

Community Action in Integrated and Market Oriented Feed-Livestock Production in Central and South Asia

Field visit

The field visit to Ak-Beket village of Kemin district was organized for the participants of the Regional Workshop on the way from Bishkek city to Issyk-Kul on 11 September 2007. Participants visited the cropland and a house of a smallholder involved to the project activities and discussed how the forage production can be improved by introduction of new technologies. They also got acquainted with the crossbred sheep obtained from mating of Awassi ram and indigenous coarse wool ewe.

Summary of the First Regional Workshop

The First Regional Workshop of the ICARDA-IFAD Community Action in Integrated and Market Oriented Feed-Livestock Production in Central and South Asia Project was held in Issyk-Kul, Kyrgyzstan, on 12 September 2007. The Regional Workshop was attended by a representative from IFAD, the Heads and the collaborating scientists from Pakistan, the CAC-NARS and scientists from ICARDA Headquarters in Aleppo, Syria, and its Regional office for CAC in Tashkent. The Meeting was hosted by the Institute of Livestock, Veterinary, and Rangelands located in Bishkek, the capital of Kyrgyzstan.

First Regional Workshop, 12 September 2007 (Wednesday)

In his welcome address, Dr. Raj Paroda, ADG for International Cooperation, ICARDA, thanked all participants for their continued support and cooperation with ICARDA. He emphasized that the regional mandate of ICARDA is to achieve sustainable agricultural development and natural resource management in the region by promoting cooperation for research in non-tropical arid areas, capacity building and human resource development. Dr. Paroda also pointed out that livestock, especially production of small ruminants, is very important for rural poor in arid areas. He underlined that the recommendations elaborated during Phase I of the Livestock project should be used for the efficient implementation of the ongoing Phase II.

In her opening statement, Dr. Carla de Gregorio, Grants Coordinator for Asia and the Pacific Division of IFAD, provided brief introduction of IFAD. She informed the participants that IFAD is a specialized agency of the United Nations dedicated to reduce rural poverty and food insecurity. She specified that IFAD's mission is to enable the rural poor to overcome poverty through ensuring their better access to services and capacity building. Dr. de Gregorio pointed out that the ongoing project should achieve the three main objectives. Firstly, it has to show how the newly introduced technological options can help to improve livelihoods of rural smallholders, with special emphasis on involvement of women to marketing and processing of fiber and milk. Secondly, the project plays an important role in capacity building of NARS on participatory research. Finally, the project should capture and disseminate the knowledge on successful practices of householders in Central and South Asia.

While welcoming all participants of the Regional Workshop, Dr. Rysbek Nurgaziev, Director of the Kyrgyz Research Institute of Livestock, Veterinary, and Rangelands, expressed his gratitude to scientists of ICARDA for elaboration of the continuing Phase II of the Livestock Project. He noted that an integrated approach used for designing the project will ensure good

results. He further pointed out a big interest of smallholders to participatory research activities of the project.

The Workshop continued by the presentation of Dr. Barbara Rischkowsky, Project Coordinator, ICARDA, who made a general introduction to the project and explained approach and objectives of the workshop. She emphasized the following objectives of the Regional Workshop:

- to review the project activities in Central and South Asia;
- to get acquainted with the activities in the other participating countries;
- to exchange experience and preliminary results with examples from each Theme;
- to compare approaches in Central Asia and Pakistan; and
- to develop a base for discussions in Steering Committee Meeting.

The Workshop continued by presentations of national collaborators on progress achieved for the first year of the project on Socioeconomics, Range and Forage Productivity, and Improvement of livestock productivity.

In his presentation, Dr. Ombaev, National Coordinator for Kazakhstan, Director General, South-West Research Center of Livestock and Crop Science, briefly described the continuing reforms in agricultural science of Kazakhstan. He emphasized the results of the Rapid Rural Appraisal conducted in Kazakhstan by the socioeconomic component including poverty categories, description of existing livestock production systems, analysis of costs of sheep fattening, and analysis of lamb market value chain. During presentation of the results of activities on livestock productivity improvement, Dr. Ombaev provided information about households involved in these activities, explained the progress achieved on early lambing, early weaning of lambs, and community based cow and sheep milk processing.

