Rhetoric vs. realities—An assessment of rainwater management planning and implementation modalities in Oromia and Amhara regions, Ethiopia

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Rhetoric vs. realities—An assessment of rainwater management planning and implementation modalities in Oromia and Amhara regions, Ethiopia[5]

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Abstract: This paper is the first in a series of three interrelated papers and focuses on planning and implementation modalities of Rainwater Management (RWM) Strategies. It is part of the NBDC project '*On integrated RWM strategies—technologies, institutions and policies*'. The project is underpinned by the recognition that integrated RWM needs to combine technologies, policies and institutions and be developed through multi-stakeholder engagement to foster innovation. Three *woredas* were selected for the research—Jeldu and Diga in Oromia Region and Fogera in Amhara Region. The research on planning and implementation of RWS is guided by the hypothesis that there is a gap between available policy and guidelines and specific planning and implementation procedures. Research findings conclude that RWM planning and implementation is still rather top–down and technology-oriented instead of people-centred. Local processes are not in place to take account of different livelihood strategies and constraints, cultural, social or institutional dynamics as well as power relations and gender issues. The research concludes with six recommendations, largely aimed at Ethiopian policymakers and implementing agencies, suggesting an alternative approach to RWM planning and implementation processes which would help improve the impact, sustainability and local ownership of interventions. The paper outlines RWM strategies which are developed with true participation of farmers and other stakeholders; are based on evidence of what works and why; take into account specific socio-economic and ecological niches; work across relevant sectors; and support local opportunities for innovation.

Introduction

Smallholder rainfed farming is the backbone of the Ethiopian agriculture sector, the dominant contributor to national GDP and at the heart of the country's current national economic growth strategy. Considerable potential exists for enhancing food production and rural livelihoods through better rainwater management (RWM)—interventions which enable smallholder farmers to increase agricultural production by making better use of available rainwater while sustaining the natural resource base in rainfed farming systems.

5. This paper is a summary of a longer research report authored by the same authors and published in the CPWF Research for Development Series, No. 5.

Ethiopia has invested extensively in RWM interventions, in particular soil and water conservation and afforestation, over the last 40 years, but often with disappointing impact for multiple reasons. Given this limited success in natural resource conservation, a new approach is clearly needed, but what should it be? This question is at the centre of the Nile Basin Development Challenge (NBDC) program, part of the larger 'Challenge Programme on Water and Food'. The two key elements of the NBDC approach are (1) viewing RWM as a landscape-scale issue, whereby watersheds are conceived as socio-agro-ecological systems with social, economic and institutional networks that may cross-cut hydrological boundaries; and (2) recognizing that improving RWM successfully and on a sustainable basis, requires a focus on institutions as well as technologies and a new approach to planning, implementation and monitoring of interventions.

The NBDC program is implemented through five related projects. The Nile 2 project (N2), '*On integrated RWM strategies—technologies, institutions and policies*', is centred on field research in three pilot learning sites. The starting point for research in N2 is that integrated RWM strategies need to combine technologies/practices, policies and institutions and need to be developed through innovative approaches that bring together different stakeholders. Because policies and institutions can foster or discourage the adoption of productivity-increasing, resource-conserving strategies by farmers, the project also examines the extent to which policy change and institutional strengthening and reform could be combined with new technologies to spur widespread innovation.

Research questions

A central mechanism for stimulating innovation within the NBDC is the use of '*innovation platforms*' at district and national levels. The diagnosis of RWM planning and implementation modalities was in part designed to inform the development of innovation platforms (see also Paper by Aklilu Amsalu et al. and by Beth Cullen et al.) by providing a baseline understanding of existing RWM strategies and institutional arrangements at local level. There are various elements to this. First, we were interested in how RWM interventions are planned and implemented at local level and how different actors are involved in this process. Second, we were interested in what government's role in planning and implementing RWM means for local 'innovation capacity'. Finally we wanted to understand the diversity of local livelihood strategies and how these might intersect with formal and informal approaches to RWM in our study sites.

Approach and methods

Three *woredas* (districts) in the Blue Nile Basin of Ethiopia were selected for intensive study as part of the larger project. These are Jeldu and Diga in Oromia Regional State and Fogera in Amhara Regional State.

Jeldu (West Shewa Zone, Oromia Region) is characterized by a mixed crop–livestock system. Potato and barley are dominant crops especially in the highland part of the *woreda*. Some of the current drivers of change in Jeldu include land degradation (soil erosion), seasonal migration of youth to towns and market constraints.

