development uses and for this to be the basis of policy making.

### **2.3 Goal, objectives and intended results**

*Summary, including assumptions (project logic) refer to **logframe**.*

#### 2.3.1 Summary

The SAB project sought to develop and disseminate guidance on the sustainable use of seasonal wetlands in central Southern Africa through the implementation of wetland management field activities at sites in Zambia and Malawi. The focus of the fieldwork was to be on the achievement of functional landscapes in these wetlands and their catchments in order to improve wetland functioning and sustain increased livelihood benefits from these areas for poverty reduction. Management of the functional landscape approach was expected to require the development of local institutional arrangements within the wetland communities. Lessons from these areas were to be disseminated at District and National levels in order to raise understanding of the role of wetlands in poverty reduction and to contribute to on-going policy dialogue over the management of seasonal wetlands in both countries. Technical advice and good practice guidance were also to be disseminated through the Learning Networks developed amongst government, NGO, private sector and community stakeholders, and through links with extension and training agencies. Wider implications of this work within the region and globally were to be shared with international organisations such as the SADC Land and Water Management Unit, the Ramsar Convention Secretariat and the Global Mechanism of the Convention to Combat Desertification.

#### 2.3.2 Project Purpose (Objective)

The overall objective of the project was to reduce poverty among wetland-dependent communities in central Southern Africa, by influencing local, national and international

policies to ensure that the interconnections between the world's poor and wetlands are recognized and sustainable wetland management, through a functional landscape and multiple use approach, is supported. (See Original Project Log Frame – Annex 2)

### 2.3.3 Main Project Objectives (Purposes)

The project sought to achieve this overall objective through two specific but related purposes which were:

**Purpose 1:** to develop and test strategies for the sustainable management of seasonal wetlands, especially *dambos* and small river valleys, in Zambia and Malawi, including technical measures related to land husbandry and the maintenance of a functional landscape, as well as to develop social capital and institutions at the community level, to reduce poverty in wetland-using communities, and

**Purpose 2:** to influence local and national policy and international conventions, as well as NGO policies, in order to better recognise the role of wetlands in poverty reduction and the links between poverty reduction and sustainable wetland use, through learning networks, information dissemination and mini-workshops / roundtable discussions.

### 2.3.4 Intended Results

The results which were sought in order to contribute towards the overall objective were envisaged to be:

#### ***Purpose 1***

a) Improved livelihoods and reduced poverty among the users of seasonal wetlands, with supporting results of:

- better understanding of the interaction between seasonal wetlands and communities in terms of socio-economic and environmental aspects,
- availability of techniques and associated extension material (good practice guides) for developing functional wetland landscapes, using the FLA with a balance of livelihood and environmental benefits,
- capacity and institutional development at the community level for achieving sustainable wetland management.

#### ***Purpose 2***

b) More sensitive development and environmental policies, recognising the linkages between wetlands and poverty reduction (through provisioning services), and poverty reduction and wetlands (with interests developed in maintaining wetland because of the increased benefits they produce), with supporting results of:

- local and national Learning Networks exchanging experience of wetland management issues,

- policy briefing notes and case studies,
- policy development at NGO, national and international convention levels which recognises the role of sustainable wetland management in policies on wetlands, desertification, food security and poverty reduction.

The project document also noted that in terms of practices, the project would seek to impact on wetland degradation practices, especially changing the concept of single use towards more sustainable multiple use approach. It was also expected to try to reduce wetland drainage and encourage use and livelihood regimes which are sensitive to the environmental conditions, rather than seeking to transform them.

## **2.4 Organizational(s) set-up**

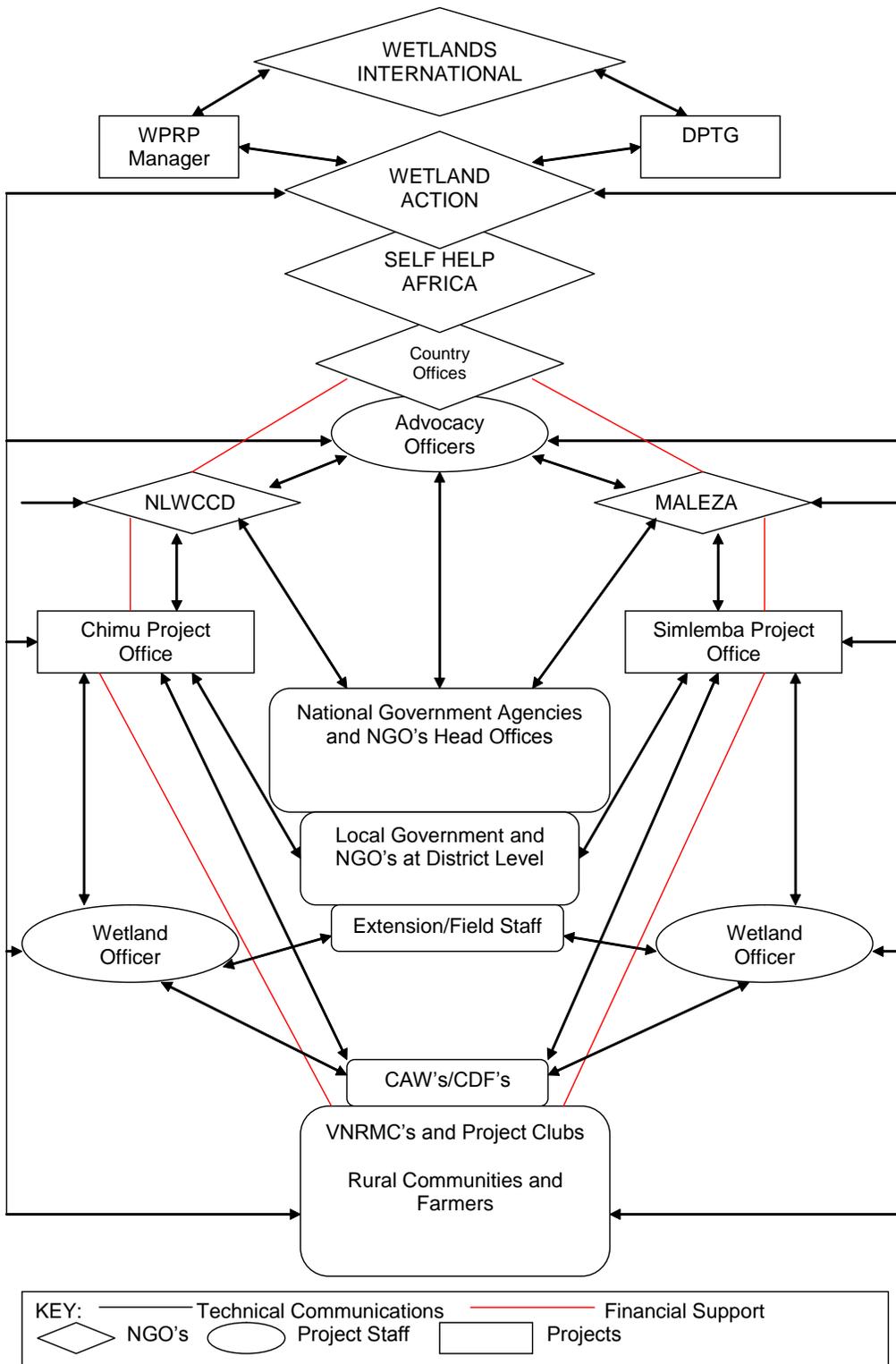
*Describe the project components and organigram. Mention links with governments, other NGOs or the private sector when appropriate.*

The implementation structure which was developed by the project is summarised in the following diagram (Figure 3), and the responsibilities of the different partners are discussed below. Wetland Action and Harvest Help as partners with different interests in wetlands were the overall coordinators of the project with Wetland Action the legal contractor to Wetlands International.

Technical advice was obtained from the WPRP Project Manager and the Demo Projects Task Group located within the WI structure, as well as from other contacts in the wetland field – notably IWMI in Addis Ababa and Pretoria, the Ramsar STRP, partners in the GAWI initiative for FAO and Ramsar and local stakeholder – government agencies and NGOs in Zambia and Malawi. Wetland Action coordinated analysis of the technical material available and developed appropriate support for the field staff (Wetland Officers) and the Advocacy Officers. This was provided in the form of relevant materials, field training, face to face guidance and electronic backstopping. WA also provided support at all levels from the field communities to the HH country offices through field visits, round table meetings and regular electronic backstopping communications.

Harvest Help (HH) had a formal sub-contract from Wetland Action for the work for which it was responsible. This included the fieldwork through its two local NGO partners and the advocacy officers it agreed to employ / delegate. That sub-contract also covered the services provided by HH's HQ and country offices in accounting and in the implementation of the policy and advocacy work. HH ensured field reporting of technical and financial matters using its own established arrangements so as not to duplicate reporting and cause unnecessary pressures on the field project.

