Forests, Trees and Agroforestry
Livelihoods, Landscapes and Governance

Bioversity International

RESEARCH PROGRAM ON
Forests, Trees and Agroforestry
CGIAR

Proposed Central Asia Sentinel Landscape – Forest degradation and resiliency

Judy Loo, Theme Leader, Forest Genetic Resources Programme
16 December, 2013

Linking management of forests and trees with food security from forest to farm

Central Asia

Global significance of Central Asia's forest

~ 7000 plant species in Central Asia;

➢ 650 endemic

Centre of origin and/or diversity for many locally and globally important fruit and nut tree species
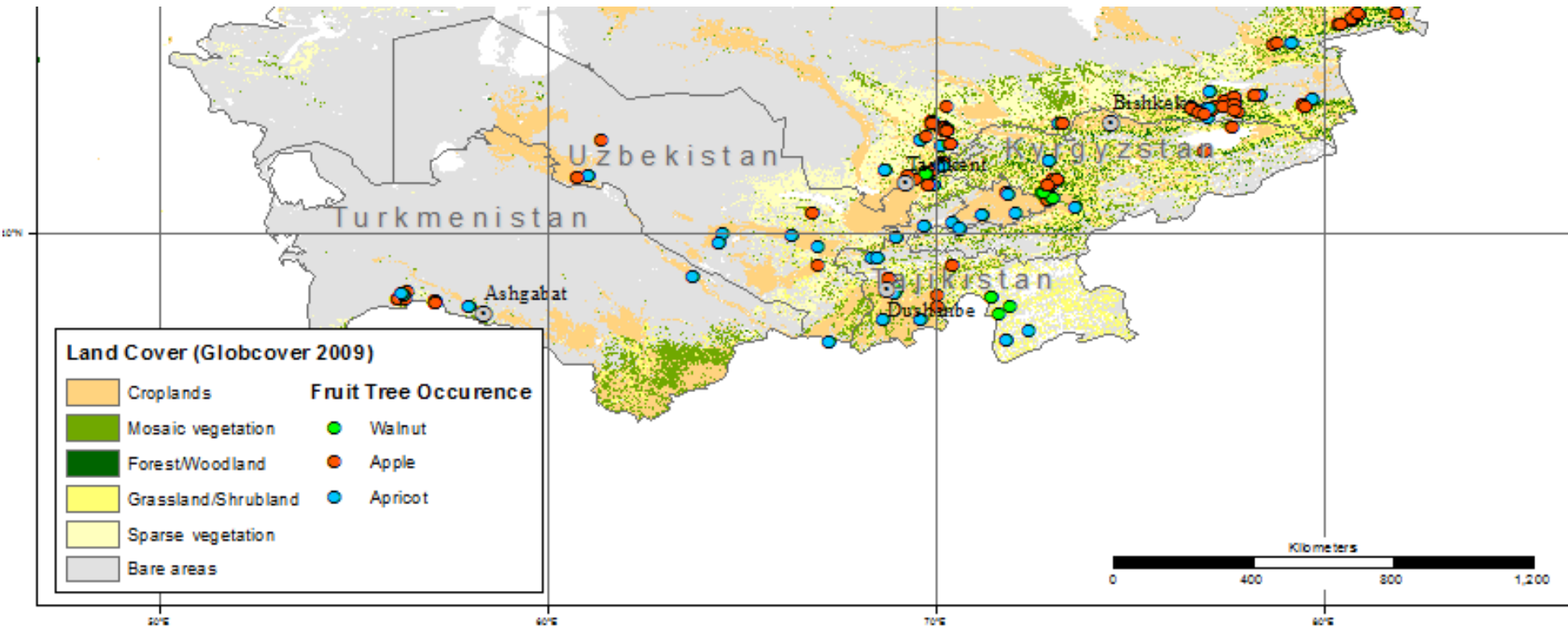
Main issue: Central Asian forests are under severe threat from over-exploitation, desertification, pests and diseases, overgrazing, fires, agricultural expansion, development for tourism, over-collection of germplasm by both national and international plant-breeding companies, mining, desertification, and soil salinity.

Threats to wild tree resources

Central Asia has little forest; but what it has is highly significant and declining.

Forest loss and degradation estimated to be 75% of forest area since the 1960s.

Land Cover (Globcover 2009)

Land Cover	Fruit Tree Occurence
Croplands	Walnut
Mosaic vegetation	Apple
Forest/Woodland	Apricot
Grassland/Shrubland	
Sparse vegetation	
Bare areas	

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Who's who?

