



RESEARCH
PROGRAM ON
Dryland Systems



Mainstreaming gender in the CRP Dryland Systems in Central Asia

Planning Workshop for the Implementation
of the DS CRP Gender Strategy,
May 26-27, 2014, Amman, Jordan

CA Flagship Gender Strategy

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**

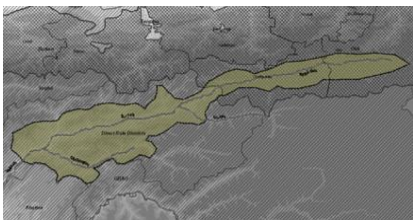
Background: CRP Dryland Systems in Central Asia

CRP Dryland Systems Action sites in Central Asia

1. For reducing vulnerability and managing risk

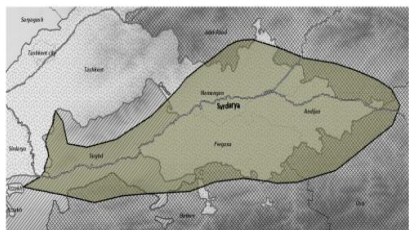


1. Lowland basin of the Aral Sea



2. Rasht and Kyzyl Suu Valley

2. Action site for sustainable intensification



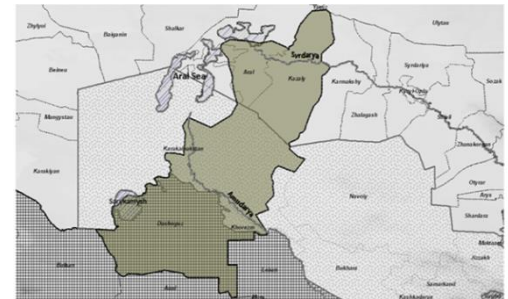
3. Fergana valley

Action sites: Reducing vulnerability and managing risk

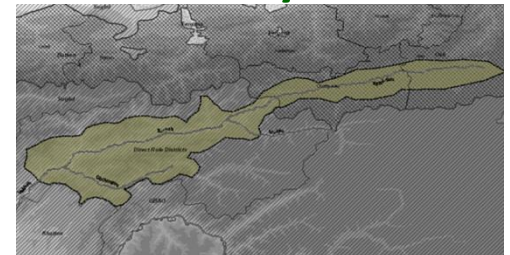
Main characteristics

- 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

Aral sea basin

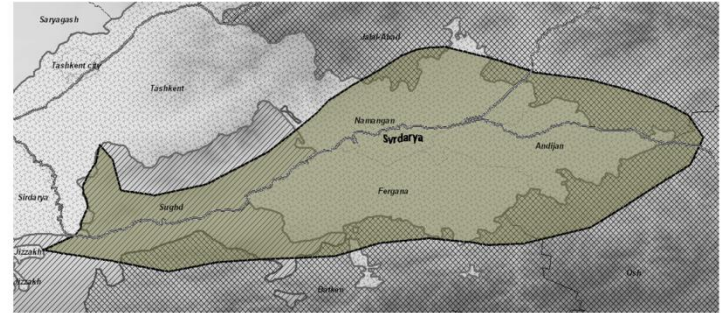


Rasht valley



Action site for Sustainable intensification

Fergana valley



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











Action site	Population, 000'	% of rural population
Fergana Valley	12 957.4	50.2
Rasht and Kyzyl Suu Valley	286.9	97
Aral Sea region	5 238.2	55.3

Mapping Agricultural livelihood systems (ALS) across Central Asia Action Sites

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

Why Homegarden ALS is important in CA

Ten top agricultural products in CAC countries

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
	Cow milk	Cattle meat	Tomato	Cotton fiber	Grape	Wheat	Potato	Mutton	Chicken	Chicken eggs
Kazakhstan	2	3	7	8	x	1	4	6	12	9
Kyrgyzstan	1	3	5	13	x	6	3	4	x	19
Tajikistan	3	6	2	1	7	8	4	5	x	x
Turkmenistan	4	1	7	3	6	8	11	2	13	10
Uzbekistan	3	1	5	2	7	4	11	9	x	15
Weighted-average place in 20 places	 2.0	 2.8	 5.4	 5.4	 5.5	 5.5	 5.5	 7.2	 7.2	 7.2

