Workshop Report

Planning Workshop on Livestock Productivity – a component of the Dryland Systems CRP

in Dushanbe, Tajikistan, 19-20 May 2014

CGIAR Program Facilitation Unit (PFU)

International Center for Agricultural Research in the Dry Areas (ICARDA)

Background

Livestock plays an important role in the Central Asian agricultural economies. Livestock does not only contribute to the livelihoods of the most vulnerable rural sector, particularly in isolated regions and highlands, such as in Tajikistan and Kyrgyzstan, but has also played a critical role in the period of transition when other sources of income were substantially reduced. However, livestock production has been severely affected by the economic transition, which resulted in the disruption of the Soviet markets for traditional products such as wool and pelts, land tenure and access to rangeland, fragmentation of large production units into small and unproductive flocks/herds, the collapse of production support services and animal health control, a lack of technology transfer services and disruption of livestock research.

The private farmers and household livestock keepers that have emerged from this process face severe shortages of feed and heavy costs in keeping their animals alive, particularly in the critical period of winter coinciding with pregnancy. Feed supplies have been disrupted, there is inadequate access to rangelands and production and conservation of forages is limited. The disaggregation of large herds into small herds and the inability of farmers to practice seasonal grazing have led to overgrazing of areas near villages and the underutilization of remote ranges. This increases reliance on cultivated fodder, which is limited because of access to land and/or forage seed availability or only available at a high cost. Lack of information on the nature of these problems, processes and trends, and of mechanisms to bridge the gaps created by the loss of production support services (public extension services, farmers' organizations), has disconnected research from the on-farm environment. This has hindered the identification and application of appropriate technologies to improve productivity and to target market opportunities, the rational use of resources, and the design of appropriate policies.

Because of its high importance for the rural livelihoods in marginal areas, **livestock productivity** was selected as one of seven program activities within CGIAR Research Program Dryland Systems (CRP DS) in Central Asia. The other activities are 1) Marginal Lands, 2) Crop varieties, 3) Seed System Platform, 4) Innovation Platform, 5) Knowledge Management (The Central Asian Countries Initiative for Land Management (CACILM)), and 6) Geoinformatics Capacities.

The **objective** of the program activity on **livestock productivity** is to increase livestock productivity to increase revenues and wellbeing of the livestock keepers and to improve availability of animal source foods to the households. Ground implementation has to be at the scale of selected field sites in integration with the other activities.

Workshop summary

The planning workshop for the program activity on livestock productivity was held in Dushanbe in Tajikistan from 19-20 May 2014 with the objectives to introduce and discuss the new program activity to project partners and other stakeholders and to develop workplans for 2014-2016 (see Annex 1 Agenda) with the participants (Annex 2 List of participants). The Workshop preceded a Multidisciplinary Review and Work Planning workshop of the CRP DS for the Rasht Valley Action Site from 20-22 May 2014 in Dushanbe including a field trip to Rasht Valley. Thus, most of the participants also attended the livestock productivity planning which provided an excellent opportunity to link with the other CRP DS program activities and for multi-disciplinary discussions.

Plenary session

Botir Dosov started the workshop by introducing the Dryland System Program in Central Asia. He also explained the main production systems across the action site transects which are: agro-pastoral system which is the dominating system in both the Rasht Valley and the Aral Sea; mountainous system mainly encountered in the Rasht Valley; tree-based system in Fergana and Rasht Valley; irrigated cotton/wheat/rice system in the Aral Sea Basin and finally the vegetable system mainly in the Rasht Valley.

ICARDA's project coordinator, Barbara Rischkowsky, introduced the planned activity and explained to the participants the broad proposed outputs for this component: (i) Analysis of the production systems in the selected communities/field sites, (ii) a qualitative value chain analysis and (iii) a set of best-bet interventions to increase farm productivity. Gender-related activities, important for CRP DS implementation, will be more clearly defined at a later stage. Within CRP DS, gender activities are cross-cutting across all activities.
These outputs were proposed to respond to major challenges identified from experience and findings from earlier projects as well as background information[1]. Major cross cutting challenges to small ruminant production in the action sites include: inexistence of organized breeding systems and unavailability of improved genetics, degradation of winter rangelands as a result of reduced herd mobility, low quantity and quality of winter feeds, low productivity of saline rangelands, high losses as a result of animal diseases and poor marketing strategies and market channels. A number of promising interventions related to these challenges have been tested in earlier projects in Central Asia or other countries, such as farmer-based breeding programs in Sogd province of Fergana valley; community action for accessing summer rangelands; increasing crop residues from summer crops and increasing hayfield productivity; rehabilitation measures for saline rangelands and croplands (e.g. shrubs); effective links with disease control and food safety programs; and joint targeted marketing through producers associations.

