

# e-Agriculture

- e-Agriculture is a global Community of Practice, where people from all over the world exchange information, ideas, and resources related to the use of information and communication technologies (ICT) for sustainable agriculture and rural development.
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- e-Agriculture Community is made up of over **12,000 members from 170 countries**, members are information and communication specialists, researchers, farmers, students, policy makers, business people, development practitioners, and others.

# APPLICATIONS

- **Geographical Information System**

A Geographical Information System (GIS) makes visual comparisons between different types of data possible. It helps to establish relationships between different data sets and is important in the production of maps, and charts and additional information associated with coordinates and time. It helps in the analysis of post-harvest variation in crop yield measures.

- **Handheld Personal Computer**

Handheld Personal Computers are small, light, and have been used for providing access to information, mobile mapping and other data gathering activities .

- **Mobile (Cellular) Phone Applications**

The cellular phone has provided market links for farmers. Growth in mobile phones has been explosive and now reaches more than a third of the population. This has reduced transaction costs, and facilitated searches for employment .

Some of the respondents in the study considered the cellular phone applications such as the SMS to be one of the most important emerging ICT applications.

- **Community Radio Stations**

Community radio is one of the important tools of ICT that offer farmers and the people a voice and help development of the community. Radio is an important mechanism for disseminating knowledge and information in different languages and formats , especially to poor people.

- **Internet and Web-Based Applications**

The Internet, e-mail, web sites and web-based applications are becoming increasingly important in sharing and in disseminating agricultural information and there are many ongoing web-based application initiatives in worldwide.

# USE OF ICT IN AGRICULTURE

- **Crop Variety Selection**

This sub-system advises the users about the most suitable variety for plantation based on the specific circumstances of the farm and the user requirements. The domain knowledge of this subsystem contains two models, namely: suggestion, and selection. The inference knowledge contains three steps namely: specify, select, and count. The suggestion model contains a relation between the environmental conditions and the suitable varieties that is used by 'specify' inference step to suggest the paddy varieties suitable for the surrounding environments. The selection model contains a relation between user requirements and the corresponding varieties that is used by 'select' inference step to select, the most suitable varieties for user requirements. The 'count' inference step just counts the specified varieties.

- **Soil Quality Assessment**

Assessment of soil quality can be done in farm level and also in regional level. In regional level it can be done based on soil, climate and land uses. Some useful technologies use to understand nature of soil and its problems due to management practices.. Soil quality assessment is being done with some useful technologies, like remote sensing. Remote sensing is a process that collects data about an object from a remote location.

- **Fertilizer Management**

Fertilizers, pesticides and quality of yield were the major factors of concern in agriculture. Most of the time the experts were required to analyze the problems and which may be time consuming and costlier issue in developing countries. Image processing was one of the tools which can be applied to measure the parameters related to agronomy with accuracy and economy.

- **Pest and Disease Management**

**Latha et al.**, developed a method by which we can detect weed by using image processing. Then we gave the input of the weed blocks to the automatic sprayer which sprays only in these blocks. By doing so we can reduce the usage of weedicides, thus saving the environment. Pest and diseases also detected by using image processing. These techniques are more accurate and quicker than manual methods.