Diga (East Wollega Zone, Oromia Region) is characterized by a mixed crop–livestock farming system with a lowland-dominated agro-ecology including maize, sorghum, coffee, vegetables, mango and sesame. In comparison with the other research sites, natural vegetation is still comparatively widespread, although deforestation is increasing. In-migration and movement from the highlands to the lowlands in order to access fertile farmland are important driving forces.

Fogera (South Gondar Zone, Amhara Region) is characterized by a mixed crop–livestock farming system. Rice production is an important strategy for market integration in Fogera, accounting for more than 20% of the arable land. Expansion of rice production, enhanced markets and conflict over grazing land are some of the many drivers of change in the *woreda*.

Data collection, analysis and write-up of site reports were carried out between November 2010 and December 2011. The final analysis and writing has been done during 2012 and has been influenced and informed by subsequent research in the three sites.

In each of the three study *woredas*, five *kebeles* were identified for in-depth primary data collection. *Kebeles* were sampled purposively to capture a range of agro-ecologies (highland/midland/lowland), presence/absence of RWM interventions and high/low levels of natural resource degradation.

A broad suite of methods and tools for data collection was used, including:

- Community resource mapping and participatory timelines;
- Focus group discussions (male and female groups separately for livelihoods analysis and a mixed group focusing on innovation capacity; each group captured a range of ages and wealth status);
- Key informant interviews with a broad range of stakeholders; and
- Secondary data collection from *kebele* and *woreda* offices.

At each site, a team consisting of researchers from a nearby Agricultural Research Centre and a regional University (Adet Research Centre and Bahir Dar University for Fogera, Bako Research Centre and Wellega University for Diga and Holetta Research Centre and Ambo University for Jeldu) were responsible for carrying out data collection, analysis and write-up of site reports. The research teams were supported by researchers from ILRI, IWMI, ODI and Addis Ababa University, who also developed question guides and tools for data collection and analysis, provided feedback on site reports and wrote the synthesis report (Ludi et al. 2013).

Findings

Past interventions, politics and policy in relation to RWM

Land degradation in Ethiopia presents a major challenge in terms of agricultural productivity, food security and rural livelihoods. Various land and water management programs have been implemented on farms and community lands over the past four decades, undertaken by government agencies in collaboration with national and international organizations. However, success to date has been limited. Reasons identified include: top–down planning and implementation; standardized intervention packages based on inadequate scientific and technical knowledge; use of quota systems; lack of an integrated or systematic watershed approach; limited consideration of variations in agro-ecological conditions; and coerced participation with little regard for the views of the people (Merrey and Gebreselassie 2011: 54). These programs were therefore widely perceived as government-imposed activities (Keeley and Scoones 2000: 103). Although participating farmers received food rations in return for their work, the structures created often served no positive purpose and at the end of the Derg government, a large proportion of these were either deliberately destroyed or abandoned (Merrey and Gebreselassie 2011: 54).

When EPRDF came to power in 1991, the new government committed itself to a decentralized political system and a new Constitution. Since then there has been a gradual shift towards more participatory community-driven approaches, increased emphasis on 'awareness raising', consultation and building projects from the 'bottom–up' (Keeley and Scoones 2000: 107). Added to this was growing talk of 'sustainability', 'integrated natural resource management' and a commitment to involve farmers in agricultural development activities, including an appreciation of their knowledge (ibid. 108). Current RWM programs are now taking a more systematic approach with an emphasis on consultation and planning on a watershed basis. Soil and water conservation or sustainable land management programs also focus more on enhancing farmers' incomes and food security. As Merrey and Gebreselassie (2011: 55) assert, 'Improved water and land management should be a means to improving peoples' lives, not an end in itself'. However, 'top–down blueprint approaches remain pervasive with agricultural extension largely focused on technology transfer' (*ibid*., 41). Programs remain quota driven and focused on the promotion of 'best practice' packages. There is also considerable

evidence that many of the soil and water conservation structures promoted to date have low or negative returns and are often not perceived positively by farmers (Merrey and Gebreselassie 2011).

Planning of RWM

The rationale for focusing on planning and implementation of RWM was based on the recognition that a number of national and regional policies and strategies in relation to RWM exist. These include very detailed guidelines, for example for participatory community watershed management (e.g. Desta et al. 2005). However, planners, in particular at lower administrative levels, do often not have sufficient tools and skills available to engage at a landscape level for effective integrated and multi-sectoral planning and implementation of RWM. In sum, a major hypothesis guiding this research was that there is a gap between available policy and guidelines and specific implementation. The baseline study also assessed the effectiveness of RWM planning in terms of its being evidence-based, tailored to social and ecological niches, cross-sectoral and participatory.

