



INSTITUTIONAL ANALYSIS OF SMALL MULTI-PURPOSE RESERVOIRS FOR SUSTAINABLE DEVELOPMENT IN LIMPOPO BASIN, ZIMBABWE

M. Munamati and A.Senzanje

*Department of Soil Science & Agricultural Engineering.
University of Zimbabwe, P.O. Box MP167, Mt. Pleasant, Harare, Zimbabwe*

BACKGROUND

Small reservoirs development started way back before independence and this has been an ongoing process. However, the droughts that were experienced by Zimbabwe in the 1990s led to the development of more small reservoirs. This is the period when programs such as 'A dam per district' and "Give a dam" campaign were launched (Senzanje and Chimbari, 2002). Often small reservoirs were constructed in a series of projects funded by different agencies at different times with no proper coordination between implementing partners. In addition small dams especially in the pre-independence era were built with little or no community participation (Zirebwa and Twomlow; 1999; Senzanje and Chimbari, 2002). As a result small reservoirs were not used optimally and are falling into disrepair an indication that there is room for improvement in the planning, development, operation and maintenance

HISTORICAL PERSPECTIVE OF SMALL RESERVOIRS INSTITUTIONS
Some of the Acts in the colonial era were; Water Act 1927, Water Act 1947 and Water Act 1976. These acts were meant to control access of water by white minority (Earle, 2006). Development of small reservoirs was the mandate of the settlers, they devised rules pertaining to

WHY ARE INSTITUTIONS IMPORTANT?

Small reservoirs failures occur more frequently and their total annual cost is more serious than that of large dams, (Pisaniello et al, 2006). Past events have occurred where failures of relatively small dams have had quite disastrous consequences, these events suggest that without appropriate design, construction and maintenance, poorly managed small dams can cause significant human and property losses to the community (Pisaniello et al, 2006).

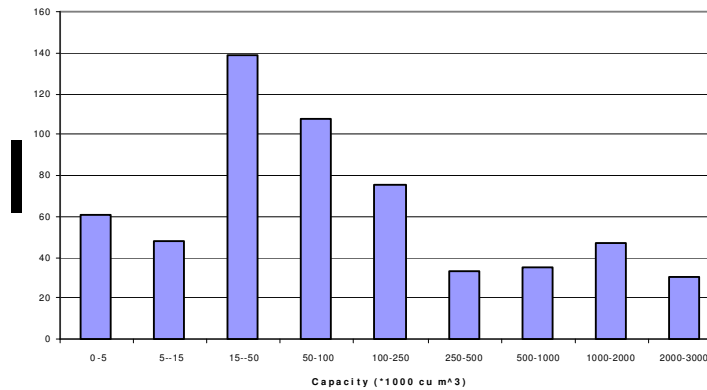


Figure 1: Small dams distribution by capacity in Zimbabwe

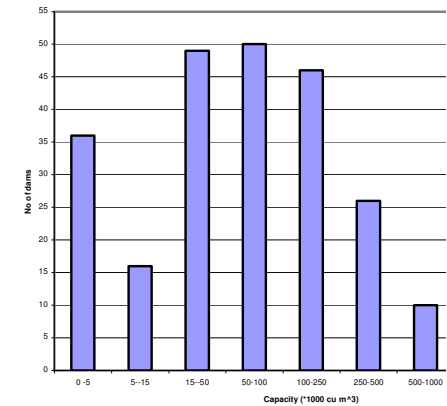


Figure 2: Small dams distribution by capacity in the Matebeleland South province

OBJECTIVE

The key objective of the study was to critically analyze the current institutions with respect to small reservoirs

METHODOLOGY

The material presented here is based on secondary data source that include legal and policy documents. The documents reviewed are ; Water Act 1996

management of water from small reservoirs located in communal areas since the water right was owned by either the District Administrator or the Minister of Water Development. However, they had freedom to construct their small reservoirs and manage them as they please since they had water rights attached to their land. Since they owned all the small reservoirs it is only logical to say that the institutions then regarding development of small reservoirs were to their advantage.