Funds to the field were channelled from Wetland Action through Harvest Help, and to their country offices for the advocacy work and technical support provided, and through the country offices to the field NGO partners for the fieldwork.



**Figure 3: SAB Project Structure and Learning Network Linkages**

The field activities in the demonstration sites were undertaken through the existing sustainable livelihoods projects which the local NGO partners were already running. Additional field activities were added into their work programmes and funded by the SAB project, with a particular focus on wetland agriculture, business development, land use planning in the wetlands and uplands, institutional development and afforestation. This work was led by the Agricultural Officer in the CHIMU project in Zambia and the Natural Resources Officer in the Simlemba Project in Malawi. They were supported in their activities by other members of their project teams, especially those responsible for business development, agriculture and community organisation.

Field activities in both projects were focused upon community groups within which there were specialist groups (VNRMCs) and community volunteers – Community Agriculture Workers (CAWs) or Community Development Facilitators (CDFs). These committees and volunteers were unpaid but were given some support by the HH projects in minor ways, typically through the use of a bicycle.

The advocacy and policy development work was led initially by HH staff who were seconded for two days a week to undertake SAB work. For the second year of the project the arrangement was altered and local consultants were employed for six days a month to undertake the development of the national workshops and the networking before and after that.

Interactions with members of the Learning Network of NGOs, government agencies, international agencies and private sector organisations occurred through the various meetings held on a formal or informal basis as organised by the wetland or advocacy officers. These included district level workshops and the national level dissemination and advocacy workshops.

Other external aspects of the organisational set-up were the three Demo Projects Meetings, in Kenya, Malawi and Mali, which provided an opportunity for exchange of information and the meeting with COMESA agricultural advisers. Presentations were made at all these meetings about the SAB approach.

## **2.5 Intervention strategies**

Describe the **activities in intervention strategies**

### **2.5.1 Operationalisation and Linkages to On-going Projects**

In Zambia, the project was operationalised through the HH office in Lusaka and the local NGO, NLWCCDP, based in Mpika in Northern Province. In Malawi the project was operated through the HH/FYF (FAIR) office in Lilongwe and the local NGO MALEZA which is also based in Lilongwe.

Both local NGOs had on-going livelihood / food security projects, at Mpika in Zambia and at Simlemba in Malawi. These projects, which were funded by the EU and the Big

Lottery (UK) respectively, included elements on wetland management for livelihood development, with a focus on multi-season cropping and enterprise development in Mpika and wetland rehabilitation for multiple livelihood benefits, including cultivation, in Simlemba.

The wetland officers in these projects were assigned to the SAB work full time for the duration of the project.

### 2.5.2 Field Site Activities and Strategies

The project was implemented at three sites in Mpika and three in Simlemba. The original proposal had been for two sites in each country but it was agreed at the initial stage of implementation that three sites could be managed by the field staff and that this would provide a better basis for assessing the project experience and SAB approach in a range of socio-economic and micro-environmental conditions. Key features and challenges of the sites were as follows:

#### **a) Mpika**

##### Chikakala

The small head portion of a *dambo*, where increased use, especially seasonal gardening, was leading to pressures upon the land resources. Deforestation in the adjoining settlement areas and *chitemene* gardens in the forest were linked to the drying up of the edge of the *dambo*. This was encouraging the relocation of gardens toward the centre of the *dambo* which then threatened to undermine the functioning of the *dambo*.

##### Mwansabamba

The central section of a large *dambo*/ floodplain with a slow flowing river. A range of activities were taking place in the wetland including fish farming, cultivation and harvesting of grasses. Community interest in *dambo* gardening had been growing but there was (and still is) no shortage of land. However, some large areas of cultivation were developing and these presented a challenge in order to develop and apply guidance about the layout of fields and management.

##### Mushishe

This small wetland has a small stream and some riparian forest. It is unusual because of the considerable gradient within the *dambo* – from the edges to the centre, although no erosion is seen. Further, this site is within a Game Management Area and some control of game damage to crops has been needed. Conversely, wetland cultivation has replaced poaching as a source of income. A link between *dambo* conditions and upslope deforestation was identified, as well as a need to improve marketing from this site to the local markets.

#### **b) Simlemba**

##### Katema

A broad, seasonally flooded *dambo*, with partially wooded catchment and very low gradients in the terrain. Some cultivation in the uplands was expanding down into the wetland, while wetland cultivation was scattered across the *dambo*. Although gardens were not so extensive, some were poorly sited. Problems were identified for coordinating

land use within the wetland and neighbouring upland areas amongst the village community, and with the neighbouring communities using parts of the *dambo*.

### Malawila

A stream valley with a considerable area of swamp and seepage wetland which was being drained. The catchment upstream – both in Malawila territory and further upstream, was being cleared to provide fuel for tobacco curing. Improved management of the wetland and reforestation of the catchment was seen as vital before the area is completely drained and livelihood benefits start to deteriorate.

### Chiota

A broad and seasonally flooded dambo used for livestock grazing and limited cultivation. The major challenges were seen as declining water availability in part due to three major challenges, an outlet gully, major areas of sugar cane and eucalyptus trees.

In terms of the socio-economic characteristics at the sites, Table 5 provides a summary of the conditions in the three sites in Zambia and the three in Malawi. This shows that there is a weak relationship between wealth and wetland use, with many female headed households involved in using wetlands.

**Table 5a: Socio-Economic Characteristics and Wetland Use in Mpika**

Wealth & Gender Categories	Poorest MHH			Poorest FHH			Medium MHH			Medium FHH			Better off MHH			Better off FHH		
	K	M	C	K	M	C	K	M	C	K	M	C	K	M	C	K	M	C
<b>Communities</b>																		
<b>User Groups</b>																		
Non Users	1		2	3			3		5						1			
Low Users							2								1			
Medium Users				4			5				1	1						
High Users	8	10	2		10	1	3	8	26	4	1	6	7	10	3			
Total	9	10	4	7	10	1	13	8	31	4	2	7	7	10	5	0	0	0

**Table 5 b: Socio-Economic Characteristics and Wetland Use in Simlemba**

Wealth & Gender Categories	Poorest MHH			Poorest FHH			Medium MHH			Medium FHH			Better off MHH			Better off FHH		
	K	M	C	K	M	C	K	M	C	K	M	C	K	M	C	K	M	C
<b>Communities</b>																		
<b>User Groups</b>																		
Non Users	1		2	3			3		5						1			
Low Users							2								1			
Medium Users				4			5				1	1						
High Users	8	10	2		10	1	3	8	26	4	1	6	7	10	3			
Total	9	10	4	7	10	1	13	8	31	4	2	7	7	10	5	0	0	0

FHH = Female Headed Households, MHH = Male Headed Households,

User Groups refers to use of wetlands, community based assessment from PRA baseline survey.

The approach in the field has been similar in both Zambia and Malawi. Emphasis has been placed on following a participatory, community driven / farmer-led approach. This has focused on assessing community needs and skills, and identifying how sustainable rural livelihoods can be enhanced whilst also ensuring sound environmental functioning, especially of wetlands and their catchments. The SAB project activities started from an assessment of present livelihood activities and the role of wetlands within these, as well as the environmental issues faced. This was initially undertaken informally by the Wetland Officers and the WA project manager and formally through the baseline studies. The findings from this work fed into the project planning process which was undertaken early in 2007 to fine-tune the project proposal. In particular farmers wanted to see the contribution of wetland-based activities enhanced and this was viewed by the project staff as a way to increase recognition within communities of the value of these areas. This then provided the basis for working with communities to understand the environmental dynamics and actions needed to ensure the sustainability of these areas.

The work by the NGOs in the pre-existing projects operated through development clubs in each community. The membership of these clubs was around 80% of the households, with usually the richest and the poorest not joining – the former because they saw no need to do so and the latter because they are often absent, being itinerant labourers engaged in piecework. These clubs are closely linked to the Village Development Committees, which are part of the village structure and overseen by the village headman. The pre-existing projects had developed a network of community volunteers, one or two male and one female, in each village through whom activities were coordinated and continual training undertaken. These are known as Community Agricultural Workers (CAWs) in Malawi and Community Development Facilitators (CDFs) in Zambia. They are unpaid, but receive support in various ways including bicycles and training. The CAWs/CDFs are trained by the Project staff on various topics developed from the discussions with the communities, and they together undertake initial training of villagers on each topic before the CAWs/CDFs continue this work on their own in a variety of ways, both formal and informal. A key feature of the approach in both areas is the use of Lead Farmers to act as local demonstrators and as second tier to the CAWs /CDFs.

