IUCN - The World Conservation Union

Founded in 1948, The World Conservation Union brings together States, government agencies and a diverse range of non-governmental organisations in a unique world partnership: over 980 members in all, spread across some 140 countries.

As a Union, IUCN seeks to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.

The World Conservation Union builds on the strengths of its members, networks and partners to enhance their capacity and to support global alliances to safeguard natural resources at local, regional and global levels.
Wetlands, gender and poverty: some elements in the development of sustainable and equitable wetland management

Adrian Wood
Ethiopian Wetlands Research Programme
University of Huddersfield
Yorkshire
England

Introduction

The debate about the future of wetlands tends to divide between those seeking to develop these areas for agricultural production (Inland Valleys Consortium, 1995) and those who believe that wetlands must be preserved as much as possible in a pristine state to maintain their ecological contributions to the global environmental system (such as the Ramsar Convention). The debate tends to be polarised between the search for production to meet human consumption needs and conservation for ecological well-being. In concentrating on the big argument, this debate tends to ignore a number of very important issues that relate to the impact of different wetland uses upon communities and, in turn, the overall sustainability of wetlands. I address two of these issues in this paper:

– that wetlands are not all similar and that they produce different benefits depending on their characteristics and how they have been altered; and

– that communities are not all uniform and that differentiation, in terms of gender, socio-economic status, age and other personal characteristics, means that wetlands have stakeholders with different sets of interests, needs, rights and power or influence.

This paper seeks to explore how these two sets of variables interact in order to provide a number of questions and some preliminary answers about the relationships between gender, poverty and wetlands. It also seeks to show how these considerations are central to the development of sustainable wetland management.

---

4 This study was achieved in part with a financial contribution of the European Union’s “Environment in Developing Countries” Budget Line (B7-6200). The author is solely responsible for all opinions expressed in this paper and they do not necessarily represent those of the European Union.
Wetland Benefits, Gender and Poverty

Benefits

There are many different types of wetland in Ethiopia. If the IUCN (1996) wetland typology is used, Ethiopia has representatives of almost all wetland types, with the exception of coastal ones. For instance, it has riverine wetlands of a seasonal and permanent nature along many of its rivers, palustrine wetlands (swamps and marshes), lacustrine wetlands around lakes, montane peat bog wetlands, as well as man-made wetlands around dams.

These diverse wetlands produce a range of benefits of both an ecological or environmental nature, such as flood control and biodiversity maintenance; and of a socio-economic, production or use nature, such as plants, crops, fish and grazing (Barbier et al., 1996). This paper will focus on the latter type of benefits as the ones whose distribution is particularly important for socio-economic and gender issues.

The nature of the use benefits available in any given wetland will vary depending upon the types of environmental conditions in the wetland, the way in which the wetland has been manipulated or not by communities and the cultural norms and values of the communities who have access to it. In the first column of Table 10, the range of possible use benefits which might be found in a wetland are shown, based on experience from southwest Ethiopia. These various benefits may be gained directly in some cases (Column 2) by immediate use or collection, or indirectly (Column 3) in other cases through sales or other distributional processes. There are also wider impacts upon the well-being of society which come from these wetland benefits (Columns 4 and 5).

Beneficiaries

The key point to note from this table is that wetland benefits are distributed unevenly, especially in terms of immediate use, but also to some extent in terms of financial distribution, which is affected by needs and income availability. This raises important questions about the processes of gaining access directly and indirectly to the benefits produced by wetlands. It also shows how differentiation in society, in terms of gender, wealth and age, as well as in terms of social rules, determine which people can obtain which benefits. In addition to gender, age and socio-economic status, some of the specific factors that explain this differential access to wetlands and their resources include:

- perceptions of value (for instance which groups need reeds for roofing);
- availability of household resources which are needed to gain particular benefits from wetlands (such as oxen to obtain crops, or capital for brick making);
- demands from household resources which require certain benefits to be obtained from wetlands (such as cattle which require dry season wetland grazing);
- skills and their distribution in society (especially for medicinal plant collection, but also fishing and wildlife hunting);
Wetlands of Ethiopia

- political regulations/processes and how they impact upon different groups in society (including local access rules and the institutions which develop, implement and maintain them);
- societal role rules, which determine activity norms and the roles expected of different genders and age groups.