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

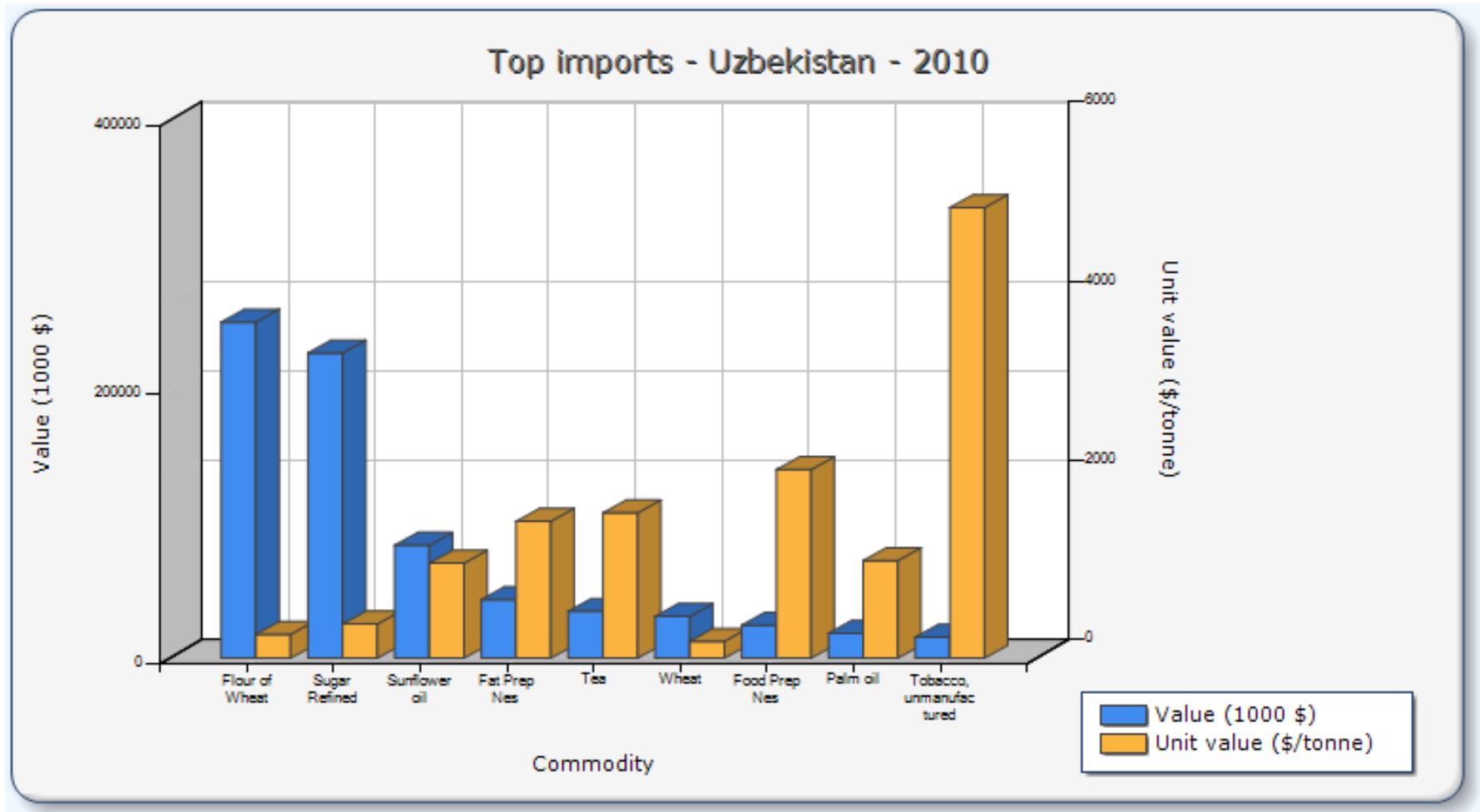
x – not included into the 20 most produced agricultural products



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



High relevance Food security on soil fertility in CA

Food security characteristics/ typology in CAC countries

Food Security	Country	Low Soil fertility	High soil fertility
Lowest Food Security	Tajikistan	Trade secure / Low food production	
Middle Food security	Uzbekistan	Trade secure / Low food production	
	Azerbaijan		Trade secure / Low food production
Upper Middle food security	Kyrgyzstan	Trade insecure / High food production	
	Kazakhstan	Trade Secure / High food production	
	Turkmenistan	Trade Secure / High food production	

SOURCE: Shenggen, F., Liengzhi, Y., & Biengxin, Y., 2010, "Toward a typology of food security in developing countries", IFPRI. <<http://www.ifpri.org/sites/default/files/publications/ifpridp00945.pdf>>

Poverty and economic growth in Central Asia

	Population living below \$1.25 (2005 PPP) a day				Population living below the national poverty line		GDP per capita (PPP US\$)
Country	Percentage				Percentage		
	1990	1996	2002	2005	2005	2007	2007
Kazakhstan	4.21	5	0.51	3.1	34.6	15.4	10223
Kyrgyzstan	18.61	31.8	34	21.8	47.6	43.1	1869
Tajikistan	-	44.5	-	21.5	-	74.9	1656
Turkmenistan	63.53	24.8	-	-	-	-	4826
Uzbekistan	-	32.1	42.3	46.3	-	27.5	2308

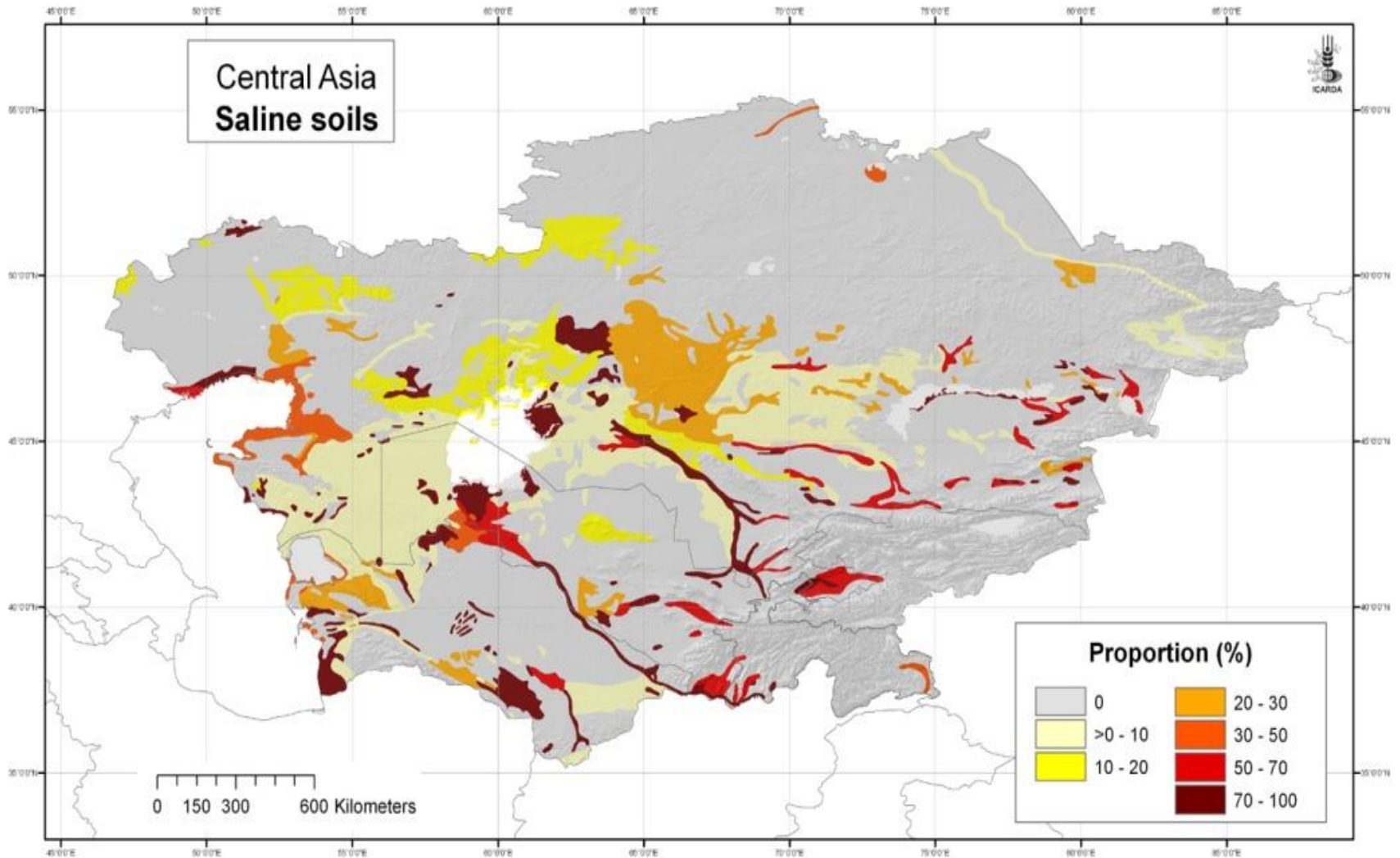
^aData not available.

