



Water Integrity Brief

Providing a concise overview of specific themes related to water integrity

Infrastructure

The circumstances of corruption in planning small reservoirs in sub-Saharan Africa

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BACKGROUND

This joint WIN-IWMI Brief discusses the consequences of corruption and mismanagement in the planning and building of small reservoirs in rural Sub-Saharan Africa. Drawing on research from the International Water Management Institute (IWMI) carried out by Jean Philippe Venot and his colleagues, it highlights some of the benefits and challenges associated with small reservoirs, and lessons learned that can prevent corruption when planning new local reservoirs or rehabilitating existing ones (Venot et al, 2012 4).

1. INTRODUCTION

In recent years, small reservoir construction and rehabilitation has proliferated in rural Sub-Saharan Africa. Small reservoirs offer multiple benefits to local communities, ranging from water conservation to livestock watering and irrigation. However, they have also been criticised for high construction costs and poor performance. The challenges facing small reservoir projects arise in the planning and investment process, and are caused by conflicting interests, political motives and mismanagement. These complex dynamics are grounded in a lack of accountability to local communities and daily breaches of integrity.

If small reservoirs are to fulfill their potential in improving rural infrastructure and livelihoods, closer attention must be paid to the multiple processes and dynamics between the various actors involved in their planning and construction.

2. SMALL RESERVOIRS IN SUB-SAHARAN AFRICA

2.1. Benefits

Small reservoirs, micro-dams, tanks, *johads*, *lacs collinaires*, or *açudes*¹ – as they are called in various countries – dot rural landscapes all over the world. They are small water bodies that serve rural communities and enable them to make a living. The volume, size, design, purpose and history of these water bodies vary across regions, and there are no commonly agreed definitions or criteria to describe them (Venot and Krishnan, 2011: 316). However, as a minimal definition, these water bodies can be considered as ‘impounding permanent and temporary rivers, hence increasing water availability locally’ (Venot et al., 2012: 2).

In most countries of Sub-Saharan Africa, small reservoirs consist of earth or cement dams less than 7.5 metres high and storing up to a million cubic meters of water (see table 1). They sometimes support adjacent irrigation areas downstream of up to 50 hectares. Funding for the construction of small reservoirs often comes from governments, international donors or non-governmental

¹ Johads is the Indian term, Lacs collinaires is used in Francophone North Africa and Açude is the term in Brazil

TABLE 1 Small dams in numbers: sample countries in Sub-Saharan Africa

Burkina Faso	> 1,000
Ethiopia	> 100
Ghana	> 1,000
Ivory Coast	> 600
Mali	> 800
Mauritania	> 350
Mozambique	> 600
Uganda	> 500
Zimbabwe	> 9,000
Zambia	> 2,000

Source: AG Water Solutions 2011a

organisations (NGOs), while local water authorities, committees or associations are responsible for their management and maintenance (AG Water Solutions, 2011b). Since the 1990s, the development community has shown renewed interest in the construction and rehabilitation of these comparatively small infrastructure projects, as they are particularly useful for soil and water conservation, drought-proofing measures and enabling a wide range of livelihoods.

In rural regions, these water reservoirs support community-based irrigation, livestock rearing, fisheries, cottage industries and domestic needs, such as cooking and bathing. These small reservoirs enhance rural incomes and contribute to food security, helping to limit migration from rural areas. They are also considered a buffer against extreme weather conditions and climatic change (Venot et al., 2012; see also Fromageot et al., 2006; McCartney and Smakhtin, 2010; Savy et al., 2006).

2.2. Shortcomings of small water reservoirs

The numerous benefits of small reservoirs are often weighed against their shortcomings. These are predominately management-oriented and technical in nature. Key criticisms include:

- High construction costs for small reservoirs in relation to their benefits
- Region-specific design, which makes replication difficult
- Exclusion of local communities from the planning, design, construction and maintenance process
- Poor-quality construction and low performance
- Inconsistent commitment by governments and donors

A detailed ethnographic study of the planning and implementation of two small reservoirs in Ghana conducted by Venot et al. (2011, 2012) shows that many of the shortcomings relating to high costs and mismanagement could have been prevented if closer attention had been paid to the varying motivations, interests and dynamics of all the actors involved. These shortcomings include corrupt practices and a lack of accountability in planning and implementation. The following section focuses on the dynamics of the planning and implementation phase of small reservoir projects, and how these can result in disadvantages such as increase corruption risks, excessive costs and poor-quality construction.

