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INFORMATION SCIENCE AND TECHNOLOGY FOUNDATION

An Editorial

Agricultural Informatics for the development in Agricultural Systems and Sustainability

Agricultural Informatics is also called as Agro-Informatics. This is a combination of Agricultural Sciences and Information Sciences. This is closely connected with other area of Informatics called Geo Informatics. Agricultural Informatics in another word is the applications of Information Technology and Computing in Agriculture and allied fields and domains. Agricultural Informatics is may also called as Agricultural Information Science or Agricultural Information Technology in some context. There are different tools, techniques and technologies are applied in the agriculture and allied fields. In developed nations Agricultural Informatics is an emerging area and applicable in different areas for the betterment of agricultural activities. In this field, apart from the general Information Technology components few others also incorporated in viz. artificial neural networks, decision support system, artificial intelligence, remote sensing technologies, image processing etc. In some countries Agricultural Informatics is become a field of study and research. However in many developing and undeveloped countries Agricultural Informatics field can be seen as a research area instead of field of study/ programs. The latest technologies are the need of hour in healthy Agricultural Informatics practice. In this paper, the case study on Internet of Things is focused with its basic and current applications in brief. Paper also highlighted about the aspects on IoT application in Agriculture and allied fields; and its importance for promoting Agricultural Informatics practice.

Agriculture is the main concern in development in a country like India; even it is counted for its value and employment generation throughout India. There are millions of farmers tilling on small and marginal holdings, who need best cultivation methods. There are different challenges, issues and concern on agriculture due to biotic and other impacts viz. drought, flood, disease, insect, pest infestations, heat, cold, weather and climate change etc. Apart from these few other concerns are changes in food habits, nutritional requirements, global trade scenario and changes, Technological development, ecological aspects etc. Strategic, scientific and methodological applications of ICT applications in Agricultural sector can led the following in which indirect enhancement is possible and among the means few important are—

- Agricultural Input,
- Production and Output systems,
- Integrate and facilitate trade,
- Technology and food security,

- Through effective
- Value-chain and Supply-chain Models.

ICT, Computing & IT applications in Agriculture gaining rapidly internationally & importantly huge demand can be noticeable with Agricultural degree holders with proper ICTs skills and a combination of existing technologies for effective agricultural development and production. It is moreover a global enabler innovations and productivity in agriculture in nature, economical and social means. Further Agro Informatics is directly enabling agricultural development According to a study it is noted that "agricultural graduates-ready" through agricultural informatics, for undertaking S&T based agricultural development, and rejuvenating and ushering in agricultural dynamism in the country, by 2025 (*Source:* CAIeRS, Uttar Pradesh, India).

It is important and need of hour to introduce Agricultural Informatics programs for conceptual, theoretical and applied knowledge development in the field which include the IT & Computing, Management, Informatics, and Agriculture. And this could be possible with the introduction of technologies and subjects related to the Information and Agriculture. Hence right skilling, knowledge including aptitude, communications, entrepreneurship including healthy leadership qualities are useful within a qualified Agro Informatics practitioners for the promotion and development of complete agro solutions viz. agricultural production, supply-chain, extension services to the different stakeholders of agriculture including the following (not limited to)—

- Farmers and cultivators
- Industry and organizations (with Agro or IT interest)
- Research and extension services (with Agro or IT interest)
- Scientific organizations (with Agro or IT interest)
- Educational Institutes (with Agro or IT interest)

Hence, Agro Informatics or similar fields are responsible for the healthy and complete development in sustainable and modern Agro development that led the complete development in many contexts.

— Chief Editors