REPORT ON KNOWLEDGE EXCHANGE WORKSHOPS ON AN ECOSYSTEM SERVICES APPROACH

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EXECUTIVE SUMMARY

The WATERS project aims to support the planning processes of decentralised environmental management, in particular to take better account of the pressures caused by future environmental change. To achieve this, VSO volunteers working in 4 districts (Nsjane, Chikhwawa, Salima and Karonga) are working closely with district officials to support their environmental district planning processes and to stimulate the involvement of the local village level committees

In this context, a series of knowledge exchange workshops were organized by The James Hutton Institute in collaboration with LEAD-SEA. The focus of the workshops was an Ecosystem Services Approach (ESAp), using this to promote system thinking in environmental planning and in the involvement of local communities. These workshops initiate a dialogue on how ESAp concepts can usefully inform planning processes for natural resource management and climate change adaptation, supported by the WATERS project. There were three types of knowledge exchange workshops, all held in May 2013:

- Cross-district workshop including high-level officials from the four districts, associated NGO staff and the VSO volunteers.
- District level workshops focused on teams of district officials and other local stakeholders (e.g. NGOs acting locally)
- Village-committee level workshops involving representatives of VNMRCs, other relevant local committees (e.g. health, family planning), extension workers and NGOs

Since these workshops represent the start of a process, at this stage it is critical to clearly reflect on what we can learn from these workshops to inform subsequent WATERS work. The detail of these workshops is contained in separate reports available from VSO Malawi. This document brings together observations and ideas voiced by participants, workshop facilitators and observed by the WATERS team during the workshops and associated activities undertook in Malawi from the 9th of May to the 6th of June 2013.

We note that the key challenges at this stage are:

- To concisely articulate how the project concepts (ESAp and climate change) interrelate and relate to WATERS project aims.
- To identify how ESAp concepts can be practically and usefully connecting with existing planning processes and outputs.
- To effectively facilitate stakeholder engagement workshops and events, given logistic and budgetary constraints.
- To coordinate across districts, policies and within the constraints of existing procedures and resources and external actors.

Based on these we have formulated a number of recommendations, to support the future work of the WATERS project:

- To develop and articulate the coherence of WATERS concepts
- To identify and focus on specific planning processes
- To promote coordination across sectors and levels
- To promote capacity for stakeholder engagement.

We conclude that significant success has been achieved in gaining the trust and commitment of district officials and in building the interest and capacity of local-level committees. But important challenges still remain ahead. These workshops and in general the WATERS project are to be seen as the first step of a longer process capacity building process that empowers district officials and local communities to strengthen the ownership and quality of environmental planning to increase resilience face to environmental degradation and increase their opportunities for climate change adaptation.

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INTRODUCTION

Malawi is pioneering in that it has an extensive policy framework designed to encourage decentralised environmental management. However, implementation of these policies can be complex, incomplete, or uncoordinated. Furthermore, climate change, together with other drivers such as population growth, threatens further degradation of the environment and the well-being of the population, in a country that is already one of the poorest in sub-Saharan Africa.

Therefore the aim of the WATERS project is to support the planning processes of decentralised environmental management, particularly to take better account of the pressures caused by future environmental change. WATERS aims to link Local Government, Civil Society and Communities to enable equitable climate proof integrated water management in Malawi. For this purpose, VSO has placed a volunteer in each of the districts involved in the project (Nsanje, Chikhwawa, Salima and Karonga). These volunteers have been given the assignment of working closely with the district officials to support them in their environmental district planning processes and to stimulate the involvement of the local communities (notably through their participation in Village Natural Resources Management Committees (VNRMCs) and the elaboration of the so called Village Action Plans). To contribute to the project aims, The James Hutton Institute provides (in collaboration with LEAD-SEA) scientific support, notably on the conceptualization and potential use of the notions of ecosystem services and an Ecosystem Services Approach (ESAp) in the planning processes and in the involvement of local communities. Support is provided in two forms: through the design and facilitation of a series of on-site Knowledge Exchange Workshops on ESAp; and through remote support of VSO volunteers (via skype and email).

This report presents the observations, lessons learnt and conclusions of the Knowledge Exchange Workshops on ESAp and related activities undertook by the team in Malawi from the 9th of May to the 6th of June 2013. Then overall aim of the workshops was to familiarize VSO volunteers and workshop participants with ecosystem services related concepts and to start a dialogue with them for the generation of ideas on how can these concepts be incorporated and assists district officials in their planning process for natural resources management and climate change adaptation. These workshops are to be seen as the first step of a longer process to improve planning processes and increase the involvement of local communities. These workshops follow after a National Inception Workshop, held in Lilongwe on 25-26th February 2013, and District Inception Workshops, held in each of the districts in March 2013. They are also build upon relationships and activities previously developed by the volunteers on their respective districts with district officials, various community committees and organization s and the communities' Chiefs.

This report is organized as follows. A first section discusses the notion of an Ecosystem Services Approach as introduced in the knowledge exchange workshops and how it relates to the overall WATERS project. Secondly, the environmental planning processes in Malawi and their current status is briefly reviewed. Then we summarise the main activities and outputs of the Knowledge Exchange Workshops on ESAp. Then, observations and ideas arising from the workshops are discussed, followed by the set of recommendations. We finish with a brief conclusion.

AN ECOSYSTEM SERVICES APPROACH

This section introduces the key concepts and principles of an Ecosystem Services Approach as used in the WATERS project Knowledge Exchange workshops. These workshops aimed to familiarize VSO volunteers and district officers and village committee participants with up-to-date academic thinking regarding ecosystem services concepts, in order to support environmental planning and climate change adaptation. It should be noted, however, that the extent and depth to which the concepts discussed below were used in the workshops varied across the different workshops.

A DEFINITION OF AN ECOSYSTEM SERVICES APPROACH

An Ecosystem Services Approach (ESAp) is one way of understanding the complex relationships between nature and humans, for use into decision-making and resource planning. The Millennium Ecosystem Assessment (MA, 2003) was a particularly high profile publication that promoted a definition of ecosystem services as "the benefits that people obtain from ecosystems". Since then, various uses of ecosystem services concepts and terminologies have gained great popularity in academic spheres, and more recently in the policy arena (Martin-Ortega et al. *forthcoming*) and the business world (Houdet et al., 2012). Criticism is also emerging alongside popularity. The strongest criticism relates to the risks associated with a potential emphasis on the commodification of ecosystem services for trade in potential markets (Peterson et al. 2010, Corbera and Pascual, 2012). Also, there is debate as to what extent many current 'ecosystem services initiatives' are truly influenced and driven by a genuine ecosystem services paradigm, or if part of its popularization can be attributed to re-framing or re-labeling of existing approaches resulting in 'old wine in new bottles' (Martin-Ortega et al., *forthcoming*). In any case, the concept of ecosystem services has arguably inspired collaboration and enhanced communication between scientists of different disciplines in order to address complex socio-ecological problems. It has certainly led to a wider debate among researchers, policy makers, practitioners and conservation groups about the representation of environmental issues in decision making processes.

