

Locust Geographic Information System (GIS) Workshop
Tashkent, Uzbekistan, 6-8 November 2013
Next steps to develop and introduce into practice the locust GIS in CCA

- Item 11 of the Provisional Agenda -

Background

As per Activity 3.3 of the Roadmap for implementing the “Five-year Programme to improve national and regional locust management in Caucasus and Central Asia (CCA)”, it is planned to develop monitoring and analyzing systems for locust management in CCA countries by using Geographical Information System (GIS) and remote sensing technology. More specifically, the following steps are envisaged over the five-year period:

- Year 1 (2012): Collect information on nature and availability of remote sensing and weather data at national level (National Consultants) and carry out a study on existing national Geographical Information System (GIS) in CCA (GIS International Consultant);
- Year 2 (2013): Organize a regional workshop to identify the main features of a regionally compatible GIS;
- Year 3 (2014): Design/adapt GIS, compatible at regional level;
- Year 4 (2015): Install the GIS in at least two pilot countries.

In 2012, national reports were prepared by CCA countries about the nature and availability of existing remote sensing and weather data at national level. On this basis, an overall study was carried out on existing national Geographical Information System (GIS) in CCA countries. It included recommendations towards the elaboration of a CCA GIS and a common system of collection of standardized and georeferenced locust information in CCA countries, which were presented during the Technical Workshop on Locusts in CCA held in Bishkek, Kyrgyzstan, in November 2012.

In November 2013, a Locust GIS Workshop is being held to discuss the following issues:

- the GIS data base structure and outputs;
- the name of the CCA locust monitoring system;
- technical and software environment; and
- methods of locust regional forecasting.

During the Workshop, it is also planned to make demonstration of remote sensing applications and training for the use of ground data automated system collection on the basis of the FAO “Locust Survey Form” and “Locust Spray Monitoring Form”, which had been adopted by CCA countries in 2009.

Next steps

Next steps will include the design of the national and regional GIS and their installation in two pilot countries. Related activities are described hereafter for Year 3 (2014) and Year 4 (2015) of the implementation of the Five-year Programme.

In 2014:

1 – Developing the *regional* GIS on the basis of the agreed structure

a - Data collection by two pilot countries, which will agree to share their data at the regional level (this can be for one locust pest only or for a specific region in those countries). Tablets, on which the ASDC is installed, will be provided by FAO (two/pilot country) to that end. [Action: NPPS of the two selected pilot countries with FAO support]

b - Hire a professional programmer (having an experience in databases development not less than 10 years) to create the GIS database and database management system. [Action: FAO]

c - Identify sources and frequency of forecasting meteorological fields on a regular grid (temperature, precipitation, wind) for CCA region, and of remote sensing products for locust habitat mapping, flood zones, the characteristics of soil moisture, rainfall distribution, assessment and productivity of vegetation through different vegetation indices. [Action: GIS specialist]

d - Prepare the list of approved methods of analysis and forecasting for the Asian, Italian and Moroccan Locusts for the subsequent implementation of the algorithms in the regional locust GIS for CCA. [Action: GIS specialist]

2 – Report to the next annual Technical Workshop on Locusts in CCA, which will be held at the autumn 2014

a - Present and discuss the results of the implementation of point 1 a-d. [Action: FAO]

b - Provide training on the use of the national GIS to experts from the CCA National Plant Protection Services. [Action: FAO]

In 2015:

1 – Developing the *national* GIS

a - Installing and start using the GIS in those 2 pilot countries [Action: NPPS of the two selected pilot countries with FAO support]

b - Identify the reporting forms in the two National Plant Protection Services of selected CCA pilot countries (according to their production commitments) for issuing them using the national GIS. [Action: GIS specialist]

c - Prepare regional cartographic materials in digital GIS format the two selected pilot countries: administrative and topographic maps, soil, land use, vegetation maps, digital elevation model. [Action: GIS specialist]

d - Prepare terms of reference and hire a professional GIS-programmer to develop the specialized end-user interface for the National GIS and tools for the preparation of reporting materials for the NPPS. [Action: FAO]

2 – Report to the next annual Technical Workshop on Locusts in CCA, which will be held at the autumn 2015

a - Present and discuss the results of the implementation of point 1 a-d. [Action: FAO]

b - Provide training on the use of the national GIS to experts from the CCA National Plant Protection Services. [Action: FAO]