The research concluded that there are five issues with the current planning process that need to be addressed if improving RWM is to become an integral part of sustainable agricultural development:

1 The discrepancy between policy and practice. While participation is a central plank of policy and land users are considered to be the main driver of planning and implementation of RWM at local level; in reality plans are too often guided by quotas supplied by higher-level administrative units.

2 Notions of participation. There is a very different understanding of the word 'participation' among different actors. Often, participation in the context of RWM planning and implementation tends to mean mobilizing farmers to implement something, rather than providing incentives to engage in voluntary collective action and involving them in decision-making (Harrison 2002). Although at *kebele* level, planning processes attempt to be participatory and land users are involved in discussing problems and identifying priority RWM interventions, these plans do not necessarily get picked up sufficiently in planning of activities at higher administrative levels.

3 Incentives for DAs. Although at local level, DAs try to reconcile as much as possible plans developed at local level with those plans received from the *woreda* to take account of local realities, in the end *woreda* plans with set quotas tend to be approved for implementation because quotas are used for performance monitoring. If DAs do not meet their quotas there are repercussions for their performance rating and their prospects of promotion. In general, DAs could play a more effective role in local planning if they were better connected with higher levels of government in terms of support and two-way communication.

4 Failure to anticipate conflicts. Because plans are developed without sufficient recognition of local realities, conflicts at local level can arise. Most prominent are examples related to small-scale irrigation where downstream water use was insufficiently recognized, but also conflicts within watersheds when, for example, areas previously used for grazing livestock were closed off for rehabilitation, increasing pressure on existing grazing land.

5 Missed opportunities for sustainability. Developing plans without sufficient local participation misses opportunities to tap into local cultural practices and institutions which would make it easier to implement RWM and could enhance the sustainability and ownership of interventions.

Overall, the research has identified a key dilemma: national plan, output targets and a generally top–down planning focus vs. devolution, decentralization and participation in planning and co-development of innovations at the lowest possible level. This needs to be resolved if RWM interventions are to be owned by farmers, be sustainable and make a meaningful contribution to improved environmental management and better livelihoods. These features of the planning process have direct implications for the way in which RWM is implemented and the effectiveness of interventions on the ground. This is clearly evident in the discussion of findings on implementation which follows below.

Implementation

Despite several decades of intensive investments in RWM and natural resource management across Ethiopia, the impact on livelihoods and natural resources quality and quantity in many areas is rather disappointing. This should not distract, however, from the numerous sites across the Ethiopian Highlands where RWM and NRM has been more successful and is reported to have led to increasing household wellbeing, increasing community resilience and improved availability of a variety of natural resources. Many land and water management technologies and approaches are not achieving their full impact, mainly because of low levels of ownership and sustainability, but also because where degradation of natural resources is less advanced, the benefits of natural resource conservation are more difficult to detect. Approaches to NRM and RWM have historically been technology-oriented and top–down in approach with insufficient regard for the needs, aspirations, constraints and livelihood realities faced by farming communities. In addition, many RWM investments were seen as an end in themselves rather than a means to achieve improved household wellbeing and increased community resilience—as has been recognized by some programs such as 'MERET'. It is of critical importance that RWM strategies adopt a people-centred approach which takes into account local livelihood strategies and constraints, cultural, social and institutional dynamics as well as power relations and gender issues. It is essential to gain an understanding of these aspects because they feed into development planning for sustainable land use and livelihoods.

The research found that there is a long tradition of RWM interventions in the study sites, particularly those implemented by farmers on their own land. Other interventions which are more labour and cost-intensive and need coordination across several farms or a watershed are much less likely to be sustainable. There are at least six reasons for the poor sustainability of these interventions:

- Lack of relevance to local priorities. As discussed, plans are not necessarily congruent with local needs assessment.

- Weaknesses in technical design. In some cases, DAs lack the required technical skills, or do not have access to information about the range of possible technologies or practices.

- Lack of voluntary collective action. Compulsory campaigns to implement RWM do not inspire ownership and maintenance after construction.

- Lack of clear governance arrangements for interventions on communal land. Although farmers would not necessarily be motivated to sustain interventions on their own land unless they perceived them to have clear value (both direct financial and non-financial), the weak enforcement of rules for management of communal resources (and low penalties for violations) creates a disincentive for individuals to invest in managing these better.

