

EARTH OBSERVATION SYMPOSIUM (B1)  
Earth Observation Applications and Economic Benefits (5)

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AMMA - AGRICULTURAL MONITORING AND MANAGEMENT APPLICATION

**Abstract**

Agriculture has been the part and parcel of the human life. It has been the major occupation around the world prior to the industrial revolution. Today many of the developing countries had their strong economical fundamentals from it. UN has been doing a great job in uplifting the rural population in terms of health and education. There is a need for upliftment of agricultural sector which has been lagging in the present economies. More than 70% of the rural employment comes from agricultural activities. So, there is a need for utilization of cutting edge technologies to make it profitable. The problems that are being mainly faced by the farmers are illiteracy, climatic changes, improper data transfer, low technical skills, migration, disasters, water supply, growing demand, supply gap etc; AMMA helps the farmers to utilize the fruits of geographical information system (GIS), satellite technology, information technology, tele-education, mobile technology etc; The farmer gets registered at our website through the Village Resource Centre (VRC), or AMMA Centre. The coordinator collects the data from the farmer about the past status of the crop, his economic status etc; Now the process goes like this.., 1. The coordinator sends the crop status through images and text data. 2. The expert sends the advice on seeing the crop status, satellite images on weekly basis. 3. The coordinator explains it to the farmer. 4. The farmer follows the advice, take appropriate steps and gives the feed back. This cycle is repeated every week through internet. Here at AMMA a quantitative and calibrated map is generated each time the satellite data is collected. These maps indicate soil surface moisture, texture, organic matter and other visible characteristics are used to monitor the crop. Salinity, alkalinity, crop condition assessment and soil wetness levels are found through VNIR and SWIR data that are used for long & short term management of the crop. The tele-education platform is used to educate the farmers. The mobile technology can be used to inform directly to the farmer about his crop status, market rates, weather conditions and other important data. This application can fulfill the dreams of many small farmers to have their plate full of meal. It could help to increase their income nearly 6-7% per crop. The hope of UN, ISRO, MSSRF, JAXA etc; that the space technology must reach the foot step of the rural people will become true by using our application. We conclude that our application could make the farming sector reach its new fame and heritage.