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**RURAL AGRICULTURAL SERVICE CENTRE FOR SMART VILLAGE SYSTEM
IN INDIA**

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ABSTRACT

Rural agricultural service centre is a centre which provides the all agricultural services related to farming and its activities in rural area. It based on group/ ICT based system and it connected with research institutes in the region with state network like KVKs, ARS and Universities etc. It operated by agricultural allied sector graduates with initial capacity building or training provided to them at nodal agency. It could be well connected to all available ICT. It will helps the farmers to get diversified information at their door steps and helps in making right decisions at right time. Agents take all calls, answer questions, forward the caller to a specialist or refer the caller to other information sources. It at as a custom hiring centre it provides the all agriculture input on rant to small and marginal farmer and seeds and fertilizers to farmer based on demand and recommended for particular agroclimetic zone by the scientist. It also provide some other facilities like soil testing, weather-forecasting, current crop price, consultations on agro-based venture, organic farming , crop exhibitions and contact village to a agro-based industry and other input supply company to supply input at remunerable price to farmers.

Introduction

“India lives in its villages” said Mahatma Gandhi, a great freedom fighter and father of our nation. In these villages, agriculture is the primary source of livelihood along with dairying, fish-ring, cottage industries, etc. According to 2011 census, rural area has population of 68.84%, whereas urban area has population of 31.16% or two – third of Indian population live in rural area. 70 per cent of the rural households depend on agriculture. Agriculture is an important sector of Indian economy as it contributes about 17% to the total GDP and provides employment to over 60% of the population. It is fact that the rural population is suffering more consequences for livelihood as compared to urban areas. The difficulties of livelihood may be forcing rural population to migrate to the urban areas presently, rural development mainly focuses on poverty alleviation, better livelihood opportunities, and provision of basic amenities and infrastructure facilities through ICTs based innovative programmes. Better livelihood in rural area may reduce disturbing effects of poverty, unemployment and inadequate infrastructure on urban centres causing slums and consequential social and economic tensions. Hence, rural development is concerned with economic growth with social justice, improvement in the living standard of the rural people by providing adequate and quality social and economic services and minimum basic needs becomes essential. Such rural development programme not only improve livelihood in rural area, but also may reduce the migration, of rural population in urban areas for employment and reduce pressure on urban infrastructure. The efforts of rural development may not work on the same principle as of smart city. Hence, utilization of Information Technology, which

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has proved its potential for the development, may be used for rural development through a concept of “Smart Village”. We define *smart village* as a bundle of services delivered to its residents and businesses in an effective and efficient manner. The Smart Village ecosystem is built on the STERM (Science, Technology, Engineering, Regulations and Management) framework.

The Smart Village concept will be based on the local conditions, infrastructure, available resources in rural area and local demand as well as potential of export of goods to urban areas. There is an urgent need for designing and developing “Smart Village”, which are independent in providing the services and employment and yet well connected to the rest of the world. Based on various programs undertaken taken by Central and state governments along with further technological initiatives, the Smart Village can achieve SMART infrastructure, SMART service delivery, SMART technology and innovation, SMART institutions along with optimal mobilization and utilization of available resources, leading to faster and more inclusive growth. Information and communications technologies (ICTs) have proved its vast potential for the benefit of mankind in various fields. Information and communications technologies (ICTs) are often used to assure the right to an education and learning, and have a potential to serve developing needs. The various researchers have recognized the potential of ICTs for rural development and it may play key role for the fast and sustainable development of rural India incoming years. ICT have a large potential for enhancement of rural life through its applications in various areas of the rural village development. Introduction of innovations, new ideas and best practices of self-management is the key feature as well as an important strategy for the Smart Village. Knowledge management along with ICT will focus on strengthening both capacities and systems of the community.



