

**Summary of discussion – Multidisciplinary Review and Work Planning
in Rasht Valley Action Site
20-23 May 2014**

- (1) Team combined the two discussions (i) agree on main interventions for 2014-2015 within livestock component of CRP DS and to review research outputs and outcomes to date, discuss and agree on the implementation of Activity clusters through community development planning in selected areas of Rasht Valley Action Site.
- (2) Rasht valley represents distinct bio-physical and socio-economic conditions in Tajikistan and Kyrgyzstan, characterized by a very high degree of soil degradation. The area receive more precipitation than lower altitude plains and valleys, offers alternative nutritional values to animals, and because of remoteness and inaccessibility can lead to social isolation and marginalization. The specific local conditions need to be further studied, observed and considered when developing interventions.
- (3) In Jirgatal province of the Rasht valley CIP conducts community based research jointly with Research Institute of botany, plant physiology and genetics on Selection of potato hybrids with tolerance to stress and high yield capacities and Clones multiplication in vitro and with Institute of Gardening and Vegetables on Selection of new varieties of agricultural plants and creation of innovative growing technology, development of seed production system in Tajikistan. ICARDA scientists in close cooperation with research partners of Tajik Academy of Agricultural Science carries out research activities on integrated farming towards increasing productivity of forage crops through crop diversification in Rasht Valley. Bioversity International implement the UNEP-GEF Research Project In situ/on farm conservation and agrobiodiversity with Tajik Research institute on Institute of Gardening and Vegetables. The outputs of those projects are fed into cluster activities implementing in 2014-2014 within Drylands CRP in Central Asia and particularly in Rasht valley.
- (4) Three Agricultural Research Systems were endorsed by participants of the meeting as generic (i) mountainous agro-pastoral system, (ii) mixed tree-crop-livestock system, providing population with firewood, timber, food, and fodder crops for animal feeding, constrained by fast degradation from humans; livestock over grazing, land degradation, climate change. and (iii) Vegetable / fruit rural home garden systems, which are small in area, significant in nutrition.
- (5) Technologies are generally available and good management practices have been developed. The Dryland Systems CRP team needs to focus on discovery concepts, i.e. testing and adapting of options against the challenges that typical for mountainous agro-pastoral system such the Rasht valley represents through more systemic, integrated approach engaging local communities actually leads to improving their conditions. Local partners, particularly Tajik Academy of Agricultural Science suggested to select additional to one in Jirgatal district another one in Fayzabad district a representative research areas (communities) with high potential for out-scaling and dissemination.

- (6) The team visited Dekhkan farm «Ator» in Fayzabad province and interacted with local farmers. There are opportunities for research interventions in the field of fodder crops, small ruminants and livestock, introducing of new potato varieties, fruits and vegetables, cereals. They also met with Fayzabad province governor who welcomed the approach and research activities in the Rasht valley, expressed willingness to provide organizational support for the program implementation.
- (7) A key observation was that the Head of dekhan farm and local partners demonstrated readiness to exercise participatory in-field research and testing new crops/varieties options, livestock productivity improvement interventions and technologies in his fields. He specifically mentioned the high interest in small ruminants productivity increasing, options to in-take of fodder crops, new stress tolerant varieties of cereal, potato, vegetables and fruits trees.
- (8) It was agreed that local partners will provide the research team with both field sites (in Fayzabad and Jirgatal) characteristics on demographic and gender, area, annual precipitation, main economic activities, animals, land tenure, water, etc.
- (9) Role of the Regional Forum of Agricultural Research for Development, CACAARI, is very important in drawing attention of the global development continuum to the challenges mountainous and marginal environments in the region. CACAARI has to be better prepared to the GCARD III and represented by CG and non-CG Center such as ICIMOD, ICBA and CIP Peru representative delegation to voice the regional issues of agriculture which ignored by donors.
- (10) Watershed management, improved irrigation, water conservation was suggested as a core domain and adequate participatory approach should be undertaken for ensuring efficiency of system based integrated research.
- (11) Along with the conceptual background of importance of livestock component, the interventions to address the issues of marginal lands were brought into the discussion. Agroforestry, control over grazing are is key research domains to address.