In next presentation, Dr. Rysbek Nurgaziev, National Coordinator, Director, Institute of Livestock, Veterinary, and Rangelands, gave an overview of the project activities implemented in Kyrgyzstan. Particularly, he noted that the researchers conducted rural livelihoods' analysis to determine major income sources and survey of the lamb markets to identify the marketing channels and profit distribution among agents. Dr. Nurgaziev also informed the Workshop participants about studies conducted on rangeland productivity and forage production. In the last part of the presentation, he provided information on how improvement of livestock management was undertaken in households for improved productivity, activities on improvement of sheep milk productivity, and preparation of the basis for a decentralized and participatory breeding plan for farmers to access improved animals.

The following presentation on the progress of research activities in two project sites of Tajikistan was made by Dr. Amir Karakulov for Tajikistan, National Coordinator, Tajik Research Institute of Livestock.

He pointed out that in Sogd province (Khujand site) the socioeconomic research included analysis of rural livelihoods and mohair goat fiber market. On forage production and rangelands, the partners conducted the baseline evaluation of fodder crops and agronomic packages to see the opportunities to increase the feed resource base. The feeding practices

for goats were also described. Dr. Karakulov emphasized that on livestock productivity the research team studied how to improve goat management in households for improved productivity. Livestock specialists also analyzed ways of improvement of shearing and classing of fiber, standardizing on the basis of international standards in accordance to quality, contamination and age. Finally, the research team in Khujand trained a group of smallholders to set the basis for a decentralized and participatory breeding plan for farmers to access improved animals.

Providing an overview of the progress achieved by the team in Dushanbe site, Dr. Karakulov pointed out that socioeconomists collected information on the existing farm types and their production indicators, analyzed the livestock production system in households, and conducted a survey of lamb markets to identify the marketing channels and to analyse the production and retail prices for mutton. Forage and rangeland specialists determined the forage crops cultivated by smallholders and their grazing practices. At the end of his presentation, Dr. Karakulov advised that the livestock scientists conducted training of smallholders on improvement of sheep production in households through improved feeding, selection, and reproduction of sheep. Description and division of livestock producers into three groups according to the production systems for further experiments was also done by the research team on livestock production.

In the next presentation, Dr. Sartaj Khan, National Coordinator for Pakistan, National Agricultural Research Council (NARC), reviewed the activities implemented in two project sites in Pakistan. He advised that the research team of the socioeconomic component provided description of farm typologies, feed and livestock production systems. Socioeconomists also conducted value chain analyses of feed and livestock products, marketing studies, and baseline study for impact assessments. Also the research group continues the technology evaluation and adoption studies. On improving feed resources, the scientists completed testing and demonstration of high yielding fodder crop species/varieties, testing and demonstration of cereal-legume mixtures. They also analyzed the nutritive value of oats-vetch hay and wheat straw and fulfilled such activities as improved fodder varieties' seed production and hay making. Dr. Sartaj Khan emphasized that on improving livestock productivity the research team suggested balanced feeding of livestock, ways of increasing production of milk and meat, and value addition (milk products).

Results from socioeconomic research in Central Asia were presented by Mr. Nariman Nishanov, NPO for Socioeconomics, ICARDA-CAC. Presenter emphasized that in all countries the research covered analysis of rural livelihoods to identify major income sources of smallholders, characterization of the livestock production systems for further comparison with the technologies to be introduced by biophysical components of the project. Mr. Nishanov also pointed out that the market studies allowed socioeconomists to collect data on the existing markets, marketing channels for livestock products, and constraints for market access by smallholders. The analysis of the marketing margins will provide good baseline information for further cross-country comparative analysis of markets in Central Asia.

