

CASE STUDY PIA 1: Natural Resources and Environment Management



4. Initiatives for Resilient Species Conservation in Ethiopia:

<p>INTRODUCTION</p>	<p>In Ethiopia, the most well-known breed is the Borana breed, originally from the Borana plateau and the positive economic impact of its conservation has already been proven¹⁶. However, this breed is going through genetic erosion and is producing less in comparison to its potential. Thus, in order to ensure the availability of a breed resistant to</p>  <p style="text-align: right; font-size: small;">Borana bulls in the Did Turaya Ranch © Flora Baudron</p> <p>harsh environment and valuable on market, it is essential to build its conservation and amelioration.</p> <p>The Animal Genetic Conservation in situ is based on 2 different techniques:</p> <ul style="list-style-type: none"> - Ranching: Involves improvement of the genetic potential of bulls on the ranches, and dissemination of bulls in participating communities. In Ethiopia, Did Tuyura Ranch in Yabelo is the only representative of this technique and is driven by the Oromia Pastoral Development Commission (OPDC). The ranch allows the conservation of genes but is not sufficient for the high demand. Moreover, the required supportive infrastructure required to follow the improvement of the breed is largely unavailable and decreases the chance of success. - On the other hand, ICARDA in partnership with ILRI, BOKU and agricultural research systems in Ethiopia is implementing Community-Based Breeding programs in small-ruminant and the trials are quite successful. This practice is implemented in the context of low input systems through the project ‘Designing community-based breeding strategies for indigenous sheep breeds of smallholders in Ethiopia’. <p>This sub-component will thus try to focus on the Methodology of the Community based breeding programs and analyze the possibility to extend it to cattle breeding related to the work done in the ranch.</p>
<p>LOCATION /GEOGRAPHIC COVERAGE</p>	<p>Community-based breeding: conducted in 4 locations with 4 different breeds of sheep: Afar, Bonga, Horro and Menz. The example in Afar is the only example in the pastoral/agro-pastoral system.</p>
<p>STAKEHOLDERS AND PARTNERS</p>	<ul style="list-style-type: none"> - Austrian Development Agency (funding agency) - Ethiopian National Agricultural Research Systems - ICARDA (Agricultural Centre for Agriculture Research in the Dry Areas) - International Livestock Research Institute - University of Natural Resources and Life Sciences (BOKU)

<p>METHODOLOGICAL APPROACH</p>	<p>The approach is described in the following figure and is precisely described in the Guidelines</p>  <p>Fig. 1 Logical sequence of steps to implement community-based sheep breeding (ICARDA)</p>
<p>VALIDATION</p>	<ul style="list-style-type: none"> - Functional community based sheep breeding programs have been implemented in eight communities for four sheep breeds involving 500 households and a total of 8000 sheep. - Production of the guideline - Capacity building of farmers, students and researchers - The project has influenced policy makers at different levels very positively. The federal and regional research systems have accepted the approach and are revising their breeding plans in accordance with the community based approach. - Numerous achievements: see impact
<p>IMPACT</p>	<ul style="list-style-type: none"> - The high potential animals were no longer sent directly to the market but retained for their genetic potential and used for improvement. - Rectification of the acute shortage of breeding rams - Preliminary data analysis indicates that the market outlet has increased
<p>INNOVATION AND SUCCESS FACTORS</p>	<p>Proper consideration of farmers 'breeding objectives, infrastructure, participation, and ownership (Mueller 1991; Solkner et al. 1998; Wurzinger et al. 2011) (ICARDA)</p>
<p>CONSTRAINTS</p>	<p>The breed improvement could not be independent of an environment improvement such as health care or fodder. There is a need of a strong market not far from the community so that the improvement of the breed could be increase directly in value.</p>

<p>LESSONS LEARNED</p>	<ul style="list-style-type: none"> - Sufficient time has to be allocated to detailed consultation and planning when starting the work with the communities. This will allow an understanding of the different social and cultural conditions in the different communities, to identify entry points and to design appropriate implementation structures responding to the extremely complex situations; - Engaging community and other stakeholders at each phase of the project implementation from the initial stage of inception contributed significantly to establish the required institutional structures. It is important to clearly define the role of each stakeholder including anticipated synergies with other projects; - Formulation of breeding goals with the community helped to clearly understand their production objectives and ensured the full participation of the communities in ram selection; - Understanding traditional knowledge on the selection of sheep, ram sharing and management, and the existing local institutions (could be religious or social) was critical for the program design at a community level; - Genetic improvement programs need time to bring about tangible changes in flock productivity and income, indicating that participating farmers/pastoralists would not see immediate impacts. To keep the community engaged in the project, interventions in health, feeding and market linkages were designed to achieve 'quick wins' and shorter term improvements; - Qualitative traits not necessarily related to productivity (for example coat color, presence or absence of horn and horn orientation) were found to be important determinants of the market price of animals. These traits had to be considered in selection decisions; - Community-based sheep breeding programs should be designed as part of the broader development/research agenda of the regional research centers to be included in their work plans and deliverables and thus to be budgeted for in terms of staff time and other supports; - Recording and selection schemes in pastoral areas need to be planned with consideration of planned seasonal and unplanned mobility in response to droughts and other calamities; for example recording schemes should be kept as simple as possible; - Impact assessment of community-based breeding programs should be planned in medium to long-term.
<p>SUSTAINABILITY</p>	<p>The community is empowered and recognizes the advantages of breed conservation and improvement. The process could be replicated for other sites. On the economic side, the sustainability relies on the gain from the sale of improved animal. However, if the market is not around and the community is not able to improve feed and health care proportionally, the sustainability is not ensured.</p> <p>It this case, the question has been raised through a possible link between conservation and compensation mechanisms, raising the questions: what kinds of pastoralists, due to their involvement in conservation, deserve compensation and how much should the level of compensation be?</p>
<p>UP-SCALING</p>	<p>The question which will be raised is the possibility to up-scale the process to the Borana breed:</p>

	<p>First of all, according to the manual, the breed is meeting the requests for the breed selection: The breed is genetically diverse, well-known and raises a lot of interests.</p> <p>Moreover, the positive economical impact of its conservation through community based breeding has been discussed with the following outcome: 'With properly installed community-based in-situ conservation programmes, a rapid change in production and land use systems away from a sustainable cattle husbandry production can be halted. Conserving the EB in the Borana lowlands in Ethiopia will secure the future use of the Borana genetic material at very little costs per animal.'</p> <p>Therefore, it could be possible to enhance such process. The links have to be built between governmental institutions, research centers and interest groups such as cooperatives and communities.</p>
CONTACT DETAILS	Community-based Sheep Breeding Programs: Aynalem Haile (ICARDA)
URL OF THE PRACTICE	http://www.cop-ppld.net/cop_knowledge_base/detail/?dyna_fef%5Buid%5D=3285
RELATED RESOURCES THAT HAVE BEEN DEVELOPED	<p>Guidelines for Setting up Community-based Sheep Breeding Programs in Ethiopia</p> <p>Breeding Strategies for Sustainable Management of Animal Genetic Resources – FAO (2010)</p> <p>Case in Kenya:</p> <p>THE CONSERVATION OF INDIGENOUS LIVESTOCK BREEDS A case study in Kenya looking at ways to prevent the loss of genetic diversity – Practical Action</p>
<p align="center">Case Studies Adapted from : Flora Baudron, Good Practices Building Resilience Experience from Ethiopia and IGAD countries, FAO-SFE, 2013</p>	