While different definitions and classifications of ecosystem services exist (see Ojea et al. 2012 for a review), an Ecosystem Service Approach has not yet defined in one single formulated way. As Nahlik et al. (2012) and Martin-Ortega et al. (in press) propose, an ESAp is better understood as a series of key principles that should be adapted to the operational needs of the environmental management challenges in hand. Therefore, for the WATERS project, an ESAp is defined on the basis of the following principles.

1) Recognition that the status of ecosystems critical affects human well-being. That is: if ecosystems are in good condition this has positive effects for peoples' lives (wealth, health, happiness), and similarly, if ecosystems are in bad condition this has negative effects for lives and livelihoods. The notion of ecosystem services represents a shift from previous thinking about nature that should remain separate and 'intact'. Instead it recognizes the need to sustain livelihoods. It is also embedded in system thinking, i.e. components of ecosystems can be not be considered as individually separated units (e.g. species or habitats) but rather need to be considered in their complex interactions (spatial and temporal).
2) Understanding of natural processes in terms of the benefits that they provide for people. This includes three types of services: 'provisioning', 'regulating' and 'cultural'. This set includes the more obvious and tangible provisioning services (i.e. the products that humans obtain from nature, such as food and energy) together with the less obvious and less tangible regulating services (i.e. the benefits that humans obtain from ecosystems' role in sustaining a safe environment, such as climate and flood regulation), as well as the cultural services (non-tangible benefits such as recreation, spiritual values, musical inspiration, etc.). Adopting an ecosystem services perspective leads to questions such as: "exactly how do natural processes provide benefits to humans?" "What is the importance of those benefits, and to whom?" "Where are benefits produced and where are they consumed/enjoyed?" It is worth noting that although some interpretations of ecosystem services assume that they will be assessed using monetary metrics, this is not the only way to assess ecosystem services and we suggest is not suitable for the WATERS project. .
3) The appreciation and integration of different strands of knowledge. Ideas about the sustainable management of natural resources come not only from the natural sciences i.e. how nature works. For example it is very important to understand how do people relate to nature (how do they use it? how do they feel about it?), which often requires the intervention of people with social sciences skills. A

key source of knowledge is also that held by stakeholders in an issue (i.e. local communities who use and enjoy – and may impact upon - the natural resources.). Solutions to environmental problems can only be found where their views are valued, and used to co-construct system understanding.

4) The consideration of future changes. Since the ultimate aim of the inclusion of ESAp concept is to help planning process of natural resources management and adaptation to climate change, it is necessary to consider future changes. Potential sources of change to consider include environmental change (including climate) and social, demographic, economic, political and technological changes. In the WATER FUTURE Project, adopting an ESAp is linked to including consideration of ideas of change (e.g., using local ideas to construct plausible storylines of change; what may happen to delivery of ecosystem services and what may affect our ability to manage ecosystem services).

USING ESAP IN THE WATERS PROJECT

As explained above, there is not one single way of applying an ESAp, but different levels of adherence to key principles depending on context and needs. An ESAp is not to be understood as a planning tool but as a particular way of looking and approaching environmental planning. In this sense, it is not a ready-made toolkit (or 'recipe book'). The challenge set up in the WATERS project is to collectively (project partners and district planning officials) identify how can the concepts and principles underlying an ESAp can help the existing environmental planning process.

It should be noted that despite having been discussed by academics across the world for a number of years, transferring these ideas into planning and practice is not yet very common. Many initiatives exploring how to use an ESAp in environmental planning processes are still in the early stages. Therefore there are no straightforward guidelines on how an ESAp can be used at the practical management level. In this respect, the WATERS project places itself at the forefront of current practice. We suggest that an ESAp has a number of elements which should be valuable for planning processes linked to the WATERS project:

- By understanding the variety of ways in which water (directly and indirectly) underpins human life and livelihoods,
- By assessing the ecosystem services provided by nature and the importance (value) to different people,
- By exploring the existence of trade-offs (i.e. if the enjoyment of one service harms the enjoyment of another,
- By identifying dis-services (e.g. costs, harm or problems incurred to people) and identifying the need to manage and reduce those,
- By identifying the locations where ecosystem services are delivered, where pressures on ecosystem services are exerted and where the effects are experienced,
- By identifying how different social groups benefit from services provided, and may be affected by changes,
- By identifying goals for ecosystem service delivery (e.g. water supply) and possible strategies for achieving these goals and responsibilities for action,
- By exploring how ecosystem services might be affected by future change (climate but also other changes) and this might influence planning and management.
- By helping to identify unexpected negative effects of interventions.

In general, it should promote a systematic or holistic approach to understanding the environment for decentralised formal planning for natural resource management.

DISTRICT ENVIRONMENTAL PLANNING PROCESSES IN MALAWI

Malawi is pioneering in that it has an extensive policy framework designed to encourage decentralised environmental management. In 1998, it embarked on a National Decentralization Programme, following adoption of a Decentralization Policy (1998) and the enactment of the Local Government Act (1998). The decentralization process aims to enhance community participation in governance and development. This is to be achieved by devolving political and administrative authority to the district level, including natural resources

management. The process also empowers communities to participate in environmental and natural resources management.

The District Development Planning System is therefore an integral part of this decentralization process and a key link in development planning. The District Development Plans (DDP) aim to provide a programme of activities to be implemented in a fiscal year (the plans themselves have a duration of five years). The DDP is to be fed by a bottom-up input process starting at the village level, through the different village committees such as Village Natural Resources Management Committees (VNRMC), water associations, Beach Village Committees (BVC), etc. which all contribute to the creation of Village Action Plans (VAP). VAPs feed into Area Development Plans (ADP) and District Environmental Action Plans (DEAP), which in turn feed into to the all-encompassing District Development Plans (DDP). Other key planning documents that feed into the District Development Plans are a Socio Economic Profile (SEP), and the State of the District State of the Environment and Outlook Report (DSEOR) which provide descriptions of the environmental and social situations within the district. Disaster Risk Management Plans (also referred to as Contingency Plans) also feed into the DDP.

