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Information technology & agricultural development: Empirical study on new initiatives & strategies

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Abstract

Agriculture plays a vital role in India's economy. Over 58 per cent of the rural households depend on agriculture as their principal means of livelihood. Agriculture, along with fisheries and forestry, is one of the largest contributors to the Gross Domestic Product (GDP). The history of agriculture in India dates back to the Rig Veda. Today, India ranks second worldwide in farm output. Agriculture and allied sectors like forestry and fisheries accounted for 13.7% of the GDP (gross domestic product) in 2013, about 50% of the workforce. The economic contribution of agriculture to India's GDP is steadily declining with the country's broad-based economic growth. The Department of Agriculture and Cooperation under the Ministry of Agriculture is responsible for the development of the agriculture sector in India. It manages several other bodies, such as the National Dairy Development Board (NDDB), to develop other allied agricultural sectors. This study reveals how the information technologies initiatives and strategies are used towards the agricultural development in the economy.

Keywords: Information technology, agricultural development, gross domestic product

Introduction

New economy stocks or sunshine sector in the Indian economy great changes had taken place throughout the nation. New legislations had seen the rise of "Information revolution" in India. India is becoming an information hub of the world and it is usage in all core sectors is bringing about good dividends in the form of improved production and productivity gains, value adding with development of human resource in all sectors. In the domestic front also great resource mobilization has taken place in information technology enables services sector [ITES] from Rs.6345 crores in 1994-95 to Rs.46, 427 crores in 2003-04.

Present Status of Technology Transfer in Agricultural Sector

It is a great success and a harbinger of green revolution of earlier 1960s. This task has early 1950's from 51 million tones to over 200 million tons in 2000, while the Indian population nearly tripled from 350 million to one billion during the same period. This process needs newer initiatives, regulatory mechanisms, participation of diverse stakeholders in the change agency process.

Information Technology in Agriculture

Computers had started penetrating rural areas especially in villages with access to electricity throughout the nation. This process is being initiated by central and respective state governments, Private Corporate, Non- Governmental Organizations, Educational and Research Institutes like State Agricultural Universities, KVK'S and so on.

Expert Systems

Expert Systems are computer programmes that emulate the logic and problem solving efficiencies of a human expert.

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Electronic Mail (e - MAIL)

Electronic Mail [e-Mail] is a computerized information management system to send and receive messages. The message may be text, graphic or pictorial representation. Photons are sent through mail and agricultural experts offer solution to their problem. Specialized E-Mail packages are developed using user friendly packages and Graphic user interfaces (GUIs).

Electronic Journals

An electronic journal is an electronic form of a journal. The electronic journals are also published in regional languages and farmers can gain access to it paying up nominal fee (or) utilize free of cost facility to gain access to new farm information.

Geographical Information System

Geographical Information System [GIS] is computer assisted method and procedure for the capture, storage and analysis of data having localized information on geographical form. GIS dimension in modern extension therefore helps to overcome difficulties in planning need based specific extension programmes.

Databases

Databases are collection of records from books, journals, monographs, reports and mostly secondary farm literature. Farmers can access this database for getting huge volumes of information.

Interactive Computer Video Technology (ICVT)

ICVT contributes to solving Agricultural problems with practical importance there by upgrading the quality of extension services in developing nations.

Interactive Video Disc (IVD)

Interactive video disc is a multimedia technology using video disc player which has access to video images stored on a two channel audio disc. This is especially valuable in the Indian context as it becomes a bilingual package. Other media of information such as text, graphics, animation and digitalized audio supplements the audio on video discs.

Agriculture Websites

Websites are hoisted in Internet domain with specialized agricultural information suited to the needs of farmers. Many organizations and corporate have Question and answer (Q&A) sessions for the farmers to ask questions on farm problems and get needed solution. E-commerce with international trade organizations is also being explored by farmer organizations in Punjab and Haryana a part of this initiative within the purview of the phytosanitary standards setup by the respective trading blocks.

Commodity Trading In Agriculture

The forward market commission (FMC) the apex regulator allows trading in commodities through the four national exchanges cross the country. Multi commodity exchange (MCX); National Commodities and Derivatives Market (NCDEX), National commodities and Metal exchange (NCME) and National Board of Trade (NBOT). NCDEX started operations on January 2004 with 10 commodities and 200 members and generates Rs.100 crores daily.

Rural Problems in Using Information Technology

Poor educational status, functional literacy on use of computers, poor infra structural facilities like lack of power, public utilities are hurdles towards gaining access to farm information. The second aspect is most of the information available on the websites and Internet is on English with a web content of 64% which 5% of the Indian population knows. The third problem is lack of credit towards buying information technology. Absence of community (or) group efforts in rural areas.

Strategies for Effective Electronic Connectivity

Rural people need to be encouraged to form groups (or) registered bodies. The Rural development programme called PURA- Provision for Urban Amenities in Rural Areas. The web content should be made on national language (Hindi) and also in regional languages for the farmers to benefit. All development departments, public utilities, transportation services should have information technology. Long term credit loans and subsidies can be given to self-help group.

Conclusion

Information Technology needs to be seen not only as a technology processes but also as a reform to raise the standard of living of Indian population. All strata of the Indian population particularly the rural population, farmers need to be included in this process as future fears may witness divide in terms of "people with information". Policy makers, administrators should develop a frame work of action taking into account private corporate, public institutions, all stake holders in this process achieve consensus for purposive growth and development in making India a developed nation within 2020.

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