

## Collective Action and Informal Institutions: The Case of Agropastoralists of Eastern Ethiopia

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### Abstract

An increasing scarcity of water for crop farming and livestock watering among agropastoralists of Mieso in Eastern Ethiopia has largely disrupted their livelihoods. Indigenous water well maintenance and government initiated rainwater harvesting are two important collective actions common among these communities. With the aim of examining collective action institutions in both cases, we collected data from different stakeholders and individual members. Theoretically, low level of physical assets (action resource) limits participation of an individual in collective action. In our case, other factors such as environmental uncertainty and lower level of dependence on the resource have been found to be more significant in limiting membership than limitation of assets. Poor agropastoralists depend on their informal networks to have access to other assets. This enables them to maintain their membership. Moreover, there is a difference between self-organized and imposed collective action in terms of rule enforcement and sanctioning. Institutions also produce different incentives in that free riding leads to automatic exclusion in water harvesting, whereas poor members who continue free riding can benefit from the water well. In evaluating the success, we conclude that technical capacity of members in benefiting from their collective action is limited and deserves more attention than their ability to develop effective collective action institutions. Technical capacity development of user groups needs to be central in policy and programs addressing this.

*Key words: Collective Action, Agropastoralists, informal institutions, poverty*

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## **Introduction**

Being trapped in chronic poverty due to environmental change, resource scarcity and conflicts (Fekadu, et al., 2001), agropastoralists organize collective action as an option to cope with such livelihood-threatening factors and the effects they are producing. An increasing pressure on water resources and livestock watering points has altered the relationships among user groups and the use of such resources. Absence of water development projects, indicating marginalization of agropastoralists in the past, has contributed to such pressure. Some studies show that such lack of opportunities to grasp government attention is partly related to lack of knowledge about their highly localized specific circumstances (Kassa, 2001; Gebre, 2001).

However, knowledge of their local collective action and informal institutions in resource management practices serves as entry point for designing appropriate policies and interventions aiming at poverty reduction. In the year 2002, the regional government put water harvesting as a principal local action in minimizing the disastrous effect of drought or prolonged dry season in this food insecure community. Though water harvesting has been part of the national program its effect is expected to be higher in this area than in other part of the country since agropastoralists have already developed some knowledge of water harvesting. Such activity has been organized collectively. Highly interdependent collective action in establishing water wells has also been common before the government initiative was in place. Broadly seen, collective action in natural resource management is one of the policy agenda widely supported to enable the poor achieve multiple goals that cannot be achieved individually due to capacity limitation.

The purpose of this paper is to examine collective action institutions in water harvesting and water well maintenance among Mieso agropastoralists of Eastern Ethiopia. Most studies, undertaken so far by various agencies, focus on the role of collective action in various group activities in the smallholder sedentary farming areas of the highlands. This case addresses a different production system where agropastoralists are semi-sedentary and mobility forms part of their livelihood systems. Our finding reflects on new aspects not examined by such agencies. In addition, we will try to uncover the likely effect of some of the collective action institutions<sup>2</sup> on well-being of marginal group members. Such effect depends on the type of incentive structure affecting members' contribution decisions. To achieve this objective, data were collected through observation, focus group discussions with different stakeholders at community level and individual in-depth interviews with selected households. At each level, we used different respondent selection criteria. Guided by specific theoretical variables vital for such empirical work, data were collected on 1) dynamics of collective action institutions, and their variability along with resource conditions and 2) disparity in institutional incentives for different members of the group.

### **A Review of Concepts**

While Olson (1965) and Hardin (1982) have done a pioneering work in developing theories of collective action, others building on their work indicate that collective action can be organized for different purposes. Needless to mention all, some include an incentive for technology adoption (Knox, et al., 1998; Place and Swallow, 2000), designing and enforcement of institutions (Ostrom, 1990), improving management of rangeland resources through institutional change

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<sup>2</sup> We use the terms 'institutions' and 'rules' interchangeably.

supporting devolution (Ngaido and Kirk, 2001), common property management (Runge, 1986) and provision of local public goods (McCarthy, 2004).