Source: World Bank, PovcalNet (online database, accessed on 12 November 2008).

United Nations Millennium Development Goals Indicators (online database, accessed on 29 September 2008).

ESCAP Statistical Yearbook for Asia and the Pacific 2008; (<http://www.unescap.org/stat/data/syb2008/>).

Land and water degradation



(E. De Pauw et al., ICARDA 2009)

Degradation of pastures and forests



(Photo M. Turdieva, Bioversity, 2011)

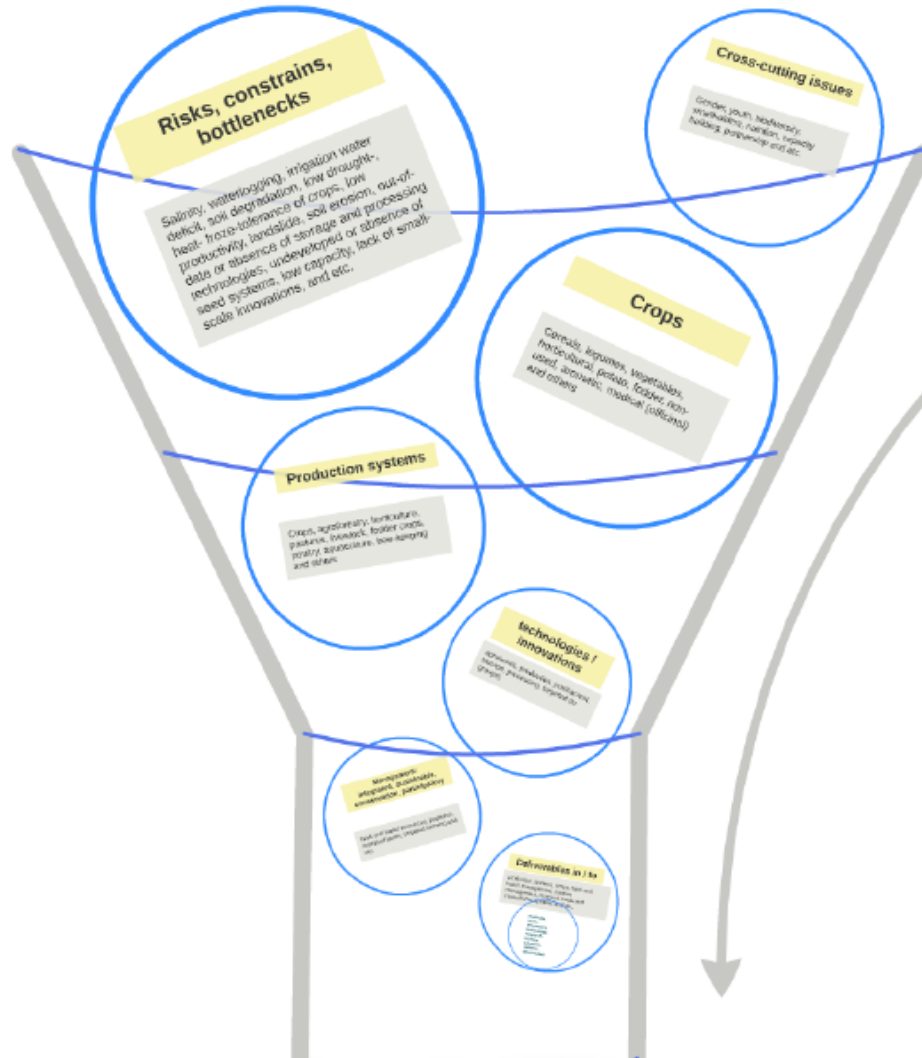
Climate Change affect on DS in CA



Andervash Glacier melting in Tajikistan

(Photo S. Christmann, ICARDA, 2012)

