Concept Note

Expert Meeting in the 25th APCAS on
"Crop Monitoring for Improved Food Security"
17 February 2014,
Vientiane, Lao PDR

Background

FAO is mandated to provide technical assistance to its member countries to build their capacities to produce timely and reliable information at the country level for mitigating food insecurity risks and for planning related government interventions and programmes. Estimates and forecasts of crop area and yield are of critical importance to policy makers for the planning and monitoring of food supply. The possible links between poverty and crop yields, which depend upon a variety of factors such as cultivation practices, availability of irrigation, access to resources to buy agricultural inputs for adoption of new technology, cannot be determined without reliable estimates of crop yields. In the absence of reliable information the reasons behind food insecurity of households cannot be accurately identified.

While crop enumeration surveys and remote sensing methodologies are the main means of producing reliable statistics in countries with advanced statistical systems, the use of administrative reporting system through extension workers for building such statistics is not uncommon in Asia and the Pacific Region. While administrative reporting system is inexpensive, the approach is also to large non-sampling errors, and the resulting estimates are usually unreliable containing an upwards bias. Whereas the sampling surveys of agricultural holdings can provide better estimates if objectively designed and conducted, these require large budget allocation and usually take longer time to process and analyse. More often, the results are not available in time for planning of advance actions by the government.

In some countries the administrative reporting are the only available means to get such statistics, perhaps on account of unaffordability of costs associated with a special survey or due to lack of technical capacity to design and conduct such surveys or to process remotely sensed data. The administrative methods usually, do not include a validation process that could improve the quality of estimates, and it is not possible to compute objective statistical measures of reliability of estimates under a conventional administrative reporting system. The nature of administrative processes does not permit analysis and investigation of unit level data to verify the quality of estimates.

In addition to administrative reporting, countries are now adopting latest technological tools such as use of GIS, GPS for measurement of area, and remote sensing technology for monitoring crop prospects. These tools enable countries to generate in-season forecasts as well as provide an alternative independent estimate to validate the traditional estimates for major crops. They also enable countries to make quick assessment of impact of drought and floods on crop production and take proactive measures to ensure food security of the affected people. At present, use of these technologies is limited to major crops due to various constraints, including loss of data during periods of cloud cover, non-suitability of methodology for widely dispersed crops, misclassification of crops due to technological and methodological limitations etc. These issues also need to be addressed through further research and development on methodologies for more crops.

The research agenda of the Global Strategy to Improve Agricultural and Rural Statistics foresees the potential of alternative methods and opportunities such as advances in satellite based technology. Many

institutions in Asia and Pacific region are using remotely sensed data in conjunction with statistical methodologies to estimate the crop area and to forecast yield. There are number of models and methodologies available for adoption by countries. These methods have seen a diverse degree of successes, depending upon the nature of agriculture and/or access to advanced satellite imagery. A comparative study of these methods is needed to formulate technical recommendations to the countries who want to adopt these new technologies as integral part of their statistical programme.

In order to undertake a thorough review of information gaps, methodological issues and best practices available at the country, regional and global level, a one day "Expert Meeting on Crop Monitoring for Improved Food Security" is planned on 17 February 2014 as a side event of the upcoming 25th session of Asia and the Pacific Commission on Agricultural Statistics (APCAS) scheduled from 18 to 21 February 2014 in Vientiane Lao PDR. This Expert Meeting will bring together country experts as well as researchers from several International Organizations to present and discuss experiences and challenges in crop estimation and forecasting.

Objective

The objective of the Expert Meeting is to share and collect best practices and issues in the region relating to current practices in using remote sensing technologies and other similar tools for crop monitoring, area estimation and yield forecasting. The meeting will focus on two themes: (1) Estimation of land cover, land use and related application of Remote Sensing Technology, (2) Crop yield forecasting and estimation using sampling surveys involving objective measurements.

Outputs

Outputs of the meeting are:

2.1 Sharing of county experiences on best practices and latest technological tools.

2.2 *Technical Review of current practices and methodological issues related to the practices in the region with a view to identifying suitability of methodologies in different situations and areas for further research.*

2.3 *Providing knowledge of advanced methods and tools to countries in the region for improving their crop forecasting and estimation methodologies*

Participants

Participants of the meeting will be experts in the international organizations from ADB, AFSIS, ASEAN, IRRI, JICA and SPC; as well as government representatives from Australia, Bangladesh, China, India, Indonesia, Japan, Pakistan, the Philippines, Sri Lanka, Timor-Leste, and Thailand and FAO. A total of about 30 participants are expected to participate in the event.

Duration

The Side Event in the 25th APCAS (Estimation and forecasting of crop area, yield and production) is scheduled for 17th February 2014.

Venue

The event will be held in Vientiane, Lao PDR.