Mainstreaming gender in the CRP Dryland Systems in Central Asia

Strengthening gender equity through systemic and gradual approach in the CRP Dryland Systems in Central Asia

taking into account specific landscape, socio-economic, cultural, geographical and historical conditions in Central Asia:

• historical legacy and transitional economy
• work/labour migration to Russia
• high dependence of Food security on land and water use
• diversity of livelihood and production systems
• cultural aspects
Background: CRP Dryland Systems in Central Asia

CRP Dryland Systems Action sites in Central Asia

1. For reducing vulnerability and managing risk

1. Lowland basin of the Aral Sea
2. Rasht and Kyzyl Suu Valley

2. Action site for sustainable intensification

3. Fergana valley
Action sites: Reducing vulnerability and managing risk

Main characteristics

• The high degree of desertification and soil salinization / degradation
• Availability of research infrastructures
• High potential for supporting and adopting of research outputs by national partners
• The presence of the International Cooperation Agencies
• Large cross-border area in the Aral Sea (lowland)
• The close relationship with similar systems in other regions
Key characteristics

Water for irrigation, options for diversified production systems for cotton-wheat-livestock-vegetables and horticultural crops, characterized by high and unique agrobiodiversity, along with good research and transport infrastructure are some of the factors that can lead to higher standards of living of the local population.
## Population by action sites

<table>
<thead>
<tr>
<th>Action site</th>
<th>Population, 000’</th>
<th>% of rural population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fergana Valley</td>
<td>12 957.4</td>
<td>50.2</td>
</tr>
<tr>
<td>Rasht and Kyzyl Suu Valley</td>
<td>286.9</td>
<td>97</td>
</tr>
<tr>
<td>Aral Sea region</td>
<td>5 238.2</td>
<td>55.3</td>
</tr>
</tbody>
</table>
# Mapping Agricultural livelihood systems (ALS) across Central Asia Action Sites

<table>
<thead>
<tr>
<th></th>
<th>Fergana valley</th>
<th>Aral Sea</th>
<th>Rasht valley</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agro pastoral</strong> livelihood systems: mountainous agro-pastoralism in Rasht valley; and Low rainfall, susceptible of soil to erosion in Aral Sea Basin</td>
<td></td>
<td>Susceptible of soil to erosion</td>
<td>Mountainous, remote, marginal</td>
</tr>
<tr>
<td><strong>Tree based</strong> systems: Mixed tree-crop-livestock system, providing population with firewood, timber, food, and fodder crops for animal feeding</td>
<td></td>
<td>Fruits and vegetables,</td>
<td></td>
</tr>
<tr>
<td><strong>Irrigated crop:</strong> cotton/wheat/rice systems</td>
<td>cotton/wheat</td>
<td>cotton/wheat/rice</td>
<td></td>
</tr>
<tr>
<td>Vegetable / fruit <strong>Homegarden</strong> systems (urban &amp; rural) (small in area, significant in nutrition)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Why Homegarden ALS is important in CA

#### Ten top agricultural products in CAC countries

<table>
<thead>
<tr>
<th></th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
<th>9.</th>
<th>10.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kazakhstan</td>
<td>2</td>
<td>3</td>
<td>7</td>
<td>8</td>
<td>x</td>
<td>1</td>
<td>4</td>
<td>6</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>13</td>
<td>x</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>x</td>
<td>19</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td>8</td>
<td>4</td>
<td>5</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Turkmenistan</td>
<td>4</td>
<td>1</td>
<td>7</td>
<td>3</td>
<td>6</td>
<td>8</td>
<td>11</td>
<td>2</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>7</td>
<td>4</td>
<td>11</td>
<td>9</td>
<td>x</td>
<td>15</td>
</tr>
</tbody>
</table>

**Weighted-average place in 20 places**

- Cow milk: 2.8
- Cattle meat: 5.4
- Tomato: 5.4
- Cotton fiber: 1.5
- Grape: 7.1
- Wheat: 11.5
- Potato: 11.7
- Mutton: x
- Chicken: 19
- Chicken eggs: x