Further details of the way in which this field strategy worked out in practice are given in the results part, Section 3.

### 2.5.3 Strategy for Policy Influence and Advocacy

The approach to policy discussion has been to adopt a low key dissemination and sharing of information approach, based on the field experiences. This has been undertaken at various levels including the field, the district, the nation and internationally. The aim has been to encourage other organisations to share their experience and to build up a groundswell of information about wetland use and the need for measures and policies to ensure sustainable natural resource use regimes are achieved. The aim has been to provide information in order to help address the needs of the policy makers, and bring a wider range of stakeholders into these debates. It has also sought to raise ideas about

multiple use and the generation of the full range of ecosystem services in order to meet the needs of different groups in rural society. The aim has been to build up contacts and confidence as a basis for more direct inputs of the wetland and poverty reduction perspective. The District and National Learning Networks played an important role in this. Small round table meetings, rather than large workshops, were used for the final level discussions with policy makers, after the National Dissemination and Advocacy workshops.

#### 2.5.4 Exit Strategy and Sustainability

The work undertaken on sustainable wetland management was based on discussions held with the local communities in which their needs were identified. Hence the field activities were farmer driven. Business enterprise development was also based on economic realities, not on subsidies, so as not to encourage non-viable enterprises. In addition, local institutions, primarily for natural resource management, but also for local banking, were established by communities in response to specific needs. The project is not seeking to impose models on communities. Rather it seeks to stimulate thinking on issues of sustainability and encourage a farmer-led approach which through a range of local processes will lead to the development of experience and expertise which can contribute to sustainable wetland management. In particular, the sustainable wetland management and the FLA approaches are based on internal incentives that the increasing value of benefits from the wetlands can only be sustained if these practices are achieved.

With this approach it is envisaged that the activities supported by the project will continue after the project as long as they remain viable and meet the perceived needs of the communities. Certainly it has been HH experience that the focus in its work, upon capacity building and non-subsidised market-oriented activities, has been very effective in ensuring the sustainability of activities in other projects, well beyond project closure.

### 3. RESULTS

The WPRP Demo Projects were designed to **test the hypothesis that good wetland management would reduce poverty and conserve biodiversity**. Please bear this in mind in addressing the following:

#### 3.1 Project Successes/Achievements:

Highlight and describe **at least three** major successes of the whole project particularly in relation to:

*Results*

**Poverty reduction**

**Biodiversity conservation**

*And the intervention strategies adopted:*

**Wetland management/conservation**

**Policy change**

**Partnerships**

**Working with the private sector**

Other such as **community empowerment**, micro-credit schemes, **development of management plans** and the like.

#### 3.1.1 Major Successes / Achievements

With reference to the work of the SAB project the following are the major achievements, as viewed by the project staff and the independent final evaluations of the larger projects within which the SAB work was located.

##### **a) Wetland Conservation, Food Security and the Functional Landscape Approach (FLA):**

Utilization of wetlands for food security by communities in the six demo sites has now had integrated into it, a recognition of the need for conservation of specific parts of the wetlands, as well as sound land management in the adjoining catchments to ensure adequate water infiltration and supply. These are essential elements of a Functional Landscape Approach (FLA). The two technical guides for wetland management, one for Zambia and one for Malawi, which are designed around the FLA, include the need for conservation of areas within the wetland - head and core especially, and in the catchment – higher slopes and wetland edge. These guides, translated into the local languages, are widely distributed amongst participants through training activities, and are used for training by the CAWs / CDFs.

What has been striking in this work is the way the Functional Landscape Approach (FLA) has been quickly picked up by the communities in the demo sites and the appropriate land uses applied to enhance this landscape functioning. Such an understanding in the communities has been very encouraging and suggests that a wider application of the concept is feasible. On the other hand this may not be so surprising as the FLA concept came in part from field assessments with the communities in the Simlemba area some years earlier and so had a body of local knowledge within it.

The success of this concept meant that there was no need to apply tied credit or other financial incentives to obtain the good land management in the wetlands and catchments

as the FLA requires. The increased benefits from the wetlands following the project were deemed by the communities to be sufficient to encourage them to manage the resources in ways which ensured the sustainable provision of multiple ecosystem services. (See PBN 1)

**b) Institutional Development and byelaws.**

The project has shown the importance of local institutional development in order to manage sustainably open access resources, such as wetlands. A specific technical guide about “Institutions for Wetland Management” has been produced based on this experience and can be used for disseminating more widely an understanding of the role of local institutions for wetland management in both countries. A summary Policy Briefing Note is also available (PBN 2). The development of community based institutions has been applied in both the Zambia and Malawi field activities through the development of Village Natural Resource Management Committees (VNRMCs) as the basis for wetland and catchment management in each site. These institutions have been critical in raising community awareness about the requirements for sustainable wetland management and the need to link this with catchment management.

Of particular note has been the learning and reflection process undertaken by these community institutions in developing the bylaws for sustainable wetland management. While the VNRMCs have been supported by the project field staff, the communities have contributed a great wealth of experience to these discussions. The bylaws have subsequently been approved by the village headmen and the local chief, and also by the local government authorities.

VNRMCs originally existed for afforestation activities in Malawi but they were widened to include wetlands and the FLA work. In Zambia, they were originally established in an attempt to get coordination of land use in the wetlands, and then extended to address catchment deforestation.

**c) Poverty Reduction:**

This has been mainly been achieved in this project through improved seasonal food security from wetland cultivation, but some other wetland related activities have been begun, such as bee-keeping. Poverty reduction has been achieved in all six demo sites, as well as in neighbouring communities where the practices developed in the demo sites have been copied. The yield from wetland gardens has been improved by 30-60% as a result of improved crop husbandry, while the area under cultivation has increased by some 10-50% depending on the wetland. (The new gardens however have mostly been located in appropriate sites within the wetlands.) Wetland use has spread widely beyond these six sites according to the final evaluations of the larger project within which the SAB was situated.

Food security is achieved both through production for home use in the hungry time of the year – before the next upland harvest is ready, but also through the sale of food and generation of cash income. The latter is sometimes enough to allow farmers to diversify their farm enterprises – with chicken rearing and pig keeping activities (1 or 2 cases per site). There are benefits also for the urban areas where the produce is marketed with the

increased quantities for sale there helping to keep down food prices. In Zambia one of the urban markets is as far as the Copperbelt, some 500 km away. Hence there is both rural and urban poverty reduction.

In Malawi, eight shallow wells have been constructed in demo sites and neighbouring villages to improve water security. This element was introduced in response to farmers' requests and field assessments which showed that water availability was a major problem for communities in Simlemba.

All these increased values from the wetlands encourage people to apply the FLA ideas.

**d) Policy Change Process Development:**

The inputs into the policy development process provided by the SAB project are diverse and are best explained under separate headings.

Nationally: A new impetus to wetland policy formulation has been given in both countries through the national "Lessons learning and advocacy" workshops held in July / August 2008. An NGO group is being formed in Malawi to try to influence this process under the guidance of CISANET, a coordinating group for NGOs concerned with agricultural matters.

District Level – The relevant District Development Committees in both countries (Mpika in Zambia and Kasungu in Malawi) have now included sustainable wetland management for food security onto their agendas as a regular item. This is a result of district level workshops run by the project and the consequent stimulation of interest in this topic which has resulted amongst NGOs and government agencies at this level.

NGOs - NGOs who attended the national "Lessons learning and advocacy" workshops held in July / August 2008 have been followed up by the project through round table meetings so that concepts and techniques from the SAB project are now being incorporated by some into their own technical practices and country level policies. In particular, the SAB project's local NGO partner in Malawi now sees sustainable wetland management as a critical area of work where it has experience which can be applied more widely across its portfolio of projects.

Partners – Self Help Africa (SHA), which includes the former Harvest Help and the former Irish NGO Self Help Development International, and now works in 9 African countries, has decided that wetland management should be a cross cutting theme in its poverty reduction and food security work. Its country offices in Zambia and Malawi have also made sustainable and multiple use of wetlands a priority issue. In the latter country SHA works jointly with the Development Fund from Norway and they have taken up sustainable wetland management in their work in Malawi, and also in Ethiopia.

Policy Briefing Notes: To support the policy discussions at government, NGO and district levels, four Policy Briefing Notes, of four pages each, have been prepared and disseminated for use in policy discussions and to raise awareness of key aspects of

sustainable wetland use for poverty reduction. These are:

- 1. Valuing wetland for livelihood as a basis for sustainable management: the SAB Approach.*
- 2. Local institutions and wetland management.*
- 3. Ecological assessment of wetland health to guide sustainable use.*
- 4. Wetlands policies and policies for wetlands.*

### **3.1.2 Other Achievements**

It is hard to draw a line between “major successes” and “other achievements”. Within the latter group there are some which have considerable potential for significant impacts in the near future.