3. DYNAMICS IN THE PLANNING AND IMPLEMENTATION PROCESSES

The studies conducted in Ghana (Venot et al., 2011) show that a number of factors increase the risks of corruption in the planning and construction of small reservoirs. These include political agendas and bad management (such as insufficient timescales, low-quality feasibility studies, delays in payment, and insufficient construction-site supervision). These generate unnecessary costs and lower the quality of small reservoirs. Table 2 highlights the shortcomings at a macro-level that are grounded in daily working situations, while some of the key management challenges are examined below

TABLE 2 Main corruption risks in small-scale water infrastructure projects

	Macro-level inadequacies	Daily working circumstances
Identification of site, planning and financing	<ul style="list-style-type: none"> • Prestige projects • Pressure to disburse funds • Bias towards capital-intensive options • Weak transparency and accountability – notably towards local communities • Discrepancy between projects and national priorities and strategies 	<ul style="list-style-type: none"> • Individuals assessed in relation to the volume and number of projects, rather than their outcomes • Project buys in political support • Cover-up of fraudulent practices (e.g. kickbacks) through design, over-estimation of costs and complex procedures
Management and programme design	<ul style="list-style-type: none"> • Weak interaction, accountability and information flows between multiple centres of decision making • Weak transparency and accountability – notably towards local communities • Disregarded or low-quality feasibility studies 	<ul style="list-style-type: none"> • Project buys in political support (influences site selection) • Cover-up of fraudulent practices (e.g. kickbacks) through design, over-estimation of costs and complex procedures
Tendering and procurement	<ul style="list-style-type: none"> • Procedures look good on paper, but are complex and inadequately enforced • Poor accountability to communities, and low levels of local empowerment • Low-quality design/bidding documents • Lack of time or capacity to evaluate bids and manage contracts 	<ul style="list-style-type: none"> • Award of contracts is a political act, not a bureaucratic one (selection of unsuitable contractors; cover-up of fraudulent documentation) • Tight network of actors, leading to collusion between public servants, contractors and consultants • Gift-giving, (“A token of our appreciation”) is a commonly accepted practice • Bribery (‘speed money’) allows for decreasing transaction costs
Implementation, construction and supervision	<ul style="list-style-type: none"> • Weak interaction, accountability and information flows between multiple centres of decision making • Delays (in work and payment) • Little attention to supervision • Failure to comply with contract specification and clauses • Absence of accountability to communities, and low levels of local empowerment • Poor capacity and knowledge on the part of contractors, consultants or supervisors 	<ul style="list-style-type: none"> • Allow for, and cover up, fraudulent practices, as long as they enable ‘minimal functioning’ of projects. • Supervising entities rely on contractors to conduct their work (leniency) • Tight network of actors, leading to collusion between public servants, contractors and consultants (leads to leniency, kickbacks, overbilling, etc.) • Project buys in political support (influences site selection)

Source: Table adapted from Venot et al (2012) and Gonzales de Asis et al.(2009)



Micro-Dam in Tigray, Ethiopia
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3.1. Time constraints and poor-quality feasibility studies