Rating based on monetary volume of production based on FAO data (FAOSTAT 2009)

x – not included into the 20 most produced agricultural products

Most of agricultural commodities are produced mostly by households: *milk, meat, fruits and vegetables, etc*
Importance of Irrigated crop systems: *Staple crops*

Food security and self-sufficiency in cereals production

http://faostat.fao.org/site/342/default.aspx
### High relevance Food security on soil fertility in CA

#### Food security characteristics/ typology in CAC countries

<table>
<thead>
<tr>
<th>Food Security</th>
<th>Country</th>
<th>Low Soil fertility</th>
<th>High soil fertility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest Food Security</td>
<td>Tajikistan</td>
<td>Trade secure / Low food production</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Uzbekistan</td>
<td>Trade secure / Low food production</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Azerbaijan</td>
<td></td>
<td>Trade secure / Low food production</td>
</tr>
<tr>
<td>Middle Food security</td>
<td>Kyrgyzstan</td>
<td>Trade insecure / High food production</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kazakhstan</td>
<td>Trade Secure / High food production</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Turkmenistan</td>
<td>Trade Secure / High food production</td>
<td></td>
</tr>
</tbody>
</table>

## Poverty and economic growth in Central Asia

<table>
<thead>
<tr>
<th>Country</th>
<th>Population living below $1.25 (2005 PPP) a day</th>
<th>Population living below the national poverty line</th>
<th>GDP per capita (PPP US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percentage</td>
<td>Percentage</td>
<td></td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>4.21 5 0.51 3.1</td>
<td>34.6 15.4</td>
<td>10223</td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>18.61 31.8 34 21.8</td>
<td>47.6 43.1</td>
<td>1869</td>
</tr>
<tr>
<td>Tajikistan</td>
<td></td>
<td>44.5</td>
<td>74.9</td>
</tr>
<tr>
<td>Turkmenistan</td>
<td>63.53 24.8 - - -</td>
<td>-</td>
<td>4826</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td></td>
<td>32.1 42.3 46.3 -</td>
<td>27.5 2308</td>
</tr>
</tbody>
</table>

aData not available.

Land and water degradation

(E. De Pauw et al., ICARDA 2009)
Degradation of pastures and forests
Climate Change affect on DS in CA

Andervash Glacier melting in Tajikistan
(Photo S. Christmann, ICARDA, 2012)
CRP DS Activities in CA

- **Risks, constraints, bottlenecks**
  - Sediment, waterlogging, irrigation-water deficit, soil degradation, water availability, soil erosion, climate change, crop yield loss, soil fertility, natural disasters, disease, pests, root pathogens, yield loss

- **Production systems**
  - Crops, livestock, horticulture, pasture, fisheries, staple crops, new species, crop breeding, land use

- **Crops**
  - Cereals, legumes, vegetabies, export crops, grains, pulses, rice, maize, soyabean, potatoes, wheat, coffee, tea, pulp and paper

- **Technologies / innovations**
  - Efficient energy, water harvesting, soil fertility management, crop protection, pest management, climate change adaptation, early warning systems, yield loss management, sustainability, livelihoods, smallholder agriculture, research and development

- **Cross-cutting issues**
  - Crop, soil, water, catchment, policy, health, gender, climate change, food security, biosecurity, resilience, disaster preparedness and response
Risks, constrains, bottlenecks

Salinity, waterlogging, irrigation water deficit, soil degradation, low drought-, heat- froze-tolerance of crops, low productivity, landslide, soil erosion, out-of-date or absence of storage and processing technologies, undeveloped or absence of seed systems, low capacity, lack of small-scale innovations, and etc.
Crops

Cereals, legumes, vegetables, horticultural, potato, fodder, non-used, aromatic, medical (officinal) and others
Production systems

Crops, agroforestry, horticulture, pastures, livestock, fodder crops, poultry, aquaculture, bee-keeping and others
technologies / innovations

agronomic, production, postharvest, storage, processing, targeted (to groups)
Management: integrated, sustainable, conservation, participatory

land and water resources, pastures, marginal lands, irrigated farming and etc.
Deliverables in / to

production systems, crops, land and water management, pasture management, marginal lands and intensifiable systems and etc..