For the livestock component, the coordinator proposed to all present stakeholders to focus on agropastoral systems[2] while considering linkages to mixed systems and fodder production opportunities in irrigated systems. This would imply to work in Karakalpakstan/Uzbekistan in the Aral Sea Basin, on Rasht Valley in Tajikistan, and the *Sogd Province/*Tajikistan in the Fergana Valley within the Central Asian action sites. This proposal was accepted by the workshop participants.

These two introductory presentations were followed by presentations on specific challenges and characteristics of small ruminant production systems in Rasht Valley and in Aral Sea Region by the Directors of the two key partner institutes, namely Dr. Fazzlidin Ikramov (Tajik Livestock Research Institute) and Dr. Nasillo Bobokulov (UzRI of Karakul Sheep Breeding and Desert Ecology), respectively.

[1] Background information used: IFAD Grant Integrated Feed and Livestock Productivity in Tajikistan, Kyrgyzstan, Kazakhstan and Pakistan (June 2006 –Dec. 2009); IFAD Grant Fiber Value Chain Project in Tajikistan and Kyrgyzstan (Aug. 2009-30 Sept. 2013); CACLIM Knowledge management , e.g. review of GIZ rangelands projects; CRP Livestock and Fish: Value chain development in Ethiopia (started June 2012); ICBA projects, in particular related to saline rangelands ; findings from joint visits of the CRP DS teams to the action sites

[2] Five Agricultural Production Systems were identified in the Action Sites in Central Asia, namely Agro pastoral livelihood systems (Aral Sea, Rasht), Mountainous mixed (horticultural) systems (Rasht), Tree based (fruit tree) systems (Fergana, Rasht), Irrigated cotton/wheat/rice systems (Aral Sea, Fergana), and urban & rural vegetable/fruit home garden systems (Fergana/Aral Sea).

Subsequently potential research areas encompassing rangeland monitoring and management, reproductive technologies to increase flock productivity, and value chain analysis as a methodology to identify major challenges and intervention areas were presented by Drs. Mounir Louhaichi, Mourad Rekik and Barbara Rischkowsky, respectively. Dr. Kristina Toderich shared lessons learnt from rehabilitation of rangelands in the Aral Sea Region.

Working groups on Rasht Valley and Karakalpakstan

The plenary session was ended with the formation of two working groups for developing workplans for Rasht Valley in Tajikistan and Karakalpakstan in the Aral Sea Basin. The terms of references for the working groups included: criteria for target site selection, challenges for small ruminants' productivity, main potential interventions including novel ideas/adapting interventions/demonstrations of best-bet practices, major activities and partners, integration of gender, outputs and deliverables for the next 2 years, and required/expected linkages with other activities and projects.

The Working Group on Rasht Valley

Detailed notes from the working groups are available in Annex 3 and 4. A summary of the proposed main interventions, some of which can be country- or site-specific was presented by Barbara Rischkowsky. The main interventions included:

- Characterization of SR production systems in the target communities (to be aligned with baseline survey and earlier studies)
- Paid assessment of sheep and goat meat value chains
- Design of appropriate flock recording systems at the community level
- Design of integrated package for improving productivity, namely develop and apply the schedule for veterinary preventive activities; improve productivity through better feeding; selection of best breeding animals for reproduction
- Pasture/rangeland improvement through assessment and monitoring, characterization of indigenous species, reseeding, and improved management

- Winter feed production (introduction of alley cropping, intercropping and dual purpose crops; seed production of primary forage species) to be linked to the CRP DS program activity on Seed Systems, the IFAD Conservation Agriculture and Livestock project in Tajikistan, and an ICBA project on saline forages.
- Empower/support women groups (access to market) to be linked to CRP DS gender research
- Demonstrations of best bet, organizational development to be linked to the CRP DS program activity on Innovation Platforms.

The workshop concluded with outlining the next steps to be taken towards developing full workplans:

1. Completion of site selection within CRP DS action sites (this step requires urgent action involving Tashkent office, ICARDA activity leaders, other CG and non-CG centers).
2. Consolidation of cluster of activities across sites but also keeping site-specific activities
3. Identifying the partners for each cluster/work package in the two countries
4. Follow-up with the partners on detailed activity plans and budgets
5. Research collaboration agreements with partners.

Annex 1. Agenda of the Planning Workshop *Livestock Productivity – a component of the CGIAR Research Program on Dryland Systems*, 19-20 May 2014, Dushanbe, Tajikistan.