- **Core team**:
  - Muhabbat Turdieva, Regional Coordinator, and Rashid Azimov, Scientific Field Coordinator, Bioversity sub-regional office, Tashkent, Uzbekistan
  - Judy Loo, Bioversity, Rome (SL coordinator)
  - Christopher Martius, Principal Scientist and Climate Change Theme Coordinator, CIFOR ; Bogor
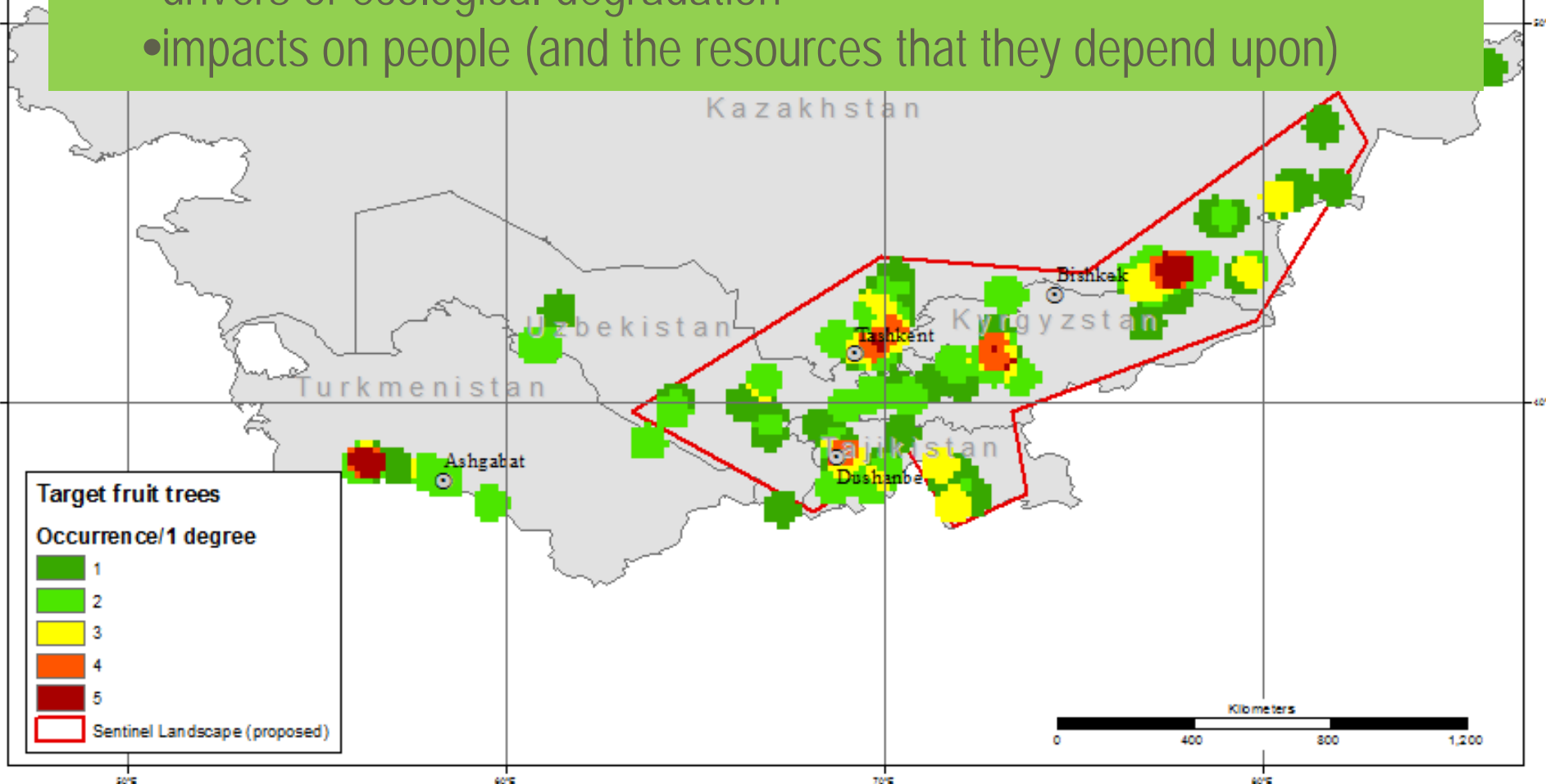 - Jozef Turok, Regional Director, ICARDA, Tashkent, Uzbekistan