This planning process is currently taking place at different paces and in slightly different forms in different districts. The report from the WATERS Cross-district workshop on ESAp (see references) includes details of the current status of the (environmental) planning process in the four districts under consideration, as emerged from presentations of district officials in the workshop. In summary, we may say that officials generally expect to be able to meet the deadline for the submission of the District Development Plans (DDP), due on 30th of June 2013. However, this might be challenging because most of them are still in the process of elaborating the Socio-Economic Profiles (SEP) (in the case of Salima, the SEP has been written and is pending only printing and dissemination, but this is not a negligible challenge given the shortage of resources). The existing District State of Environment and Outlook Reports (DSEOR) are expired (they are over 10 years out of date in Karonga and Salima, and has been out-of-date since 2009 in Chikhwawa and Nsanje). By contrast, Disaster Risk Management Plans seem to be up to date and these are revised annually in all the four districts.

There is a clear understanding and commitment from district officials that the elaboration of the DDP is meant to be a bottom-up approach starting at the village level. This was also noted in the WATERS Baseline Report (Mkwambisi et al, 2013). In all four districts, officials are aware of the need to incorporate Village Action Plans in the elaboration of the DDP. However, the extent to which this is actually achieved varies across the districts. In Karonga and Salima, VAPs have been produced and are currently being incorporated into DDPs. In Nsanje, the villages have produced a VAP but the District Environmental Committee has not yet been able to supervise it and incorporate it. In Chikhwawa, VAPs have not yet started (due to lack of funding).

Generally, officials depend significantly from NGOs and other private partners for financial assistance for the elaboration of these plans. There is low coordination among players, specially the NGOs. Another difficulty relates to the frequent turn-over of officials in charge. As also noted in the Baseline Report (Mkwambisi, 2013), District officials are often moved across districts, with critical positions not being filled or with junior staff having to take over. Data collection and data keeping also represent major problems affecting the elaboration of planning documents. There is a general lack of funding for in-house data collection, and district officials often depend on surveys and observations gathered by NOGs' external projects which do not always given them the databases. Moreover, monitoring and evaluation reports are not transparently shared with the district. Reports are written to fit into donor expectations (to get more funding) but may not be always fully truthful. Furthermore, information collected across different sectors is not always shared (for example, Environmental District Officials do not necessarily access information on rainfall patterns gathered by the Meteorological Office).

The Decentralized Environmental Management Guidelines (DEMG) were revised in January 2012 by the Ministry of Local Government and Development to guide various stakeholders to manage the environment and natural process in a sustainable manner. They are intended to support the elaboration and development of the above mentioned documents and processes. These guidelines already contain key concepts included in the Knowledge Exchange Workshops on ESAp: notably the notion of ecosystem services and a tool called DPSIR (explained below). The consultant engaged to prepare the DEMG was the WATERS project partner LEAD-SEA. However, it should be noted that, to date, district officials have little awareness is these guidelines and they are therefore little used.

SUMMARY OF WORKSHOP ACTIVITIES AND OUTPUTS

A series of Knowledge Exchange workshops on ESAp took place between the 16th to the 30th of May 2013, preceded by a preparatory workshop by the project partners. The aim of this preparatory meeting was to share ideas as how to planning and participatory approaches may be strengthened by the use of an ESAp and to finalize the design of the workshops, including the identification of locally relevant and culturally appropriate ways of running meetings in Malawi. During this meeting there was a decision to use "DPSIR" to support ESAp. DPSIR stands for ´Drivers-Pressures-State-Impact-Responses´ and is a tool to help identify causal relationships between the society and the environment (EEA, no date).

The meeting included a field trip to Lake Chilwa to familiarize partners with the Lake Chilwa Basin Climate Change Programme (LCBCCP) led by LEAD-SEA and used in the WATERS project as a local example on how ESAp can help planning for climate change.

Three sets of stakeholder workshops followed:

- A cross-district workshop at Zomba, that included high-level officials from the four districts, associated NGO staff and the VSO volunteers.
- District level workshops, that focused on teams of district officials and other local stakeholders (e.g. NGOs acting locally).
- Community level workshops, that involved representatives of VNMRCs and other relevant local committees (e.g. health, family planning), extension workers and NGOs.

Individual reports have been made for each of these workshops. These include detailed information on who participated, agenda and outcomes. Please note that all these reports, and others relating to the WATERS project, are available from VSO Malawi (vsomalawi@vsoint.org) upon request. Here we summarize their objectives, formats and outputs:

WORKSHOP OBJECTIVES

The general aim of all the workshops was to improve knowledge and skills of district staff, community members and other stakeholders (e.g. NGOs) in sustainable water resources management and climate change adaptation using ESAp.

Specific objectives included:

- Introducing participants to project partners the WATERS project and aims
- Introducing ESAp concepts to district officials, including: i) ecosystem services related notions; ii) how human activities can impact ecosystem health and hence ecosystem services (pressures) and iii) the importance of considering future change including climate change.
- To familiarize community members with ESAp basic concepts, how it can promote holistic thinking to: i) recognise connections between components of ecosystems and society; ii) ensure participation of community/villages in the district level planning processes and iii) consider need to adapt to climate change.
- To demonstrate a local example on how ESAp can help planning for climate change: the Lake Chilwa Basin Climate Change Programme) – by LEAD-SEA.
- To identify the current status of the environmental and district planning processes and current level of involvement of local communities in the planning.
- To generate ideas about how the WATERS project can generally inform and influence district-level plans, enhance community participation and address the challenges of sustainable water management and climate change adaptation.
- To start a dialogue on how ESAp could be linked to existing planning process and to enhanced community involvement in natural resources management.
- To engage and enthuse attending district officials to take an active role in forthcoming activities of the WATERS project.
- To generate ideas and aspirations for what communities can do to influence district planning and address challenges of sustainable water management and climate change adaptation.

WORKSHOP FORMATS

All workshops included a combination of presentations and more interactive activities. An ESAp was presented with the support of an interactive mapping activity (carried out by facilitators in interaction with participants) and reinforced with participatory mapping exercises carried out by participants in small groups (and plenary feedback). In the mapping exercise, participants collectively reflected on the range of ecosystem services provided by selected (real) catchments and the pressures that affect the delivery of those services.