Fig: Smart Village System in India

RURAL AGRICULTURAL SERVICE CENTRE (Smart Agriculture System)

Rural agricultural service centre (RASC) is a part of smart agriculture system in smart village system. It is totally ICTs based centre which provides the all agricultural services & information related to farming and its activities in rural area. It based on group/ ICT based system and it well connected with research institutes in the region with state network like KVKs, ARS and Universities etc. It is operated by agricultural allied sector graduates with initial capacity building or training provided to them at nodal agency. It could be well connected to all available ICT. It will helps the farmers to get diversified information at their door steps and helps in making right decisions at right time. Apart from the needed information it provide all agriculture input on rant to small and marginal farmer and seed variety and fertilize to farmer based on demand and recommended for particular agroclimetic zone by the scientist. It also provide some other facilities like soil testing, weather-forecasting, current crop price, consultations on agro-based venture, organic farming, crop exhibitions and contact village to a agro-based industry and other details about input supply companies to supply input at remunerable price to farmer. It is well connected with all agricultural web portal and other institutions of collecting information related to agricultural and allied sectors. It provide need based information's or services in rural area for development of agriculture and its allied sector.

Objective of RASC:

- 1. Provide Information**
- 2. Provide services**

1. Provide Information: RASC provide information related to agriculture and its allied sectors to the people in rural area. It also provides information's related to agriculture marketing, new govt. agricultural sachems, information related to weather, Agro- based business and other beneficial rural development programme for rural people. It also provide consultation to the people related to agriculture and its related issue. It help in problem solving of people and give right direction for its solutions.

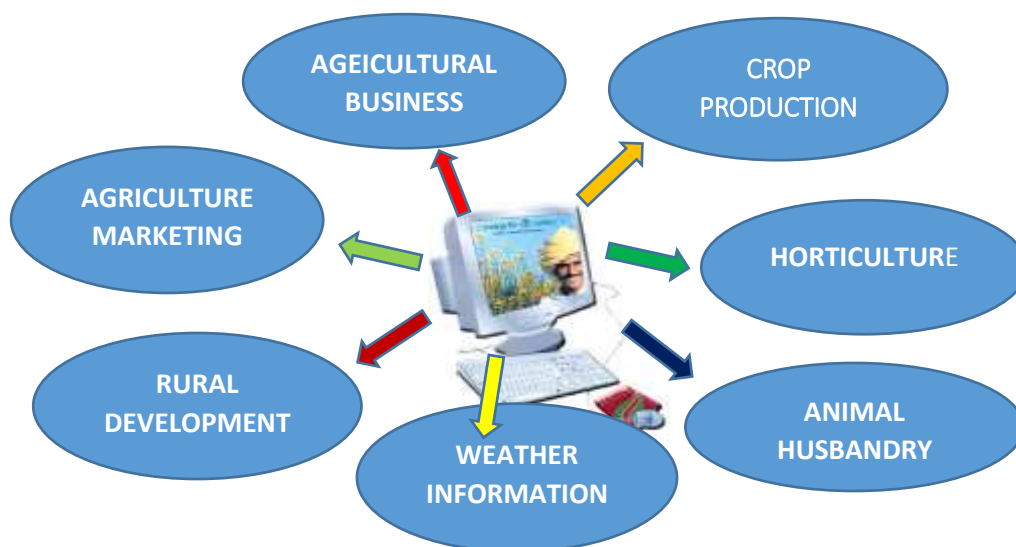


Fig: information area of RASC for smart village system

2. Provide services: RASC provide services related to agricultural activity to the people. It may be free of cost or may be remunerable price taken from people. Services related to Agriculture activity like –good quality seed, input, agriculture equipment, area based fertilizers, Soil testing facilities, marketing of product, contract farming, connect village with agro-based industry and conduct small training on crop production, organic farming, dairy farming, and horticulture etc. Agriculture related services like seed, input, fertilizers etc. provide through different Company on remunerable price to the farmers. In case of agriculture equipment it may be given on few rent to small and marginal farmer which are not able to purchase these equipment for agriculture activity. It give more probilities to small and marginal farmer in services because they are small landholder. Most of the small and marginal farmer agriculture labour they don't have time to go market and purchases input for cultivation. They feel difficulty in going market and purchasing small quantity of seed, fertilizers and other equipment for agriculture operation. As most of they are not illiterate so they not aware of cost and quality of input and cheated by the people. In this conditions model help farmer to provide good all quality input to farmer at remunerable price and also supply timely input to the farmers.



Fig: Services area of RASC for smart village system

Sources of RASC for information and services

1. Information sources: 1. Agricultural institutions both ICAR and SAU, state agriculture department, KVK, ARS and ATIC etc.