Table 10: Use Benefits from Wetlands and Beneficiaries in South-west Ethiopia Note: other use benefits in East Africa can include fuel, fish, wildlife and materials for boat construction.

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Collectors/Status</th>
<th>Overall Beneficiaries</th>
<th>Wider Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gender</td>
<td>Status</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>Women</td>
<td>All, except rich</td>
<td>All</td>
</tr>
<tr>
<td>Reeds</td>
<td>Men</td>
<td>Often poor</td>
<td>All for roofing, especially women for mat making</td>
</tr>
<tr>
<td>Agriculture</td>
<td>Men</td>
<td>Mid-rich, non-aged</td>
<td>All through sales</td>
</tr>
<tr>
<td></td>
<td>Men</td>
<td>Poor share-cropping</td>
<td>Poor households</td>
</tr>
<tr>
<td>Medicinal</td>
<td>Men</td>
<td>Skilled</td>
<td>All, especially poor</td>
</tr>
<tr>
<td>Grazing</td>
<td>Men</td>
<td>Richer</td>
<td>Households with cattle</td>
</tr>
<tr>
<td>Palm fronds</td>
<td>Men</td>
<td>Often poor</td>
<td>All, especially poor women</td>
</tr>
<tr>
<td>Brick making</td>
<td>Men</td>
<td>Very rich</td>
<td>Rich and poor daily labourers</td>
</tr>
</tbody>
</table>

Hence, in studying the interactions between a society and wetlands, analysis should include consideration of a matrix (such as Table 10) which explores the relationship between the range of use benefits and beneficiary groups. This analysis, however, must go beyond the question of ‘who gets what?’ and ask questions about the causal processes that lead to this and the institutions and societal structures which influence access to these benefits.

**Systemic effects**

One further aspect of the beneficiaries dimension which needs to be addressed is the wider impacts of wetlands. Wetlands are part of hydrological systems, and alterations to them can impact upon stream flow and hence on downstream areas and their communities. Changes in water levels in wetlands can also have an impact upon the local water table and upon crops grown on the lower slopes of the catchment, and so affect people other than those using the wetlands and their resources.
In addition, changes in wetlands and the products they produce can have wide ranging impacts when it is recognised that these products fulfil roles within livelihood systems. Hence, the loss of one product from a wetland caused by its transformation could lead to impacts elsewhere in the rural resource/livelihood system. For instance, wetland drainage may destroy a source of craft materials, forcing craftspeople to look elsewhere for these items. This may in turn increase the pressure on other resources and impact upon the environment and other people. Hence, there is perhaps a need to include a second beneficiaries matrix for those not involved directly or indirectly through the benefits listed in the table above, but through the environmental system and livelihoods linkages.

**Awash Valley Wetlands and Development - an example of wetland transformation and poverty creation**

During the 1960s, seasonal wetlands along the lower Awash River were developed for cotton production. This development was based on the state's land tenure system, which refused to recognise the rights of the Afar to pastoral land, including wetlands. As a result, the state alienated some of these wetlands from the Afar community and rented them out to international companies.

The irrigation technology available to these companies allowed them to develop a new type of use benefit - cash crops or cotton - that replaced the traditional benefits - primarily grazing - that the Afar had obtained for centuries from these wetlands. Instead, benefits were appropriated by foreign companies, their shareholders and the Ethiopian State (in the form of foreign exchange earnings or savings and taxes).