The above authors review not only the purposes of collective action but also provide information on behavior of individuals within a group, which is equally essential for its success. Along this, Baland and Platteau (2002) have extensively reviewed the impact of members' inequality on the prospects of collective action with specific reference to the use of common property resources. They point out that inequality can create sufficient incentives for better-endowed members to incur the costs involved in such action. Furthermore, understanding overall characteristics at group level are also vital. With respect to this Lin and Nugent (1995), based on premise laid down in Olson's static game (i.e. group size, homogeneity, membership period, physical proximity, level of goal differentiation and inequality in wealth or power among participants), elaborate further on the theoretical variables affecting collective action. They indicate that the time group members spent together and 'geographical or sectoral concentration' make the nature of collective action more dynamic. The level of social capital created *horizontally* or *vertically*, through determining social relationships, can facilitate or constrain such action (Meinzen-Dick, et al, 2004). In their view, while level of collective action (specific group or wider community) corresponds to type of social capital required, the purpose of specific action dictates choices of a unique type of indicators or criteria to assess the outcome.

In addition to these, environmental circumstances in which members find themselves, availability of 'political entrepreneurship', success or failure of other similar groups and knowledge of technology of collective action on the part of the group members and leaders influence the success of collective action (Lin and Nugent, 1995). Their argument focuses on collective action

imposed or advocated by the state rather than self-organized. Nevertheless, state facilitated collective action may create group legitimacy in the form of organization, which in turn makes participation stricter (ibid. 2326). In this case, it will not be clear whether participation is benefit-driven or just fear of punishment making institutional incentives undistinguishable.

Most literature on collective action draws on the problem of social dilemma even if rules, through inducing behavioral prediction, can reduce the extent of such dilemma. In this regard, embeddedness of motivational heterogeneity, expressed in the form of linear altruism and inequity-aversion among actors, produce varied levels of utility for participants (Ahn, et al, 2003). Such unpredictability of members' behavior attributed to multiple factors has increased the complexity of collective action analysis (Ostrom, 2005). The two concepts –altruism and inequity-aversion - can further help scrutinize individual behavioral irregularity in joining collective action and distinguish actors in terms of their decisions. Moreover, collective action itself is affected by type of goods (public or common) and prevailing property rights (Ostrom, 2003). Conversely, understanding the role of collective action in enforcing different forms of property rights in circumstances when multiple sources of rights to a resource exist is also essential (Meinzen-Dick, et al. 2004). In their view 'lack of secure access to resources' is one of the principal factors undermining participation of the poor in collective action. Overall, the above theories convey the fact that collective action provides a means to have access to vital resources, improve resource conditions and enforce 'rules of the game' for action through producing "selective incentives"<sup>3</sup>.

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<sup>3</sup> While positive selective incentives can encourage members' participation, negative selective incentives discourage free-riding in the form of violating group decisions (Lin and Nugent, 1995:2331).

## **Empirical Evidence**

The above theoretical concepts have highlighted on the factors that may affect participation in collective action and benefits of members. Nevertheless, none of the above scholarly works has made an explicit attempt to link collective action and poverty reduction. What remains to be learned from collective action, given the millennium development goal, is not just its contribution to community wellbeing but also to poverty reduction through building the capacity of the poor members within a community. To fill this gap in focus by the existing literature, a limited number of studies linking local institutions and well-being are emerging. Grootaert and Narayan (2004) have found that households' investment in social capital, as measured by making use of its different dimensions, results in "increased welfare and poverty reduction". Such impact was greater for the poor than non-poor. Similarly, Barrett and Lee (2004) emphasize on institutional arrangements for reconciling rural poverty reduction with renewable natural resource conservation in developing countries. Their synthesis of various cases reflect that conservation projects of similar basic design have shown different results due to variable degree of the functioning of rules across different communities. They indicate choice of rules being less important than the way the community monitors and enforces them.