- **Supporters:**
  - Stefanie Christmann, Environmental Governance specialist, ICARDA regional office
  - Horst Weyerhaeuser, Director, Institute of Mountain Communities, Central Asia University
  - Kubanichbek Turgunbaev,Associate professor, Kyrgyz National Agrarian University
  - Sovetbek Kenjebaev, Research Institute of Nut and Fruit Crops of National Academy of Scences of Kyrgyz Republic
  - Evgeniy Butkov,Uzbek Republican Scientific and Production Centre of Ornamental Gardening and Forestry
  - Abduhalil Kayimov, Professor, Tashkent State Agrarian University
  - Svetlana Shamuradova, Senior researcher, Tajik Research Institute of Forestry
  - Nurmakhmad Kamolov, Institute of Horticulture of Tajik Academy of Agricultural Sciences
  - Adrian Newton, Professor, Bournemouth University; Global Trees Programme
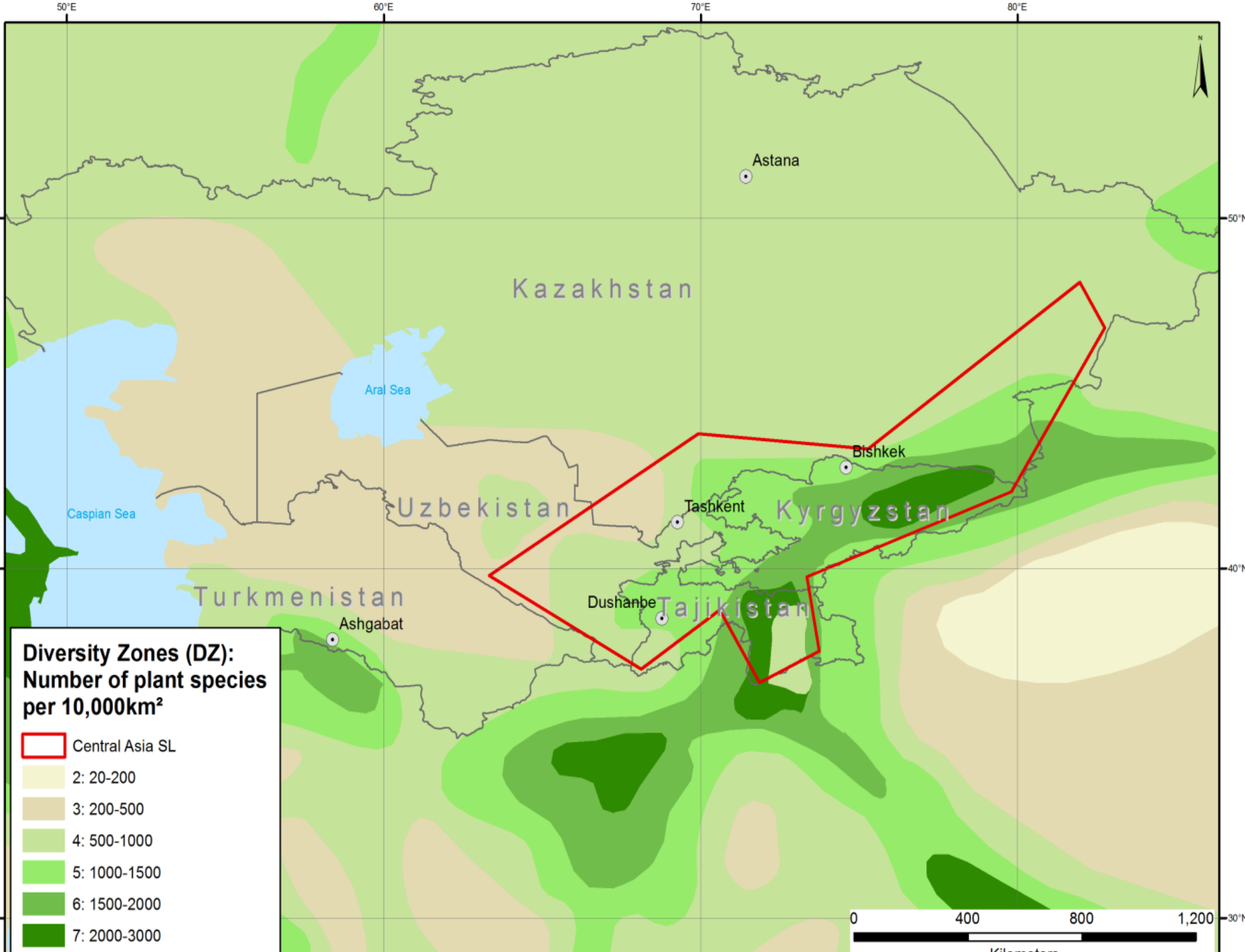 - Rhett Harrison, ICRAF, China