Besides monetary investment, adequate time is crucial for the planning and construction of small reservoirs. Officials and planners often rush processes, in pursuit of their own political or personal agendas. For example, in Ghana during 2007, many dams and small reservoirs were breached due to heavy rains. The government announced plans to rehabilitate numerous ruined dams and reservoirs in an unrealistically short period, without allowing adequate time for the necessary feasibility studies. The rush to rehabilitate the structures did not permit enough time for the collection of acceptable bidding documents. Many were vague in content with approximate design and cost assessments. This breeds opportunities for collusion and bribery between officials and contractors, leading to increased costs or lower-quality construction. Poor feasibility studies, inadequate bidding documents and lower numbers of bids increase the incidence of 'variation orders', through which suppliers can change the original terms of their contract to their benefit. Variation orders can be necessary and warranted in many cases, but in others, they may lead to unjustified and excessive costs. This is particularly likely if communities are not able to help define the scope of a project, and the management focus lies on the disbursement of funds to fulfil donor demands, rather than on local needs (Venot et al., 2011, AG Water Solutions, 2011b).

3.2. Weak enforcement of procurement guidelines

Most countries have a rigid set of procurement guidelines, often devised with international donors,

but they lack enforcement structures and capacity. These guidelines are often neglected due to a lack of time, resources or skills to evaluate bids properly, and an unwillingness to control corruption or follow rules which are often externally imposed. More importantly, political patronage is part of most planning processes (in developing as well as developed countries). However, this is still rarely acknowledged. The Ghana study shows that even though there is a formal separation between contractors submitting the bids and agencies selecting the winners, in reality most actors know and interact with each other. For example, many civil engineers have been trained in the same university department as key agency personnel, or are former colleagues. Interviews revealed that more contracts are awarded based on political affiliations than on bureaucratic processes and clear guidelines. If the suitability of contractors is not the main criterion for selection, this has a serious impact on the cost and quality of small reservoir construction (AG Water Solutions, 2011b; Venot et al., 2011).

3.3. Delays in payment, causing petty corruption

Red tape in administrative procedures for payments further impedes the planning and implementation process. In Ghana, contractors had to wait from two weeks to 10 months to receive full payment after the completion of work. They often go through numerous bureaucratic steps between the supervisors' site visit and the resulting payment (Venot et al. 2011: 411f), which can force them to resort to petty corruption and 'speed money' (see [box 1](#)) to facilitate the process. This is especially the case with smaller contractors who do not have enough working capital to cover delays in payment. Contractors are then incentivised to compensate for the additional costs by carrying out lower-quality work (AG-Water Solutions, 9-2011b). In unrealistically short timeframes, procedural complexity and a lack of transparency may threaten the sustainability of rehabilitation and construction works, forcing contractors to resort to corrupt practices.

3.4. Lack of capacity, funding and on-site accountability

Studies in Sub-Saharan Africa have shown that low salaries, high staff turnover and insufficient experience hinder construction-site supervision and monitoring. The result is poor-quality work in small reservoir construction. Other constraints to proper supervision

include lack of time, funds and other resources among programme staff. For example, in a local government office in Ghana, only one vehicle was available for five staff members to supervise up to 11 sites each. The non-availability of vehicles makes supervisors dependent on contractors to take them to inspect sites. This creates interdependence between contractors and supervisors, leading to a relationship often described as 'reciprocity' rather than corruption (Venot et al, 2011: 413). Even if on-site monitoring is included in the construction plan, in reality, most of these offices are not properly equipped with the staff and capacity to carry out their supervisory role.

4. LESSONS LEARNT AND RECOMMENDATIONS

This brief highlights the challenges that emerge during the planning processes for small reservoirs. These shortcomings can create incentives for corrupt practices, which result in excessive costs and poor performance by the reservoirs. However, these shortcomings can be mitigated if several issues are considered during the planning phase. The most important factor is that all parties acknowledge the complexity of the planning and construction process, owing to the multiple actors and various interests involved. Small reservoirs should be understood in their socio-political contexts and in relation to the multiple roles they play for local communities, municipalities, national governments and international donors.