#### **a) SADC & COMESA**

Discussions with two major African regional development groupings, the Southern African Development Community (SADC) and the Common Market for Eastern and Southern Africa (COMESA) have led within them to a recognition of the need for care in wetland use for food security and the need to follow the functional landscape approach. Training was provided to 50 representatives from SADC countries in wetland management by the Advocacy Consultant in Malawi and he used the SAB training material and the demonstration sites. An invitation to present the SAB material at the Technical Advisory Meeting before the March 2008 meeting of the COMESA Ministers of Agriculture provided an opportunity to explain the FLA and Functional Communities (local institutions) approach. An invitation has subsequently been made to Wetland Action (WA) to develop an MOU with COMESA and an invitation to make a presentation on Wetlands and Food Security at the 2009 Food Security Meeting in Zambia has been given.

#### **b) Wetland Health and Sustainable Wetland Use**

These rather academic methodologies, originally developed in South Africa, have been tested in Zambia and Malawi to allow refining of the methods. A simplified version for community use is now being developed based on the key indicators which were identified in the field testing. The critical task is to make the methodology simple but robust, so that it can be used by communities in collaboration with training on the Functional Landscape Approach (see PBN 3).

This is an important initiative as it links the wetland academic research community of South Africa, which has a very good reputation, with the reality of development in other parts of the continent. This is a mutually beneficial learning process.

#### **c) MACO, Zambia**

The manager of the up-coming national micro-irrigation programme in the Ministry of Agriculture and Cooperatives in Zambia has advised SAB project staff that the functional landscape approach will be followed in the new nationwide programme which is being

developed. This is very encouraging as it shows that the SAB project has managed to get some of its key concept across to the higher levels in the government structure and to influence project design.

#### **d) Total Land Care**

The SAB experience has supported TLC in its development of a catchment and wetland approach in its work in Malawi. TLC had begun to undertake some catchment work related to Treadle pump use in the Chia Lagoon area. However, this was rather limited. With the technical guide produced from the Simlemba work, the country director for TLC has indicated that he will be strengthening the catchment work and taking more of a FLA in the work programme of the company.

#### **e) Community Credit**

A revolving fund has been established in each project area. This is the property of the community and is managed by them with guidance from the credit organisations with whom the funds have been deposited. Funds have been used for almost one year and have mostly been used to support income diversification activities.

#### **f) Learning Network**

At the District and National levels, stakeholders from the government and NGO sectors have been brought together and sharing of experience facilitated. This has had to overcome some turf battles and competitive situations.

### **3.1.3 Outstanding Areas (There is some overlap with Future Issues / Challenges (3.8))**

There are always areas of slower progress, limited success, or ones which are identified too late in the project implementation process and so have little time to be addressed effectively. Some of the most important ones in this project are explained below, with a discussion of the reasons for the limited progress and ideas about the actions which need to be taken.

#### **a) Field Areas**

##### *Practical*

VNRMCs - The capacity of the VNRMCs was questioned in the internal Mid Term Review in January 2008. While much work has been undertaken with these groups, a concern remains about their ability to control pressures for land in the wetlands, address conflicts over land use and lead communities to implement land use plans in the wetlands which ensure that natural vegetation is retained in the necessary areas identified in the FLA.

Environmental Monitoring: Linked to this is a recognition of the need for further strengthening of the VNRMCs capacity in the areas of monitoring environmental conditions – based on the Wet Health / Wet Sustainability methodology. These two studies were only completed in the last 6 months of the project and the lessons learned for developing a simplified environmental monitoring method were not applied.

Water and Livelihood Diversification: Further work should be undertaken to strengthen the value for communities from multiple use benefits from wetlands. Key amongst these additional benefits are domestic water, bee keeping and the harvesting of relish plants. These initiatives are important for helping reinforce the change from single use towards a more sustainable multiple use approach of these areas, which the MA recognises as essential for sustainability. It will also support a reduction in wetland drainage and encourage use and livelihood regimes which are sensitive to the environmental conditions.

Stream Linkages and Scale of the FLA: The FLA approach is most effective when a whole stream basin is brought under this land management approach. At present because single villages have been chosen for the pilot work this has not been achieved. Hence a major scaling up of the demonstration work is needed, especially in the drier environment in Malawi, so that the full and cumulative impact of this work can be seen. In particular the control of headwater deforestation is urgently needed in some sites by including upstream villages in the FLA work. Questions remain as to how to link upstream land users, with no wetland interests, to the benefits created by the FLA.

Gender and Equity: It is interesting that some of the most successful wetland farmers were independent women with children, who had been divorced or widowed. While these cases were documented, it would be beneficial to undertake a more detailed analysis of these cases to see what factors may explain their success, so that they can be replicated in future work.

#### *Theory / Conceptual*

Relationship of poverty and wetlands: The project has not fully explored the relationship between poverty and wetlands. There is a general view that the poorest whose upland crops fail are the ones who move into the wetlands to achieve food security. In practice, if people are short of food they have to find work to obtain money so they can purchase food immediately. Further, if people are old and not fit they can find the hard labour of clearing swampy wetland sites too much. Those who make the most impact in the wetlands are the young and fit and those with resources to hire labour for the heavy tasks which can be faced. However, in the communities where this project has been working the average annual income of the middle income groups is probably not much more than a few dollars a day per head, so everyone is poor by international criteria. Further exploration of the relationship between poverty and wetland use is needed to fully understand the diversity of situations encountered and to identify how to facilitate wetland use by the poorest.

Hydrology and Catchment Vegetation: The reported experience with deforestation leading to less dry season supply of water to wetlands is counter to some, but by no means all, recent literature on wetland-catchment hydrological relations. Much of the literature now suggest that trees are a major source of water loss in catchments and can lower the ground water table in the catchment and so also the groundwater flow into a wetland. Specific studies are needed to confirm the impact of different upslope land uses on wetland ground water supply to confirm or adjust the technical advice from the SAB

Project.

### **b) Policy Areas**

COMESA: The area of greatest potential loss if the project stops at this stage will be the ability to influence food security policies in the 19 countries which form COMESA. A large sum from the EU's CAP has been allocated to COMESA for food security and it will be directed in part at wetland development for food production because of the existing country food security strategies, which COMESA has helped develop. Getting appropriate advice, based on the SAB experience, into this process through the upcoming food security meeting is essential.

CISANET and the NGO Grouping in Malawi: There is unfinished business in terms of the formalisation of the NGO group in Malawi which wanted to resurrect the national wetland process in that country and put an NGO perspective into this. This group was never formally set up as the follow up to the National Information and Advocacy workshop in July 2008 did not occur due to the absence of the project's Advocacy Officer and staff changes in CISANET during the last few months. This NGO grouping is seen as potentially successful ginger group to revive the Malawian Wetland Policy Process.

ZAWA and the Zambian Policy Process: Efforts over more than 12 months to engage with ZAWA – the body responsible for the Zambian Wetland Policy, failed. This is similar to the experience WWF had had in this area in the previous year. ZAWA refuses to call a meeting of its advisory panel on which the SAB Project is represented. Supporting other government and NGO stakeholders, who are part of the SAB Learning Network to pressure ZAWA into action is one possible way forward.

District Level Learning Networks: These incipient groups need support for field exchanges to confirm to their members the value of exchanging experience on wetland management issues, build confidence and to ensure that sustainable wetland management remains on the District Development Committees' agendas.

## **3.2 Quality & Quantity of achievements**

Discuss briefly about the **quality and quantity** of achievements.

The attached Revised Log Framework – Achievements and Impacts (Annex 3) provides a summary of the actual achievements by the SAB Project in column 4. These are detailed below.

A key point to note first is that compared to the contract the number of sites were increased by 50%, from four to six, in order to increase the range of experience obtained from the demonstration work.

### **a) Develop, Test & Disseminate Sustainable Wetland Management Strategies**

Result 1.1 (assessments): All the planned survey and mapping work was completed and the reports and outputs submitted to WI. These were site maps and biodiversity

assessments. In addition, a mid-term review was undertaken and reported on and two wetland health assessments were undertaken. All of these were not in the original plan and a specific Policy Briefing Note has been prepared on wetland health assessments (PBN 3).

Community members, especially the CAWs, CDFs and VNRMC members were involved in the survey and this has helped improve their monitoring capacity, thereby providing the basis for long term management and sustainability. This capacity varies across the sites and depends very much on the quality of the CAWs / CDFs.

Result 1.2 (technical measures applied): shows that the FLA approach is being applied following successful training and the development of extension materials for the FLA approach in each area – see the Technical Guides. The proportion of the wetlands and catchment where the FLA is fully applied varies from site to site depending on the effectiveness of the CAWs/CDFs and the VNRMCs. The figure varies from 25% to 75% of the area – wetlands and catchments combined.