The generation of ideas on how to link ESAp to district planning in the cross-district and individual district workshops was also done in a participatory way. In the cross-district workshop, district officials were asked to give a presentation on the current status of the planning process and encouraged to provide ideas on how the concepts introduced during the workshop could be incorporated in the processes ahead.

The community level workshops were led by district officials that had participated in the previous knowledge exchange workshops. They were designed by the volunteers and their district colleagues, with support from other project staff, and were led by these district officials. These were undertaken in different forms and for different durations (from half a day in Chihkwawa to two days in Salima). Generally, they all included an interactive mapping activity to introduce ESAp and a discussion on climate change effects and a participatory discussion on what actions (responses) can be developed to face the challenges of environmental degradation.

It should be noted that workshop participants had had different levels of prior exposure to the WATERS project and to ESAp. For example these had been introduced, to some extent, in the national and district level inception workshops, to which some but not all participants of this series of workshops had attended.

Figure 1. Small group discussion at community workshop. Nsanje District, 21st May 2013.

WORKSHOP OUTCOMES

The workshops were generally successful in their main objectives, but some challenges were faced and still remain for the further development of the project. Ecosystem services concepts were generally understood by participants at all levels, and they were clearly able to identify pressures affecting the delivery of these services in their specific catchment areas. These pressures were directly related to their own activities. The district and cross-district workshops distributed evaluation forms to collect feedback: within these the majority of participants stated that they had increased their understanding of the concepts presented in the workshops. Full results of evaluation forms are included in the individual workshop reports.

There was clear recognition of the need of addressing these pressures at the source and of adopting a holistic view of the catchment for successful management. In general, district officials stated that the workshop had significantly affected their ideas about environmental planning.

However, how can specifically an ESAp be incorporated in district (environmental) planning was not developed to any great depth. Still, some specific suggestions were made in relation some existing planning documents. These can act as starting points in the longer process of informing planning, with which the WATERS project can help. The degree to which climate change was discussed and understood is unclear as it was not a focus of these meetings, so may also require further consideration.

The cross-district and individual district workshop were undoubtedly successful in engaging a number of officials in each of the districts and gaining their enthusiasm. Evidence of this is the fact that in all workshops these district officials adopted leadership roles in organizing and facilitating the subsequent community workshops. There are reasons to believe that these particular officials are willing to further engage with the VSO volunteers to continue developing the process started here.

The next section further develops the observations and ideas arising from the workshops.

Figure 2. District official facilitating an interactive ecosystem services mapping session in the community workshop. Nsanje, 21st May 2013.

OBSERVATIONS AND IDEAS ARISING FROM THE WORKSHOPS

Since these workshops represent the start of a process, at this stage it is critical to clearly reflect on what we can learn from them to inform future WATERS work. Here we bring together observations and ideas voiced by participants, workshop facilitators and this report's authors.

We identify insights both in terms of the concepts to be used later in the WATERS project, as well as ideas on stakeholder engagement in this context. We then build on these observations to synthesise key challenges and opportunities, before going onto identify recommendations for future WATERS work.

(1) Interest and engagement with the ESAp and other concepts introduced in the workshops

In general the workshops seem to have produced a good understanding of the concepts of ecosystem services and participants voiced support for the need for systems thinking. This is demonstrated by participants' self-assessment of their learning, observations of their work in the small group exercises and questions asked during plenary discussions. The concept of provisioning services was easily communicated, particularly in relation to crops and fuelwood. Regulating services were also easily understood, particularly in relation to flooding and climate regulation (it was sometimes necessary to push to ensure this was not understood *only* as flooding control). Cultural services sometimes were harder to introduce, probably due to the secondary concern that they might represent in context of high poverty and social hardship, as well as their intangible nature, so sometimes needed more time and prompting to ensure they were understood and included.

The notion of 'dis-services' was also very evident (in particular the example of mosquitoes causing malaria). The example of crocodiles and elephants– which are a problem for the people whom they attack, but a benefit for tour operators hosting tourists – were good for introducing the more complex notion that single issues or species may be perceived as a benefits or cost by different groups. This then poses a problem for decision-making – who gains and who loses? Other examples of tradeoffs are people cutting wood for charcoal, and cultivation along river banks (Figure 2). In these situations a resource is used to provide direct benefit (provisioning service) for some people but detrimentally affects the regulating services delivered to other people downstream. Such examples made it evident to participants that using ecosystem services concepts cannot avoid such tradeoffs. However, ecosystem service concepts help us to make explicit the beneficiaries (and losers) from different activities and decisions.

In the cross-district Zomba workshop, as well as the separate individual district meetings, DPSIR was introduced by the WATERS team as a tool for helping to encourage systems thinking for planning. Judging from participants' own feedback and our observations of exercises to explore DPSIR, it was helpful to try to unpick the complex chain of cause and effects that drive and result from environmental problems. Ecosystem services were easily differentiated from pressures on them. Participants also showed a clear (and pro-active) understanding of the fact that the pressures on ecosystem services are linked to local activities (for example, the above examples of forest cutting for firewood and river bank cultivation). There was often a very strong focus on tree-cutting as a key pressure on ecosystem services, and a key activity to be prevented or remediated. This was also noted in the baseline report.

Although there was enthusiasm we noted that the overall DPSIR process was frequently challenging for participants. Some confused cause and effect. For example, in Chikhwawa a bright and committed group spent a very long time arguing whether climate change directly caused tree cutting, or tree cutting directly caused climate change (only the second option is possible). Meanwhile, some participants became distracted trying to uniquely categorise everything under one of the headings (i.e. some issues seemed to be both a state and an impact), whilst others wanted to jump to solutions. Others questioned drivers, and how climate change fit into DPSIR as presented, since within the presentation on DPSIR that was frequently used, the issue of climate change was mentioned. However, the introduction of this additional topic in this way could be potentially confusing.

Overall, these workshops did not always link well to the topic of climate change (though as observed in the previous section, treatment of climate change varied between workshops). This relates to the problem of having many issues to discuss in one meeting. However, because the project was introduced as related to climate change, some kind of link needed to be made, to justify a focus on ESAp. It would always be challenging to not only discuss but also connect ESAp, DPSIR and climate change. However, prior to the

meetings there was not a clear articulation among partners of the connections between these issues, leading to a certain level of improvisation during the workshops. (In the recommendations we propose a simple diagram showing how and why ESAp could be used for 'future proof' planning).

Figure 3. Cultivation on the Shire river bank. View from Chikhwawa, 23rd May 2013.