Overarching question:
How resilient is the social and ecological (environmental) system?
The key factors for study are:
•drivers of ecological degradation
•impacts on people (and the resources that they depend upon)

Proposed boundary for Central Asia Sentinel Landscape

Diversity Zones (DZ):
Number of plant species per 10,000km²

Central Asia SL

2: 20-200

3: 200-500

4: 500-1000

5: 1000-1500

6: 1500-2000

7: 2000-3000

Socio-Economic conditions

- Extreme poverty afflicts much of the rural population in all three countries and roughly 2/3 of the population is rural. According to the UN Human Development Report (Dec. 2005), Central Asian countries rank between 80th (Kazakhstan) and 122nd (Tajikistan) on the Human Development Index scale, with values ranging from 0.761 to 0.652.
  - In Uzbekistan, almost 50% of the population of 28.1 million people lives on less than $2.50/day.
  - In Tajikistan 65% of the 7.1 million inhabitants,
  - In Kyrgyzstan, 70% of the population of approximately 5.4 million lives on less than $2.50/day.
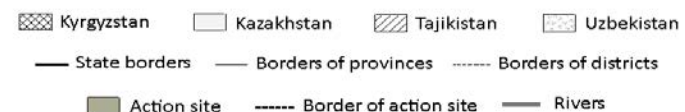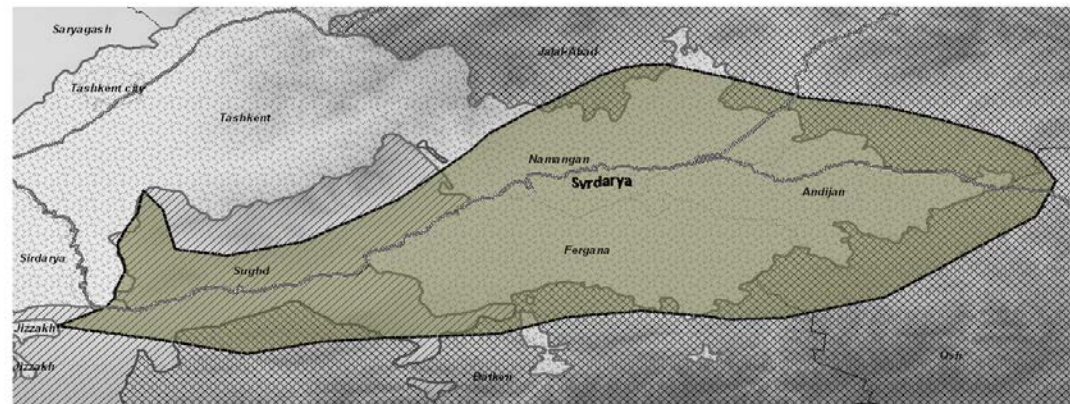
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Summary – relevance to FTA

➢ Unique global significance
➢ Unique history and current challenges including high poverty
➢ Well-defined forest to farm gradient
➢ CIFOR, ICRAF and other CRP(s) interested/involved in the area
➢ Bioversity involved in data collection for more than 10 years

Criteria for selecting sites:

- Cover the gradient from wild fruit forest (apple, walnut, etc,) harvested under a form of community concession, to privately owned and managed farms and orchards.

- Ecosystem degradation – sample the range from fairly intact ecosystem to highly degraded.

If possible, at least one site inside or close to the Drylands Systems Action Site in the Fergana Valley

▨ Kyrgyzstan	☐ Kazakhstan	▨ Tajikistan	▨ Uzbekistan
— State borders	— Borders of provinces	---- Borders of districts	
▨ Action site	----- Border of action site	— Rivers	

Timeline

- Workshop with potential partners in Dec 2013 – strong interest and support.

- Finalise with partners full proposal including concept notes. April 30, 2014

- Assemble metadata for existing data sources – Bioversity (lead, core team) June 30, 2014

- Actively seek funding for collecting field data and for implementing project defined in concept note(s) – core team, ongoing

- Seek (at least 1) social scientist to join team – spring 2014

- Select Sentinel Sites – summer 2014

- Training for field work – fall 2014?

Thank you !