International Journal Of Core Engineering & Management

Volume-5, Issue-12, March-2019, ISSN No: 2348-9510

OPTIMIZED AGRICULTURE ASSISTANT FOR PREDICTIVE DATA ANALYSIS IN TAMIL NADU

P.Muthu
Tamil Nadu

Abstract

The agricultural information system provides its users and researches to get online information about, the crop, statistical details and new tendencies. The trends of the crops act so that these will be pretty important to the users who access these via the Internet. The main features of the information system includes information retrieval facilities for users from anywhere in the form of obtaining statistical and new trends information about fertilizer, research institutes and researches, land availability, diseases, suitable oil concentration for the corresponding crops, statistical information about export sand etc. In addition this provides individual information about Intercrops related to main crops. The system allows the retrieving facilities but also the updating facilities to the authorized persons in the corresponding institutes. The graphical user interfaces of the front end is Asp.net and access the backend SQL Server Database using embedded SQL Queries for the retrieval and update.

I. INTRODUCTION

Agricultural Systems is an international journal that deals with interactions among the components of agricultural systems, among hierarchical levels of agricultural systems, between agricultural and other land use systems, and between agricultural systems and their natural, social and economic environments. Manuscripts submitted to Agricultural Systems generally should include both of the following: Substantive natural science content and substantive analysis and discussion of the interactions within or among agricultural systems components and other systems. Preference is given to manuscripts that address whole-farm and landscape level issues, via integration of conceptual, empirical and dynamic modelling approaches.

The study areas covered a wide range of agro ecological zones and population densities.Small scale agriculture predominant throughout, with 10–20 percent of farmers growing high value cash crops (sugar-cane, tobacco, coffee, tea, flowers and horticulture). Most of the livestock kept are indigenous breeds; dairy cattle are largely confined to high potential areas. Infrastructure development is relatively low throughout the district, as are population densities. Mixed farming is practised in the wetter areas, whilst pastoral farming is the main system in the rangelands. Large scale farmers (10 per cent of the total) specialise in high value cash crops (coffee, tea, flowers and horticulture) for sale locally or abroad. In all four districts, income generation was the most important criterion for ranking agricultural enterprises according to the smallholder farmers, CBOs and traders interviewed, followed by provision of food for the family.

Other important aspects were ease of marketing, ability to provide good returns from limited space, and ability to provide returns in a relatively short period of time. Men, women, youth and extensionists were in broad agreement about the most important enterprises in each area – poultry and

International Journal Of Core Engineering & Management

Volume-5, Issue-12, March-2019, ISSN No: 2348-9510

vegetables tended to be ranked higher, or more frequently, by women; whereas agro forestry was mentioned only by men, not by women farmers. Maize, poultry, vegetables, beans, agro forestry and sweet potatoes were listed as high priority enterprises in all four districts, regardless of agro ecological zone. Dairy, beef cattle, Irish potatoes, finger millet, pyrethrum, wool sheep and coffee were considered high priority only in the cooler areas; whereas fruits, sorghum, pasture, cattle, bees, sheep, cassava, groundnuts, sugar cane, sunflower and pearl millet are the major enterprises in the warmer, lower midland parts of Kenya.

The scope includes the development and application of systems methodology, including system modelling, simulation and optimization; studies on natural resource issues related to agriculture; impact and scenario analyses related to topics such as GMOs, multifunctional land use and global change; and the development and application of decision and discussion support systems; approaches to analyzing and improving farming systems; technology transfer in tropical and temperate agriculture; and the relationship between agricultural development issues and policy.

II. LITERATURE SURVEY

The agriculture sector in many developing countries is facing great challenges if it is to attain the food security and development targets set in the World Food Summit Plan of Action. Science and technology underpin agricultural development, yet funding for national level research and development in many countries is inadequate. At the same time, mechanisms for the documentation and dissemination of the technology outputs of science are weak. As a result, the outputs of research are often inadequately recorded, and are not communicated to farmers, policymakers and others who need to adapt and apply them.

