Creating Earth dams and water pans through Food-For-Assets: Does the logic work?

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Context

- The Livelihoods Impact of Public Works Assets (LIPA) is a research project of ODI in partnership with University of East Anglia (2013-2015) and funded by Australian Department for Foreign Affairs and Trade (DFAT)
- The research objective is develop quantitative and qualitative methods to identify the impacts of Public Works assets (and their distribution) on livelihoods and natural resources.
- Field testing has been carried out in Ethiopia and Kenya (2014 & 2015) and this presentation is based on current and on-going work in Kenya under the Food-For-Assets programme of the World Food Programme (WFP) of the United Nations

Assets, beneficiaries, Labour and Food

- **Assets**: Twenty seven dams built/reconditioned in selected sites in Makueni County, South East Kenya (2010-12)
- **Beneficiaries:** A selected no. of households who are considered as the most “vulnerable”.
- **Labour**: The beneficiaries (mostly women) provided labour of 4-6 hrs a day, 3 times a week. Duration from start to end of the work varied btw sites (3-6 months)
- **Food**: Every month, each household got; 18kg of cereal (maize, millet); 3.6 kg of pulses (beans) and 1.35 kg of cooking fat/oil. This is calculated based on 6 persons/HH

Five dams investigated

Dam	Capacity	Village	No. of households	Approximate population
Dam 1	2500 m^3	Village 1	54	378
Dam 2	4590 m^3	Village 2	55	385
Dam 3	5670 m^3	Village 3	37	257
Dam 4	15,000 m^3	Village 4	44	308
Dam 5	3654 m^3	Village 5	31	217
			TOTAL	**1545**

Dam design, use and users

- The Water Engineer of the Ministry of Water was/is responsible for design of the dams.
- Sited on communal land, the dams were created to provide water for; domestic, livestock, small kitchen gardens and others such as tree nursery establishment and brick-making
- As public assets, the dams were built to serve all the villages and households in a specified location.
- But findings show that only some villages and households use the dams. The use is determined by level of access, distance to the dam, available alternative sources, membership etc.
- There is an on-going experiment to establish the exact number of dam users in each site.

The Logical argument

- The idea of building dams and pans is to create natural assets to secure adequate water quality and improved quality;
- The improved water security will increase food production (horticulture, livestock, poultry) while minimizing climate change (e.g. tree planting);
- The ultimate outcome would be improved livelihoods and the status of natural resources.

The Reality is that…

1. Water is available in the dams during the rainy season when there are alternative sources mainly rainwater harvesting, stream and rivers – The water quality of dams is relatively poor compared to alternative sources due to sedimentation and siltation from the catchment. Hence many households use the dam water mainly for livestock and some domestic purposes such as washing clothes;
2. The resident time of water within the dams range from 4- 12 weeks, after which dam users have to look for water elsewhere. Therefore dam users have no significant comparative advantage over non-users as everyone ends up looking for water in the same rivers/streams esp. in the dry season;
3. No one reported using the dam water for small kitchen gardens which tend to be established during the rainy season. Only those who have farms along the rivers/streams carry out small bucket irrigation using water from the rivers/streams;

The Reality is (cont)…

4. Some brick making was reported but such activities are limited since they are carried out in the dry season when water scarcities intensify;
5. Within two dams, access is by very few households and in one, the land owner who donated the land where the dam is located is restricting access;
6. All the dams are not managed properly- they get silted up quickly, evaporation rates are high, livestock drink directly in the dams, polluting the water and compromising its quality;
7. There is less confidence on the ways in which the dams created conformed with their technical design specifications. For example, there is a difference between the indicated dams capacities and the reality on ground ;
8. It appears that labour providers are more interested in obtaining food than building the dams. This has obviously compromised the quality of the dams and subsequent capacities to serve the local people.

The puzzle...

…is whether earth dams and water pans created through Food-For-Assets are making any significant impacts on local livelihoods and natural resources within the vulnerable communities through improved water security.

Thanks!

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