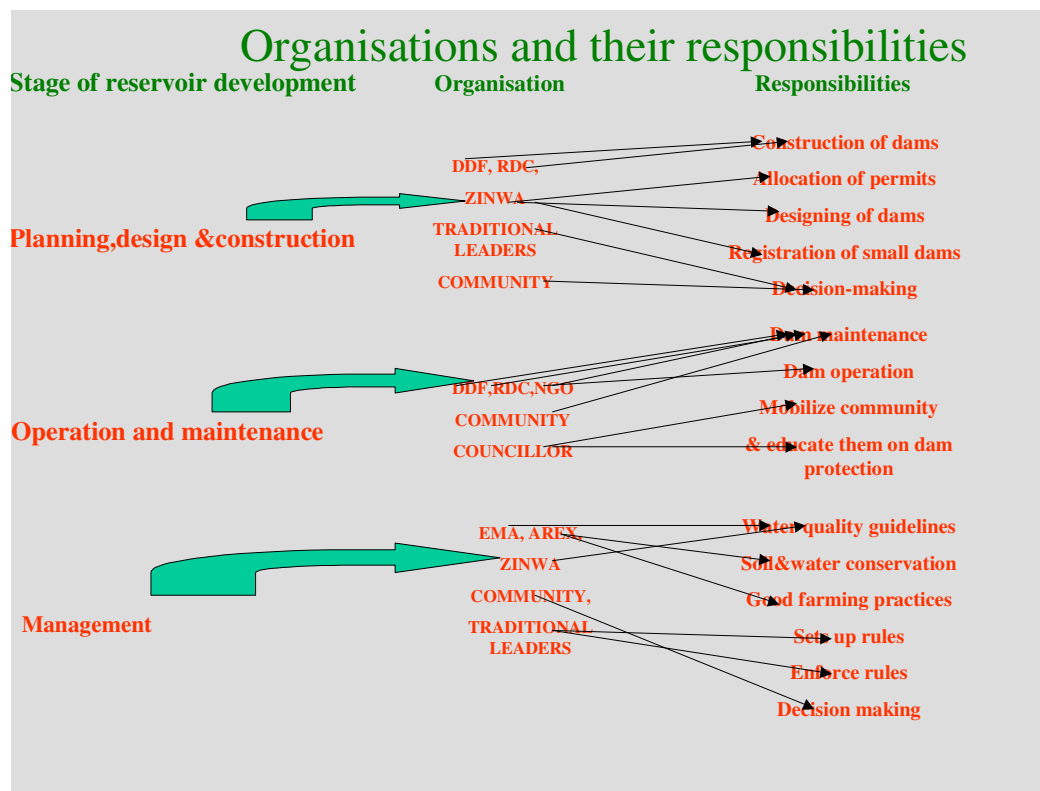


Council Act (1996), Forest Act (1996), Land Resources Policy (2000), National Policy on Environmental Management (undated), Environmental Management Act (1998), Traditional Leaders Act (1998), Communal Land

FINDINGS

There are many authorities involved in the development of small reservoirs; traditional leaders, rural district councils, EMA, AREX to mention but a few. However, it is not clear how each of them should lead the process to ensure sustainable development of small reservoirs. There is also no clear strategy about how these coordinate their activities since all of them are in one way or the other involved in small reservoirs development.

The current institutions also put more emphasis on the registration of dams and puts stricter limits on storages that can be developed for primary (domestic) purposes. Even though the institutions try to address all the aspects that are relevant to small reservoirs, there is a problem in their implementation. There is poor implementation caused by lack of capacity, resources as well as support from various stakeholders. This is derailing all the efforts intended to ensure sustainable development and utilisation of small reservoirs



IMPLICATIONS FOR SMALL RESERVOIRS IN LIM

The following lessons contribute to an understanding of more efforts need to be directed if sustainable development of small reservoirs is to be achieved:

- (i) *Stakeholder commitment*, to ensure sustainable development of small reservoirs all the stakeholders should actively participate in the whole process of small reservoir development,
- (ii) *Performance monitoring*, the relevant authorities should identify and incorporate operational performance indicators in their small reservoirs institutions in their development processes,
- (iii) *Maintenance planning*, in order to ensure sustainable development of small reservoirs there is need to monitor, repair and replace capital infrastructure. Small reservoirs should have policies in place more at the policy making level and appropriate regulations in place to ensure there is proper adequate implementation of the institutions.
- (iv) *Practice adoption*. While NGOs train the communities on dam maintenance and management of the reservoirs, but in built this is not the case in small reservoirs institutions and organisations. This is detrimental in as far as sustainable development of small reservoirs is concerned, thus it is important that other organisations also adopt the same practices.
- (v) *Coordination of activities*. There are so many stakeholders involved in small reservoirs development but not clear as to how these activities should be coordinated. The relevant stakeholders should come together and map out a strategy that will help guide the activities of these various authorities and there is no duplication of roles.



REFERENCES

- Senzanje, A and Chimbari, M. (2002), Inventory of Small Dams in Zimbabwe, IWMI, Colombo, Sri Lanka.
- Zirebwa, J and Twomlow, S, (1999). Historical profiles of selected small dams in communal areas of Masvingo Province, Silsoe Research Institute
- CGIAR Challenge Program on Water for Food. 46. Small Multi-Purpose Reservoir Ensemble Planning: Planning and Evaluating Ensembles of Small, Multi-purpose Reservoirs for the Improvement of Smallholder Livelihoods and Food Security: Tools and Procedures. www.smallreservoirs.org

ACKNOWLEDGEMENTS

The study was funded by the CPWF Small Reservoirs Project CP46