This transfer of benefits was not a minor development. It completely undermined the way of life of thousands of people, as without the dry season grazing on the wetlands, the livestock, and hence the people who depended on them, could not survive. There was widespread famine and mortality following the establishment of the estates, and many Afar were forced to leave the area (Bondestam, 1974). Reports of this disaster do not consider the differential impact upon households of different socio-economic status or upon gender groups but clearly there would have been differential abilities to cope with the situation depending on resources, skills and opportunities, as has been seen in other famine situations in the country (Wood, 1976).

It should also be noted that, due to irrigation off-take, there were systemic impacts downstream on those making traditional use of the river who were affected by lower flows. The ecological status of the wetlands in the lowest part of the Awash basin, such as Lakes Abe and Afambo, are reported to have been affected, although this author does not have access to any formal reports from that area.

This case shows how rules set up by a society through its state institutions, in this case the ability to alienate land, and the powerlessness of some groups in society, usually the poor and women, but in this case, some Afar groups, can have devastating effects, destroying a whole way of life. This is not at all unusual with wetland development (e.g. in the Hadejia-Nguru wetlands of northern Nigeria [Hollis *et al*., 1993]) and confirms the need for all stakeholders to be included in discussions concerning wetland development.
Agricultural development in Illubabor Zone: a micro-scale example

The Ethiopian Wetlands Research Programme (EWRP) has for three years been studying small valley-head and mid-valley wetlands in Illubabor Zone, which are being used to varying degrees for agriculture. This agricultural use is often long standing, the drainage technology having been first applied during the early decades of the 1900s.

Who are the wetland farmers?

In developing the project design, initial field visits led to the view that wetland farming might be undertaken by poor farmers who were unable to obtain sufficient upslope land to meet their family needs. Wetlands could be seen as marginal to the farming system and a resource that only the poor would need to use. Studies during the last three years have shown that the reality is very different and that, in contrast, it is wealthier groups who control and use these areas. Surveys by Tegegne Sishaw (1998), Afework Hailu (1998) and Solomon Mulugeta (1999) show that it is middle-rich farmers who most frequently exploit wetlands, and the very poor are the least involved. Interestingly, the richest are not that involved in wetland cultivation. These studies show that, to some extent, wetland agriculture is resource sensitive. In other words, it requires certain resources, notably oxen and money or food for daily labourers, in order to be undertaken successfully.

The question about why the richest farmers do not seem to be involved in wetlands has not been fully explored. It may be that they diversify into other activities, which are risky or are less hard work, as they get older and as young adult labour leaves the household. In fact, it may be that wetland cultivation, being part of a cycle of household economic development and demographic structural change, is best undertaken only at a certain stage and by households with adequate resources.

These three surveys and the Participatory Rural Appraisal (PRA) studies undertaken by the project (Hailu and Abbot, 1998, 1999) show that another factor affecting wetland cultivation is successful claims to this type of land. Again, it appears that it is generally the better off households who have access to wetland areas and that other socio-economic groups do not. This is a complex story, however, as most access rights to wetlands originate in Haile Selassie’s time and have developed out of the initial choices by households and landlords about who should cultivate wetlands in those days. These original use rights to wetlands continued through the Dergue period as there was no major redistribution of wetland rights, or other rights to land, in Illubabor after the 1975 Land Reform Proclamation. What this points to is the importance of political processes, which in this case have ensured that the richer households have maintained their rights to wetlands up to the present time and prevented a widening of access to these areas for cultivation. The only exception to this is with respect to settlers – immigrants from northern Ethiopia - who have been allocated wetland by communities who were not using them.

In this situation, it may be argued that wetland use rights were, at a time of land reform in 1975, appropriated by better-off farmers. Through cultivation, they have extracted wealth from these resources for their own benefit. In so doing, they have undermined the other benefits of these areas which could be obtained by more of the community if they were used and managed in different ways (see below).
One further point to note is that wetland agriculture is particularly heavy work and so is not undertaken by women. As a result, there are no home gardens or vegetable cultivation by women in wetlands. There have been some efforts by an NGO to encourage wetland cultivation of vegetables by women, but this has had very limited success.

