

Effectiveness Evaluation of Raitha Samparka Kendras (RSK) in Karnataka to strengthen service delivery

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Effectiveness Evaluation of Raitha Samparka Kendras (RSKs) in Karnataka to Strengthen Service Delivery

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Evaluation of Raitha Samparka Kendras (RSKs) in Karnataka to Strengthen Service Delivery -NABARD Research Study Series

Background: The NABARD Research Study Series has been started to enable wider dissemination of research conducted/sponsored by NABARD on the thrust areas of Agriculture and Rural Development among researchers and stakeholders. The study titled 'Evaluation of Raitha Samparka Kendras (RSKs) in Karnataka to Strengthen Service Delivery' completed by Public Affairs Centre (PAC), Bangalore is the fifty-first in the series.

India has a long history of public-sector agricultural extension programmes, including the Training & Visit (T&V) system designed to guide farmers in agricultural production and technology management. Recognizing the need for providing agricultural support services and information through a dedicated, accessible, and efficient platform, the T&V system in Karnataka was replaced by the demand-driven Raitha Mitra Yojana for providing agricultural extension services in the year 2000. The centres delivering the services at the Hobli (sub-Taluka) level are known as the **Raitha Samparka Kendra** (**RSKs**). These Kendras provide technical information on crop selection, crop production,crop protection,farm technology related knowledge, market and weather information etc., to the farmers.

This study aims to evaluate the services available and delivered through the RSKs in Karnataka, stressing on their relevance & efficiency to deliver them to the farmers and their impact on production and productivity levels.

The study employs both qualitative and quantitative methodologies, including surveys, interviews, data analysis and Social Accountability Tools (SATs) like the Citizen Report Card (CRC) and Community Score Card (CSC) to offer a comprehensive understanding of the RSKs' role in the agricultural ecosystem.

The insights gained from this study would not only guide the future development of the Raitha Samparka Kendras but also contribute to the broader discourse on enhancing public service delivery in rural areas.

Hope this report would make a good reading and help in generating debate on issues of policy relevance. Let us know your feedback.

Kuldeep Singh Chief General Manager Department of Economic Analysis and Research

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PREFACE

Public Affairs Centre (PAC) engages in action research focusing on Sustainable Development Goals (SDG) in the context of India. PAC is a not for profit Think Tank established in 1994 with a mandate to improve the quality of governance in India. The Centre is also a pioneer in deploying innovative Social Accountability Tools (SAT) to measure the quality and adequacy of public services. Over the years, its scope of work has expanded to include the whole gamut of research-advocacy-action to lead evidence-based research on governance across sectors, geographies and populations in India.

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Designing and Editing by: PEC

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EXECUTIVE SUMMARY

Agriculture is one of the major contributors to Karnataka's economy, with about 49.3 % of the population being employed in the agricultural sector. The state has a total geographical area of 19.05 million hectares, out of which 11.95 million hectares (62.72%) is cultivable. According to the State's Agriculture Department, the total food grain production in Karnataka during the 2020-21 crop year (July-June) was estimated to be 50.85 lakh tonnes, as compared to 53.06 lakh tonnes in the previous year. For sustainable growth of agriculture, and to end poverty and hunger, modernization of agriculture is the final strategy. In this context, agricultural extension system plays a vital role in disseminating technology and knowledge through bridging the gap between the lab and the land. It has potential to address emerging challenges faced by farmers, including limited land and water availability, climate change.

India has a long history of public-sector agricultural extension programmes, including the Training & Visit (T&V) system which was introduced in 1974 and was embraced by most states during the 1980s. This was designed to guide farmers in agricultural production and technology management, including the optimal use of inputs such as pesticides, mixed farming and diversification to include animal husbandry, fisheries etc.; sourcing of inputs, off-farm income generation options etc. However, T&V system had mixed impact mainly due, to a "straightjacket" approach that ignored the agro-climatic & socio-economic diversity of the country (Sulaiman & van den Ban, 2003). The other initiatives include technology missions, involvement of State Agricultural Universities at the district level through establishing Krishi Vigyan Kendras, and the efforts of fertilizer companies, and input sellers in the private sector.

The Agricultural Technology Management Agency (ATMA) is another important institutional innovation and agricultural extension model with a paradigm shift, away from a top-down, linear approach to decentralized, integrated, demand-driven, participatory approach, especially at the district-level.