CRP DS Activities in CA



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

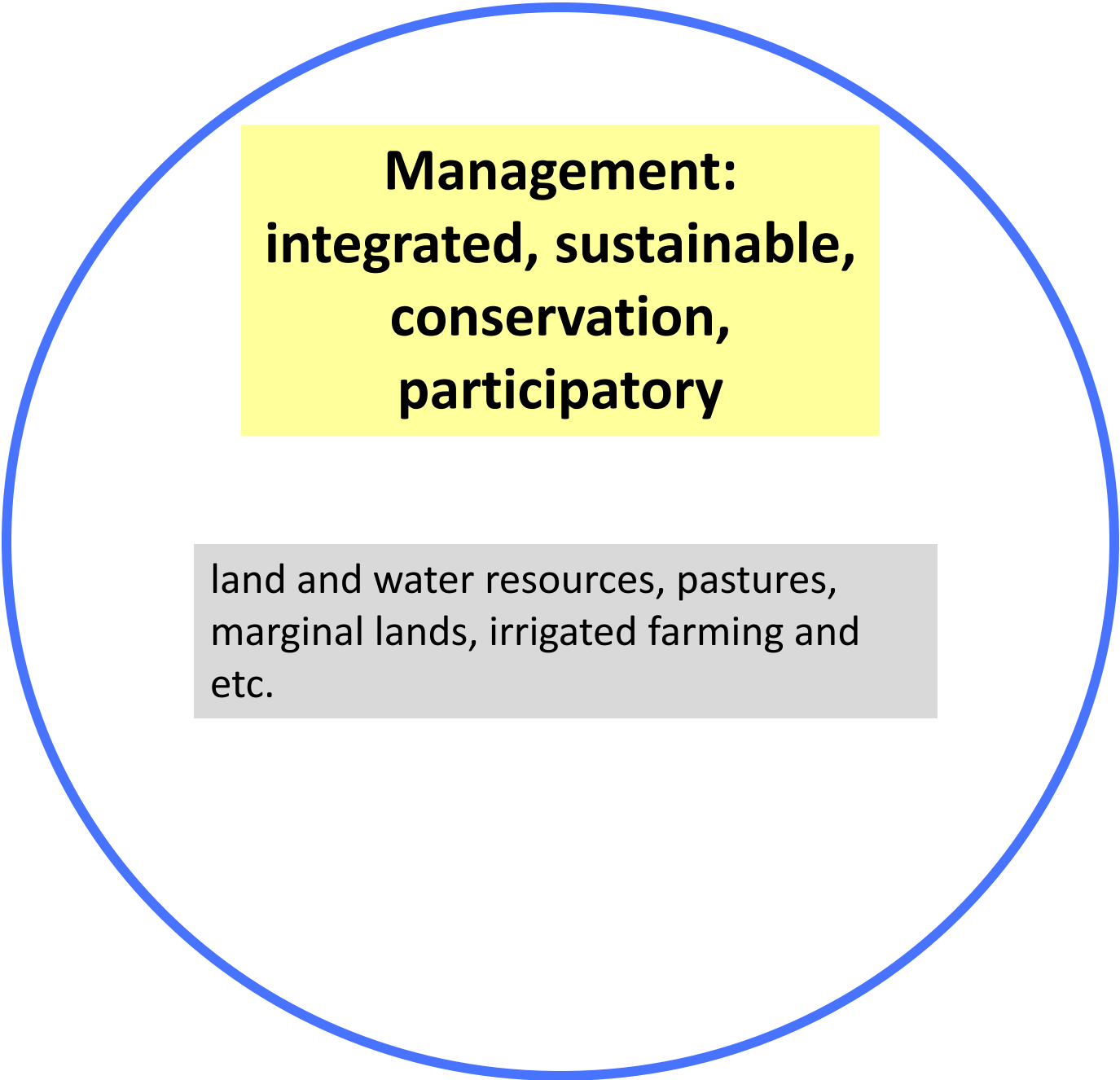
Production systems

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.