**Wider socio-economic and gender implications of wetland agriculture**

As the Awash Valley case study shows, an important question is ‘What is the impact of wetland transformation upon those who have traditionally used wetlands?’ In the Illubabor case of wetland drainage for agriculture, the scale of the impact upon the members of the community who are not wetland farmers depends on the extent to which the wetlands are transformed for agriculture and the impacts of this. In the case where only small patches of wetland are drained and the overall vegetation and water level is little affected, the impact can be small. Where the whole wetland is transformed by drainage, however, and the wetland dries out and degrades to rough grazing, the impacts can be very serious, especially on women and the poor of both sexes. This scenario is explored below.

Temporally and spatially extensive drainage affects the water level in wetlands and, in turn, the groundwater level in the surrounding areas. This will cause springs to dry up, a phenomenon well known in Illubabor - some 150 springs are reported to have dried up in Metu Woreda during the last thirty years according the Ministry of Agriculture (Metu Woreda Agricultural Development Office, 1998). The loss of nearby spring water has had a number of serious impacts, including greater time and labour effort for women to collect water from more distant springs. This increase to the women’s workload may have an impact upon their other activities leading to less attention to other domestic, family and agricultural tasks. In extreme cases, greater time requirements on one activity may lead to increased child malnutrition if attention to children is reduced. Alternative responses to the loss of local springs may be to use streams as sources of water, which are likely to be more polluted, increasing ill health, especially amongst children. In turn, this ill health can affect farming and other domestic and economic activities, reducing food security and economic well-being.

Where the water table is lowered, there will be impacts upon crops grown in the wetlands and on lower slopes near the wetland. Several cases of the former have been identified in Illubabor (see Hailu et al, 2000). Although no specific examples of lower slope impacts have been found in Ethiopia, in Rwanda this is clearly a major problem with banana groves on the lower slopes above drained wetlands becoming less productive and even abandoned (pers. obs. Kayenzi Commune).

The complete drainage of wetlands for cultivation leads to a loss of the natural sedge, which is collected for roofing. In Illubabor, only the rich can afford the alternative tin roof, so the rest of the community is forced to search for roofing materials in wetlands further afield. In some cases, grass will be used as a replacement but this is generally seen as unacceptable in this high rainfall area. Reed collection may be possible from other wetlands in the kebele or from neighbouring kebeles. If the latter is the case, however, the host community will not generally allow the poor to collect reeds for sale or other uses beyond what they need to thatch their own roofs. The trouble is that reed cutting and selling is an important activity which poor men use to supplement
inadequate food production or to meet cash needs. Reed shortages can also undermine local craft activities, which are generally undertaken by poorer women and are an important supplement to domestic resources. Similar problems are found with respect to other products collected from wetlands. Men who collect palm fronds or medicinal plants and women who process the palm fronds used for basket and mat weaving, will have their livelihoods undermined when wetland drainage and cultivation destroys their raw material base (Fricker, 1999).

When wetlands are completely transformed, the major winners are those who are farming these areas, who are then able to develop their preferred economic activities. Most of the rest of the community lose out, except possibly poorer men who obtain wage labour opportunities connected with wetland drainage and land preparation. Opportunities may also open for land-scarce farmers who are able to make wetland share-cropping agreements with wealthy elderly or widowed farmers unable to farm by themselves. The overall effect of wetland transformation for agriculture is, however, that a much smaller section of the community gains benefits from these areas than was the case when the wetlands were in their natural state.

Finally, if over-drainage occurs, and wetlands become perennial rough grazing with neither springs nor sedges or medicinal plants, the distribution of benefits is further altered. In this case, it is only wealthier cattle owners who can benefit from this use of the former wetlands. Even cattle owners may lose out if drainage is so excessive that these areas are not even useful as dry season grazing.