There is a growing interest to analyze collective action institutions at higher level. In this regard, the work of Bastiaensen, et al. (2005) reveals that institutions can pave the way to "poverty reduction or reproduction". They do these by enhancing people's representation in the political process and the way such a process gives guarantee to their resource entitlements. Departing from a "social-constructivist" view, they suggest for the need to relate collective action institutions to Sen's capability approach in order to see the effect of institutions at individual other than mere

aggregate level. This makes sense if poverty reduction role of collective action has to be more explicit and the “redistribution” function of institutions (Lin and Nugent, 1995) should get sufficient emphasis. All these authors hold a common position in addressing the role of institutions in influencing human organization at different levels for collective action in order to improve societal welfare.

### **Analytical Approach**

We have critically reviewed and compared transcripts from a two round seven focus group discussions with various stakeholders with information from individual in-depth interviews. We chose this step in order to elicit how groups’ rules and norms affect individual members. We have selected several groups of different sizes and informal institutional arrangements organized to manage water resources. Since we try to compare variation in institutional choices and incentives across groups in different context, we employ a qualitative analysis approach.

### **Results and Discussion**

#### **1. Sources of collective action**

Two sources of collective action are predominant in these districts: 1) internal or self-organized and 2) externally initiated and facilitated. Both sources are aiming at managing different resources. Characterizing them in terms of certain factors broadens our understanding of their feature. Among these factors, we observe that the origin of institutions influences other factors such as enforcement mechanisms and sanctioning. Enforcement and sanctioning would be easier

when the origin of rules is cultural norms other than regional or district administration. This is because members respect for clan leaders and elders is much higher than that of government change agents. The following table gives a comparison of both.

Table 1: Characteristics of two sources of collective action

<b>Factors</b>	<b>Internal</b>	<b>External</b>
Coordinators	Clan leaders and elders	Village chief and extension agents
Origin of institutions (or rules)	Cultural norms and religion	Regional or district administration
Sustainability of action	Relatively sustainable	Changes when policy or regime changes
Enforcement mechanism	Group influence	Continuous Monitoring by chief
Sanction mechanism	Temporary exclusion from access	Fines or jails

Water harvesting and water-well maintenance are the widely organized group activities. While the former makes part of the local government initiated program, the latter has long existed and it is entirely based on people's initiative. Being a season dependent activity, water harvesting enables the group to produce private good-water required to supplement field crops and livestock watering. Harvested water will not remain common good as mobilized labor only harvests water for each member on a rotating basis. The benefit from the harvested water can vary across



member households. We have identified four reasons for this: quantity of water harvested per day per farm, availability of suitable space for collection, technical capacity to store the harvested water for an extended period, and the purpose to which they put water.

## **2. Participation, membership and incentives**

Variation in incentive structure among members is inevitable. In our case, such variation did not cause disparity in participation level among members. We observe that poor members are equally involved since their community members do either cultivate their farm or provide oxen traction power on a rotating basis. Elders and village leaders coordinate in mobilizing labor for such activity as well as provision of oxen power to the poor members. Hence, membership is not limited based on wealth or asset endowments since informal institutions play great role in sharing assets among participants. This is not a fixed phenomenon. In similar study site, there are differences in terms of risk-pooling practices in maintaining the poor as members. Different incentive structures exist. In cases where members' contribution of oxen has increasingly led to a decline in poor members each year, it produces a positive incentive for non-member poor households to join the group in subsequent years. Such a system creates an incentive for capable but poor households. In a reverse situation, poor members will continue to drop membership. This shows that social capital creates incentives for participation of poor agropastoral households. The summary of statistics for incentives to remain member ranges from expectation of benefits (99%), being a leading factor, to fear of fines (21%). Other middle ground incentives for participation are members' encouragement (76%) and intimacy (88%). The expectation of benefit flows is greater for the self-organized activities, whereas fear of fines is a disincentive that imposed collective action produces for some members. This is not, however, contrary to the fact

that many poor members still expect benefits from being a member through acquiring assets from economically better-off members.