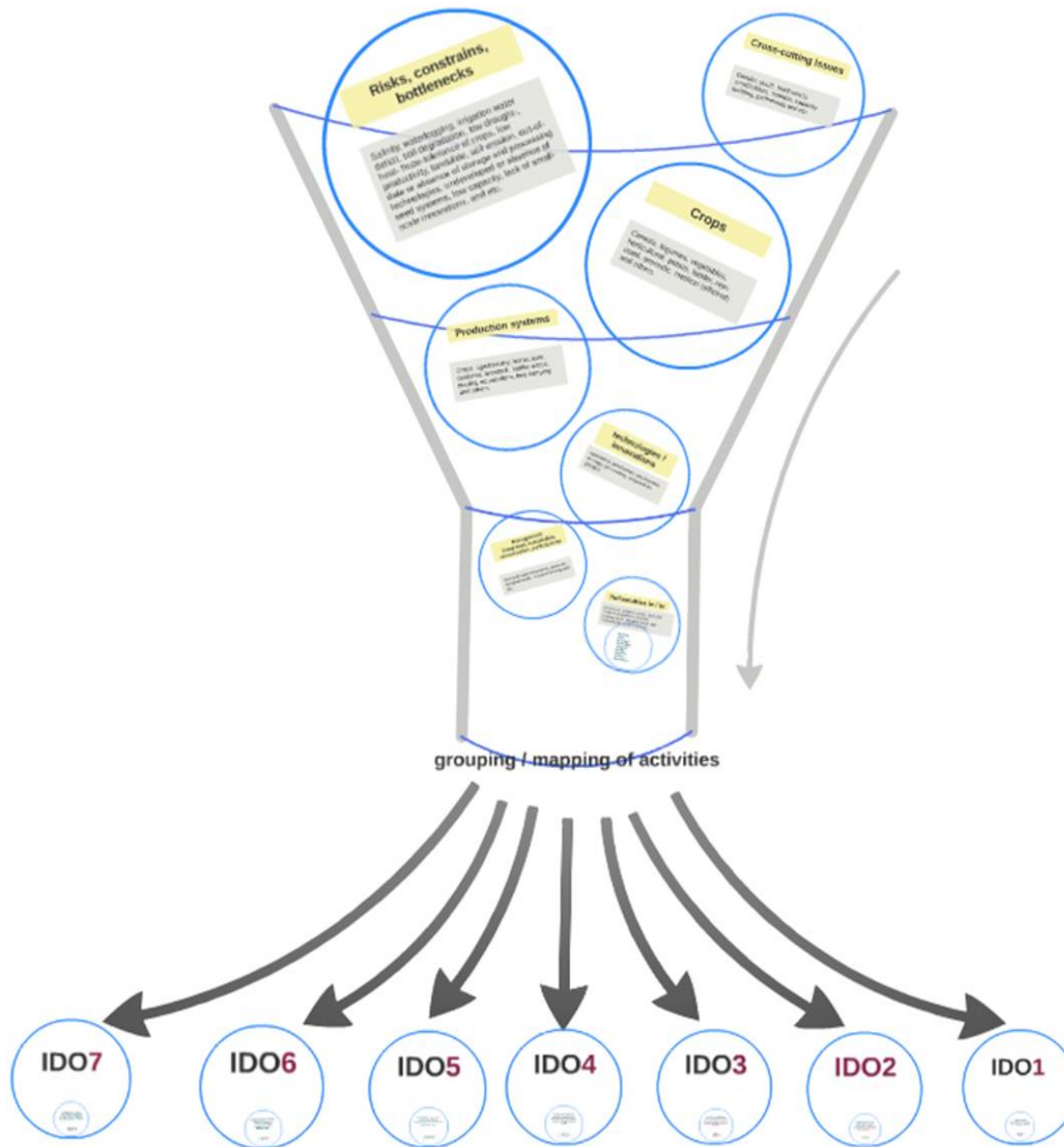
Deliverables in / to

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

Cross-cutting issues

Gender, youth, biodiversity,
smallholders, nutrition, capacity
building, partnership and etc.

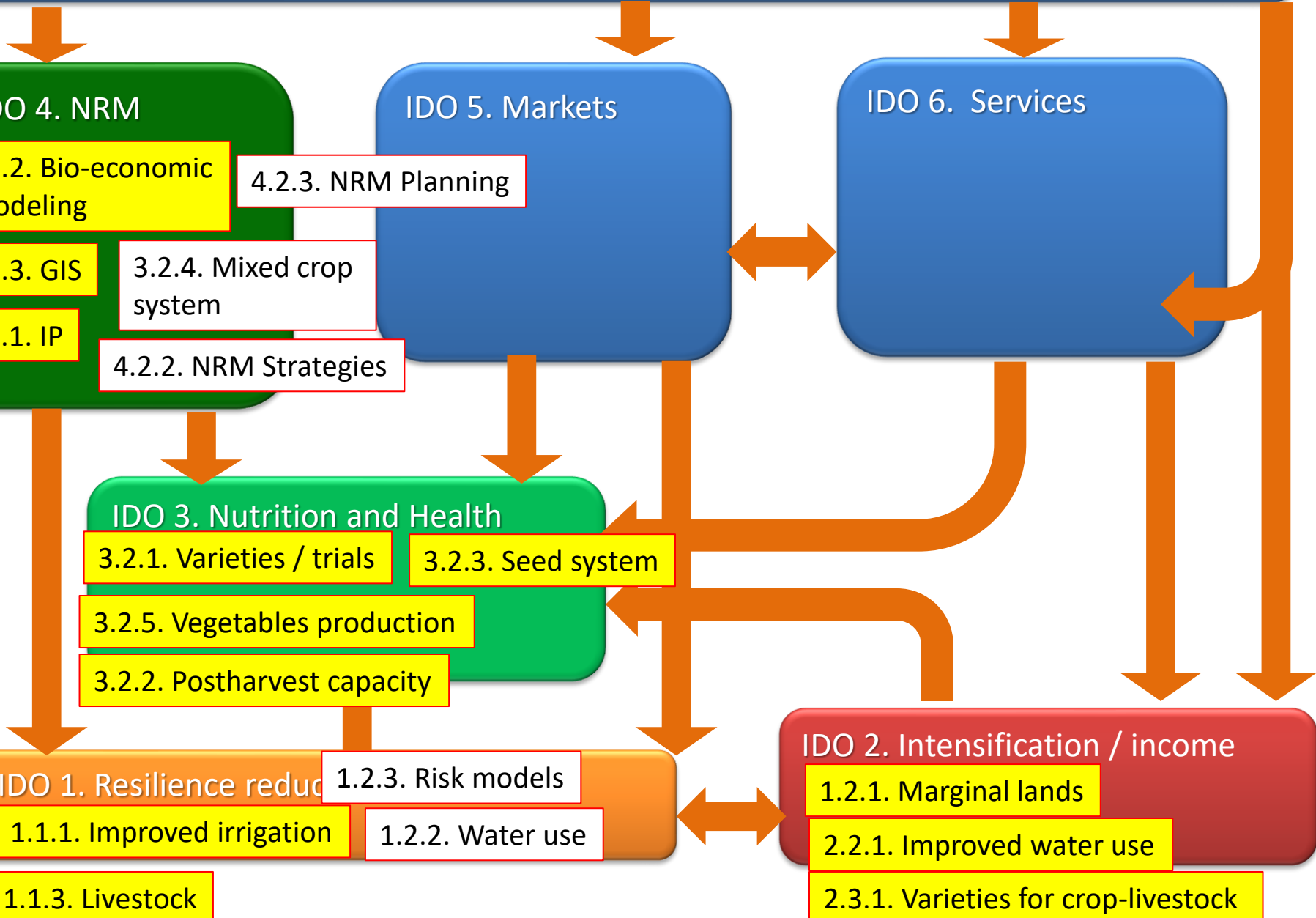