We noted that climate change and environmental degradation or other environmental issues are frequently conflated. Considering all issues is certainly within the remit of the project, and fits well with systems thinking. However, this risks promoting confused or mistaken understandings of climate change and other concepts. For example, earthquakes and tree-cutting have been included several times (in a couple of community workshops) as part of the direct effects or symptoms of climate change. This does not fit with accepted understandings of climate change, and if not addressed can attract criticism, as well as making further communication efforts more confusing and challenging.

The other concepts that we did not much discuss in these meetings was the utility of considering future change when planning (not just climate change). This was discussed in the cross-district workshop at Zomba, where there seemed to be interest in this. A positive example was given of a new Shire River Basin Management Program[1] that could significantly alter the ability to collaborate across districts to manage catchments. However, this topic was another topic/issue that it was difficult to connect and discuss given the constraints of time and attention within one meeting in the district and community workshops that followed. If WATERS wishes to develop thinking on this issue, this will need more attention.

(2) Utility of ESAp for planning for natural resource management

The Cross-District Knowledge Exchange workshop at Zomba provided the most opportunity to discuss how existing planning processes and mandates could link with and be improved by ESAp concepts. At this meeting,

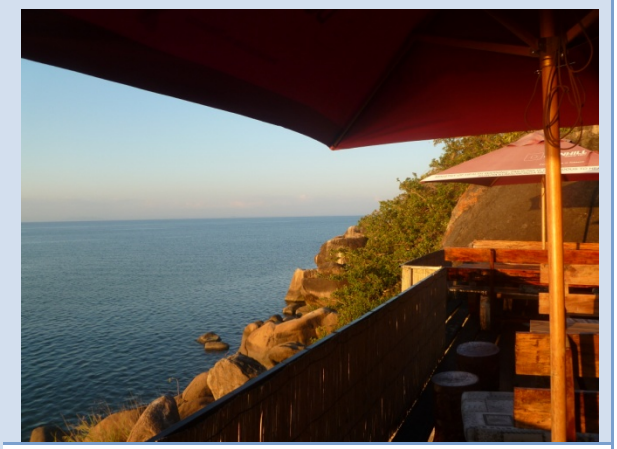
[1] The Shire River Basin Management Programme is a multi-sectorial initiative promoted by the Ministry of Water and Irrigation of Malawi, supported by the World Bank, aimed at generating sustainable social, economic and environmental benefits by collaboratively managing natural resources in the catchment area. For more information see www.shirebasin.mw

participants suggested that several existing plans and reports might be usefully linked to ESAp concepts: in particular the State of Environment Report (SOER), and the overarching Socio-Economic Profile (SEP), and the District Environmental Action Plan (DEAP) and the overarching District Development Plan (DDP). Similarly, Village Action Plans (VAPs) could be linked to an ESAp. The SOER, SEP and VAPs all feed into the district planning for actions to be taken, so it was important that these reports were informed by ESAp concepts, to assist the plans to be likewise linked to ESAp. It was also suggested that Disaster Risk Management Plans (also referred to as Contingency Plans) could be usefully linked to ESAp concepts, since in the long-term the mitigation and prevention of disasters such as flooding obviously depends on changes in natural resource management.

At present, it was thought that sectors (e.g. forestry and agricultural) were often disjointed. It was hoped that by using ESAp to encourage systems thinking, planning could be more holistic. Other benefits associated with the potential use of ESAp in planning included highlighting how different social groups (e.g. by gender or poverty level) or people different locations may affect or be affected by different actions and interventions. It is often impossible to take actions that please everybody. (See Box 1 below for an example of these issues.) Furthermore some actions are beyond the power of participants (for example, national-level politicians may take pre-election decisions that aim to foster their popularity in the short-term). However, it was agreed that this approach could help highlight how the benefits (or disbenefits) of different actions would be made more explicit. In particular, ESAp can help to identify and avoid unrecognised or detrimental side effects that can arise from purely sectorial or single issue thinking. For example, a project to capture rain for irrigation of crops should store rainwater in such a way that it does not become a mosquito breeding-ground. Moreover, ESAp was thought useful to help promote coherence in planning processes across districts (e.g. when upstream deforestation occurs in a district different to the one where downstream effects are felt – this is the case, for instance, in the Salima district). Exactly how these concepts may connect with existing planning processes was not always clear. This is to be expected: this is the question to be developed over the duration of the WATERS project. However, observations and suggestions from the workshops provide some initial ideas about how these ideas may be developed.

Box 1. Some negative side effects of tourism development by Lake Malawi, as noted during ESAp discussions in the Salima District Knowledge Exchange Workshop

In Salima District, besides Lake Malawi, tourist lodges have proliferated to the extent that they now represent barriers to lakeshore access (despite a law obliging passage ways in between buildings). The local population has also developed informal settlements on the other side of the lodges, attracted by the economic prospects generated by tourist activities. Because access is blocked by lodges, local people sometimes have to walk several kilometers to access the lake for water and fishing. Moreover, most of the lodges do not have waste water treatment systems, discharging directly to the lake, exposing the population to cholera. The desire to enjoy the cultural services of the lake is benefiting some, but also threatening the delivery of other essential benefits (e.g. fish and clean water). This is clearly a case in which the interests and influences of different social groups (tourists and members of the tourist industry and local population) requires careful management. .



View of Lake Malawi from tourist resort. Salima District, 28th May 2013.

As a starting point, it was thought that the structure of reports may change or expand to accommodate the need to highlight links between sectors. For example, top-down templates may specify a separate chapter on forestry, but that chapter could include a section on how hydrology is influenced by upstream forest

management, or how plans for afforestation take into account agricultural land use and encroachment, and how appropriate tree species to plan may be influenced by user needs as well as by changing climate and environmental conditions. Another suggestion was that an ESAp (especially if embedded in existing district documents) could be used to scrutinise the project proposals of NGOs wishing to work in a district. This was seen as useful because there was a general perception that NGO interventions and international aid are typically uncoordinated in their planning and delivery: this was frustrating to planners as it risked generating unintended negative or missing productive opportunities to collaborate.

In the cross-district Zomba workshop, as well as the separate district meetings, DPSIR was introduced by the WATERS team as a tool for helping to encourage systems thinking with planning. Although there was interest in DPSIR, some participants also questioned if their own existing tools would also be useful (namely, problem-tree analysis and SWOT analysis). It was not possible for these meetings to also consider these tools, but not linking with them in future could risk disenfranchising district planners wary of new tools or concepts. Within the academic literature, DPSIR has sometimes been criticised for encouraging a linear focus on single issues, rather than encouraging systemic thinking, though this probably depends on how the tool is used (Bell, 2012). Therefore, although DPSIR was introduced in these workshops, whether or not it is essential to use it, or to label it as such, is a question that each district may wish to decide for itself.

