NATIONAL E-AGRICULTURE STRATEGY

The e-agriculture strategy guide is a framework to assist countries in shaping their national e-agriculture strategy, identifying and developing sustainable services and solutions based on the use of Information and Communication Technologies (ICTs) in agriculture.

What is e-agriculture?

E-agriculture involves designing, developing and applying innovative ways to use information and communication technologies (ICTs), including digital technologies - in the rural domain, with a primary focus on agriculture, including fisheries, forestry and livestock.

The aim is to boost agricultural and rural development by improving access to valuable information that can help people whose livelihoods depend on agriculture to make the best possible decisions, and use the resources available in the most productive and sustainable manner.

ICTs that can be harnessed for e-agriculture may include devices, networks, services and applications. These can range from cutting edge Internet-based technologies and sensing tools to other technologies that have been around for much longer, such as radio, telephones, mobile phones, television and satellites.

The definition extends beyond the e-government aspect of agriculture, since it includes not only agricultural services provided by governments to citizens (e.g. farmers, rural communities) via ICTs, but encompasses a whole range of products, services and infrastructure provided by government, the private sector, public research and extension, NGOs and farmers' organizations.

TELEPHONE
Interactive voice response

MOBILE
Advisory, sales, banking, networking

COMPUTERS AND WEBSITES
Agriculture information and markets

INTERNET AND BROADBAND
Knowledge sharing social media, e-community, banking, market platform, trading, etc.

BROADCASTING
Expertise sharing, advisory, community

SENSOR NETWORKS
Real time information, better data quantity and quality, decision making

SATELLITE
Weather, universal accessibility, remote sensing

DATA STORAGE AND ANALITYCS
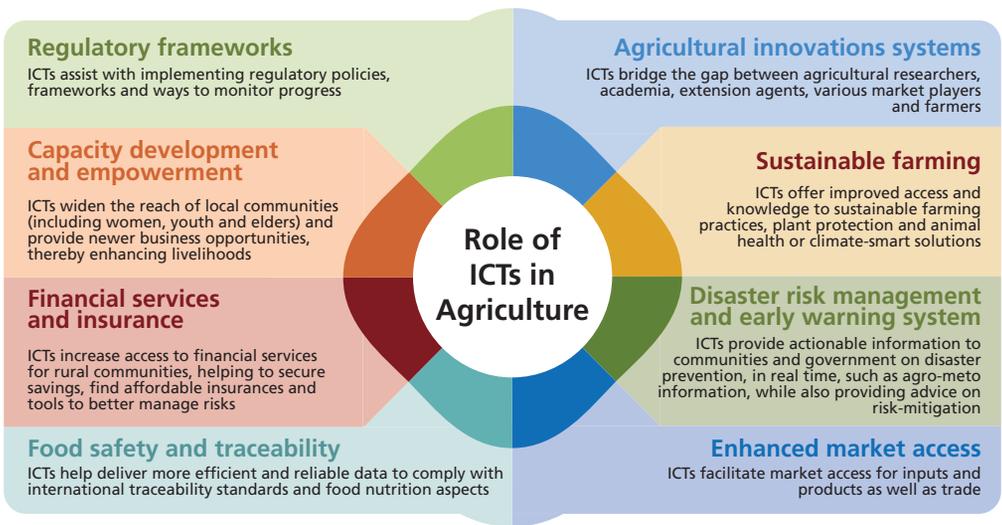Precision agriculture, actionable knowledge

The case for e-agriculture

E-agriculture offers strong potential for driving economic growth, raising incomes and improving livelihoods among rural communities, through increased efficiency of agricultural production and value chain development.

It creates opportunities to address some of agriculture's most pressing challenges, using ICT-driven solutions to tackle problems as varied as climate change, pests and diseases and poor market access.

The cross-sectoral nature of ICT propels growth in other sectors. A unique ICT-based platform can serve several sectors, such as agriculture, health and transportation by offering information to consumers on products and quality, by ensuring timely transportation of products to market, and by empowering farmers through stronger linkages between small-scale producers and markets.

Role of ICTs in Agriculture

Regulatory frameworks
ICTs assist with implementing regulatory policies, frameworks and ways to monitor progress

Agricultural innovations systems
ICTs bridge the gap between agricultural researchers, academia, extension agents, various market players and farmers

Capacity development and empowerment
ICTs widen the reach of local communities (including women, youth and elders) and provide newer business opportunities, thereby enhancing livelihoods

Sustainable farming
ICTs offer improved access and knowledge to sustainable farming practices, plant protection and animal health or climate-smart solutions

Financial services and insurance
ICTs increase access to financial services for rural communities, helping to secure savings, find affordable insurances and tools to better manage risks

Disaster risk management and early warning system
ICTs provide actionable information to communities and government on disaster prevention, in real time, such as agro-meto information, while also providing advice on risk-mitigation

Food safety and traceability
ICTs help deliver more efficient and reliable data to comply with international traceability standards and food nutrition aspects

Enhanced market access
ICTs facilitate market access for inputs and products as well as trade

Why a national e-agriculture strategy?

Setting in place a national e-agriculture strategy is an important step for any country planning to use ICTs for agriculture to help reduce poverty, improve food security and nutrition, and further its specific agricultural goals and priorities.

The existence of a comprehensive national strategy can prevent e-agriculture projects from being implemented in isolation, avoiding duplication of efforts and resources. It also helps to develop efficiency gains from intra-sector and cross-sector synergy. An e-agriculture strategy can pave the way for policy options to bridge the technology divide in rural areas, and ensure equal prospects for rural men and women, young and old, to access ICTs – quickening the pace of innovations, increasing incomes and job opportunities. Agricultural research, education and extension systems can also greatly benefit from a national e-agriculture strategy. Establishing standards for open data and interoperability enables sharing national research outputs and global knowledge. The private sector – such as solution developers, mobile operators and the agro-industry – may profit from an increased clientele, and provision of better targeted, needs responsive products.

With a national e-agriculture strategy, countries move from pilot projects to a broader vision at a larger scale, capitalizing from past experiences, adopting and adapting what has proven to be effective.

What can e-agriculture achieve?

Having a national e-agriculture strategy may help a country to increase food production, establish incentives and facilitate the development of technologies for export. It can be used to promote new markets, strengthen social protection, decentralize trade and serve as a driver for agricultural innovation. Proven benefits for farmers include ensuring better access to markets and offering transparent and efficient financial services for loans and savings. Among other valuable services offered by e-agriculture are weather forecasts and disaster alerts, enhanced disease control in farms, extension support in remote areas and access to the right agri-inputs for specific soil and climate conditions.

A roadmap for e-agriculture

Developing a national e-agriculture action plan enables a government to draw up a roadmap for its strategy on the use of ICTs for agriculture. This means identifying all activities and how they should be managed, funded and coordinated, and pinpointing key actors for the design and implementation of the e-agriculture strategy.

Any effective roadmap for e-agriculture will require a holistic, multi-stakeholder approach, with cross-cutting support spanning various government ministries, including those dealing with ICTs, food production and processing, rural development, irrigation and water management, disaster management, telecommunication, governance, transportation, finance and commerce.

Guidance for developing an e-agriculture strategy

The e-agriculture strategy guide and toolkit, jointly prepared by the Food and Agriculture Organization of the United Nations (FAO) and the International Telecommunication Union (ITU), has been produced to assist countries in developing their national e-agriculture strategy.

Dedicated web page on the e-agriculture strategy guide: **www.fao.org/in-action/e-agriculture-strategy-guide/en/**

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