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## Public Engagement to Prioritize the Pastoral Research Agenda at the Pastoral and Agro-pastoral Research Center of OARI in Ethiopia

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 Pastoral Risk Management Project

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*The Oromia Agricultural Research Institute (OARI) has a mandate to conduct agricultural and livestock research throughout the Regional State of Oromia in Ethiopia. OARI has recently opened a facility near Yabello town on the Borana Plateau called the Pastoral and Agro-Pastoral Research Center. A meeting was held in August 2006 at Yabello that involved representatives from pastoral communities, the private sector, government, and non-governmental organizations. The aim was to engage stakeholders in a process of problem prioritization and set the stage to create new partnerships to better address pressing problems. The final priorities included: addressing a general decline in forage availability; improving water-harvesting methods; reducing effects of Foot-and-Mouth Disease (FMD); improving pastoral livestock marketing; and intervening to help mitigate problems associated with increased competition for land between maize cultivation and dry-season grazing. Researchers, pastoral community members, development actors, and policy makers all play varied roles in dealing with each of the five priority issues. The implementation of a new prescribed fire program to restore bush-encroached rangelands in southern Ethiopia, and hence increase forage supplies, is given as an example of integrated action to address problems. The results of this prioritization meeting were encouraging—the key is the focus on process and new partnerships. OARI plans to use the same approach in planning activities at other research centers in different agro-ecological zones.*

### Background

Applied researchers are approaching their role in the rural development process in new ways. In the past the process has mainly been “research and development” where researchers often worked independently from the target populations of beneficiaries. The researchers designed trials and studies in isolation of public input and wholly controlled a pipeline for producing innovation in technology or management practices. Once generated, such innovations can often fail to be implemented, however, because local knowledge or production circumstances were not effectively considered in the process. The failure of much research to achieve impact among rural populations in Africa is due, at least in part, to such problems (Ashby, 2003.)

In contrast, a recent emphasis on “Research for Development” focuses more on the iterative, adaptive nature of innovation in complex systems. Impact is achieved through systematic enquiry combined with power-sharing and participatory learning of stakeholders (Ashby, 2003.) The new Yabello Pastoral and Agro-Pastoral Research Center of the Oromia Agricultural Research Institute (OARI) took a major step towards “Research for Development” by organizing a meeting with various stakeholders during two days in August 2006 to prioritise a dryland research agenda. This brief will outline the approach used and highlight the outcomes of that meeting.

Since being established in 1978, the livestock collaborative research support programs (CRSPs) of USAID have been leaders in conducting applied research at the cutting edge of development needs (Demment, 1994.) The Yabello meeting was therefore seen as a major opportunity to further this agenda, especially given the meeting coincided with the creation of a new institution with a mandate to urgently address problems of rural people. The participants were drawn from among pastoral and agro-pastoral communities, women’s cooperatives, livestock trader groups, and governmental and non-governmental organizations operating in Borana Zone (Figure 1.)

The springboard was the commitment from OARI and the Oromia Pastoral Area Development Commission (OPADC) to create an authentic, demand-driven research agenda with a focus on applied and adaptive work. To help meet this goal a proposal for such an approach was developed. The proposal was approved with OARI, OPADC, and PARIMA as partners. The main components of the proposal included the following:

- Identification of priority felt-needs for targeted communities;
- Identification of research and outreach priorities, i.e. matching gaps with the priority felt-needs. Research was to be categorized according to applied and/or adaptive aspects; disciplinary or multi-disciplinary



Figure 1. Participants at a stakeholder meeting organized by the new Yabello Pastoral and Agro-Pastoral Research Center of the Oromia Agricultural Research Institute (OARI) are pictured. Representatives from pastoral and agro-pastoral communities, women's cooperatives, livestock trader groups, and governmental and non-governmental organizations operating in Borana Zone attended the meeting. Photo by Getachew Gebru.

nature; long, medium, or short term; quantitative or qualitative, etc. It is a creative process because some research may directly or indirectly bear on major problems that are raised by stakeholders, and the critical nature of certain research needs to be accurately identified given that resources for research are scarce. The “wheel should not be re-invented;”

- Identify special training needs that support priority research and/or outreach. This includes degree or non-degree options;
- Develop and review specific proposals that deal most effectively with priority problems. Proposals must have scientific merit and yet also link research and development perspectives. This process is to be mediated, in part, by new Research and Extension Advisory Councils at the district level; and
- Implement both the research and development aspects of priority proposals.

