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Importance of Communication Skills and Technological Skills in Agriculture and Horticulture Industry: A Study

Dr. Ambedkar Bodigadla[1], Ad-hoc Faculty in English, Dr. YSRHU- College of Horticulture, Venkataramannagudem
Dr. Chiranjeevi Rao Akkabattula[2], Ad-hoc Faculty in English, Dr. YSRHU-College of Horticulture, Parvathipuram

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Abstract:
The future generation of Horticulture and Agriculture scientists must be skilled and confident in the conception, conduct, and reporting of their research. Communication and Technological skills are seen as important factors in corporate effectiveness and growth. Effective communication with customers and staff is essential for a business to develop or succeed. Ineffective communication frequently results in association mismanagement and unfavorable company outcomes. From the time of enlightenment, the sprouting of communication has always been a cardinal factor for the reformation. Effective communication and technology in any business organization can have a significant impact on its growth and profitability. By prioritizing clear and concise communication, organizations can create a more collaborative, productive, and profitable environment for all stakeholders. This study aims to highlight and explain the importance of good communication and its impact on the agriculture and horticulture Industry.

Keywords: Farmers, Technology aids, Communication Skills, Growth, Women Empowerment, Profits, Agriculture and Horticulture

Introduction:
The word communication is derived from the Latin word "communicate" which means to pass along, impart or transmit knowledge, to have an interchange of thought; to make common' (communis). It is the process of exchange of ideas, feelings, information, and facts. It figures between two individuals or groups of individuals with mutual understanding. We communicate with other individuals by direct messages to one of their senses

out of five i.e. sight, sound, touch, smell, or taste. By using one or more senses at a time, we share our ideas and feelings.

Effective communication is essential in both personal and professional contexts, as it enables individuals to express their ideas, thoughts, and feelings clearly, and to understand others' perspectives. To achieve the expected outcome from the business there is no substitute for effective communication. Communication is an essential component used to deal with customers, employees, and Farmers. However, translating technology into real solutions needs to be done to help farmers and businesses realize tangible outcomes. Let's understand the several challenges in agriculture in India and the role of communication in combating these issues.

Communication is an important challenge within the Horticulture and Agriculture Industry:

The Indian agriculture sector faces numerous challenges; inadequate allocation of resources, weather fluctuations, fragmented landholdings, post-harvest loss, yield plateaus, and more. Lack of education and knowledge among farmers is also a major gap that needs to be addressed for the agriculture and allied sectors to function at optimal standards. Arming the farmers with tools that can keep them updated about market trends and weather predictions or with real-time updates on their crops, soil, animal health, and irrigation needs can help alleviate a lot of these issues.

Communication is an indispensable asset in all sectors. It helps connect people at all levels to ensure the proper functioning of any industry or organization. In the agriculture sector specifically, communication holds an integral place because it provides information that fills the knowledge gaps within the system. There is a dearth of informational knowledge in the farming community concerning soil health, weather fluctuations, market trends, demand-supply chain practices, and government policies. Proper communication channels and tools can directly combat the information asymmetry for the farmers. Another common issue is outdated agricultural or farming practices and improper management of resources (such as lack of suitable storage units, overuse of pesticides, or over-irrigation). The development of newer technology in the field of communication helps impart important news about the latest farming practices and tools that will aid the farmers in understanding what is needed and ultimately increase farm efficiency.

Emergent technology and how it aids farmers in Agriculture and Horticulture:

India has been undergoing a gradual technological transformation. There has been a steady development of tech tools, apps, startups, and government-allied-private organizations that directly impact the Indian agri-tech space. Some of the emerging technologies that have slowly been adopted into the agriculture space are AI, robotics, machine learning, blockchain, IoT, drones, and more. AI, robotics, and drones provide farmers with real-time data

on what their farmlands need. For example, drones can monitor the status of their fields and crops in real-time by field mapping and capturing clear images and then sending the data directly to the farmers. AI and IoT (Internet of Things, which connects devices to the internet so that the user can have super control over all of them at once) can help analyze soil and/or crop health and turn data into actionable intelligence for the farmers. Robotics helps in planting crops, monitoring their health and harvesting, increasing productivity, and saving time and resources. As per a data analyst working in the agri-tech sector, machine learning has been used to train pesticide dispersal machines for precision in pesticide spraying.

Technology helps farmers connect with businesses directly

Technology is revolutionizing the agricultural industry and helping farmers. Portals like e-Nam, Krishi Network, and Kisan Suvidha, arm farmers with access to important information on fertilizers, insurance, and government policies. These portals also provide information about pricing/market trends that help keep the farmers aware and avoid being taken advantage of. Kisan Network is a tech supply chain platform that enables businesses and produce buyers to connect with farmers directly. Thus, rendering the middlemen redundant. Another example of how technology is helpful can be witnessed in Krishify which is a tech organization that has built a social network for farmers and stakeholders to facilitate direct engagement between the parties. Moreover, Agri-input companies like Bayer India are also using audio & videoconferencing tools to connect with large groups of farmers to inform them about crop protection products and practices.

