**Semi-annual report**

**Project name:** Valuation of Ecosystem Services for Improving Agricultural Water Management in Kazakhstan

**Donor:** ICARDA

**Project duration:** June 2014 – December 2015

**Reporting period:** January 2015 – June 2014

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| **Task** | **Semi-annual report 2015** | **Up-coming activities** |
| Сapacity development events |  | In 2014, women focal group discussions identified two relevant topics for demonstration days. In 2015, discussions involved a larger number of participants and underlined the following themes as most important:   * Greenhouse technologies: how to set-up a greenhouse? What and when to plant? General information on greenhouse management; * Fruit and vegetable drying and processing (simple processing for longer storage); * Water saving technologies; * Dairy product processing and storage.   It has been decided to keep only the topics of greenhouse management and fruit/vegetable drying, budget cuts preventing to cover all the identified topics. In addition, CAREC has already organized trainings on these two themes with qualified local trainers. Trainings will be organized after the growing season, i.e. in September-October 2015. |
| Field days/technology fairs |  | Will be integrated with the capacity building days to be held in September-October 2015 (see above). |
| Stakeholder consultation meetings | Focal group discussions were organized in the three pilot villages in March 2015 with women and men focal groups, involving 15 men and 90 women (86%).    In June 2015, 5 additional male farmers from each village – 15 in total – were interviewed using the same questionnaire.  Identical questions were asked to both groups and concerned the role of men and women in agricultural production, in decision making at the household level and their contribution to the family budget. In addition, gender specific discussions were held and focused on agricultural production with men and on garden production and small businesses with women. Besides collecting gender disaggregated socio-economic data, these focal group discussions aimed to identify capacity building needs for women. It also explored with women groups new business opportunities that would arise, would additional water resources become available in the future – for instance through sustainable irrigation management.  Questionnaires used with men focal groups (attached to this report) have been partly analyzed and a more thorough analysis is to be completed with SPSS. Preliminary results show that the current subsidy programs do not influence land use in the way it should because of a lack of monitoring. For instance, farmers who receive subsidies for drip irrigation install pipes and pumps but actually do not use them and keep using furrow irrigation. Even land use is not properly monitored since many farmers grow wheat whereas the law prohibits to do so on irrigated lands (contrariwise to rainfed wheat fields in Northern Kazakhstan). | The initially planned national consultation with policy makers will be held at the province level in Shymkent city with provincial authorities. The latter play an important role in land management and they are the primary providers of subsidies to farmers. Therefore a policy consultation at this level makes sense, in particular in the South-Kazakhstan province that encompasses the largest irrigated area in the country. The consultation is to be held in September-October 2015.  A stakeholder mapping interactive session is planned at the same period. The format of this activity has to be identified but a stakeholder mapping done by gender specific groups followed by a joint discussion session has been identified as one of the most interesting options.  The willingness of men and women groups to engage in reward-based mechanism will be clarified through a series of interviews scheduled in the second half of September/first half of October. Several packages of possible improvements will be shaped based on the SWAT/RIOS modeling exercise and proposed to men and women through individual interviews. They will include a combination of better water availability, opportunities for capacity building on agricultural or irrigation technologies etc. This series of interviews will help bring together the modeling results with what local stakeholders are actually interested /ready to engage in. |
| Students research | The master student involved in the project has taken active participation in focal group discussions and held additional questionnaires with farmers, using the template developed by CAREC.  The proposed title of his thesis is “Valuation of ecosystem services of the Turkestan Main Canal irrigated area”. The initial content proposed by the student looked at many aspects of the topic which was not compatible with the proposed timeframe. It is now being refined in order to produce tangible outputs by the end of 2015. |  |
| Publications (blogs, brochures, videos, posters, conference presentations, newspaper articles/media coverage etc.) | During the reporting period, an article was published on the Water Land Ecosystems blog hosted by CGIAR on the integration of SWAT and RIOS/InVEST modelling to value ecosystem services and look at tradeoff options under different scenarios of changing ecosystem services provision. The article is available at the following link:  <http://wle.cgiar.org/blog/2015/06/07/seeking-for-novel-ways-to-share-water-and-improve-ecosystem-services-in-kazakhstan/> | A policy brief will be developed based on the modeling results and focal group discussions. It is to be released in fall 2015 and address policy and decision-makers on targeted investments in agriculture allowing agricultural water productivity and ecosystem services to improve.  Initially, project outcomes for the second year included an impact study looking at the benefits the new proposed technologies can have on women-led agricultural businesses. Since an impact study requires long-term research and greater resources than the project has, the outcome has been rephrased as: *Analysis of the roles of men and women in water use and management in low Syr Basin and opportunities for empowering them and promote more rational water uses*. Prepared in collaboration with Bezaiet Dessalegn (ICARDA), this study will be released towards the project end. It will also be the basis of a poster to be presented at the upcoming Ecosystem Services Partnership conference.  The project team will also aim to produce a short movie on project activities and results. This output however relies on the availability of funds from other project by the end of 2015. |
| Online databases | The Access database on bio-physical indicators has been populated with additional data on agricultural technologies for winter wheat, cotton and rice, water consumption and discharge for the whole Aral-Syrdarya watershed including irrigated areas of South Kazakhstan and Kyzyl-Orda provinces, inflow from tributaries and outflow from the Chardara reservoir, production costs per hectare of different crops.  The overall structure of the open access project database has been updated and is more user friendly. It includes additional project documents, activity reports, pictures and other relevant documents.  Additional datasets – in particular covering the whole Aral-Syrdarya watershed – have been provided to the SWAT expert and the baseline model is being developed. Bio-physical outputs of the model – specifically flow accumulation and flow directions between – are to be used in the RIOS model and complete the ecosystem services modelling. | Economic and financial data were collected through individual and group interviews with farmers. This includes technical (e.g. agricultural technologies, crop rotations) and economic data (e.g. subsidies, side incomes from non-agricultural related activities). This data will be analyzed using the SPSS software. |
| Modelling | A baseline RIOS simulation has been developed by the project team based on field data. It is to be completed and improved by Prof. Mulla. The objective of this modeling is to identify key investment/activities to reduce erosion, nitrogen and phosphorus and to increase the baseflow. |  |