Moreover, there are heterogeneous views among members when it comes to the possibility to generate benefits of participation. Farm location, environmental uncertainty and fatalism contingent to past drought shocks are among the key factors causing such disparity in views. Poor techniques of water harvesting and storing, inadequate extension service, random grouping of members, large nature of group size, and government resettlement schemes are impediments for realizing desirable collective action outcomes. All these factors seem to have affected the likelihood of collective action institutions in improving well-being on sustainable basis. The key observation here is even if there is strong social cohesion, which is theoretically expected to reduce costs of organizing collective action, the costs and benefits at community level are incomparable when drought shocks disrupt the production system. Costs are much higher.

### **3. Resource size and unstable membership**

Collective action on maintenance of water wells exhibit a different characteristics from water harvesting in that the good remains common property resource where production and consumption is organized communally. One example where collective action failed is that the size of a group using and maintaining water wells has reduced in the last 10 to 15 years leading to abandoning of larger wells. Both resource size and group size have declined. The main reasons include: 1) poor cooperation of members due to their migration in search for better grazing, 2) loss of herd by many households during drought shocks and 3) lack of fairness in the exploitation rules for participant members since non-members also use it. All these factors contributed to the

loss of common goods of larger size. The first two factors are the principal reasons for a fall in cooperation for collective action in maintaining water well. This is theoretically valid, as these factors seem to have substantially reduced members' dependence on the resource. The third reason is weakened by the fact that benefits flows from one to the next household members in a village creates a difficulty in interpreting collective action merely on individual cost-benefit basis. For instance, neighbors share livestock and livestock products informally, giving a chance for the poor to benefit from group action without being involved in the production of goods. Cultural norms influence the haves not to constrain poor members' access to livestock products. McCarthy (2004) points out the costliness of managing such incentive structure, as members tend to play a prisoners' dilemma game, in that everyone tries to free ride whether the others are contributing or not. This has not been a problem in the case of water harvesting since exclusion is automatic when one tends to free ride merely due to the nature of good produced and the institutional environment adopted, operating on 'reciprocity' basis.

In another instance, participation of members is dynamic and elders monitor the continuity of members' labor contribution each year. Rules of access to the resource vary in accordance with the frequency of active participation. They are generally stricter for large herders showing continued non-participation compared with small herders, but they are impartial irrespective of variation among members in stock size and contribution level. From this, we understand that culturally supported institutional mechanisms of isolating one from the other by relying on these factors have not existed or are morally unacceptable. This signifies the positive impact of collective rules in improving access to water point for the poor. Here we make two points. First, cultural and economic factors have interdependent effect in determining stability of membership of each individual in maintaining water-wells. Second, unpredictability of benefit flows from the

well due to environmental variability is the principal reason for discontinuity of membership of most households. This is because the water level extremely reduces in prolonged dry season. This means the resource attribute, by influencing members' expectation of benefit, determines their participation.

## **Conclusion**

We tried to examine how marginal agropastoralists organize collective action. The findings show that the source of collective action is less important than other variables especially the number of participants and size of resource. The larger the resource size the less stable the participation of members irrespective of the source. Moreover, differences in asset possession, which is theoretically presumed to constrain involvement, do not affect poor households' participation in collective action when the existing social capital enables the poor to benefit from jointly produced goods through making use of assets from relatively rich members.

However, such substitutability of social capital for physical asset is possible only for certain collective activities such as water harvesting. Any development program and intervening agency facilitating collective action in such societies where culture plays a great role in cooperation needs to identify and examine the type of group action for which substitutability of one asset for the other will encourage and maintain involvement of poor members.

Although members try to organize themselves and coordinate collective action, the external support in providing technological facilities is necessary to increase benefits from collectively produced good. The objective of the state in enabling the community to secure food through collective action depends on the extent to which it provides such assistance.

At present, low level of participation is a result of environmental uncertainty rather than a differential impact of institutions, which we expect it to affect members' benefit differently. This implies that we should not undermine the technical capacity of groups in organizing collective action by heavily emphasizing on the institutional dimension.