Results from socioeconomic research in Pakistan were presented by Dr. Muhammad Azeem Khan, Pakistan Agricultural Research Council. He presented the conclusions on value chain analysis for milk and dairy products, described farm typologies and characteristics at irrigated site. Dr. Azeem Khan also provided information on feed and livestock production systems at typical farms. While presenting the results of socio-economic assessment of feed-livestock technologies, he emphasized farmers' perceptions about fodder, standing summer fodders, fodder seed production, and feed supplementation for milk production. Upon

reviewing the rainfed feed-livestock production system, Dr. Azeem Khan described the analytical framework for impact assessment. He particularly noted the areas of impact for sustainable development, demonstrated feed/livestock impact matrix, listed the project challenges, and discussed farm household impact survey and feed/livestock policy development.

In the next presentation, Dr. Aktar Ali, Director, Fodder Research Institute, Sargodha, provided the research highlights and main constraints in community based testing of improved forages in Pakistan. He explained how selection of high-yielding fodder crops was done and provided data on green fodder yield of winter fodder crops. While discussing marketing of fodder, Dr. Aktar Ali specified how much additional income can be generated from improved fodder crops. He also emphasized that scientists on livestock production analyzed milk production of buffaloes under different feeding regimes. Their results imply that monetary benefit of milk and fat increase by use of improved fodder and concentrate (balanced) over local fodder. At the end of his presentation, Dr. Aktar Ali specified the constraints in community based testing of improved forages including variation in soil and crop management among the farmers; lack of education of farming community; lack of necessary farming equipments/ machinery for soil preparation, sowing and harvesting etc.; and lack of buying power to purchase agricultural inputs.

Options for including forage resources on small scale farms in Tajikistan were described in the presentation made by Dr. Abdullo Madaminov, Tajik Research Institute of Livestock. He emphasized that households currently keeping about 90 % of livestock often are not able to graze their flocks on remote rangelands and usually graze them on rangelands around villages that leads to further degradation of these pastures. Dr. Madaminov also provided data on seasonal dynamics of yields for forage crops. He advised that by additional sowing of bulbous bluegrass (*Poa bulbosa*), locoweed (*Astragalus rutilobus*), and kochia (*Kochia prostrata*) it is possible to increase the productivity of degraded pastures. He informed participants of the Workshop that the highest percentage of feed is produced on irrigated land by smallholders on the project site. They cultivate alfalfa for hay and maize for grain and forage. To increase the productivity of irrigated land researchers involve smallholders to ongoing experiments on obtaining of two harvests of grain and combined sowing of forage crops.

In his presentation, Prof. Seyfulla Abdraimov, South-western Scientific Production Center for Agriculture, Kazakhstan, discussed strategies for improving rangeland productivity based on lessons learnt from IFAD TAG ICARDA-425. He advised that during the Phase I of this project the research team had conducted research on four activities. Prof. Abdraimov briefly described undertaken assessment of rangelands and grazing management. Then he reviewed results on testing of techniques for range improvement and rehabilitation by use of range species in degraded areas. They imply that establishment of permanent rangelands and shelterbelts for range protection are important and useful practices. The shelterbelts may consist of both trees and shrubs species. One of the most promising plants to be used in such shelterbelts is *Haloxylon aphyllum* (Minkw) Jljn. In addition, *Kochia*, *Eurotia*, *Aellinia* and *Calligonum* can also be used for this activity. While explaining the results of seed production of range species for the improvement and rehabilitation of rangelands, the presenter informed that research activities have been conducted at Bukhtulin experimental station in a nursery for range species that had been established for production and selection of promising species and further adoption by farmers. In autumn 2001, 500 kg of range

species had been harvested from the Bukhtulin experimental station and surrounding rangelands, these including 390 kg of *Haloxylon aphyllum*, 40 kg of *Aellinia*, 40 kg of *Calligonum*, 12 kg of *Kochia* and 18 kg of *Eurotia*. Collected seeds were sown for range rehabilitation on an area of about 110 ha including 10 ha in Kekilbekov's farm and 100 ha in different farms in Zhana-kourgan district of Kyzylorda province.