Day 1, 19 May 2014

Welcome and opening remarks

Chairperson: Prof. Izzatullo Sattori, President of Tajik Academy of Agricultural Sciences

09:00-09:30 Welcome by Prof. Izzatullo Sattori
Welcome by Dr. Jozef Turok
Participants introduce themselves

09:30-10:00 Introduction to the Dryland Systems Program, Outcomes, Activities, Livelihood Systems, Action Sites, Innovation Platforms in Central Asia
Dr. Botir Dosov

10:00-10:30 Introduction to the livestock component
Dr. Barbara Rischkowsky

10:30-11:00 Group photo and tea/coffee break

Plenary Session – understanding the challenges in the action sites

Chairperson: Dr. Tolibek Bukhoriev, Vice President Tajik Academy of Agricultural Sciences

11:00-11:20 Challenges of small ruminant production in Rasht Valley
Dr. Fazzlidin Ikramov

11:20-11:30 Discussion

11:30-11:50 Challenges of small ruminant production in Aral Sea Region
Dr. Nasillo Bobokulov

11:50-12:10 Lessons from rehabilitation of rangelands in the Aral Sea Region
Dr. Kristina Toderich

12:10-12:30 Discussion

12:30-13:30 Lunch break

Plenary Session – proposed research for improving livestock productivity

Chairperson: Dr. Kristina Toderich, ICBA

13:30-13:50 Improving rangeland productivity
Dr. Mounir Louhaichi

13:50-14:10 Improving small ruminants fertility
Dr. Mourad Rekik

14:10-14:30 Value chain analysis and development
Dr. Barbara Rischkowsky

14:30-14:45 Introduction to the working groups and budget considerations
Dr. Barbara Rischkowsky

Working Group Session on Rasht Valley and Aral Sea Action Sites

14:45-15:30 Group Work

15:30-16:00 Tea/coffee break

16:00-16:45 General discussion

19:00 Workshop dinner

Day 2, 20 May 2014

Working Group Session on Rasht Valley and Aral Sea Action Sites (cont.)
9:00-10:00 Working groups (cont.)- preparation of presentations

Plenary session – Reports from working groups
Chairperson: Dr. Jozef Turok, PFU-CGIAR, ICARDA

10:00-10:20 Report from Working group 1

10:20-10:30 Discussion

10:30-10:50 Report from Working group 2

10:50-11:00 Discussion

11:00-11:30 Tea/coffee break

11:30-11:45 Proposed workplan and next steps
Dr. Barbara Rischkowsky

11:45-12:00 Discussion

12:00-12:10 Concluding Remarks
Prof. Izzatullo Sattori
Dr. Jozef Turok

12:30-13:30 Lunch

Annex 2. List of participants in the Planning Workshop Livestock Productivity – a component of the CGIAR Research Program on Dryland Systems, 19-20 May 2014, Dushanbe, Tajikistan

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35.	Ikbal Yusupova	Translator		

Annex 3. Notes from the Working Group on Karakalpakstan

Criteria for target site selection:

- Herd size for sheep or goats should be not less than 20 adult females (20-50 is common)
- Geographic and agroecological location: transitional zone between irrigated and steppe areas
- Easy access to the site and market
- Diversified production systems
- Opportunity for multidisciplinary research

Challenges for sheep and goat productivity:

- Access to veterinary services
- Access to supplemental feed
- Animal watering points
- Lack of knowledge, livestock management techniques
- Inappropriate grazing practices
- Lack of appropriate institutional and policy management of agricultural livelihood systems and agropastoral systems
- Poor access to market
- Disparity of prices, intermediate dealers dominatethe market
- Infrastructure
- Processing facilities, storages
- High transportation costs of livestock to market
- Insufficient governmental support
- Lack of financial services

Main interventions

- Full characterization of SR production systems on the action site
- Setting-up an adapted flock recording system
- Design of integrated package for improving productivity (Develop and apply the schedule for veterinary preventive activities (infections, parasites, transboundary diseases, Improve animal health and productivity through better feeding)
- Analysis of VC for main animal production systems

Major activities/partners:

Characterization of SR production systems on the action site	ICARDA, Karakul RI, Vet RI, community organization
Design effective flock recording system at the community level (2014-16)	Karakul RI, Vet RI, ICARDA
Design of integrated package for improving productivity of flocks (2014-15)	ICARDA, NARS
VC Analysis for main animal production systems	ICARDA, NARS
Seed production of primary forage species (seed systems)	ICARDA, NARS, ICBA
Integrated package for assessment of rangelands carrying capacity – botanical composition, nutritional value	ICARDA, NARS, ICBA

Gender research: will be integrated into VC analysis; there will be also a rapid appraisal identifying the role of vulnerable gender groups in SR production and value chains.