Result 1.3 (institutions established): This has been fully achieved with VNRMCs operating in all six sites with formally approved bylaws and most heads of households having been trained in the role and operation of the VNRMC and the application of the bylaws.

#### **b) Influence Policy re Wetlands and Poverty**

Result 2.1 (in-country recognition of wetland – poverty linkages): This has involved a series of meetings at national and district level, formal and informal and the sharing of material for the project with more than 80 relevant organisations using the training DVD (25 minutes), the PBNs, Technical Guides, Workshop Reports and other documents, and more widely through radio broadcasts.

Result 2.2 (regional and international recognition): There was achievement beyond that proposed in the project in this result area, with substantial interactions and on-going dialogues with five international organisations – FAO, IWMI, Ramsar, SADC and COMESA.

Result 2.3 (dissemination): This goal was achieved with considerable technical guidance material (3), policy notes (4) and experience sharing documents from workshops (5), case studies of poverty reduction through sustainable wetland use (10), as well as a training DVD, radio broadcasts and website with these documents.

In terms of quality, the Final Evaluation reports for the HH and partners projects to which the SAB work was attached, there is common agreement that the SAB element of the overall project work was one of the most successful parts, or the most successful (Mpika).

The success of the SAB work is seen in the enthusiasm of communities for this work, their active participation, and their regular engagement with field staff asking for advice

and guidance from them with respect to the wetland management.

A process approach was used throughout to ensure high levels of community engagement, so that innovations came from the communities themselves and were not imposed by the local NGO or this project. A very good rapport was established by the Wetland Officers in both areas with the communities and the CDFs / CAWs. A very clear understanding of the functional landscape approach was achieved and the fairly complete application of the approach (up to 75% of the land) in some sites.

The establishment and operation of VNRMCs at the six sites is generally successful, although these organisations will have challenges to face as pressures on wetland sites increase.

The scale of the wetland harvests was good and clearly affected food security and poverty. In Mpika the harvests attracted local political attention from the District Commissioner, as well as national attention with a radio programme made in early 2008.

### **3.3 Impact (& Sustainability)**

Summarise what **impact your project had in the area of poverty reduction, sustainable use of wetlands and policy influencing** at the local, regional and global levels. Assess whether your demo project meets the expected results against the action plan, and **whether planned impact was achieved**. Think of making a matrix like the following based on the revised version of your logframe.

#### **3.3.1 Impacts**

The amended Logical Framework (Annex 3) provides a record in column 5 of the impacts against the activities planned under the two project purposes. This shows the following impacts.

##### **a) Develop, Test & Disseminate Sustainable Wetland Management Strategies**

Result 1.1 (assessments completed): Through this work capacity was developed in the communities to be able to undertake some environmental monitoring in the wetlands and assessment of the socio-economic impacts to help ensure the sustainable and equitable use of these areas.

Result 1.2 (technical measures applied): The functional landscape approach and related technical measures are being applied in the wetlands and catchments. There is a sound understanding of the linkages between the wetlands and catchments in the VNRMCs and amongst the CAWs and CDFs as well as many farmers. This provides the supporting motivation for them to apply the FLA methods. Between 25% and 75% of the land area of the demo communities is being managed following FLA methods. Impacts in terms of improved water availability in the wetlands are reported from the majority of the sites.

Result 1.3 (institutions established): VNRMCs are operating and enforcing bylaws. They are strongly supported by the Headmen and area Chiefs and have become respected

institutions.

### **b) Influence Policy re Wetlands and Poverty**

Result 2.1 (in-country recognition of wetland – poverty linkages) : Tangible impacts are seen in the addition of sustainable wetland management onto the agenda of the District Development Committees and the use of the FLA concept in the Zambian Small-scale Irrigation Programme, and in projects and policies of local and international NGOs.

Result 2.2 (regional and international recognition): Awareness has been created about the potential for sustainable wetland management amongst five regional and international organizations – COMESA, SADC, IWMI, FAO and Ramsar. The FLA and sustainable wetland management for multiple use is seen in recent documents produced by FAO, Ramsar, and COMESA, and in a new international Wetland Handbook (Maltby and Baker, 2009).

Result 2.3 (dissemination): Dissemination of a large number of documents and electronic material has taken place, with radio broadcasts and dvd methods also use. The impacts of the dissemination process is difficult to assess but requests for further material and permission to disseminate are a positive indication, as are the achievements in the first set of project results 1.2 and 1.3.

#### **3.3.2 Demonstration value:**

The six sites are actively being used for local demonstration within the larger programmes run by the local NGO partners (MALEZA and NLWCCDP), within which they are situated. Farmers in other project sites are seeing what is happening and asking if the wetland work can be extended to them.

The partner in Malawi (MALEZA) is planning exchanges for farmers for its other projects in the centre of the country to see the wetland work, while in Zambia the Wetland Officer there has provided consultancy services to another NGO in the northern part of Zambia.

Other NGOs and government agencies and projects working in the two field districts are making visits to learn lessons from the demo field sites in response to presentations they have heard at District workshops or at the District Development Committee, or as a result of obtaining extension materials from project.

The sites and the published materials – such as technical guides, have been used for training of Malawi university students (60), and for 25 representatives from eight SADC countries involved in the Wetlands Training courses organized by the Southern African Development Community.

#### **3.3.3 Sustainability**

The sustainability of innovations introduced in a project lasting a little over two years would generally not be expected to be very high. This would be the conclusion based on

the limited time for new practices to be tested, adjusted and ingrained into the way of life. The same could be said about the SAB project. However, a conservative assessment is that the prospects are much better than this for several reasons. First the changes in wetland and catchment management have been developed in a participatory manner. Second the level of understanding of the FLA is good in the communities because it is based in part on analyses in which they took part. Third, the innovations are economically attractive, and do not involve subsidised or other incentives. Fourth, there are community institutions, VNRMCs and Credit Committees, in which the innovations are based, which will help sustain them.

### **3.4 Problems and Constraints (not outstanding issues or future challenges)**

Highlight any failures, problems or constraints that have affected the project achievements, and describe the measures taken to respond to them.

#### **a) Advocacy Officers**

The most important problem faced by the project was the appointment and operation of the Advocacy Officers. In the sub-contract with Harvest Help secondment of HH staff specialised in this area was envisaged. However appointment of staff to do this was delayed, by 6 and 9 months respectively in the two countries, and these staff subsequently left the organisation. Local consultants were then used to deliver the national workshops, but their follow up to this was limited for different reasons.

#### **b) Late Release of Funds to the Field**

Late release of credit funds in Zambia and loss of money transferred to Malawi – found after one month, both in late 2007 / early 2008 caused some field activities to miss their seasonal window. However, alternative livelihood activities and field events were supported once the funds arrived.

#### **c) Farmer to Farmer Exchange Visits**

Operational problems were faced for farmer exchanges due to transport problems. This was overcome at Mpika with rehabilitation of a vehicle, but not in Simlemba.

#### **d) Business Development**

Work in this area was disrupted in different ways due to the loss of HH or field NGO staff specialised in this area.

#### **e) Village Politics**

Conflicts within the community at Malawila (one of the Malawi sites) and with upstream communities meant that progress was slow and coordination with the headwater area was not possible.

#### **f) Exchange visit to Kenya**

While sharing between Zambia and Malawi, through the exchange of Wetland Officers, took place as planned, the important exchange to Kenya to explore common experience did not occur due to problems in the Kenya project. This was disappointing given the

common experience in pressures upon wetlands from vegetable growing, the development of local wetland institutions and the application bylaws.

**g) DPTG Visits**

Earlier visits by DPTG members could have resulted in increased gains for the projects as they proved very useful when achieved.

**3.5 Unexpected effects and Additional Achievements**

Describe any unexpected (positive or negative) consequences that have occurred as a result of the project and/or any new opportunities as a result of it.

**a) GAWI contribution**

The SAB experience was used widely in the GAWI work for Ramsar and FAO. Three of the 90 case studies came from this project, and the other demo projects were used as well, while concepts and ideas from the SAB work, such as FLA, were fed in at various places. (See FAO Water Report 33).

**b) Demo Project Workshop in Malawi**

This demo project workshop, and especially the comments during the field visit during this workshop, were very useful in stimulating new perspectives on the work in Simlemba. Of particular note was the wetland health issue and recognition of the extent of poverty.

**c) Wetland Health**

The concept of “wetland health” in response to the comments raised at the Malawi Demo Projects workshop was followed up through an assessment made by a South African team of scientists. A second assessment in Mpika was also carried out. One was undertaken within the original budget by reallocation of funds, and one (Mpika) with additional funds from WPRP.