WATERS team members are aware that some of the ESAp and DPSIR concepts are contained within Malawi's Decentralised Environmental Management Guidelines (DEMG) but few of the district officials at the workshops were aware of these, and none of them were currently using it. Therefore the workshops were not able to explore how following these guidelines might assist in adopting an ESAp approach. Further exploring how the DEMG might assist in promoting an ESAP for planning may be an important future task for the WATERS project.

(3) Stakeholder engagement with WATERS

Overall we observe that there is an excellent stakeholder interest and engagement with the WATERS project, at both the district and community levels. Indicators of interest were participants attending promptly and not leaving early (with exceptions), positive feedback about events given on evaluation forms, and facilitators' observations of their interest and enthusiasm during small group exercises. Furthermore, officials who participated in the cross-district workshop at Zomba typically became active participants or facilitators in the workshops run in the districts for their colleagues, and chaired and organised workshops with community-level committees.

WATERS is a quite different project to that which many district officers or VNRMC members are accustomed (we understand that many interventions are typically more focused around specific technologies or actions). Assisting with the planning processes and introducing abstract concepts might be expected to be difficult to grasp. However, it seemed that officials mostly understood that WATERS was different in that respect. Indeed, the District Commissioner of Nsanje mentioned that this was one of the first projects of its kind. This bodes well for the ability of the WATERS project to communicate and support stakeholders in their planning processes. It may be necessary to check that community-level committees are also clear about WATERS role, to ensure expectations are aligned.

Having said that, the WATERS team face a challenge, to communicate and reconcile the multiple abstract concepts, whilst maintaining the interest and enthusiasm of the district officials and community committee members. For example, some workshops mentioned climate change, ESAp, and DPSIR. The link between these concepts, let alone the link between district planning, cannot be assumed to be self-evident. Because of this, project activities could risk appearing disconnected, and will increase the challenges of knowledge exchange.

The ability to foster knowledge exchange also depends on the practicalities of how activities and workshops are run. Observations and feedback from these multiple workshops on ESAp offer a good opportunity to reflect and learn about good practice for future.

Due to the unavoidably tight schedule, there was very little time for the VSO volunteers and their district colleagues to plan their workshops (this should be avoided in future). However, despite this, the volunteers and their colleagues generally performed satisfactorily as co-facilitators or meeting chairs. The enthusiasm and commitment of the facilitators/meeting organisers is the most essential ingredient for a successful meeting.

We noted that facilitators' demeanour, leadership, organisation, and focus accordingly influenced how other participants behaved. As such, it will be valuable for the volunteers to receive further training and opportunity to reflect on stakeholder engagement and good practice when running activities such as workshops. Different volunteers and project partners bring complementary skills that can support this (for example, Precious Mwanza at LEAD-SEA has an excellent repertoire of culturally-appropriate icebreaker and refresher exercisers and a range of Malawian experiences that can be used to illustrate arguments).

It was usually necessary to repeat information previously given, acting as reminder that we should not assume that people know, understand and agree with a topic or concept, just because they have been exposed to it before (whether at a single event or previous activities). It was interesting to note how different subgroups, and groups in different places, chose to address the same challenges (i.e. to map an ecosystem and identify ecosystem services, to work through DPSIR). In general it is good to encourage diversity, and provide a variety of activities or options within activities, to suit different learning and engagement styles. Mapping exercises seemed something that all groups engaged with and are valuable for encouraging participants to interact with each other and think through issues. (Existing publications provide other examples of activities that can encourage people to interact and share their knowledge; e.g. Kapila, 1994). In relation to DPSIR, many people often just listed issues under each of the headings, but did not connect them: it may be valuable to explore linking the issues with arrows, to ensure that the causal logic is not forgotten.

We also observed that discussion often requires a lot of time, more than anticipated, whatever the issue. Furthermore, it was particularly important to leave plenty of time for this where participants were hesitant, had doubts, or were unused to interaction: in all workshops we attended people became involved but for some it took a little while to 'warm them up' and to encourage interaction. If many topics were introduced in one meeting, this left less time for discussion, and thus could make it harder to ascertain a shared understanding. On the plus side, developing these discussions should easily possible, given participants' apparent interest, high level of interaction, and willingness to share ideas and opinions.

SUMMARY OF KEY CHALLENGES AND OPPORTUNITIES

- Concisely articulating how the project concepts (ESAp and climate change) interrelate and relate to WATERS project aims.
- Identifying how ESAp concepts can be practically and usefully connected with existing planning processes and outputs.
- Coordinating across districts, policies, and sectors and within the constraints of existing procedures and resources and external actors.
- Effectively facilitating stakeholder engagement workshops and events, given logistic and budgetary constraints.

RECOMMENDATIONS FOR THE WATERS PROJECT

These workshops had a direct purpose, to foster knowledge exchange on ecosystem services approach. Whilst our observations suggest that they have achieved this aim, they also allow us to make recommendations about future work by WATERS.

Based on the above observations and previous experience of the authors, we make four recommendations;

- To develop and articulate the coherence of WATERS concepts,
- To identify and focus on specific planning processes,
- To promote coordination across sectors and levels,
- To promote capacity for stakeholder engagement.

These recommendations are interrelated and mutually supportive. Below we discuss and explain each of these, and how they will help in addressing the challenges noted above.

(1) To develop and articulate the coherence of WATERS concepts

It is important that the WATERS partners, including all staff and volunteers, are clear about the concepts used in the project, why they can be useful, and – critically – how they interconnect.

ESAp This series of workshops has communicated not only what ESAp is, but why the concepts can be relevant and helpful for planning. Based on feedback there seems to be support for using ESAp and a broad understanding of the concept by participants. Therefore ESAp should be used by the project for further work with communities. When discussing the concepts, the facilitators should give special attention to ensure a range of regulating services are considered (not only flood regulation), and also cultural services. (If cultural services are neglected, this risks missing opportunities for engagement: for example, a proposal to change the management of a sacred burial site is unlikely to be popular.) Presentation of these concepts should always take care to emphasise that they do not provide easy solutions to problems, but help to develop and make explicit a holistic understanding of any issue. If the discussions are focused predominantly on tree-cutting, it may be necessary to check whether or not there is a need to rebalance focus on other issues and activities also warrant attention (examples of other potential pressures include over-fishing and mining).