The traditional national mechanisms in science and technology are being supplemented, and sometimes even replaced, by regional sub regional networks that cut across organizational structures and political boundaries, and in fact national efforts in this area need to strengthened. These different mechanisms have diverse approaches to capturing and disseminating research outputs. In fact, agricultural knowledge and information systems are in a state of change in the way that research is funded and that the outputs are disseminated, and the type of information that farmers require is also changing.

Farming is a knowledge-intensive industry. Growers need to obtain and process financial, climatic, technical and regulatory information to manage their farms. Both public and private institutions have emerged to supply farmers with information and analysis. However, inadequacies in this agricultural information system, such as the inability to consistently provide accurate, timely and easily accessible information, present several challenges to farmers. One of the roles of government is the provision of information to increase efficiency and improve the performance of the economy, but government activities are constrained by budget. Information is also provided by members of the private sector, and effective policy design needs to identify where investment in public information is most effective. Therefore, our research aims to understand networks of information and, in particular, who is the provider and who is the user of certain types of information.

The emergence of Information system in the last decade has opened new avenues in knowledge management that could play important roles in meeting the prevailing challenges related to sharing, exchanging and disseminating knowledge and technologies. It allows capitalizing to a greater extent on the wealth of information and knowledge available for Agriculture Knowledge, Science and Technology (AKST). The ultimate objectives of AKST activities are to come up with results that can

International Journal Of Core Engineering & Management

Volume-5, Issue-12, March-2019, ISSN No: 2348-9510

advance research more in certain areas, and engender technologies that AKST stakeholders can use to increase production, conserve the environment, etc.

The first challenge is the poor mechanisms and infrastructure for sharing and exchanging agriculture knowledge generated from research at national and regional levels. Many research activities are repeated due to the lack of such mechanisms and infrastructure at the national level. Researchers can find research papers published in international journals and conferences more easily than finding research papers published nationally in local journals, conferences, theses and technical reports. The second challenge is the inefficient mechanisms and infrastructure for transferring technologies produced as the result of research to growers either directly or through intermediaries. Knowledge and technologies fostering agricultural production and environment conservation are examples. Although many extension documents are produced by national agriculture research and extension systems to inform growers about the latest recommendations concerning different agricultural practices, these documents are not disseminated, updated or managed to respond to the needs of extension workers, advisers and farmers. This is also true for technical reports, books and research papers related to production. The third challenge is keeping the indigenous knowledge as a heritage for new generations. It is available through experienced growers and specialists in different commodities. These inherited agricultural practices are rarely documented, but they embody a wealth of knowledge that researchers need to examine thoroughly. The forth challenge is easily accessing and availing economic and social knowledge to different stakeholders at operational, management and decision-making levels, so that those responsible will be able to make appropriate decisions regarding the profit making of certain technologies and their effect on resource-poor farmers.

III. METHODOLOGY

PROPOSED SYSTEM

The aim of proposed system is to develop a system of improved facilities. The proposed system can overcome all the limitations of the existing system. The proposed methods of Online Agricultural Information System are giving proper information to the farmers. The proposed system is highly computerized in which the data related to user accounts will be secured high with high accuracy that even reduces the machine problem and human made errors and this existing system is highly efficient to offer best services to the farmers because it has user friendly access that consumes less time when compared with normal management system.

MODULES

1. **ABOUT AGRI-ASSISTANT WEB TOOL**
2. **FARMER LOGIN**
3. **AGRI PRODUCTS GALLERY**
4. **AGRI NEW TRENDS**
5. **POST QUERIES**
6. **FARMERS FEEDBACK**
7. **ADMIN LOGIN**
8. **REPLY QUERIES**
9. **AGRI PRODUCTS EDIT OPTIONS**
10. **LOGOUT**