4.1. Lessons learnt – keep eyes open

Many of the shortcomings in reservoir planning and construction emerge in situations in which corruption is accepted as a 'given practice' that cannot or should not be specifically targeted. Practices that are often described as 'corrupt' are standard in many places, and even make it possible to complete projects (AG Water Solutions 2011) – but at an inflated cost, producing poor-quality structures. Even though most project participants are aware of irregularities in payments, they adjust their working procedures to existing conditions, accepting false requirements as a structural precondition. Financial irregularities are accepted as the norm which people work around. They are often interpreted simply as the 'relaxing' of formal and institutional procedures. It is important to note that even through these breaches of integrity, it is through them that project get to be implemented. However, this happens at the expense of the most

vulnerable sections of society, who suffer most when deprived of adequate water supplies.

It is important to raise awareness of corruption as a problem in the planning cycle, and to highlight the detrimental effects and injustices it causes. Creating an environment in which it is possible to learn and talk about corruption is a first step towards preventing it.

4.2. Lessons learnt - investment in time and beneficiaries

To avoid corruption among the various actors and institutions involved in small reservoir construction, it is important to study and understand local contexts and specific social, political and cultural circumstances – as well as the different motivations and interests of stakeholders. For example, a study in Burkina Faso highlighted that during the decision-making process for water allocation, the local representatives of state agencies are actively involved, while marginalised people do not have the opportunity to raise their concerns, due to local politics and a lack of adequate skills and capacity (Sally et al, 2011). The planning phase of small reservoir projects, which is when stakeholder involvement is the most crucial, is usually kept short, which enables decisions to be taken by the few actors who play an influential role. Genuine involvement and participation of beneficiaries in decision-making processes, and the establishment and enforcement of accountability rules for users, are key drivers of anti-corruption efforts. This does not mean adopting a naive approach towards politics and conflicts within local communities, but instead finding innovative ways to engage with them. Many communities are often perceived as unable to contribute usefully, but their perceptions, knowledge and experience should be recognised as valuable, as they have traditional understanding and expertise of the situation on the ground.

It is important to acknowledge the complexity and confusion within the planning process. This requires the allocation of more time for the planning and negotiation phases, in order to build trust among all project participants. Organisational processes must ensure user participation in the design, decision-making, inspection and monitoring of small reservoir construction, to ensure accountability.

4.3. Lessons learnt – be open to situation-specific innovation

Monitoring and supervision of construction sites – especially for small-scale local projects – are crucial, but are often overlooked owing to shortages of time, trained staff and resources. Yet there are sometimes simple, affordable solutions to the problem of site supervision – for example, the provision of motorbikes and fuel to site supervisors (Venot et al 2011: 414). This small expenditure can result in better project implementation and improves the quality of construction, greatly enhancing a reservoir’s sustainability. There are many innovative small-scale solutions and procedures for supervising the planning and on-site management of small reservoirs, and it is important to understand and learn from these. They work best if beneficiaries and user communities are informed, trained and equipped to participate in the monitoring process, producing a culture of ‘downward’ rather than upward accountability.

Innovative, small-scale, context-specific approaches are recommended in planning small reservoir construction.

BOX 1 Speed money benefits

By offering speed money to officials, contractors can ‘speed-up’ payment processes, to make sure that payments are released on time. This allows them to start the next phase of work. Without this bribe, contractors would not have adequate funds as payment would not have been released and they would be unable to initiate the next phase of the work, increasing risk of interruption before the onset of the rainy season. The ‘speed money’ thus allows the small reservoir to be built on time without interruption.

The speed money offered by contractors to officials is recovered by them through diluted investment which results in poor quality construction. This compromise in quality ultimately occurs at the expense of the users.

4.4. Lessons learnt – Further research is needed on daily working conditions

Little research has been carried out on the daily working circumstances and constraints that different actors face when involved in planning, constructing and using small reservoirs. Many research studies focus on donors, policymakers and national investment, but few examine the role of small entrepreneurs and contractors, and their working culture and constraints. At the same time, the interactions and informal relationships between various donor organisations, government departments and other planning institutions are often overlooked in research, even though they strongly influence decision-making.

More research is needed on the daily lives and working conditions of actors involved in the planning and implementation of small reservoirs.



Small reservoirs provide water for livestock and small ruminants, Burkina Faso
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For a detailed list of references that this paper is based on, please contact us or refer to our website.