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### **References**

- Ahn, T. K., Ostrom, E. and Walker, J.M. (2003). Heterogeneous preferences and collective action. *Public Choice* 117:295-314.
- Baland, J. and Platteau, J. (2002). Collective action and the commons: the role of inequality. In J.M. Baland, P. Bardhan and S. Bowles (eds.) 'Inequality, Cooperation and Environmental Sustainability'. Centre for Research and Economic Development, University of Namur, Belgium. May 2002.
- Barrett, C.R. and Lee, D. R. (2004). Institutional Arrangements for rural poverty reduction and resource conservation. *World Development* 33(2): 193-197.
- Bastiaensen, J., De Herdt, T. and D'Exelle, B. (2005). Poverty reduction as a local institutional process. *World Development* 33(6): 979-993.

- Fekadu, B., Bekele, T. and Zergaw, L. (2001). Socio-economic and Resource Base Assessment Survey in the Somali National Regional State, Shinille Ecosystem: With reference to Pastoral, Agro-pastoral and Sedentary Farming Systems. Study Report. Alemaya University. Ethiopia.
- Gebre, Ayalew (2001). Pastoralism Under Pressure: Land Alienation and Pastoral transformation among the Karrayu of Eastern Ethiopia, 1941 to Present. Shaker Publishing. 415 pp.
- Grootaert, C. and Narayan, D. (2004). Local institutions, poverty and household welfare in Bolivia. *World Development* 32(7): 1179-1198.
- Hardin, R. (1982). *Collective Action*. Baltimore: The Johns Hopkins University Press. 264 pp.
- Kassa, Getachew (2001). Among the pastoral Afar in Ethiopia: Tradition, continuity and socio-economic change. International Books. 200 pp.
- Knox, A., Meinzen-Dick, R. and Hazell, P. (1998). Property Rights, Collective Action and Technologies for Natural Resource Management. SP-PRCA Working Paper No. 1. IFPRI.
- Lin, J.F. and Nugent, J.B. (1995). Institutions and Economic Development. *Handbook of Development Economics*, Volume III. Elsevier Science, pp.2303 – 2363.
- McCarthy, N. (2004). Collective action and Property Rights for Sustainable Development: Local-level public goods and collective action. 2020 Vision. IFPRI Briefing paper.
- Meinzen-Dick, R., Pradhan, R. and Gregorio, M. D. (2004). Collective action and Property rights for Sustainable Development: Understanding property rights. IFPRI 2020 Vision. Focus 11.
- Meinzen-Dick, R., Gregorio, M. D. and McCarthy, N. (2004). Methods for Studying Collective action in Rural Development. *Agricultural Systems* 82(3): 197-214.
- Nagido, T. and Kirk, M. (2001). Collective action, property rights and devolution of rangeland management: selected examples from Africa and Asia. In: Meinzen-Dick, R.;Knox, A.; Gregorio, M.D. (eds) *Collective action, property rights and Devolution of Natural Resource Management: Exchange of knowledge and Implications for Policy*. Conference proceedings. Philippines. 21-25, June 1999.

- Olson, M. (1965). *The logic of collective action: Public goods and the theory of groups*. Cambridge: Harvard University Press. 186 pp.
- Ostrom, E. (2005). *The Complexity of Collective Action Theory*. Paper presented at the conference on Analyzing Problems of Polycentric Governance in the growing EU. Berlin, 16-17 June 2005.
- Ostrom, E. (2003). How types of goods and property rights jointly affect collective action. *Journal of Theoretical Politics* 15(3):239-270.
- Ostrom, E. (1990). *Governing the Commons: the evolution of institutions for collective action*. Cambridge University Press. 280 pp.
- Place, F. and Swallow, B. (2000). *Assessing the Relationships between Property Rights and Technology Adoption in Smallholder Agriculture: A Review of Issues and Empirical Methods*. CAPRI Working Paper 2. IFPRI.
- Runge, C.R. (1986). Common Property and Collective Action in Economic Development. *World Development* 14(5): 623-635.