

Comparative Study of Conventional and Satellite Based Agriculture Information System

Authors : Rafia Hassan, Ali Rizwan, Sadaf Farhan, Bushra Sabir

Abstract : The purpose of this study is to compare the conventional crop monitoring system with the satellite based crop monitoring system in Pakistan. This study is conducted for SUPARCO (Space and Upper Atmosphere Research Commission). The study focused on the wheat crop, as it is the main cash crop of Pakistan and province of Punjab. This study will answer the following: Which system is better in terms of cost, time and man power? The man power calculated for Punjab CRS is: 1,418 personnel and for SUPARCO: 26 personnel. The total cost calculated for SUPARCO is almost 13.35 million and CRS is 47.705 million. The man hours calculated for CRS (Crop Reporting Service) are 1,543,200 hrs (136 days) and man hours for SUPARCO are 8, 320hrs (40 days). It means that SUPARCO workers finish their work 96 days earlier than CRS workers. The results show that the satellite based crop monitoring system is efficient in terms of manpower, cost and time as compared to the conventional system, and also generates early crop forecasts and estimations. The research instruments used included: Interviews, physical visits, group discussions, questionnaires, study of reports and work flows. A total of 93 employees were selected using Yamane's formula for data collection, which is done with the help questionnaires and interviews. Comparative graphing is used for the analysis of data to formulate the results of the research. The research findings also demonstrate that although conventional methods have a strong impact still in Pakistan (for crop monitoring) but it is the time to bring a change through technology, so that our agriculture will also be developed along modern lines.

Keywords : area frame, crop reporting service, CRS, sample frame, SRS/GIS, satellite remote sensing/ geographic information system

Conference Title : ICCSIT 2017 : International Conference on Computer Science and Information Technology

Conference Location : Rome, Italy

Conference Dates : March 05-06, 2017