International Journal Of Core Engineering & Management

Volume-5, Issue-12, March-2019, ISSN No: 2348-9510

MODULE DESCRIPTION

1. ABOUT AGRI-ASSISTANT WEB TOOL

Systems approaches in the sustainable intensification of agriculture; pathways for sustainable intensification; crop-livestock integration; farm-level resource allocation; quantification of benefits and trade-offs at farm to landscape levels; integrative, participatory and dynamic modelling approaches for qualitative and quantitative assessments of agricultural systems and decision making; The interactions between agricultural and non-agricultural landscapes; the multiple services of agricultural systems; food security and the environment; Global change and adaptation science; transformational adaptations as driven by changes in climate, policy, values and attitudes influencing the design of farming systems; Development and application of farming systems design tools and methods for impact, scenario and case study analysis; managing the complexities of dynamic agricultural systems; innovation systems and multi stakeholder arrangements that support or promote change and (or) inform policy decisions.

2. FARMER LOGIN

It is an entry module of this project to validate user to view news in website. It is the initial page which loaded at first in this website. It needs proper username and password of a user to authenticate him to his account of login. If invalid username or password provided and that not matches with the one in database the user is consider as the invalid user and the warning message is sent to the user.

3. AGRI PRODUCTS GALLERY

Agriculture Art Gallery Indeed the most long-lived art gallery it has presented such as demographic change, increasing demand for agricultural products and limited availability of natural resources. They are aware of the different types and specific features of innovations in agriculture and understand innovation processes, starting from the idea for an invention to its large-scale adoption in practice. The farmers are able to apply an innovation systems perspective, which underlines the role of the policy environment, the role of the private sector, and the role of social and cultural factors in enabling innovation in agriculture.

This module will enable the farmers to better understand innovation processes in agriculture. The module will cover innovations that are relevant in agricultural engineering as well as crop and livestock production.

4. AGRI NEW TRENDS

The process of agricultural modernisation has had an important influence on farm productivity and improved living standards for many farmers. However, farmers need access to: modern seeds, water, labour, capital or credit, fertilisers and pesticides. Many poorer farming households simply cannot adopt the whole package. If one element is missing, the seed delivery system fails or the fertiliser arrives late, or there is insufficient irrigation water, then yields may not be much better that those for traditional varieties. Even if farmers want to use external resources, very often delivery systems are unable to supply them on time.Where production has been improved through theses modern technologies, all too often there have been adverse ecological and social impacts.

International Journal Of Core Engineering & Management

Volume-5, Issue-12, March-2019, ISSN No: 2348-9510

5. POST QUERIES

When you are searching for some information, you express your needs as a query, which could be as simple as writing down one or two words. In this module we saw that the search engine uses postings lists to store the locations of index terms within pages.The task of the search engine when servicing your request is to match your query against the collection of index terms and related postings lists to find the pages that match your needs. In this module we'll examine more advanced ways to express those needs in order to produce better search results**.**

6. FARMERS FEEDBACK

It is believed that participatory approaches to monitoring can empower project participants, increase accountability of service delivery and ultimately improve project performance. This talk will focus on the impact of a participatory beneficiary feedback mechanism on the performance of a farmers' field. A participatory feed-back module was randomly allocated to farmer field and its impact was observed on a series of outcomes. It was found that increases farmer motivation and improves project performance as measured by farmers' agricultural knowledge and farming practices.

7. ADMIN LOGIN

It begins with separate portal for the admin who can update news for the site. He is provided with his specific admin login where user can't login. Only admin users consider authenticating in this portal. Non admin users are neglected or rejected.

8. REPLY QUERIES

I received the information you sent to me. I am immensely satisfied by your response. Your action was prompt. Your online service is superb. Your experts are very professional and helpful. The information you supplied is very valuable to me. Since you have invited suggestions and feedback, I have a couple of suggestions to make. While going through the Crop Information encountered a small problem.Under the heading Pulses. My humble suggestion is that if you had mentioned the local or common name in parenthesis. Black Gram morons like me can understand. It is helpful if you include a small diagram or picture of each plant in the narrative part. Thank you once again for you.