Annex 4. Notes from the Working Group on Rasht Valley

Criteria for Site selection in Rasht Valley

- Farmer's willingness to collaborate
- Small holders with focus on small ruminants
- Access to market (market linkage); access to veterinary services
- Accessibility to site (road) to basic infrastructure
- Agro-pastoral production systems
- Pasture should not be too degraded (possibility to recover and show impact "resilient")
- It would be nice to have development agencies/partners in the action site (for outscaling)
- Social mobilization (self-governed such as CBO)
- Land tenure: if possible pasture belongs to community

Main challenges for small ruminant production

- Unorganized breeding
- Lack of veterinary services
- Livestock number increase in summer in Rasht valley which leads to overgrazing
- Pasture degradation
- Lack of seeds and seedlings for pasture rehabilitation
- Lack of fodder crops and winter feed
- Lack of skills for processing animal products
- Lack of knowledge for proper grazing management (pasture management)
- Weak extension services
- Weak infrastructure (roads, veterinary services, watering points, etc.)
- Poor access to market

Main interventions/activities/main partners:

Novel ideas (discovery)

- Analysis of one value chain "meat"(local private businesses, association of pasture users "meat suppliers, farmers growing fodder crops, private veterinary services)
  - Output:
    - agreement with private commercial who will buy quality meat from producers
  - Deliverables:
    - report of full assessment which describe value chain,
    - training conducted for producers,
    - come up with priority actions in consultation with all stakeholders,
    - revision/improving existing system for SR meat production
- Pasture management using no-till seeders (re-seeding) (TAAS, community based association, association of pasture users, local and international NGOs)
  - Output:
    - Improvement of pasture productivity
  - Deliverable:
    - Integrated package for pasture improvement (species, density, timing, management, etc.)
- Rangeland (pasture) assessment and monitoring (Agrarian University "MSc, PhD", pastoral communities, TAAS, ICBA)
  - Output:
    - Indigenous knowledge on importance of rangeland species for animal health and nutrition documented
    - Biodiversity assessed (species richness)
    - Native shrub species evaluated (anti-bacterial, tannin component, etc.)

        - Deliverable: characterization of key rangeland species (ecological and chemical "nutritional" analysis)
    - Introduction of alley cropping, intercropping and double purpose crops (TAAS, seed farm association)
        - Output: feed resources "forage" production increased
        - Deliverable: complete technical package (species mixture, species requirements, productivity, nutritional value, agronomic practices, etc).

Adapting technologies (proof of concept)

- Selection of best SR (animals) for reproduction (TAAS)
    - Output:
        - Establish a recording system for performance recording
        - SR productivity especially for **meat/**milk improved
    - Deliverables:
        - Criteria for selection of best rams, bucks established (manual)
- Empower/support woman groups (access to market) (cooperatives, NGOs,)
    - Outputs:
        - Conduct training on lobbying for woman interest, basics of entrepreneurship)
    - Deliverables:
        - Number of woman who will initiate their own businesses,
        - Inclusion of woman in the Mahala council.

Demonstrations of best bet, organizational development

- Building capacity development of communities (MOAg, NGOs, Media, other international organizations)
    - Outputs:
        - Exchange visits between Jamoat, villages, districts,
        - Conduct hands on training on specific themes
        - Platform for lobbying an informing authorities about ongoing activities established
    - Deliverables:
        - Vertical and horizontal information sharing,
        - Enhanced capacity of stakeholders,
        - Institutional linkages promoted

Integration of gender research (CBOs, Hukumat, NGO, etc.)

- Organize small women groups
- Strengthen women's participation in meetings, trainings, etc. (level>40%)
    - 80% of male population in rural areas are migrating
    - 90% of agriculture activities are undertaken by woman
    - Hukumat has a program on family matter

<u>Required/expected linkages with other activities/bilateral projects</u>

- FAO project (Katlon)
- IFAD CACILM II (lead by ICARDA)
- IFAD CLCA (lead by ICARDA)
- ADB conducted biodiversity of pasture and have information about other projects working on pasture in Tajikistan
- CIP is leading a project in Rasht valley (Jerga town) for seed multiplication and tuber production
- ADB and ACTED just completed a project in Rasht valley (24 woman groups were established).

Note: ACTED will follow on this subject to find out about active local and international organizations in CRP DS action site in Tajikistan.