Summary of discussion– field tour day in Khorezm region (Uzbekistan)

14 April 2014

(1) The three visited sites provided very useful insights and were found relevant for the research agenda of the DS CRP. More information is needed to determine type and scale of interventions in the Khorezm province. In order to do that, it would be necessary to conduct household surveys in selected research areas.

(2) Technologies are generally available and good management practices have been developed, tested and applied. The team needs to focus on proof of concepts, i.e. that a more systemic, integrated approach engaging local communities actually leads to improving their conditions. The key challenge is now to select representative research areas (communities) with high potential for out-scaling and dissemination. One of the approaches to select research areas is by criteria developed jointly. Once selected, GIS team at KRASS/URDU could prepare possible areas for Khorezm region. Similar approach can be used for KK, GIS centre at Nukus University, that previously collaborated with GIZ projects can be consulted.

(3) In this respect, the land degradation mapping combined with socio-economic assessment conducted by KRASS in the Khorezm region was acknowledged. Final report will be available soon, and will be used for further planning.

(4) The representative of the regional farmers' union expressed strong support for the work that is being conducted by ICARDA, ICBA, IWMI, Bioversity and other members of the team. He also conveyed full support of the regional *khokimyat* for envisaged research in selected areas. Salinity is obviously a key problem.

(5) Khorezm and Karakalpakstan represent distinct bio-physical and socio-economic conditions in Uzbekistan, characterized by a very high degree of soil and water salinity, drought and extreme temperatures. The specific local conditions need to be further studied, observed and considered when developing interventions. It was noted in this part of the country, marginal lands had been transformed into cultivation but non-sustainable practices reverted them back into degradation.

(6) The demonstration trial with winter wheat (first site visited) has demonstrated nine promising, salinity and frost tolerant varieties. Recommendations on cultivation of varieties need to be worked out, along with agronomic and melioration practices.

(7) Resource-saving technologies (conservation agriculture) need to be promoted in the area. The practical experience made by and expertise available at ICARDA, KRASS and other partners, including available equipment, previous research sites were noted.

(8) Sustainable water management was also highlighted, specifically the importance of effective irrigation scheduling. Selected research areas will need to be equipped with meteo stations. ZEF/UNESCO project and KRASS could be consulted to identify available meteo-stations from earlier projects and also locations where previous data was collected to continue data collection or establish new locations.

(9) It was suggested that Project Implementation Units need to be organized in each Action Site (possibly in each country component of an Action Site), and Action Site Coordinators need to be nominated to support implementation, facilitate partnerships and monitor research activities.

(10) Finally, the conceptual background of marginal lands was brought into the discussion. Agroforestry is a key strategy to address. A better knowledge about groundwater resources and water mineralization processes is needed in future. Local information regularly collected by OGME from a network of GW observation wells is the initial source

of information which could be complemented by installing target low-cost observation wells for selected research areas. Installation technique and materials for GW observation wells are locally available, datalogger specifications for continual data collection might be needed.

Summary of discussion – field tour day in Karakalpakstan (Uzbekistan)

15-16 April 2014

1. Salinity represents the main issue in Karakalpakstan. There is high interest among farmers in testing and introducing salt-frost-tolerant varieties of winter wheat. Demonstration plots could be considered as the main avenue for dissemination of knowledge and organizing farmers' days would also be very effective.

2. Insights and priorities expressed during the field visit to Karakalpakstan:
   - Livestock and small ruminants as the key component of the prevailing agro-pastoral livelihoods system. There is a livestock breeding program with artificial insemination (3 million USD), with breeds imported from Poland, but sustainability of the program needs to be ensured. New breed of goats should be tested and introduced.
   - Seed system. Wheat advisory on salt and frost-tolerant varieties. Seeds from Andijan Cereal and Legumes Research Institute.
   - Shallow groundwater. Reconstruction woks of drainage canals. 23 kms of planned 231 kms collectors has been improved. Work is in progress.
   - Pasture improvement. Livestock use about 2000 ha per year, which affects the pastures. The boundaries for livestock need to be defined.
   - Agro-pastoral system. Focus on fodder crops, e.g. alfa-alfa, seed multiplication needs to be established. Crop diversification: sesame, rice, tubers, soybean. Melons and vegetables.
   - Demonstrate the effects/benefits of new varieties at household level, with about 1 ha per household, and 0.06 ha household garden.
   - Tree-based system. Extend orchards and intensify production, increasing from 13 ha to 30 ha.
   - Water Users Associations. Rational approach, research based options for irrigated water management can be discussed for developing work-plan based on congruent decision.

3. There was assurance from the *Khokim* of Karauzyak district to provide government support for integrated research should it be conducted in the district. The team did not discuss particular location for systemic, integrated research either in Karauzyak district or other places in Karakalpakstan due to the time constrains during the trip. Additional discussion is needed to identify the representative area for integrated multi-disciplinary research with high potential for out-scaling and dissemination.

Experimental areas for integrated research need to be carefully selected by considering distance, facilities, personnel, government support, water source.

Some ideas for the following:
(i) establish type of equipment that will be necessary to procure for each Action Site
For soil salinity studies:
portable soil salinity meters (EC meter)
groundwater table and EC meter with datalogger
soil temperature meter

(ii) finalize key research for development partners in each Action Site

For irrigated areas, water saving at least at 2 scales: field scale and larger scale (need to be discussed)
Organizational support for water distribution