- Poor follow up and monitoring. There is very little follow up by DAs and *woreda* experts as performance monitoring is based on outputs, i.e. quota achievement and not on outcomes or sustainability/longevity of interventions.

- Focus on isolated technical interventions. There is typically a narrow focus on isolated technical interventions, such as bunds or ponds and very little attention to supporting needed interventions such as changing patterns of water use or land management.

This research did not assess in detail the performance of particular interventions and practices and their contribution to enhanced crop productivity, water productivity or livelihoods, nor issues around land management and how this could be integrated with the application of specific RWM technologies. These are key issues which need to be better researched and understood in order to develop more effective RWM strategies and implementation approaches. Strengthening monitoring and evidence collection functions of *kebele* and *woreda* officials on the impact and effectiveness of RWM interventions would make a huge contribution.

Livelihood issues and RWM

Our research has highlighted many specific livelihood issues and several underlying institutional processes which need to be considered if RWM activities are to be successful. Key among these is active involvement of community members in the process of RWM activities right from the start. Development agenda and interventions introduced by outsiders may conflict with local knowledge and priorities which address specific needs and circumstances. Community perspectives should therefore be integrated with plans of action for long-term sustainability. Better understanding of current knowledge and practices, coping mechanisms, capacity for innovation and mechanisms for community mobilization, as well as understanding the reasons for resistance to certain interventions, could lead to a much better understanding of how, where and what to promote when it comes to RWM.

There are potentially exciting opportunities for co-development of plans and interventions which incorporate local perspectives as well as develop farmers' capacity to innovate. Care must be taken not to idealize indigenous knowledge, but multi-stakeholder participatory processes involving external agents and community members can be used to assist local communities to organize and assess their own knowledge and resources whilst also identifying and integrating appropriate outsider knowledge and technologies. Further, it is 'not narrow disciplinary research that is necessary for addressing land degradation and its impacts, but interdisciplinary communication and transdisciplinary collaboration (Ludi 2004: 387). This includes multi-disciplinary research, research partnerships between researchers and research organizations from Ethiopia and from abroad and genuine collaboration of researchers and the concerned society. Not focusing on either participatory approaches or scientific methods alone, but combining the two knowledge systems equitably will be the key to finding options for sustainable land management and sustainable livelihoods.

However, it is also important to bear in mind that not everyone may want to share their knowledge. People may have good reasons for not wanting to make their perspectives and knowledge known or widely available. People in rural areas work long and exhausting hours and have little time to carry out project tasks, particularly if they cannot see tangible benefits. If farmers already have to do compulsory work on resource conservation activities such as watershed protection or tree planting, as well as being required to attend political meetings, 'sensitization' sessions and trainings, they may not be willing to participate in additional planning events. This is particularly relevant if their experiences of 'participation' are already negative. Therefore, it will be important to develop mechanisms for collaboration between various stakeholders which enable different knowledge and perspectives to be exchanged, shared and translated into action. As Teshale et al. (2001) highlight, 'While devolving the responsibility for resource planning and management to local communities may be a necessary condition for meeting the objective of sustainable development, it is important—particularly in the case of developing countries—that this is complemented with capacity building initiatives at local and national levels in an integrated framework' (2001: 34).

Conclusions and recommendations

The study concludes with six recommendations, which are largely for Ethiopian policymakers and implementing agencies. They are also currently being tested and demonstrated through an action research process in the three research sites under the NBDC program and the results are being shared through various consultative platforms at local, regional and national levels. Together they represent an approach to improving the RWM planning and implementation processes in rural Ethiopia such that impact, sustainability and local ownership of interventions are prioritized and strategies are based upon meaningful participation of farmers and other stakeholders, a growing base of evidence about what works and why and increasing opportunity for true innovation at all levels. Although such processes are not always straightforward and this does represent a major shift away from current practice, some of the foundations of this approach are in fact already present in existing policies and implementation guidelines.

The six main recommendations are:

- Shift the focus of targets from outputs to outcomes;
- Enhance monitoring and evidence collection on RWM with a focus on impact and sustainability;
- Revitalize and capitalize on the DA system;
- Strengthen local institutions' roles in RWM;
- Move towards more meaningful participation;
- Open lines of communication to foster innovation capacity.

By the completion of the NBDC, we hope to have provided evidence that adoption of these recommendations can contribute significantly to achieving the long-term goals of sustainable productive agriculture and natural resource conservation in the Ethiopian Highlands; they can be implemented at a large scale; and their implementation will result in positive benefits at landscape and watershed as well as community and farm levels.

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