Climate change Climate change was not the main focus of these workshops but where it was discussed, often it did not seem to be well understood (rather, it was conflated with all environmental issues). This was true at both district and local committee levels. We firstly suggest that efforts should be made to gently dissuade people from associating the phrase 'climate change' with all environmental problems. The example of the Chikhwawa community workshop may act as a useful role model for how to discuss climate change where there is confusion (there, we understand efforts were made to discuss how climate change is distinct from weather, and then to explain how not all environmental issues are part of climate change).

Futures thinking Climate change will not be the only change we encounter in the future. There was not much opportunity to introduce into these workshops "futures thinking" (which can also be called scenario planning, or developing storylines of future change), as there were already many concepts to be introduced. It was introduced in the cross-district Zomba workshop, and participants began to be able to identify likely policy, social and other environmental changes. Therefore we suggest that, if climate change is revisited by the project, this is actually framed as part of the general need to think about the future, to attempt to 'future proof' our actions. The example of the Lake Chilwa solar fish dryer provides a good example of how a change in the environment, plausibly linked to climate change, can affect otherwise well-designed interventions. For ideas about approaches to support this, The James Hutton Institute can support and suggest links to a literature on participatory methods for scenario-building.

Linking these concepts. The link of ESAp with climate change is not necessarily obvious. Similarly, the link of DPSIR with ESAp or climate change is not inevitable or necessarily obvious. However, without this being clear, all WATERS activities risk appearing disjointed and random. During the ESAp workshops, there was a certain amount of improvisation to justify the links, but it would have been better for the team to have explicitly discussed and justified this beforehand. Below (Figure 4) we propose a simple scheme for how ESAp and climate change connect for planning, and how a tool such as DPSIR can be used.

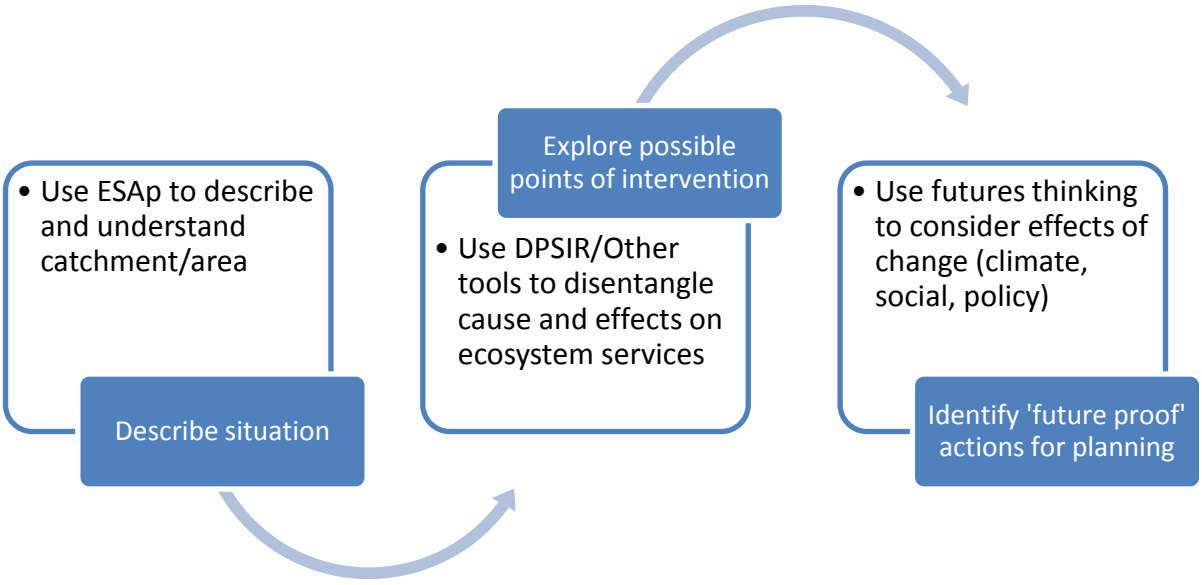


Figure 4. A visual overview of how concepts used by WATERS connect to assist with planning for natural resource management.

In this diagram, ESAp is seen as the first step in promoting holistic system understanding, and identifying connections between issues, how ecosystem services benefit different groups and locations and what dis-services and trade-offs might exist. In the next step, DPSIR can be used to ensure complex chains of cause-effect are understood and problems are diagnosed, and thus all possible points of interventions considered when planning actions. The diagram does not presuppose that DPSIR has to be the specific tool to be used. DPSIR was a relatively late addition to the ESAp workshops and it was meant an example on how to operationalize ESAp and bridging it into planning. Some workshop participants have suggested the use of alternative tools (such as SWOT analysis). We suggest that which specific tool for diagnosis and intervention planning is to be used specifically will be chose according to those already in use by district planners, if any. Lastly, we suggest that consideration of future change, including climate change but also other drivers such as policy change or technological change, can help to explore if any planned actions can be altered or improved to make them 'future proof' (i.e. less likely to fail or produced unexpected side effects due to any expected changes).

(2) To identify and focus on specific planning processes

It is important for subsequent WATERS work to identify specific environmental planning documents and processes to work with. The ESAp workshops have already produced concrete suggestions of documents (e.g. SOERs, SEPs, DEPs, DDPs, VAPs). The task now is for the VSO volunteers and their district colleagues to discuss which to take forward, how these can be improved and linked to ESAp. One obvious suggestion is that report formats could include cross-sectorial chapters or subsections, but this does not say anything about the process by which those cross-sectorial links and recommendations would be identified.

In this context, the Decentralised Environmental Management Guidelines (DEMG), last revised in 2012, are potentially very useful. The DEMG are designed to support the production of District Development Plans (DDPs), and contain some advice on working with ecosystem services, DPSIR, and consideration of scenarios of future change. We suggest that volunteers and their colleagues should review the DEMG and see how well it fits with an ESAp and planning needs.

In addition, district officials mentioned that they already use some tools (problem-trees and SWOT analysis). Thus, the project should also work to develop an understanding of these and how these may or may not be relevant to developing an ESAp. If they are relevant they should not be neglected or reinvented. If it is necessary to move beyond them, this must be clearly justified. It will be important for WATERS to focus on using tools that are both helpful but also accessible and familiar to planners: the point is to encourage a systems perspective, not to impose specific tools.