The Indian agri-space is slowly emerging from the dark ages. As suggested in a report by Research Gate, E-Agriculture is an emerging field focusing on the enhancement of agricultural and rural development through improved information and communication processes. All stakeholders of the agriculture production system; such as agri, horti and allied companies, and government organizations, need information and knowledge about these phases to manage them efficiently. Information is vital to initiate a change: for this reason, a shift is needed in the agriculture sector to disseminate appropriate knowledge at the right time to the ones who are at the frontline in the battle: the farmers, in both developed and developing countries. At the same time, information alone is not enough, but appropriate communications systems are needed to ensure that information comes to farmers in an effective, accurate, and clear way.

Agriculture and Horticulture Extension through Communication

Communication is the sharing of ideas and information. It forms a large part of the extension agent's job. By passing on ideas, advice, and information, he hopes to influence the decisions of farmers. He may also wish to encourage farmers to communicate with one another; the sharing of problems and ideas is an important stage in planning group or village activities. The agent must also

be able to communicate with superior officers and research workers about the situation faced by farmers in his area.

Although farmers already have a lot of knowledge about their environment and their farming system, an extension can bring them other knowledge and information that they do not have. For example, knowledge about the cause of the damage to a particular crop, the general principles of pest control, or how manure and compost are broken down to provide plant nutrients are all areas of knowledge that the agent can usefully bring to farmers. The college has provided a well-equipped lab for the communication and extension subjects to do research work about the situation faced by farmers.

The application of knowledge often means that the farmer has to acquire new skills of various kinds: for example, technical skills to operate unfamiliar equipment, organizational skills to manage a group project, the skill to assess the economic aspects of technical advice given, or farm management skills for keeping records and allocating the use of farm resources and equipment.

Agriculture and Horticulture Crops in Rural Economy Growth

The agricultural/horticulture industries have the major problem of expanding productivity to feed a growing and increasingly wealthier population while natural resource availability is declining. Water scarcity, deteriorating soil fertility, the consequences of climate change, and the increasing loss of fertile agricultural lands owing to urbanization are all major concerns. However, rising demand, notably for higher-quality goods, provides the potential to improve rural populations' livelihoods. Realizing these prospects necessitates adhering to higher quality standards and regulations for agricultural production, new approaches and technological advances are necessary. Communication skills and technology are changing every element of our lives, including knowledge distribution, social interaction, economic and commercial practices, political participation, media, education, health, leisure, and entertainment. Through the creation of information-rich societies and the support of livelihoods, English communication may play a vital role in reducing rural and urban poverty and promoting sustainable development.

Agriculture and Horticulture for Empowerment of Women

Women encounter huge challenges in using communication and technology for economic development. Dr. YSR Horticultural University launched a program called VC to the Village, which is bringing about significant change in the lives of village women to empower them. Women can apply their technical skills in horticulture items. The Horticultural Incubation Centre is training women in the surrounding areas to improve their development skills.

Communication helps to have global knowledge about Market Information

The lack of reliable and timely market information in the agri-input sector is a problem at the continental, regional, national, and local levels, and it

continues to be a major impediment to the development of agricultural business links and trade globally. Public and corporate entities are making significant progress in implementing market information services utilizing advanced information and communication technology capabilities. However, the intricacies of the fertilizer, seed, and crop protection product value chains continue to be significant barriers to integration into larger information systems. With expanding access to cell phones and computer centers, even the continent's most distant locations are benefiting from the knowledge provided by this advanced technology.

Successful Technological and communication initiatives in India:

In India ICT applications such as Warana, Dristee, E-Chaupal, E-Seva, Lokmitra, E-Post, Gramdoot, Dyandoot, Tarahaat, Dhan, Akshaya, Honeybee, Praja are quite successful in achieving their objectives. Some of the important programs are **e-Extension** (e-Soil Health Card Programme), **AGRISNET**(uses state-of-the-art broadband satellite technology to establish the network within the country), **AGMARKNET** (a comprehensive database that links together all the important agricultural produce markets in the country) **Agri-Business Centres** (provides a web-based solution to the small and medium farmers), **e-KRISHI VIPANAN**(It professionalizes and reorganizes the agriculture trading business of Mandi), **Query Redress Services** (Empowering the farmer community through effective, need-based interventions. It enhances livelihood promotion of the farmer community through information dissemination and extension), **Kisan Call Centres** (Kisan call centers have been established across the country to leverage the extensive telecom infrastructure in the country to deliver extension services to the farming community), **Tata Kisan Kendra (**The concept of precision farming being implemented by the TKKs.

ITC's Agri Business Division launched **"e-Choupal** " in June 2000 in which village internet kiosks are managed by farmers - called *panchayats*. ***e*-Sagu**, an ICT-based personalized agro-advisory system has been developed since 2004. **AKASGANGA** (Meaning "milky way" in Hindi) was established in 1996 under the banner of Shree Kamdhenu Electronics Private Ltd.