2. Web portals: aAQUA, KISSAN Kerala, TNAU AGRITECH Portal, AGRISNET, DACNET, e-Krishi, ASHA, India Development Gateway (InDG) portal, Rice Knowledge Management Portal (RKMP), Agropedia, AGMARKNET, ITC-e-Choupal, EID Parry-Indiagriline, Indiancommodities. Com, Mahindra Kisan Mitra, IFFCO Agri-Portal, Agrowatch Portal, iKissan, etc.

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3. Knowledge centres/tele-centres: Village Knowledge Centres (VKCs) of M.S. Swaminathan Research Foundation (MSSRF) (Senthilkumaran, 2011) & others, Village Resource Centres (VRCs) of the Indian Space Research Organisation (ISRO), Community Information Centres (CICs), Common Service Centres (CSCs), etc.

4. Telephony/mobile telephony (m-agriculture initiatives): Farmers Call Centre (Kissan Call Centre), Lifelines India, IFFCO Kisan Sanchar Limited (IKSL), Fisher Friend, Reuters Market Light (RML) (Mittal et al., 2010), Mobile Advisory Services by Krishi Vigyan Kendras (KVKs) of Indian Council of Agricultural Research (ICAR), etc.

5. Hybrid projects (ICTs with traditional extension elements): e-Sagu, Digital Green, e-AgriKiosk, e-Villages, Knowledge Share Centres, etc.

Services sources: Services sources of RASC is all national and multinational input company, local person who have agricultural input and other stakeholder related to agricultural and allied sectors. Which are the nearest of the centre and also supply input timely on reasonable price to the client.

Organizations Structure of RASC at Village

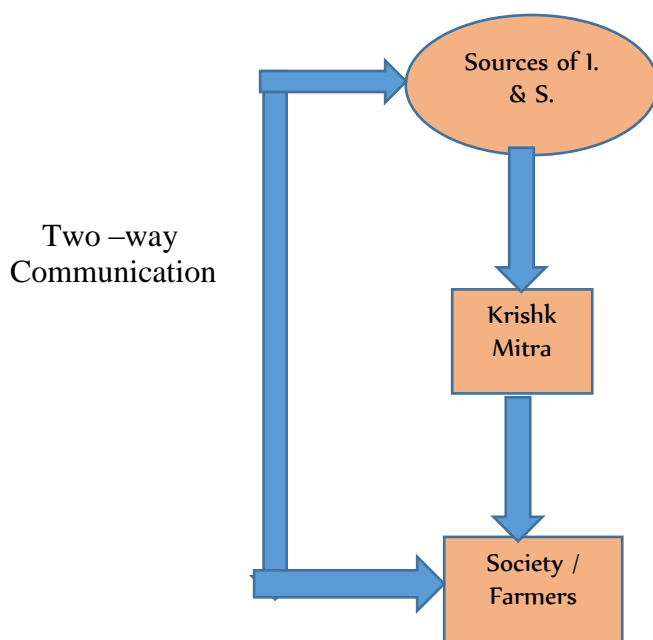


Fig: organization structure of RASC

How it work: RASC work on participatory, change agent and client system approach. Centre owner is known as krishk – mitra or krishi mitra is a change agent and farmers are the client. Krishk –mitra collect need based information's & services from linkage institutions or other sources and disseminate the same among the farmer community. Dissemination of information & services among farmers in two way-

1. Linkage institution- Krishk-Mitra- Farmers
2. Linkage institution- Farmers

1. Linkage institution- Krishk-Mitra- Farmers: Krishak – Mitra collected information's from linkage institution and give directly to the farmers through face-to- face

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communications or may be through ICTs tool like SMS services etc. Krishak –mitra have two way communication with linkage institutions and farmers community.

2. Linkage institution- Farmers: Here Krishak- Mitra connect people direct to sources of information for getting information and services. RASC owner tell the right person or sources to farmer for getting help for particular problem. Farmers go their and meet directly with the sources or person without any middlemen.

Farmers of villages are connected in both way with the Krishak- Mitra. They are getting information directly from the centre owner or they can take help from sources of information telling by the Krishak- Mitra. Centre owner also send SMS to the farmer for provide information's for effective disseminations of information and services.