In this report only the component on problem prioritization is discussed. The subsequent components of the process are

underway at OARI. Fifty stakeholders were convened for the two days and facilitated to develop problem prioritization. A modified PRA-type approach was employed (Lelo et al., 2000) where participants in break-out groups were asked to list problems and priorities based on pair-wise ranking. Important observers included woreda (district) and zonal administrators, and regional government office representatives. Each break-out group included members of the various stakeholder organizations.

## Results

Table 1 summarizes the main issues raised by participants as they pertained to the mandate of OARI, namely production-system research. Five priority problems were identified along with associated variables and issues. These are summarized as follows.

**Scarcity of Forage.** The scarcity of livestock forage was considered as the most important problem. Availability of forage for livestock has increasingly become a serious concern

Table 1. Ranking of priority research problems in the pastoral production systems.

Top Researchable Problems Ranked from Higher (1) to Lower (5)	Remarks
1. Improve availability of livestock forage (grazing)	Forage losses directly related to bush encroachment, expansion of termites, and other types of land degradation; indirectly related to heavy livestock pressure on natural resources that is related to an increasing human population
2. Improve and expand water harvesting methods	Need to develop appropriate techniques to better capture run-off and improve management of water points
3. Reduce effects of common livestock diseases like Foot-and-Mouth (FMD)	FMD especially affects cattle and sheep. Causes high rates of lamb mortality
4. Improve pastoral livestock marketing	Risks associated with live-animal trade are most important; cattle market in particular is struggling; other constraints for local marketing and processing of dairy products; poor availability of disaggregated price data for livestock.
5. Reduce negative effects of crop cultivation on loss of dry-season grazing	Expansion of cultivation is reducing access to key dry-season grazing

in recent years. Bush encroachment is regarded as the single most serious threat to herbaceous forage productivity in the southern Ethiopian rangelands. Some woody species compete with grasses for water and light and physically obstruct the mobility of livestock. Some woody species have thorns that cause skin and teat damage among livestock. Termites are also noted to be expanding and can markedly reduce livestock forage, although the impacts of termites vary greatly depending on soil type and the local ecology. Soil erosion was mentioned as another problem reducing herbaceous forage productivity. Soil erosion is related to heavy grazing and other forms of resource pressure. It was noted that there are no known traditional practices to promote soil conservation in the area. Heavy rains at higher elevations create run-off that leads to extensive gullies, especially at Finchawa, Surupa, and Dida Hara. There is no organized effort to understand or better contain soil erosion.

**Scarcity of Water.** Water remains the most limiting resource for the pastoral and agro-pastoral communities of Borana. Grazing animals have to be trekked a long distance for watering. This is the most daunting task for the pastoral community. Pastoralists realize that a very large amount of runoff is lost in the rainy season that could be otherwise used. Developing effective water-harvesting techniques to capture rainfall and minimizing after-effects of heavy run-off was pointed out as an important area of research. Improving access to key water points on the Borana Plateau is another topic that could benefit from some engineering interventions. These could reduce losses of weakened animals on steep pathways during drought.

**Livestock Disease.** Disease remains as a major challenge for all classes of pastoral livestock. Foot-and-mouth disease (FMD) for cattle and small ruminants was reported at the meeting as the single most important disease in the area.

**Livestock Marketing.** Among issues raised with respect to marketing, the risks associated with the live-animal market were regarded as the most important. The pastoralists said that the level of risk is particularly high for cattle, as market prices for these classes of animals are unpredictable. They indicated that the availability of market information that is disaggregated by sex, age and condition prior to their arrival in the market places is important to minimize risk. Dairy marketing and processing constraints came in second to market risk for live animals.