This case study again shows that the transformation of wetlands has serious socio-economic and gender-specific impacts. Women in general (except the richest who do not collect water) and most poorer males, along with specialist groups such as medicinal plant collectors, lose opportunities for income generation and obtaining use benefits when wetland agriculture is developed. This differential impact of wetland transformation makes it clear that a better community management system is needed which will address, in a more inclusive and representative way, the needs of all groups in society.

**Wetlands as protected areas: a cautionary note**

Like elsewhere in the world, most wetlands are found outside protected areas in Ethiopia. Some organisations see improved wetland management as being achieved through the inclusion of these areas within protected areas. This approach seems to be inherently flawed, as the majority of wetlands will never obtain such a designation. Hence, it is important that sustainable wetland management is achieved by influencing what goes on in wetlands outside protected areas rather than trying to designate wetlands as protected areas. In addition, the designation of wetlands as protected areas can have serious negative effects on communities in the areas surrounding them by increasing poverty and gender-specific hardships by removing access to the wetland. There is no detailed evidence of this in Ethiopia, although it is known that the Rift Valley protected areas, such as the Lakes Shala and Abiyata National Park, disrupted the livelihoods of people in the surrounding areas. There exists detailed experience of the way a protected area designation on a wetland disrupts rural communities, and affects the poor worst (Gujja, 1998).
Conclusions

As with all natural resource management issues, poverty and gender are important dimensions of wetland use and transformation. In Ethiopia, wetlands will continue to play an important role in the lives of a large proportion of the population in one way or another. They are an important contributor to groundwater and hence to the maintenance of water supply and in turn rural health. They also contribute a wide range of other products such as food, fodder, medicinal plants, reeds and in some cases fish. As this paper has shown, making use of some of these wetland resources can be restricted by access rules which depend on local level political processes or by household resource constraints which limit people’s ability to use wetland resources in certain ways, such as for agriculture. Additionally, it has been shown that when wetlands are altered or transformed in some way, some of the benefits that they produce may be destroyed and this can be particularly damaging to the interests of the poor and women. Hence, social equity can be, and is often, worsened by wetland development and transformation.

Given these problems, two general conclusions can be drawn. The first is that wetlands need to be managed in ways that recognise the full range of benefits that they can provide. A use regime needs to be developed that ensures that the fullest range of benefits are produced from wetlands for the local community in a sustainable way and within a framework that also maintains the wetland’s ecological functions sustainably. Such a regime will require local experimentation for each type of wetland and socio-economic setting, but will generally involve building on local knowledge and recognising the interests of the different stakeholders who are interested in the range of wetland-produced benefits.

The second conclusion concerns the way in which the management of wetlands needs to be developed to ensure equitable access to wetland-produced benefits. This requires agreement amongst all wetland stakeholders of the uses to which a wetland can be put and its management arrangements. This must be couched within a framework that recognises basic limitations to the sustainable use or production of use benefits. To achieve this, it is necessary to develop local institutions for wetland management that can ensure equitable and democratic decision-making and can build up a consensus about the management of the wetland. Possible management methods include stakeholder analysis disaggregated by gender and socio-economic status, as well as community-level Environmental Impact Assessments (EIAs). These would help to identify the impacts of different wetland management options with respect not just to the environment but also to different groups in the local community and beyond.

Making sure that different groups of women and men of different socio-economic status are included in these processes and have effective representation should not be seen as an additional burden for those concerned with wetland management. Rather, it should be recognised as vital because unless the whole community is involved in management decision-making, and a consensus obtained, the sustainable use of wetlands will not be achieved. Wetland management, which is developed by the few for the few, only sets up a basis for future conflict and for worsening the poverty and exclusion of the politically weak. Often, it facilitates the over-exploitation of wetland resources by one group and undermines the ecological functioning of these areas. In contrast, the sustainable use of
wetlands can only be achieved if it is based upon an understanding of the interests of all the stakeholders and the achievement of socially sustainable management arrangements.

References