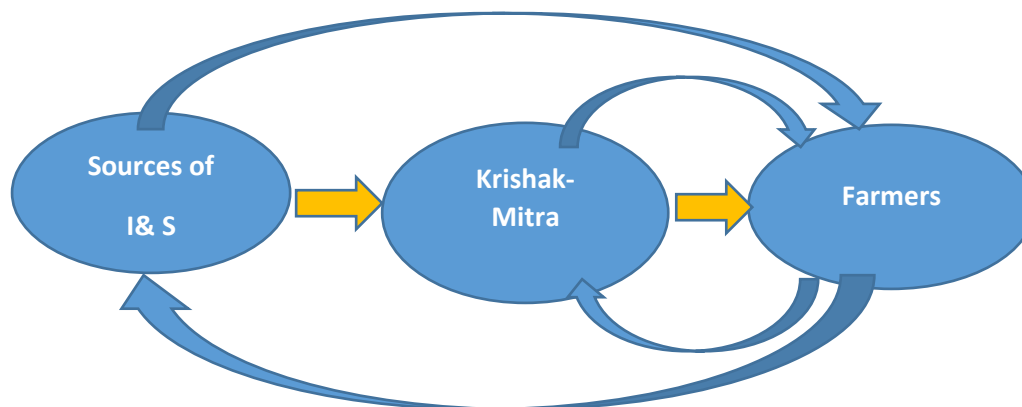


Fig: Information & services flow chart of RASC

Need of RASC

1. Small and fragmented land-holdings: Sub-division and fragmentation of the holdings is one of the main causes of our low agricultural productivity and backward state of our agriculture. Because farmer are not able to purchase good quality seed and other input in small quantity for small holding cultivation due exorbitant prices of better seeds. This centre help farmers to provide need based input to the farmers.

2. Agricultural Marketing: Agricultural marketing still continues to be in a bad shape in rural India. In the absence of sound marketing facilities, the farmers have to depend upon local traders and middlemen for the disposal of their farm produce which is sold at throw-away price.

3. Sustainability problems: Indian agricultural productivity is very less compared to world standards due to use of obsolete farming technology. ICTs interventions is necessary for sustainable agriculture development at grass root level.

4. Illiteracy - Lack of education farmers depend on traditional means of agriculture and less exposure to scientific methods of cultivation. Farmers also pay high rate for input and not getting quality input. They not getting proper price of his product. This centre help of farmer to educate them.

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5. Middlemen and economic exploitation of farmers: there is need for elimination of middlemen for increasing the producer margin in product. It help in establishing the direct marketing link.

6. Government program do not reach small farmers: Lack of proper infrastructure and communication facilities most of the farmers are not aware about many govt. programme or sachem.

7. Special agricultural zone: Just like industrial zone, there is an urgent need to establish special agricultural zones, where only special farming and agriculture related activities should be allowed. This centre helps of farmers to link village with special agricultural zones to produce the raw material for their local industry so they get better price for their product.

8. Need to modernize agriculture: By introducing farm techniques which guarantee a definite success, an increase in youth participation on agricultural fields is economically possible. This can be attained only by implementing new technologies and ICTs intervention at field level.

9. Alternate source of income for farmers: Small farmers should be encouraged to develop alternative sources of income and the government should take up the responsibility for providing training to the farmers to acquire new skills through this type of centre in rural area.

Advantage of RASC

1. Effective use of ICTs in rural area for agricultural development.
2. Provide need based information & services to the people.
3. Timely supply information's & services to the right people in right direction.
4. Saving time and money of farmers.
5. Provide good quality input at remunerative price at village level to the farmers.
6. Provide Innovative ideas for agricultural development to farmers.
7. At village level, it provides first-hand knowledge, consultation and problem solving facilities related to agricultural activity at the door step of farmers.
8. Conduct exhibition, farmer's fair, expert meeting and group discussion and other activity for creating awareness and motivating of farmers in village.
9. Connect rural area with all available agricultural information and services sources through effective use of ICTs for sustainable rural development.
10. Connect researches, extension agencies and farmers for better transfer of technology at grass root level through deployment of different ICTs tools.