methods, tools, processes, technology, research, testing, adoption, options, approaches
Gender, youth, biodiversity, smallholders, nutrition, capacity building, partnership and etc.
DS CRP Central Asia Priority activities for 2013-2014

1. Identify and introduce tolerant, high-yielding and improved quality varieties of cereals, potato, vegetable, horticultural, fodder crops in pure and mixed plantations through on-farm adaptive trials

2. Establish a seed system platform compatible with existing agro-ecological environments to supply farmers with high quality seed and planting materials so as to improve livelihoods, food security and incomes of smallholders

3. Improve the productivity of marginal lands in irrigated farming and pastoral systems

4. Improve water use efficiency through innovative technologies in irrigation and farming in cereals, potato, vegetable, horticultural and fodder crops

5. Establish Strategic Innovation Platform for out-scaling Dryland Systems CRP impacts
CRP DS Cluster activities for 2014-2016 (with additional three, 2014)

1. Improve the productivity of marginal lands in irrigated farming and pastoral systems
2. **Increase livestock productivity to improve availability of animal proteins to the households and increased revenues and wellbeing of the pastoralists**
3. Improve water use efficiency through innovative technologies in irrigation and farming in cereals, potato, vegetable, horticultural and fodder crops
4. Identify and introduce stress tolerant, high-yielding and improved quality varieties of cereals, potato, vegetable, horticultural, fodder crops through on-farm adaptive trials
5. Establish a seed systems platform compatible with existing agro-ecological environments to supply farmers with high quality seed and planting materials so as to improve livelihoods, food security and incomes of smallholders
6. Establishing Strategic Innovation Platform for multi-stakeholder process to foster reducing vulnerability of the agro-pastoral system and sustainable intensification in Action Sites
7. **Knowledge synthesis, generation, packaging and dissemination (knowledge platform) of sustainable land management practices in Central Asia**
8. Strengthen capacity in application of Geographic Information Systems and Remote Sensing on assessment and sustainable management of soil, water, agro-biodiversity resources
IDO 1. **More resilient livelihoods** for vulnerable households in marginal areas.

IDO 2. More stable and higher per capita income for **intensifiable households**

IDO 3. Women and children in vulnerable households have year round access to greater quantity and **diversity of food sources**

IDO 4. More sustainable and equitable **management of land and water resources** in agropastoral areas

IDO 5. Impact through better functioning **markets** underpinning intensification of rural livelihoods

IDO 6. More integrated, effective and connected **service delivery** institutions underpinning system intensification

IDO 7. **Policy reform** removing constraints and incentivising rural households to engage in more sustainable practices that intensify and improve resilience
Theory of Change for DS CRP in Central Asia
DS CRP in Central Asia

SIDOs
Poverty reduction, FS, N&H, Sustainable NRM:

Resilience (IDO1)

Income (IDO2)

Food Access (IDO3)

NRM (IDO4)

Capacity to innovate (IDO6)

Gender (IDO5)
## Mapping and characterization of gender specific groups based on gender disaggregated baseline survey

<table>
<thead>
<tr>
<th>Agricultural livelihood systems (ALS)</th>
<th>Typology of the groups: livelihoods, vulnerability, risks, distribution of incomes decision making</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Agro pastoral</td>
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</tr>
<tr>
<td>2. Tree based</td>
<td></td>
</tr>
<tr>
<td>3. Irrigated crop:</td>
<td></td>
</tr>
<tr>
<td>4. Homegardens</td>
<td></td>
</tr>
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</table>

in

- Fergana valley
- Aral Sea
- Rasht valley
Mapping packages of combinations of technologies, innovations, options

<table>
<thead>
<tr>
<th>Policy, Institutional, technological, socio-economic, etc</th>
<th></th>
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<td></td>
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</tr>
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<td>Rasht valley</td>
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</table>
Typology of the groups: livelihoods, vulnerability, risks, distribution of incomes decision making

Agricultural livelihood systems (ALS)
1. Agro pastoral
2. Tree based
3. Irrigated crop: Homegardens
4. in Fergana valley
   Aral Sea
   Rasht valley

Resilience (IDO1)

Income (IDO2)

SIDOs
Poverty reduction, FS, N&H, Sustainable NRM:
Thank you!