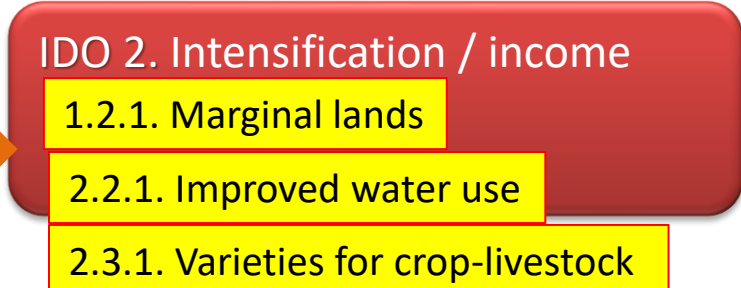
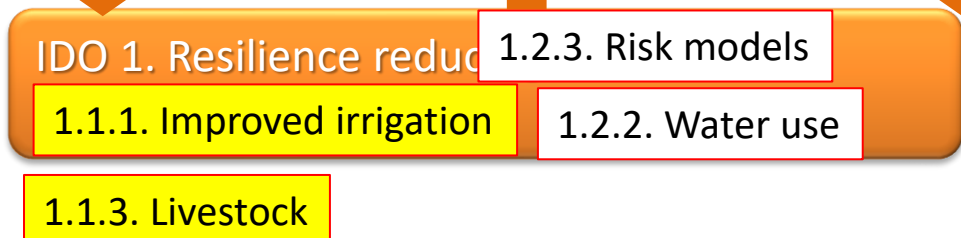
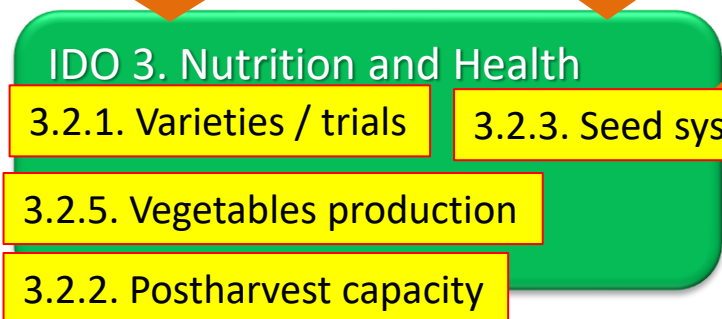
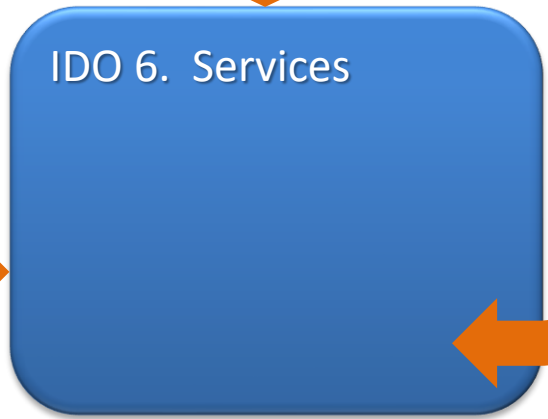
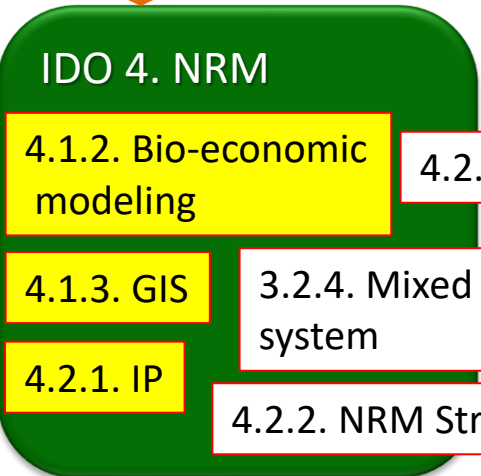
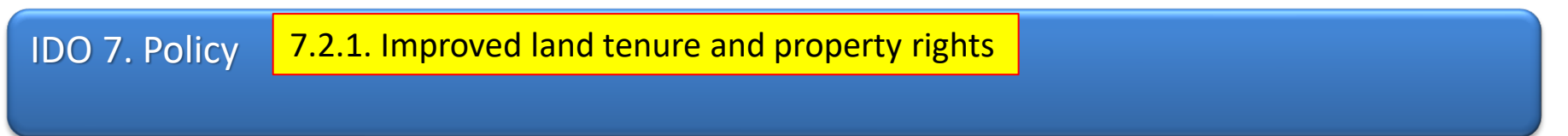