9. AGRI PRODUCTS EDIT OPTIONS

Department of Agriculture being the Administrative and Professional head of the Agriculture Department in the State, exercise all the Technical, Administrative & Financial Powers as exercised by the Heads of the Department. He also acts as Chief Technical Advisor to the State Government on all matters relating to the Agriculture Department. He controls all the Agricultural Development affairs in the State and shall issue special instructions considered necessary for Administrative and Professional reasons. He is responsible for coordination and monitoring of Agriculture Production.

10. LOGOUT

This module allows you to create logout button anywhere in website. If you create menu link for logout, user is redirected to a page and after that if user clicks on Logout button, he/she will be logged out.

International Journal Of Core Engineering & Management

Volume-5, Issue-12, March-2019, ISSN No: 2348-9510

IV. RESULT AND DISCUSSIONS

The **AGRICULTURAL ASSISTANT AND INFORMATION SYSTEM** is developed using ASP.NET fully meets the objectives of the system which it has been developed. The system is providing information as high level of efficiency associated with the system. The system solves the problem. It was intended to solve as requirement specification. It is very useful to maintain the details of the agriculture in best level. This system not only maintains the details of the agriculture. Thus this system maintains the time consumption and needs of farmers.

The developed project has been sampled in different scenarios with the purpose of future enhancement for further development of the product with improved utility for better outputs .Future strategy for the adoption in India should consider the problems of land fragmentation, lack of highly sophisticated technical centres, specific software and poor economic condition of general Indian farmers. Strategically proportionate back up from the public and private sectors is essential to promote its rapid development.

REFERENCE

[1]. ATLaS: a Small but Complete SQL Extension for Data Mining and Data Streams

[2]. Integrating Association Rule Mining with Relational Database Systems: Alternatives and Implications

[3]. G. Bhargava, P. Goel, and B.R. Iyer, "Hypergraph Based Reorderings of Outer Join Queries with Complex Predicates," Proc. ACM SIGMOD Int'l Conf. Management of Data (SIGMOD '95), pp. 304-315, 1995.

[4] J.A. Blakeley, V. Rao, I. Kunen, A. Prout, M. Henaire, and C. Kleinerman, ".NET Database Programmability and Extensibility in Microsoft SQL Server," Proc. ACM SIGMOD Int'l Conf. Management of Data (SIGMOD '08), pp. 1087-1098, 2008.

[5] J. Clear, D. Dunn, B. Harvey, M.L. Heytens, and P. Lohman, "Non- Stop SQL/MX Primitives for Knowledge Discovery," Proc. ACM SIGKDD Fifth Int'l Conf. Knowledge Discovery and Data Mining (KDD '99), pp. 425-429, 1999

[6] E.F. Codd, "Extending the Database Relational Model to Capture More Meaning," ACM Trans. Database Systems, vol. 4, no. 4, pp. 397-434, 1979

[7] C. Cunningham, G. Graefe, and C.A. Galindo-Legaria, "PIVOT and UNPIVOT: Optimization and Execution Strategies in an RDBMS," Proc. 13th Int'l Conf. Very Large Data Bases (VLDB '04), pp. 998-1009, 2004.

[8] C. Galindo-Legaria and A. Rosenthal, "Outer Join Simplification and Reordering for Query Optimization," ACM Trans. Database Systems, vol. 22, no. 1, pp. 43-73, 1997

[9] H. Garcia-Molina, J.D. Ullman, and J. Widom, Database Systems: The Complete Book, first ed. Prentice Hall, 2001.

[10] G. Graefe, U. Fayyad, and S. Chaudhuri, "On the Efficient Gathering of Sufficient Statistics for Classification from Large SQL Databases," Proc. ACM Conf. Knowledge Discovery and Data Mining (KDD '98), pp. 204-208, 1998

[11] J. Gray, A. Bosworth, A. Layman, and H. Pirahesh, "Data Cube: A Relational Aggregation Operator Generalizing Group-by, Cross- Tab and Sub-Total," Proc. Int'l Conf. Data Eng., pp. 152-159, 1996.

[12] J. Han and M. Kamber, Data Mining: Concepts and Techniques, first ed. Morgan Kaufmann, 2001.