Summary of working group discussion

Participants were asked to split into two groups by research field sites in (i) Fayzabad and (ii) Jirgatal to discuss and agree on:

- Main issues, which should be addressed within CRP DS
- Main interventions / research domains within CRP DS
- Main partners for joint research
- Types of machinery and equipment required to support the CRP DS research activities:

Output of Working group I – Fayzabad:

Main issues

- Lack of feed in winter time
- Low-productivity breeds
- Inadequate crop cultivation technology and approaches
- A limited number of varieties of plants (agricultural crops) in place
- Absence of seed systems of agricultural crops (fodder, vegetable, etc.)
- Land degradation (erosion of sloping land)
- Lack of water in the summer (for the interim watering)
- Reducing the area of tree plantations (cutting for fuel for cooking, heating in the winter)
- Lack of awareness of local communities about innovation, technology, varieties and new farming practices, etc.
- Undeveloped marketing, value chain
- Lack of watershed management, inadequate water resources management

Main interventions	Partners
Improving productivity grasslands and pastures <ul style="list-style-type: none"> - Overseeding - New varieties of crops - Inventory of pastures - Use of pasture 	Farming RI, Livestock RI, Department of pastures, Forestry Agency, Local communities
Improving productivity using animal breeds <ul style="list-style-type: none"> - Increase productivity - Enhance animal breeds - Introducing high productive feeding technology and techniques - Improving veterinary - Modernization of processing 	Livestock RI, Veterinary services, Local communities, Farmers' Association
Modernization of Seed system <ul style="list-style-type: none"> - Fodder and pastoral crops - Vegetables - Melons - Cereals - Potato 	Horticulture and vegetables RI, Farming RI, Livestock RI,
Improving varieties:	Horticulture and vegetables RI,

<ul style="list-style-type: none"> - Introduction of new promising and local varieties - Promoting Biodiversity - Fodder and pastoral crops - Vegetables - Melons - Cereals - Potato - Fruit trees 	Farming RI, Livestock RI, National center for genetic resources
<p>Cultivation techniques</p> <ul style="list-style-type: none"> – introduction of innovation technologies – conservation technologies – small-scale technologies – greenhouses – integrated pest management 	Horticulture and vegetables RI, Farming RI
<p>Conservation land management to address land degradation: soil erosion, Improving land use Улучшение землепользования для борьбы с деградацией земель (эрозия, landslide, waterlogging)</p> <ul style="list-style-type: none"> - afforestation - control over grazing - promoting gardening – tree plantations (controlled punching) 	Farming RI, Livestock RI, Department of pastures, Forestry Agency, Local communities
Watershed management, improved irrigation, water conservation	Melioration and Water issues RI
<p>Setting up the innovation platform / knowledge platform</p> <ul style="list-style-type: none"> - Field days - Training - Communication materials, recommendations, guidelines, media materials, information campaigns, Mass-media - Data base - Web-based resources 	

Equipment to purchase for implementing abovementioned activities

Type of equipment	Ranking of priority
Mini-shop for processing vegetable and fruit crops	4
Mini machinery for soil tillage	1
Zero-tillage seeders	4
Threshers, seed-ginners / treaters	4
Bio-Laboratory for (1) invitro	2
Bio-Laboratory for (2) to determine the chemical composition	4
Procurement of pedigree animal breeds (sheeps and goats for insemination)	3
Bio veterinary drugs / tools	3

Output of Working group II – Jirgatal

Main issues in Jirgatal, which should be addressed within CRP DS

- access to good seed potato and varieties
- used sainfoin varieties are old and produce low yield
- crop diversification and access to productive varieties is limited
- short vegetation period
- lack of access to seeds and saplings
- rangeland degradation due nonsystematic grazing practices
- overgrazing caused by summer grazing exceeding the carrying capacity
- high mortality rate due to forage deficit
- lack of breeding activities in cattle and small ruminants
- remoteness causing lack of diversity in human nutrition

Activity	Partners	Timeframe
Feasibility assessment of vegetable production	AVRDC, NARS, Horticulture and Vegetables RI	2014
Participatory assessment of farmers' needs including gender issues (within Innovation Platform)	ICARDA, farmers	2014
Nursery establishment for fruit trees at the level of private farmers	Bioversity Int'l, Horticulture and Vegetables RI, ICARDA	2014 seed multiplication- 2015 samplings
Alley cropping	Bioversity Int'l, Horticulture and Vegetables RI, ICARDA	2014-2015
Seed potato production	CIP, Horticulture and Vegetables RI	2014-2015
Study of potato, fruits, sheep meat value chains	CIP, ICARDA, NARS	2015
GIS characterization of Jirgatal district (incl. Muksu)	ICARDA	2014-2015
Rapid assessment of livestock production	ICARDA, Livestock RI	2014
CRP 1.1. Baseline survey	ICARDA, RI of Economics	2014
Integrated intervention package on sheep based on rapid assessment results	ICARDA, Livestock RI	2015

Types of machinery and equipment

- Mini-tractor, plough, chisel, seeder
- Pumps and plastic pipes for irrigation
- Drip irrigation equipment for fruit nurseries
- Plant protection sprayer
- Containers for storage of fruits, vegetables, and potato
- Laboratory equipment for assessment of fruit and vegetables quality (electronic balances, scales, microscope) (dry matter, sugar content, etc.)
- Equipment for livestock related activities:
- 3 laptops, printer, 2 digital cameras, Ultrasound scanner, electronic scales, GPS for animal tracking, power generator
- For greenhouse: bio-net, metallic frames