DS CRP Central Asia Priority activities for 2013-2014

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 7. **Policy reform** removing constraints and incentivising rural households to engage in more sustainable practices that intensify and improve resilience

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

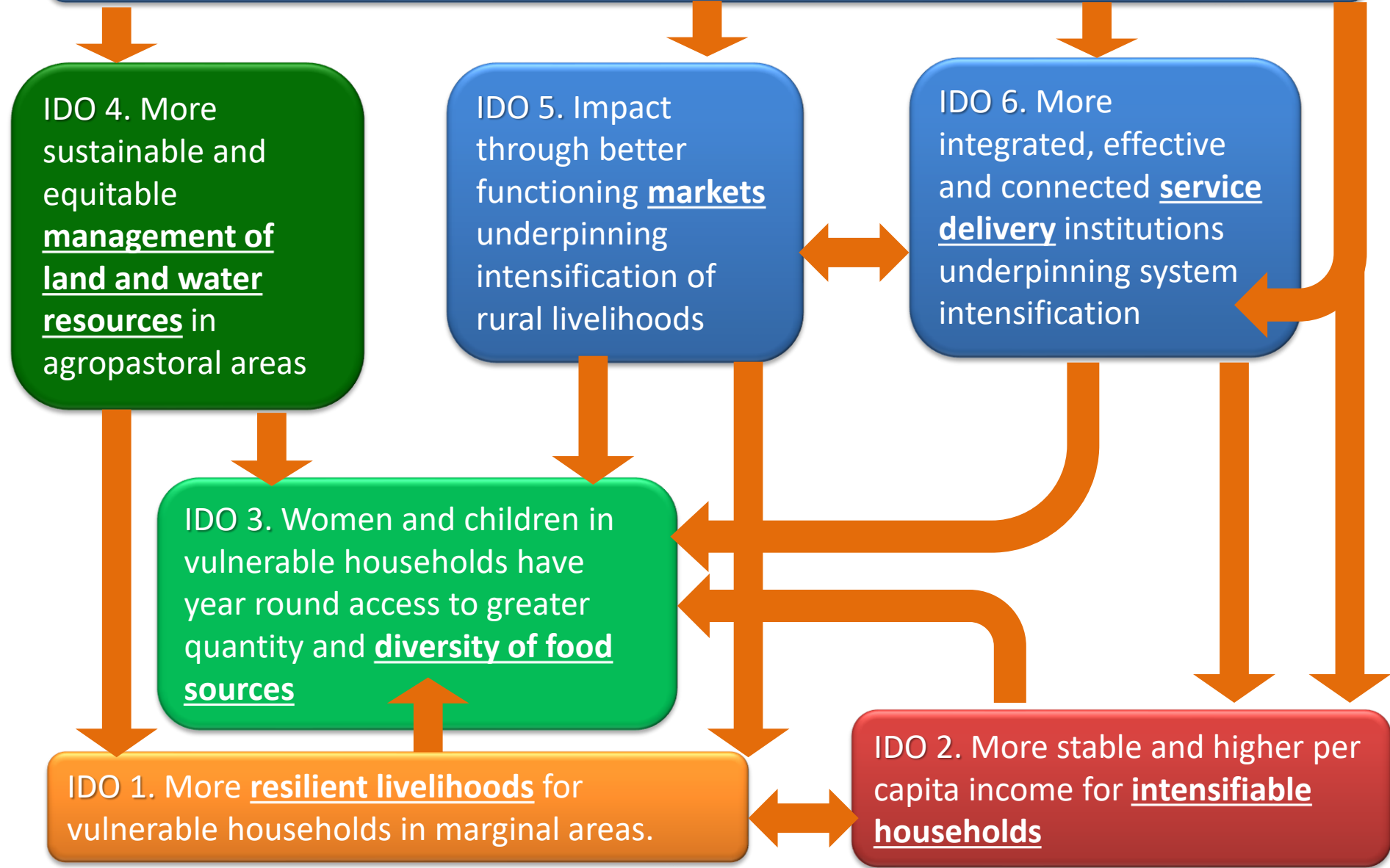
IDO 5. Impact through better functioning **markets** underpinning intensification of rural livelihoods

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

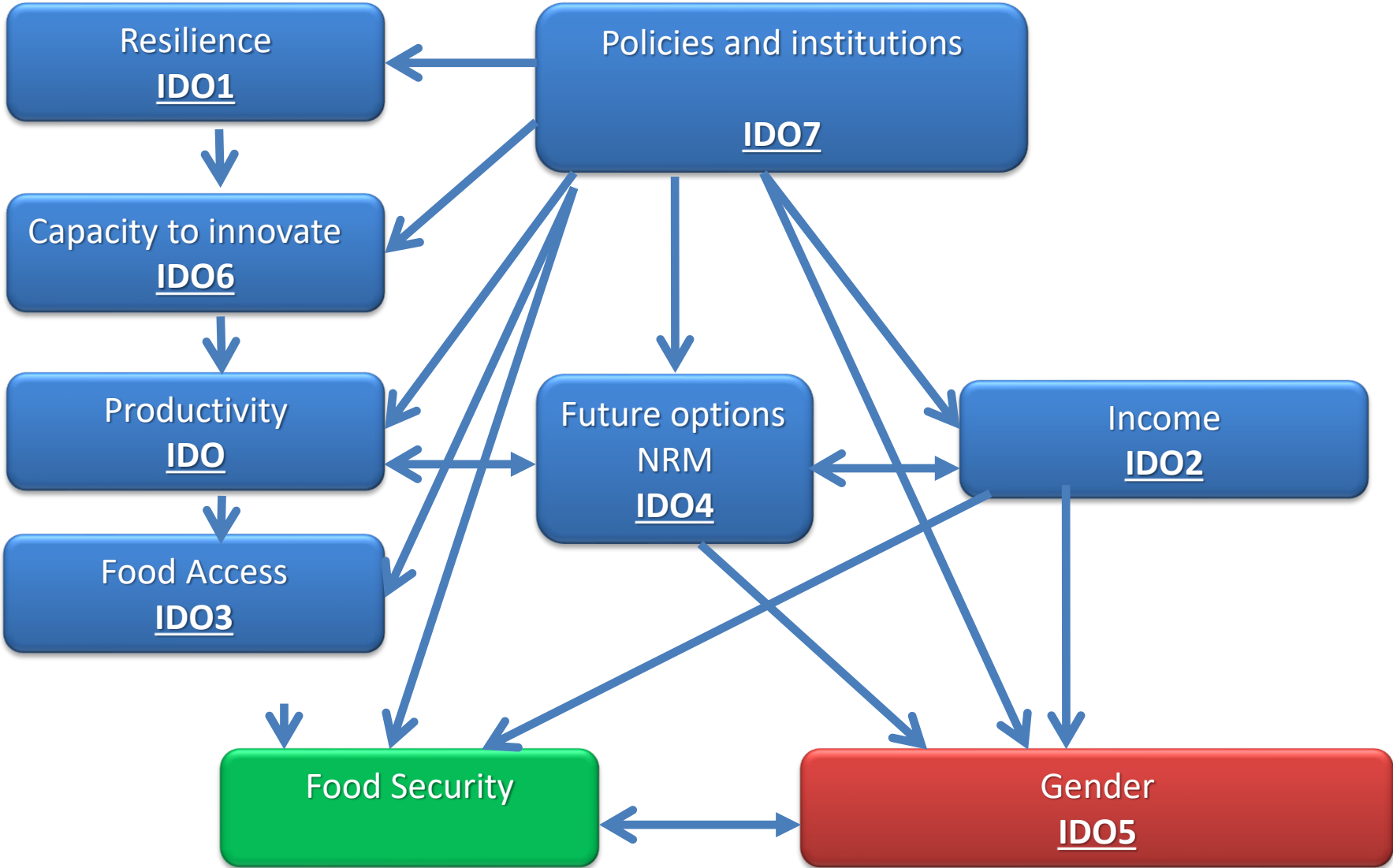
IDO 3. Women and children in vulnerable households have year round access to greater quantity and **diversity of food sources**

IDO 1. More **resilient livelihoods** for vulnerable households in marginal areas.