(3) To promote coordination across sectors and levels

Workshop participants suggest that a critical challenge for planning is to engage with the complexity of existing planning processes. This may include departments or sectors that traditionally may have had little dealing with environmental planning. For example, the health sector seems particularly relevant, as many health benefits and problems are linked to polluted drinking water, water and insect-vectored diseases.

A critical challenge is for WATERS to assist in building these connections. This has several aspects. At the district level, the volunteers can assist in this by engaging with officials beyond the environmental departments. This includes continuing to engage with other NGOs acting locally. District officials themselves can also help ensure actors such as NGOs are making appropriate interventions, by using an ESAp to scrutinise their plans before giving approval for work in the district.

At the community committee level, the challenge is to work with committees other than the VNRMCs, and/or to broaden their scope beyond forestry. This process has already begun, judging by the attendance at the workshops, but at the community level there may be a need to check all appropriate committees are engaged.

There is also a need to make existing information more accessible, and improve the coordination of information collection and storage. This seems sorely needed, as several officials attending the workshops complained about a lack of information and resources to obtain it. A significant amount of information on different topics and issues has been produced by different departments and NGOs, but this information is not

always properly stored or accessible. VSO volunteers could assist by support information sharing and good practice in data storage.

Looking beyond individual districts, the challenge is to promote coordination between districts. Volunteers and CEPA can play a role in encouraging this, whilst CEPA can assist in promoting the message to other districts and to higher-level policy makers. CEPA can also highlight where existing procedures or practices constrain coordination: for example, where the report templates specified by national policy departments may limit ability to report and describe the environment in terms of systems.

Where it looks like coordination may already be possible (as for the Shire river, due to the Shire River Basin Programme; www.shirebasin.mw), then we need to consider how to handle the additional complexity that this may create. In short, involving more organisations and individuals can seem to add complexity to the problems of managing systems! However, the VSO volunteers should emphasise that they are there to link, share information and provide advice, and so they can help to negotiate this complexity. Although fostering coordination, collaboration and interaction is likely to produce few immediate and tangible benefits, without it sectorial or uncoordinated approaches will persist.

(4) To promote capacity for stakeholder engagement

WATERS critically depends on a practical ability to engage with different groups – particularly district planners, and community committee members. Without this, nothing else can be achieved. The skills needed – such as the ability to build relationships, run workshops or plan activities to engage with different groups – cannot be taken for granted. As such, WATERS should consider actively promoting training to help build these skills. This could occur through by sharing learning and reflection within the group (e.g. between the VSO volunteers) and literature on this (e.g. Chambers, 1992; Pound, 2008; Reed, 2009) can also be made available.

The work is needed across levels, and appropriate approaches will vary accordingly. However, some principles are constant, such as the need to always provide feedback, and transparency. The need to provide feedback was also noted in the WATER Baseline Report (Mkwambisi, 2013). This will help to maintain stakeholder interest and understanding. Similarly any meeting or activity needs careful planning and preparation, and its facilitators should be focused and yet flexible. Lastly, some materials could perhaps be widely useful: for example, a simple A4 leaflet could be useful for distributing the key aim, messages and contact points of the project.

When working at the village committee level, special attention is needed to encourage and ensure non-literate and non-privileged members are encouraged to participate. Facilitators should also consider what formats and exercises that may be helpful, starting with but not limited to the exercises (e.g. mapping) and examples (e.g. from Lake Chilwa) employed during the ESAp workshops. To assist, there is also an extensive literature and examples, drawing on the principles and practices of the Participatory and Rapid Rural Appraisal (Chambers, 1997).

Furthermore, when working at with the village committees, we must take care not to conflate ‘community’ with ‘committees’. VNRMCs and other (group) village-level committees represent the lowest level of planning, but they are not communities, nor are they necessarily perfect representatives of communities. Whilst it is beyond the scope of WATERS to check that VNRMCs are representing the full diversity of interests within communities, when engaging with communities, care should be taken to prompt exploration of how different groups within society may affect, be affected by the issues being considered (Waylen *et al.*, in press).

Working with extension workers (ADC) is another way in which WATERS can embed its concepts and develop appropriate engagement strategies. It has been suggested by some district officials that this is most appropriate way for them to make a link with village committees. Extension workers (who belong and live in the communities) could be pivotal in encouraging the committees to produce the Village Action Plans and then ensuring these are considered by the relevant district officials. A good example of where this is already taking place is in Salima.

If resources are available, it may be useful to develop concrete ‘mini-activities’ as a way to consider how abstract ideas can inform tangible action. Taking concrete action can also help to keep motivate committee members to stay involved in what is a mostly abstract project. An example of how any resources saved can be

put towards this use is happening in Nsanje, where the VSO volunteer is already coordinating a small effort to work with committee members to identify and carry out climate adaptation activity (possibly tree planting).

For work with district officials, the VSO volunteers may need to re-emphasise their role, since in the district ESAp meetings there were frequently questions about where information could be sourced from, and a lack of awareness from some that the volunteer should act as the key link point.

One stakeholder group that is less explicitly the focus of WATERS, and yet important, are the higher-level policy makers and other interested groups (such as NGOs). Here CEPA has a key role in transmitting messages and insights from district officials and community committees. WATERS already has plans to engage with these groups, in activities lead by CEPA: as the ESAp have already begun to identify constraints arising from existing policies or lack of coordination, this role will be invaluable.

CONCLUSIONS

We conclude that significant success has been achieved in gaining the trust and commitment of district officials and in building the interest and capacity of local-level committees beyond what may have existed at the start of the project. Using an ESAp to promote system thinking into environmental planning and climate change adaptation is seen as promising. However, since integrating an ESAp into planning processes is innovative not only for Malawi, but also globally, there is no roadmap or recipe to follow. Therefore, important challenges still remain ahead. Further effort must be made to concisely articulate how the project concepts (ESAp and climate change) interrelate and relate to WATERS project aims, and then identify how ESAp concepts can be practically and usefully connected with existing planning processes.

These workshops – and the WATERS project in general – are to be seen as the first step in a longer process. This process aims to empower district officials and local communities to strengthen the ownership and quality of environmental planning. Only this can increase their resilience to environmental degradation and their opportunities for climate change adaptation. In this journey we need to invest in coordination and improve facilitation and communication capacity, while we rely on the excellent sense of enthusiasm sustained by the VSO volunteers and their local partners.

Figure 5. Group photo of project partners and workshop participants. Cross-district Knowledge Exchange Workshop. Zomba, 17th of May 2013.

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