AKASHGANGA's success demonstrates the potential of information technology to impact livelihoods in poor, rural communities. AKASHGANGA's experience indicates that even illiterate or semi-literate people can adopt IT-based systems when they see substantial benefits and when the systems are deployed in purposeful, easy-to-use ways.

The implementation of rural ICTs involves organizational and social change. Besides, an important barrier to realizing the economic benefits of ICTs is the often substantial high level of investment in new infrastructure – both hardware and software. In developed countries, large potential customer bases and efficient capital markets help overcome this barrier, hardware and software designed for developed countries can easily be adapted to serve higher-income consumers in developing countries, but this leaves out the majority of the population in developing countries. In this scenario, one potential consequence

of IT use is an increase in equality as only higher income groups enjoy its benefit – this is the so-called "Digital DIVIDE". On the other hand, because the government provides goods and services, including redistributive transfer payments, which are often aimed at lower income groups, to the extent that ICT use can increase the efficiency and effectiveness of the government, the benefits of IT will be more widely spread, partly reducing "digital divide" concerns. Private providers may therefore have a role in delivering IT-based information services that are complementary to government services, as well as in providing conventional private goods and services. The lack of access to ICTs in developing countries means a growing knowledge gap is inevitable. Seventy percent of the population in developed countries, in some countries close to 100% have access to the internet, while in close to 100 developing countries the figure is less than 10%. However, about 7% population had access to internet connections in India in the year 2010. There has been a sharp increase in internet users in India from only 14 lack in 1998 to 7 crore in 2010. The Indian telecommunication industry has the world's fastest-growing telephone (landlines and mobile) subscribers and 670.60 million mobile phone connections in Aug. 2010. It is the second largest telecommunication network in the world in terms of the number of wireless connections after China. The ICTs are expected to exert a positive inference on Education, Health, Employment, and Agriculture which will have an impact on the Socioeconomic aspects of rural poverty. Information and communication technologies (ICTs) are crucial in improving access to health and education services and creating new sources of income and employment for the poor section of society. Being able to access and use ICTs has become a major factor in driving competitiveness, economic growth, and social development. In particular, mobile phones are opening up new channels for connectivity and contributing to the free flow of ideas and opinions. The real challenge is to develop better measurements. In the context of ongoing agricultural development programs, farmers are likely to become more exposed to the vagaries of global markets, empowering them with information access which may improve the reality of decision-making quality in more complex environments. Beyond giving farmers more and better information, their choice sets can also be expanded. The ICT infrastructure may also be used to bring down the cost of delivery of credit and crop insurance to farmers.

Conclusion

Communication and Technology refer to technologies that provide access to information through communication. It focuses primarily on communication technologies which include the internet, wireless networks, cell phones, and other communication technologies that have created a "global village" in which people can communicate with others across the world as if they were living next door. Communication is an indispensable asset in all sectors. It helps connect people at all levels to ensure the proper functioning of any industry or organization. In the agriculture sector specifically, communication

holds an integral place because it provides information that fills the knowledge gaps within the system. There is a dearth of informational knowledge in the farming community concerning soil health, weather fluctuations, market trends, demand-supply chain practices, and government policies. Proper communication channels and tools can directly combat the information asymmetry for the farmers. Another common issue is outdated agricultural or farming practices and improper management of resources. There are several initiatives way in India to demonstrate the significant benefits of rural populations. However, it is almost a paradox to introduce modern technologies before satisfying basic needs.

At present, the majority of applications and systems on climate change issues within the agricultural sector are related to scenario development, impact assessment, and adaptation planning. In many of these cases, the systems are the result of single Research and development efforts, rather than collaborative programs: one of the side effects is a lack of interoperability among different applications. Using an Open Source approach could open the road to the creation of a collaborative community-led environment. Information is vital to tackle climate change effects: for this reason, a shift is needed in the agriculture sector to disseminate appropriate knowledge at the right time to the ones who are at the frontline in the battle: the farmers, in both developed and developing countries. At the same time, information per se is not enough, but appropriate communications systems are needed to ensure that information comes to farmers in an effective, accurate, and clear way. This means that the information provided to farmers must have the following properties: timing: farmers need to access information on time, especially if it implies a change in production strategy; reliability: information must necessarily be correct and comprehensive, including any degree of probability and/or margins of error, to result as transparent as possible to the recipient; clearness: indications, to be properly applied, must essentially be created and processed taking into account the recipient' peculiarities, thus adapting the content of the message to his own culture. Thus, any knowledge transfer should take into account farmers' point of view, to build on their knowledge and capitalize on it. The evolution and availability of ICTs have been the greatest communications revolution in recent years. The decreasing cost of hardware, increase in reach of communication network, and availability of the same at district and below district level open – up huge potential for agricultural scientists and extension workers to reach the farming community in a more focused, precise manner.

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