**d) Water Supply**

The issue of water shortage and the need to supply water from shallow wells within the wetland had not been included in the original proposal due to a preference by one of the partners to avoid this issue for technical reasons. The severity of the situation led WA to raise funds to add this to the work as another way of increasing the value of wetlands for communities. This was extremely popular with the communities served in this way.

**e) Two Country Experience**

While it may have appeared that the two country nature of this project was rather “contrived”, it actually proved extremely useful and stimulating – although it increased the management load for WA very considerably. The marketing expertise in Mpika and the natural resource management expertise in Simlemba were complimentary, and the two staff got on well in their exchange visits.

### **3.6 Learning and Sharing (too much under one heading and too complex)**

Describe **key lessons that are important to your project** or that may be of use to others outside this demo project. Lessons may relate to: successes and failures, strategies adopted, partnership approach, challenges you or your team/partners faced, surprise results, management process, or technical/knowledge understanding. Try to **explain why each lesson is important and with who would you ideally share the lesson.**

#### 3.6.1 Key Lessons: Why important and who to share with?

##### **a) The Need for a Functional Landscape Approach**

The functional landscape approach (FLA) is important for a thorough understanding of how seasonal wetlands operate, especially ones with cultivation in their catchments. It is a useful concept to help rural communities understand what they can do and what they should avoid in order to sustain their wetlands. This concept is useful for raising awareness with communities and as a basis for project / intervention design in government and NGO agencies. A key aspect is the multiple land use in the wetlands which it encourages. These ideas have proved easy for communities to understand.

They should also be shared with other NGOs and government / inter-governmental agencies working in rural areas where seasonal wetlands may be encountered, and with colleges where extension staff are trained. It is particularly valuable for debates with narrow conservationist organisations which need to learn how to make contributions to wetland situations outside protected areas and support biodiversity conservation within multiple use wetlands with agricultural present.

##### **b) The Importance of Adding Value in Wetlands in order to Manage them Sustainably.**

In contrast to some perspectives which see wetlands as best “left alone”, a key concept in this project has been to add value to wetlands so that they are more highly valued and communities more inclined to care for them. With careful choice of activities and land use patterns, the benefits which depend on wetland (and catchment) functioning, such as domestic water, craft materials and dry season cultivation, can be increased. In this way, it is possible to work with communities so that they gain increased benefits from their wetlands, but have to manage them carefully so that the wetland functioning which provides these benefits is sustained. (This links with some of the ideas about wetlands explored in the FAO/Ramsar GAWI document – FAO Water Resources Report 33.)

This conceptualisation of wetlands in a positive way, contributing to livelihoods, is essential if a balance is to be struck and maintained between livelihood and environmental benefits. This will help sustain the full range of ecosystem services.

As with the FLA it should also be shared with other NGOs and government / inter-governmental agencies working in rural areas where seasonal wetlands may be encountered, and with colleges where extension staff are trained.

Both of these lessons are covered in the Policy Briefing Note 1 prepared by the SAB

project.

### **c) Role of Community-Based Institutions**

Because wetlands are shared resources and linked to their surrounding catchments the sustainable management of these areas need to be managed by community-based institutions. Such institutions provide a grounding in the community socio-economic and political reality for the FLA measures necessary to sustain the ecosystem services from these areas.

As with the FLA it should also be shared with other NGOs and government / inter-governmental agencies working in rural areas where seasonal wetlands may be encountered, and with colleges where extension staff are trained. For further details see PBN 2

### **d) Wetland Policy Making is Political and Complex**

The experience from this project of becoming involved in wetland policy making shows that this is a heavily political process and one of considerable complexity with many vested interests encountered. The success has mostly been on a one to one basis at the national level or at the district level where competition is less intense. The lesson is to start with simple things before trying to progress to national wetland policy making. For further details see PBN 4.

This is especially relevant to any external or internal agency wishing to involve in policy making.

## **3.6.2 Demonstration Values**

Explain the **unique demonstrative value of your demo project in reducing poverty in wetland areas** and address **how the project helped mainstream wetland management in poverty reduction policies and processes (and at which level)**. How your project **enhanced regional networks that strengthen other actors and NGOs** in your region? How did your project **contributed towards an enhanced awareness of the direct links between wetland management and poverty reduction?**

### **a) Poverty reduction in wetlands**

The role of dry season vegetables from seasonal wetlands in both Zambia and Malawi, and of wet season farming in the Mpika *dambos*, has shown very clearly that wetlands have a critical role to play in achieving food security.

### **b) Main-streaming wetlands in poverty reduction**

Sustainable wetland use for food security has been mainstreamed into the work of District Development Committees and their planning in both districts where the SAB project operated. This was the area of greatest success because higher level wetland policy processes were stalled.

### **c) Enhanced Networks and Strengthening Actors**

The SAB project has shown how through its careful planning, based on analysis of the

situation in the target countries, considerable interest can be generated in sharing information and networking in different ways by NGOs and government agencies, and some private sector organisations and international bodies. This has helped inform actors about the experience of others and helped make them aware of limitations, risks and opportunities. It has also helped inform the content of international meetings, such as that to be held by COMESA on food security.

#### **d) Enhanced Awareness of Wetland and Poverty Reduction Linkage**

The experience in the SAB project confirms that wetlands can contribute to poverty reduction. It also shows how the development of poverty reducing activities in wetlands can help communities care better for their wetlands and try to use them sustainably.

However, the work does raise questions about how access to wetlands is restricted for the poorest who don't have the resources to use them or cannot wait until the first harvest and so must leave in search of piece work.

### 3.6.3 Address learning and sharing in:

- 1 **Working in partnerships:** what did you learn from the partnership approach or from working with partners during project implementation? Provide examples or evidence as appropriate.

The partnership with Harvest Help operated smoothly for the most part. Respect was given for each others areas of responsibility and communications maintained to ensure that each partner was up to date. It was clear that the local NGO partners (MALEZA and NLWCCDP) had a very good grasp of the field conditions and would just keep on with the work programme as best they could, as long as funding allowed. They needed limited supervision after the initial trainings, and more extensive support on reporting. Technical support visits involved support for documentation as well as guidance on assessment of wetland and catchment environmental and socio-economic situations. More technical support was needed for the advocacy officers, with delays and changes in staff proving disruptive.

The partnerships developed by the project extended to the stakeholders, government, NGO and private sector, involved in the district and national learning networks. These provided valuable opportunities for sharing experiences and so helped in the development of the extension material.

- 2 **Working with the private sector (Total Land Care and IDE)**

The experience from the demo project, especially the FLA approach and the stress on good catchment management has been shared with these private sector organisations who are seeking to sell treadle pumps. It remains to be seen whether they are able to take these ideas on board and look beyond a narrow and short term commercial perspective. Further follow up with them is essential, including field visits and support in training their extension staff.

3 ***How did the demo project fit and work with the broader WPRP?***

This demo project seemed to be quite separate from the wider WPRP. On several occasions requests were made for staff from Zambia and Malawi to be included in the Africa Training Programmes but the communications failed to get these SAB project staff onto the courses.

A similar problem affected the policy work and the failure to link with the WPRP policy activity despite meetings in Demo workshops or Wageningen and promises for material to be shared by WPRP core staff.

Overall these failures to link up, left the project feeling rather isolated from the other WPRP activities. A change occurred in September 2008 when the project was asked to engage in the Bio Rights discussion, although this was mostly with the other demo projects.

4 ***Adaptive Management.*** Based on your and your partner's analysis of the project's achievements and implementation, **which project objectives and activities changed** in the course of the implementation and explain briefly why.

There was a review of the log frame half way through this project in the light of team discussions after the Malawi workshop. The OVIs in the Log Frame were adjusted somewhat, but the activities were not amended.

Where adjustments were made was in the way the advocacy work was done – by consultants in the end, and the addition of domestic water from shallow wells to the work in Malawi as a result of feedback from communities.

### **3.7 Problems, constraints and solutions**

Provide a **self-evaluation of the main problems encountered during the whole project implementation period and how they were solved**. It is important when reporting on successes, to also state whether there were failures or challenges and what has been learned from the problems encountered. Please give **some examples as appropriate**.

Most of the problems outlined earlier in this report were solved as a result of the discussions amongst the partners in the project. The solutions are focused upon here.

#### **a) Advocacy Officers**

Local consultants were employed when the original HH staff could no longer undertake these assigned tasks.

#### **b) Late Release of Funds to the Field**

Late release of funds was solved after some four months. Field activities were adjusted, with different field days held and different livelihood activities supported.

#### **c) Farmer to Farmer Exchange Visits**

Funds were reallocated within the Mpika project for rehabilitation of a vehicle. Local

transport was used in Simlemba.