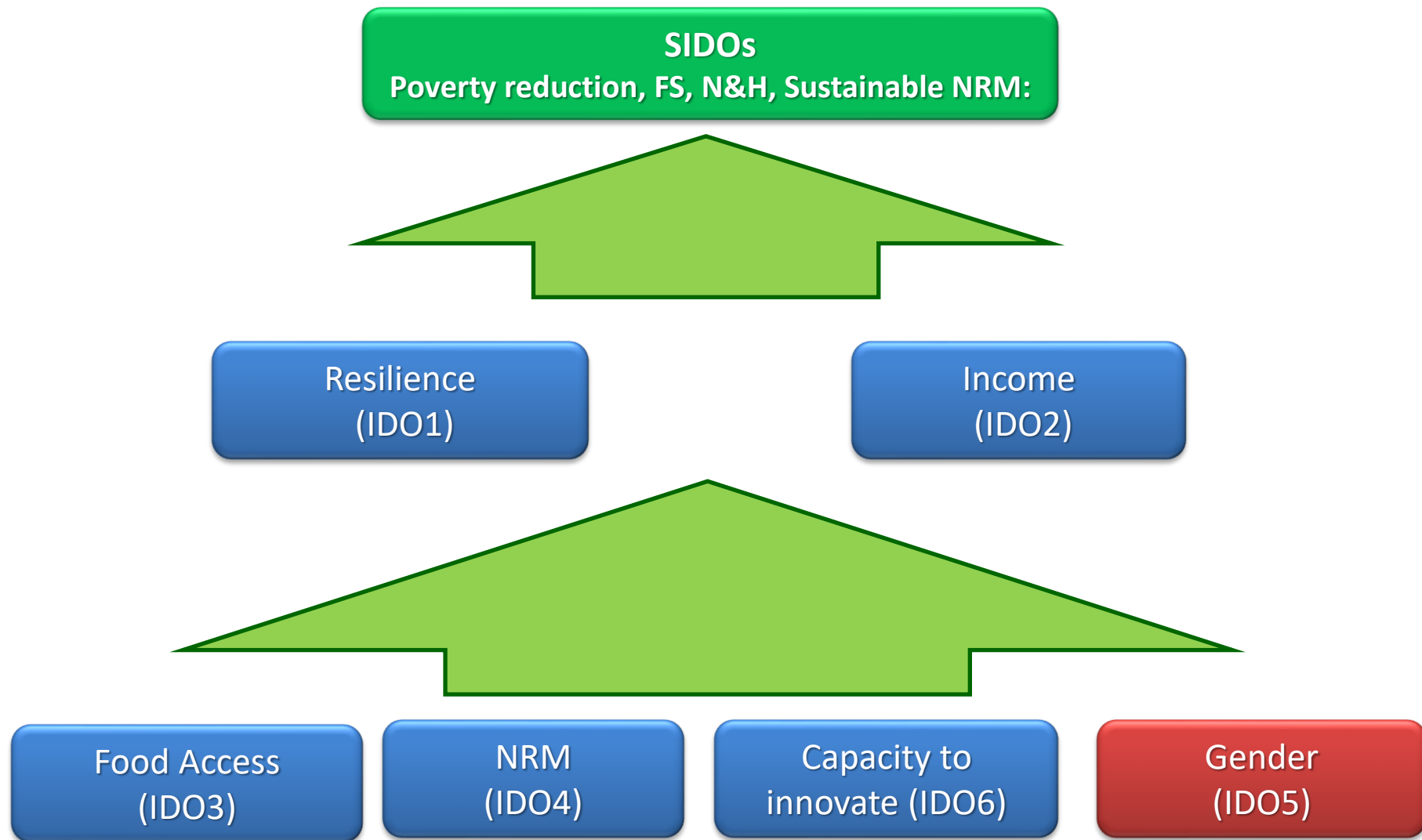
IDO 2. More stable and higher per capita income for **intensifiable households**



Theory of Change for DS CRP in Central Asia



DS CRP in Central Asia



Mapping and characterization of gender specific groups based on gender disaggregated baseline survey

	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: 4. Homegardens in Fergana valley Aral Sea Rasht valley			

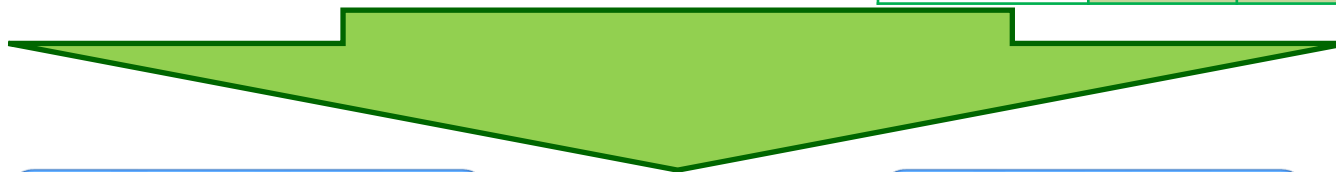
Mapping packages of combinations of technologies, innovations, options

	Policy, Institutional, technological, socio-economic, etc		
Agricultural livelihood systems (ALS) 1. Agro pastoral 2. Tree based 3. Irrigated crop: 4. Homegardens in Fergana valley Aral Sea Rasht valley			

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in Fergana valley Aral Sea Rasht valley			



	Policy, Institutional, technological, socio-economic, etc		
Agricultural livelihood systems (ALS)			
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in Fergana valley Aral Sea Rasht valley			



Resilience
(IDO1)

Income
(IDO2)



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



Thank you!