**Land-Use Problems.** The expansion of cultivated crops was regarded by the participants as putting the pastoral character of life at great risk. Crops such as maize have rapidly spread along depressions and drainages where soil moisture remains higher throughout the year. This landscape position is also where some of the most productive grasslands (*Pennisetum spp.*) are found. There is a danger that dry-season grazing areas will be lost to cereal production. It

was suggested that the rangelands need to have a land use policy to reduce competition between dry-season grazing and maize cultivation. Coming in next for land use issues was the growing concern for the proliferation of private enclosures (kalo) for marking off cultivation sites or saving fodder for calves and weakened stock. The tendency is for local villages to fence off parcels of grazing land in the pretext of crop production, while in reality this fenced land is for "private grazing." The expansion of private kalo has barred pastoralists' access to range resources that traditionally belonged to the community. There are even cases where individuals with no livestock have started to enclose grazing land for commercial livestock production purposes.

## Practical Implications

The most important aspect of the meeting was the participatory process that was set in motion. No single problem would be solved by research alone. Research, outreach, development investment, and policy have different roles in every solution. An iterative approach that includes taking action and working together to solve problems must become the norm. More development resources are being pushed from the federal to district levels in a process of decentralization, and this is a favorable trend as well.

The call for using "bottom-up" knowledge from stakeholders in prioritizing research, outreach, and development strategies is gaining momentum. However, in practice, involving rural people in decision-making is generally limited to having them participate in surveys. Such an approach misses much of the deeper understanding developed by pastoral and agro-pastoral communities as managers of their production systems. Engaging communities in discussions and gaining an understanding of their needs and forms of resource use allows a framework for posing better informed research questions, generating more appropriate technologies, and obtaining stakeholder buy-in. The next step is to tackle each of the five priority issues.

**Example of Combining Research, Outreach, Development, and Policy into Action.** The top priority revealed at the meeting was loss of forage supplies. One way to deal with loss of forage grasses in particular is to reinstate controlled fire into this system. Lack of controlled fire has been a major factor in the transformation of large areas of the Borana Plateau from mixed, grass-dominated savanna to situations dominated by woody vegetation. Controlled fire can be used in some cases to help restore grass cover when combined with improved grazing management; fire can also help reduce noxious tick populations. An apparent, blanket national ban on the use of fire in the 1970s compelled the Borana pastoralists to stop the traditional practice of burning the rangelands (Coppock, 1994.) In January of 2005 a joint workshop involving OARI, OPADC, and PARIMA was held that brought together pastoral communities, administrators,

regional policy makers, government experts, NGOs, and friends of pastoralists to discuss the fire ban, its implications so far, and the policy gaps. After a thorough review of past proclamations this workshop ended by recommending that resumption of controlled fire occur on the Borana Plateau, but underlined the need for a capacity building/training component on the application and control of prescribed fire. Training of researchers, development agents, and pastoralists in using controlled fire was therefore initiated by PARIMA two years ago. There were also simultaneous attempts to educate decision makers about the beneficial aspects of controlled burns. Policy constraints now relaxed, OARI is taking the lead

on the applied/adaptive research side in 2007 by selecting, mapping, and monitoring burn sites across the Borana Plateau in consultation with pastoralists. Key inputs have also been recently provided by the United States Forest Service under the auspices of the Pastoral Livelihoods Initiative (PLI) and coordinated by the USAID Mission in Ethiopia. Sustaining the positive impacts of the rangeland restoration effort will require buy-in from pastoralists in terms of improved grazing management. The ability to manage grazing is related, in part, to the ability to sell livestock at certain times for fair prices. Livestock marketing is thus linked to the success of the fire program in the bigger picture.

## Further Reading

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The GL-CRSP Pastoral Risk Management Project (PARIMA) was established in 1997 and conducts research, training, and outreach in an effort to improve welfare of pastoral and agro-pastoral peoples with a focus on northern Kenya and southern Ethiopia. The project is led by Dr. D. Layne Coppock, Utah State University, Email contact: Lcoppock@cc.usu.edu.



The Global Livestock CRSP is comprised of multidisciplinary, collaborative projects focused on human nutrition, economic growth, environment and policy related to animal agriculture and linked by a global theme of risk in a changing environment. The program is active in East Africa, Central Asia and Latin America.

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