**d) Business Development**

Business experience was obtained from within the SAB staff, notably Jonas Sampa.

**e) Village Politics**

Conflicts within the community at Malawila were resolved through a process of support to the community and advice on conflict resolution so they could solve these problems themselves.

**f) Dissemination**

There has been a lot of material produced in the last six months of the project. Electronic dissemination is continuing with Wetland Action resources.

**3.8 Future Issues/ Challenges. (see also Outstanding Issues)**

Highlight the **3 most significant issues/challenges ahead after the project ended in relation to poverty reduction, wetlands management or conservation and policy change**. Please discuss issues of **sustainability and replication**.

Many of the points to be raised here have been covered in the earlier section on “Outstanding Issues” as the focus on this project and its work is to generate examples of good practice which can be sustained and disseminate laterally (farmer to farmer / community to community) with limited amounts of publicity or extension work. From that more extensive and detailed listing the following summary points are the most important:

**i) Field Level**

- a) Scaling Up the Functional Landscape Approach: so that whole valleys and catchments are all managed with the same principles of this project, rather than just isolated areas belonging individual villages,
- b) Increasing and diversifying wetland based incomes: through fish ponds, bee keeping, crafts and improved market linkages, as well as shallow wells, so as to enhance the value gained from wetlands.
- c) Managing land use pressures: as vegetable production and other enterprises based on wetlands grow so as to maintain a balance of land uses and to avoid the collapse of wetland functioning and production, and
- d) Building sustainable institutions: such as Village Natural Resource Management Committees, to enhance community understanding of the FLA and wetland functioning, managing land use pressures, coordination of land use and undertaking environmental monitoring.

**ii) Policy Areas**

- a) COMESA: Helping COMESA to disseminate amongst its member SAB lessons

relevant to their food security work in wetlands.

- b) CISANET and ZAWA: Working with these organisations using the SAB experience and contacts to date to revive the wetland policy processes.
- c) District Level Learning Networks: Reinforcing the District Development Committees understanding of the wetlands and poverty reduction work to ensure this is thoroughly main-streamed in their work and that of the NGO and government agencies in the districts.
- d) Dissemination to the Private Sector and Training Institutions: Building improved awareness of the FLA and SAB concepts in extension training for both public and private sector organisations.

### **3.9 Fund Raising**

Discuss the strategy and success the demo project had in undertaking **targeted fund-raising activities** that added value to the financial contribution of the WPRP.

The strategy for fund raising mainly involved the linking of the SAB work to on-going projects of Harvest Help where funds had already been raised for general field activities. As a result the matching funds from HH were used to develop the field activities in the SAB project beyond what would have been possible with the WI funds alone.

Wetland Action provided funds for the wells from a donation it received to support this work.

## **4. INPUTS AND EXPENDITURE**

### **Budget expenditure**

Present an overview of budget expenditure in main budget categories presented in a table and/or pie-chart; explain major deviations; co-financing and other (non-budgeted) inputs.

Please see the attached file Annex 4. This shows that in relation to agreed budget revision and total proposed expenditure of E463,700 there was an underspend of E12,368, some 2.7%. This was mainly in the area of unspent field training funds with the local NGO partners and Harvest Help. This was not identified until after the end of the project period so alternative activities could not be funded.

It is hard to identify a particularly “good value for money” item in the budget. The video might be seen as such, but it could only be produced because of the efforts in the field work and the development of the technical guides. The same applies to the Policy Briefing Notes which again reflect learning over 30 months.

## 5. DOCUMENTATION

### Outputs and Documentation

Include a comprehensive list of all **technical documents, photographs, web based products, videos, posters, CDs, database** files etc produced during the project.

The materials produced have each served a specific purpose and are justified on those grounds. It is hard to assess which is most valuable as they all have specific values and are essential. The first four groups and the sixth are most important for outreach.

- a) **Technical Guides** – provide extension training material for use within the project and for sharing as advice to other organizations with interests in the sustainable management of wetlands and the development of local institutions to support this.
- b) **Policy Briefing Notes** – provide summaries of key experiences from the project which have general implications for advocacy, policy discussions and also for project design.
- c) **Workshop Report** – provide records on the formal meetings of Learning Networks and are documents to feed ideas into further advocacy and dissemination work by the Networks.
- d) **Other Training Materials** – Training materials which do not fit elsewhere, but are very valuable, a 25 minute DVD of project work & Gender Training documents
- e) **Wetland Health and Biodiversity Reports** – Assessment of wetland health and biodiversity status – vital for measuring the impact of wetland livelihood activities, especially cultivation.
- f) **Publicity Materials** – for sharing information about the project
- g) **Monitoring and Evaluation Documents** – As required in the contract and normal for project operations.
- h) **Project Management Documents** – records of project fine tuning activities.

### SAB Materials Produced

#### a) **Technical Guides**

Sustainable dambo cultivation. (July, 2008) Jonas Sampa

Integrated wetland and catchment management in Simlemba: guidelines for improving the agricultural production & environmental functioning of seasonal wetlands in Malawi. (July, 2008) Patrick Thawe.

Wetlands institutions and the sustainable management of natural resources in Zambia and Malawi. (October, 2008) Jonas Sampa, Patrick Thawe, Dalitso Kufeka and Alan Dixon.

Demo Projects Malawi Workshop, Field Trip Guide. (October, 2007) Patrick Thawe, Dalitso Kafuwa, Robert White & Adrian Wood.

Business Training Report. (September, 2007) Jonas Sampa.

Ubulimi bwakutwalilila munika. (October, 2008) Bupe Jonas Sampa (Translation of the Sustainable Dambo Cultivation).

Njira ya chilinganizo cha madambo m`dera la mfumu Simlemba kudzera m`bungwe la MALEZA. (November, 2008) Patrick Thawe. (Translation of the Simlemba Technical Guide)

***b) Policy Briefing Notes***

Policy Briefing Note 1 – Valuing wetlands for livelihoods as the basis for sustainable management – the SAB Approach. (December 2008) Adrian Wood & Alan Dixon

Policy Briefing Note 2 – Local institutions and wetland management. (December, 2008) Alan Dixon

Policy Briefing Note 3: Wetland Health Assessment Methods. (December, 2008) Donovan Kotze & Adrian Wood

Policy Briefing Note 4: Policy Dialogues and Stakeholders. (December 2008) Adrian Wood

***c) Workshop Reports***

Mpika District Workshop on Sustainable Wetland Management for Livelihoods Benefits and Environmental Functioning. (June, 2007) Jonas Sampa and Adrian Wood.

Proceedings of a Lessons Learning and Advocacy Workshop, Lusaka, 5<sup>th</sup> August 2008. (November, 2008) Mukelabai Ndiyoi and Adrian Wood.

Proceedings of a Lessons Learning and Advocacy Workshop – Malawi, 24<sup>th</sup> July 2008. (November, 2008) Daimon Kambewa and Adrian Wood

Kasungu District Workshop on Sustainable Wetland Management for Livelihoods Benefits and Environmental Functioning. (December 2008) Patrick Thawe, Sekani Kateta and Adrian Wood.

***d) Other Training Documents and Materials***

Training DVD – Striking a Balance (27 minutes)

Guide to Gender Analysis in Wetlands for Field Staff – Violet Matiru.

***e) Wetland Health, Biodiversity Reports & Bio-rights Discussions***

A baseline description of the ecological state and sustainability of use of three selected dambos in the Kasungu District, Malawi. (August 2008) Donovan C Kotze, Damian J Walters and Innocent Zibonele Nxele.

Biorights – SAB Views (August 2008) Mark Ireland and Adrian Wood.

Biorights workshop report for SAB (October 2008) Chibanbje Cheepa.

Biodiversity Assessment for three Mpika Wetlands of the SAB Project (October 2008)

Moses Nyirenda.

An assessment of the ecological sustainability of the use of three dambos in the Mpika District, Zambia. (December 2008) Donovan Kotze

***f) Publicity Materials***

Project Fliers for Zambia and Malawi

“Functional landscape and functional communities for sustainable wetland use”. Presentations by D. Kambewa and A. Wood to COMESA Technical Advisory Meeting to the Agricultural Ministers Meeting, March 2008.

“People: lifelines for wetlands on the edge?” Paper presented at Oxford University Symposium of Sustaining Wetland Benefits in Southern Africa, November 2008. Authored by Adrian Wood, University of Huddersfield & Alan Dixon, University of Worcester

Ten case studies of successful poverty reduction in wetland provided in the four monthly reports to WI.

***g) Monitoring and Evaluation Documents***

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***h) Project Management Documents***

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## **ANNEX 1 : SAB Project Development – Ideas and Issues from Wetland Action projects**

The following are summarised findings from the Wetland Action work between 2000 and 2005 which helped inform the development of this project.