The Workshop was continued by presentation of Dr. Asanbek Ajibekov, Principal Investigator Theme 3, Head, Department of Science, Ministry of Agriculture, Water Resources, and Processing Industry of Kyrgyzstan. He discussed the potential of milk production with Awassi sheep in Kyrgyzstan as a new production alternative. Dr. Ajibekov advised that there was no dairy sheep breeds in Kyrgyzstan before. In this regard the introduction of Awassi sheep breed by mating Awassi breed rams with ewes of Kyrgyz coarse wool fat-tailed breed was suggested for establishing of dairy sheep breed base. He described the proposed breeding scheme and demonstrated the data on two generations of cross-bred lambs. Among the positive results of this breeding activity Dr. Ajibekov specified that this is the first innovative solution on breeding technology leading to increasing of households' income through diversification of production and elements; dairy sheep breeding is a newly introduced breeding base in Kyrgyzstan; there are already farmers interested in dairy sheep production; one Ph.D. student completed his thesis on above mentioned innovation. The presenter also emphasized certain remaining problems including a weak access of scientists to global scientific and production information on dairy sheep production; limited opportunities of farmers for procurement and reproduction of Awassi breed rams; weak awareness of farmers on production and marketing of sheep milk; and lack of industrial sheep milk processing enterprises.

In her presentation, Dr. Liba Brent, International Consultant, University of Wisconsin, described how value added local processing of mohair goat fibers is undertaken by women in Tajikistan and how mohair and yarn marketing to the USA can benefit the smallholders involved in mohair production. She emphasized that mohair goats are an important source of livelihood for rural families in Northern Tajikistan. Dr. Brent also specified factors affecting price of mohair on both local and global markets. She noted that there is a paradox in pricing of mohair because fine mohair is valued higher on the global market and coarse mohair on the local market. The presenter also noted that in order to improve incomes of householders it is necessary to develop new markets for Tajik kid mohair; to develop market access for value added products such as luxury yarns; to find access for value added knitted products from kid mohair. Dr. Brent informed participants about constraints and opportunities for access to US market for mohair yarn. She also advised that the project helps producers overcome constraints. Particularly, Tajik kid mohair yarn samples were tested and received a warm welcome on the US market.

In the final presentation, Dr. Suratbek Yusupov, National Coordinator Uzbekistan IFAD Tag No 425, Director, Karakul Sheep Breeding and Ecology of Deserts Institute, explained diversification of livestock production through Karakul sheep milk production. Based on the results obtained during Phase I of the Project, he specified the following milk production constraints as perceived by livestock producers: difficult milking process; desire to keep the maximum amount of milk for lambs; complicated transportation of milk to markets; lack of equipment facilitating milking process; and a short lactation period. Dr. Yusupov also described the methodology used for milking experiment and demonstrated the pictures of dairy products that can be produced from sheep milk. The results of the experiment imply the followings: Karakul sheep have a moderate milk productivity; milk

productivity of ewes depends on udder shape and nipples' length; milk productivity is not stable and depends on a color of animal, age and feeding of ewes; sheep milk production can be a good additional source of income for farmers.

In the closing remarks, Dr. Barbara Rischkowsky thanked all participants for attending the Regional Workshop and taking part in the fruitful discussions of the project related issues.

Decisions of the First Regional Workshop

1. The successful results achieved during the Phase I of this project should be used for introduction of new technologies in the ongoing Phase II. Particularly, applicability of the feed block technologies and using of mulberry leaves for feeding of animals should be considered by the researchers involved in the project.
2. A community approach successfully used in Pakistan and India for cooperative dairy production has to be adapted and applied in the Central Asian countries.
3. It is necessary to elaborate a proposal for new pipeline projects. The ongoing project should be also linked to other development projects for dissemination of the project results.
4. It is necessary to invite policy makers to the regional and national workshops organized in terms of the Livestock Project to ensure that the policy recommendations elaborated by the project team will be supported at the national level.
5. It is important to conduct an impact assessment for new technologic interventions on feed and livestock production introduced by the scientists involved in the Project. Such analysis will provide information on affordability and sustainability of production technologies.