### **a. Critical Role of Wetlands in Food Security, Health, Relief and Development**

Almost all of this work confirmed the critical role which wetlands of different types play in rural livelihoods across a range of African countries and rural economies. In particular, wetlands are essential for survival and recovery from droughts, and are widely used by NGOs to help communities re-established food security, although this is often pursued without clear environmental considerations. However, the poorest usually have to search for piece work in such difficult times so it is not always the poorest who are found using the wetlands, with or without external support. Small-scale cultivation of vegetables in wetland is often undertaken with NGO support by people suffering from chronic illnesses, such as HIV/AIDS, and such gardening is also encouraged amongst children and youths in households to help improve nutrition and resistance to disease. Free market dynamics operating in wetland situations lead in some cases to the better-off households appropriating or privatizing formerly open access /communal wetland resources and developing them as irrigated farms in response to market opportunities (Woodhouse and Hulme, 2000).

### **b. Growing Pressures on Wetlands**

There is widespread evidence of growing pressures on wetlands for small-scale agriculture. This comes from various angles including shortages of the traditional upland farmland caused jointly by population growth and land degradation, the need for food production in the dry season to supplement poor upland harvests (as a result of drought or land degradation), the need for cash income through the year due to increased cash needs (often due to structural adjustment), and the search for fertile land in the face of rising fertiliser prices and declining soil fertility in the uplands. As a result of these pressures seasonal wetlands in many countries in Africa have become a new “agricultural frontier”, especially now most upland areas have been cleared of forest or woodland and put under cultivation.

There are other specific pressures on wetlands as a result of both coping and adaptive strategies. These include the way natural products such as grass, reeds and orchids (such as *Chikanda*) are increasingly demanded by urban dwellers and even better off rural households, while the collection of natural plants for use as relish and medicines has also increased with commercialisation (Wiersum and Shackleton, draft).

### **c. Degradation in Wetlands and Declining Benefits**

The work by Wetland Action, as well as that by other agencies concerned with wetlands, such as the Millennium Ecosystem Assessment (MA, 2005), IWMI (CA, 2007) and FAO (2006), had shown that by 2006 there was attrition of the wetland resource base as a result of degradation. In many cases valuable multiple use wetlands have been turned into rough grazing land by poor agricultural and resource management practices (Wood,

2005a and 2005b, Bakema et al., 2009). In particular, the exploration of this resource loss identified catchment degradation as a key element, as this leads to increased runoff into stream valleys and *dambos* where, with soil compaction and the removal of natural vegetation, there is accelerated erosion and consequent development of gullies. This lowers the wetland water table and so impacts on the natural vegetation as well as on access to water for domestic and irrigation purposes. The overall changes in hydrology which result typically involve higher, but shorter, flood periods and longer dry periods in stream valleys, while in *dambos* there is a drying out around the upland edges and a shift of gardens towards the centre of these areas, and towards water courses where they exist. Other results of hydrological change include the reduced availability of fish, reeds and some grasses, although excess harvesting in the absence of local by-laws is also blamed for these latter developments.

#### **d. Lack of Technical Advice**

In general WA's work showed there to be a lack of specific advice for farmers on how to manage wetlands. For the most part extension services focused on the uplands and did not have specific advice for wetland areas. This had even led to some extension staff advising farmers to "do the same in the wetlands as in the uplands", with disastrous results. In contrast, many farmers themselves had been using wetlands to varying degrees for different livelihood activities and had developed some knowledge about these areas and the key considerations affecting the successful use of them. However, in most cases this was with respect to periodic and low intensity multiple / diverse uses, rather than regular dry season cultivation of increasing intensity. The lack of guidance to cope with this situation of intensifying use was, and remains, one of the key reasons for the growing degradation of wetlands.

While these problems were identified, it was also noted that some new ideas were beginning to be developed on wetland management. One of the CGIAR centres, IWMI (the International Water Management Institute), had developed a trade-off concept which sees wetland cultivation as acceptable up to the point where it starts to have negative effects on wetland hydrology (McCartney et al 2005). Wetland Action and the Uganda Wetlands Programme of IUCN had also explored the concept of mixed land use, including the retention of vegetation in wetlands in Ethiopia, Malawi and Uganda, in an effort to maintain the full range of ecosystem services, especially hydrological functioning and water retention, and in so doing create community managed biodiversity areas within the wetlands (Wood, 2005b; Bakema et al., 2009).

#### **e. Absence of Policy Guidance**

While such technical ideas were beginning to develop to fill the advice vacuum, the wetland policy area was seen to be progressing very slowly in several countries. In part this was because of the dominance of the conservation sector and the failure to recognise the challenge of community pressures on wetlands for livelihood benefits / provisioning services. It was clear that skills were needed at the government policy dialogue level to help improve recognition of the need to achieve a compromise between the goals of the different stakeholders and interest groups. At this level there was seen to be an absence of meaningful dialogue between the conservationists, who prefer to see all wetlands

remaining in their natural state, and the economists / development specialists, who see wetlands as natural resources which need to be completely transformed for single use, as intensive farm land. In reality, policy must support a range of wetland management regimes, with some wetlands protected for biodiversity reasons and to help maintain hydrological functioning, while other wetlands may be intensively developed. However, for the bulk of small and seasonal wetlands under community management, policy needs to be developed to support the achievement of multiple use regimes which are ecologically sound, socially acceptable and economically viable, and so strike a balance and ensure sustainability (Howard et al., in press).

#### **f. Institutional Development Needs**

Experience had also shown that for sustainable use of seasonal wetlands to be effective there needed to be local capacity and institutional development (Dixon, 2005). This could build on traditional institutions which have often had responsibilities for the management of open access natural resources and resolving conflicts therein. The need for experience and lessons in building such village level institutions was clear. However, it was also recognised that these needed to go beyond the wetlands alone, so as to address the totality of the natural resources in the catchment as they combine to affect wetlands and their functioning.

#### **g. Government and Donors Pressures**

The value of seasonal wetlands was also seen to have increased in recent years in both government and NGO circles. This had been driven in part by drought and immediate food insecurity and in part by longer term views about the need to meet the Millennium Development Goals. In particular, earlier work had noted that both the Zambian and Malawian governments had identified the role of seasonal wetlands as a source of food security in their PRSPs and subsequent development plans (and Malawi had also identified the need to drain swamps) (GRZ, 2003; MG, 2003). Along with many other countries, these two had prepared (published or internal) irrigation policies which included reference to the use of wetlands by small-scale farmers, with or without the use of treadle pumps (TPs) (Bunderson, 2002).

#### **h. Private Sector Pressure**

Pressures on wetlands were identified as also coming from the private sector. In particular urban growth, local markets and some dietary changes have led to increased demand for vegetables, which in turn has created opportunities for those with access to wetlands or irrigation – vegetables mostly being a dry season crop in Africa. A further, related pressure was seen to be from the treadle pump which had been introduced into Southern Africa since the early part of the present decade. As well as being supported by donors, private companies were also a key driving force in the dissemination of this technology which can drastically alter the water extraction from wetlands.

#### **i. Lack of Perspective – Temporal and Spatial / Landscape**

Perhaps a more critical concern identified in this preceding work was the absence of the sustainable use perspective in measures to address poverty and food insecurity through wetland use. Almost without exception, the focus of the agencies – government, NGO or

the private companies, was on the production and productivity issues in wetlands in the short-term and not on sustaining of the use of these resources. Few paid attention to the specific conditions and fragility of wetlands, and there was a dearth of specific wetland management guidance in order to use these areas sustainably. Matching this lack of a longitudinal time perspective, was the absence of a wider spatial perspective – a failure to see wetlands as an element in the landscape, linked to the upstream and downstream areas, and especially to their upland catchments. The need to apply a “functional landscape approach” (FLA) was identified, building on local understanding of these relationships identified in several of the WA studies and on the work of the broader academic and research community ( Newson, 2008, Chps 3 & 8; Sturman, et al 2001, Chps 9 & 10; von der Heyden, 2004; Binns et al 2001; Bossio, et al, 2009; Verhoenen et al, 2009).

#### **j. Climate Change**

Finally, but by no means least, this work had identified the impact of climate change, in the form of apparently more frequent droughts and less reliable rainfall, on the rural economies and well-being of communities. This was seen to be a long-term growing pressure which would affect wetlands and their biodiversity, as well as increase the use of wetlands for food security and other needs. Hence developing ways to maintain parts of wetlands under natural conditions for livelihood reasons - as is proposed in the FL approach, in order to help maintain hydrological functioning for agriculture, was seen as also being valuable for biodiversity adaptation to climate change.