In Karnataka, in the year 2000, the T&V system was replaced by the demand-driven Raitha Mitra Yojane for providing agricultural extension services. The centres delivering the services at the Hobli (sub-Taluka) level are known as the **Raitha Samparka Kendra (RSKs)**. These Kendras are providing technical information on crop selection, crop production, and crop protection and farm technology related knowledge and market and weather information etc., to the farmers. In addition, they provide primary seed and soil testing facilities locally and facilitate on site provision of critical inputs like seeds, bio-fertilizers, plant protection chemicals etc. RSKs also provide a forum for on-farm demonstrations on new technologies developed by both the public and private sector. About 750 RSKs are providing information & extension services to farmers including information on crops, irrigation, cultivation practices, technology, market information, etc.

This study evaluates the services available and delivered through the RSKs in Karnataka, stressing on their relevance & efficiency to deliver them to the farmers and their impact on production, productivity levels.

Objectives of the study

- Assess scientifically the quality, responsiveness and outcomes created by services provided by RSKs to farmers
- Determine to what extent the services provided through the RSKs are relevant to the requirements & issues of concerns to the farmers in Karnataka and efficiency in their delivery.
- Understand the challenges & constraints faced by the RSK extension officers of Government Departments, in their role as service providers to the farmer communities.
- Provide specific evidence-based policy & programme implementation recommendations with a view to improve the service delivery & enhance outcomes. These would be aimed at improving the proactive, and reactive response to farmer needs delivered through the RSKs.
- Look into the replicability of such Kendra's in other states.

Research questions

- What are the current standards, processes and templates followed by RSKs to ensure their effective functioning?
- What are the experiences of farmers registered with RSKs with regard to access and availing the services provided by the RSKs?
- How can the relationship between RSKs and Small and Marginal farmers be further strengthened to ensure effective service delivery that will help the users to achieve the expected outcomes?
- What are the impacts of RSKs on agricultural income, cropping intensity and crop diversification among SF and MF? What has been the magnitude of adoption of technology?
- What is the farmers' perception of the Raitha Samparka Kendras?

The Research Design adopted for the study is mixed method approach which uses both qualitative and quantitative research methodology. The unique feature of the methodology is the application of Social Accountability Tools (SATs) – the Citizen Report Card (CRC) and Community Score Card (CSC) to generate evidence and create platforms for dialogue between the stakeholders, following an action research approach. This approach being little different was found most suitable for the study as RSKs are a part of the small and marginal farmers' lives and therefore, reaching them to know about the delivery of services. The necessary ethical considerations were sought before applying it in the field.

Summary of the Findings

The study was set out with a certain set of objectives and the findings presented in the report have been summarized under the same objectives –

Outcomes

- Farmers were aware of the RSKs largely through friends and family (90.3%) followed by social media (36.3%).
- After successful submission of the complete application, farmers were registered within a short period (from 48.7% farmers in Kalaburagi Division to 86% farmers in Mysore Division reporting registration in 15 days). However, there is delay in having the actual FID card in hand. Additionally, the application process was found to be very complex.
- There were some major issues related to lack of awareness of registration process (89%), delay in processing applications (62.8%), lack of supporting documents (73.6%), land issues (6.6%), and difficulty in follow-up with the registration process (0.8%)
- Farmers were found to be mobile friendly in accessing WhatsApp and other social media applications as against the traditional modes of print media.
- 80% of the officers reported conducting field visits as against 15% farmers supporting the same.
- The first-come first-serve method of serving farmers has proved to be detrimental for the small and marginal farmers and long distance farmers who are not able to reach RSKs in time to avail benefits.
- Despite all the constraints faced, farmers who have registered with RSKs and availed the services have reported improvements in cropping pattern, cropping intensity, total production, yield and income as well. The impact analysis shows that after registering with RSKs farmers have experienced a 26.7 % improvement in area sown, 38% improvement in total production, 10.29% increase in yield. A quick comparison between registered and non-registered farmers has also shown that the registered farmers have gained significantly as against the latter
- Very high impact has been witnessed in the districts of Chikkaballapura, Chikkamagaluru, Kodagu, Kolara and Udupi.
- Ballari, Bidar, Davanagere, Gadag, Hassan, Koppal, Mandya, Mysuru, Raichur, Ramanagara and Shivamogga are districts with less than 30% impact and need more proactive support from the RSKs.
- Farmers in Bangalore Division are more satisfied with services provided by RSKs. However, action is required in the Belagavi and Kalaburagi Divisions to improve service delivery to the farmers.

Relevance & Utilisation

- Seeds are the most availed input from RSKs accounting for 52.4% followed by Micro Irrigation (15%), Pesticides (14%), Fertilizers (13.8%), Farm mechanization (4.3%) and Agro processing (0.1%).
- A major share in seeds is by farmers of General Category (58.1%) Scheduled Caste (16%) and Scheduled Tribes (10.3%) across the districts.
- The proportion of SC farmers availing benefits of farm mechanization is higher (ranging from 26% in Belagavi Division to 37% in Kalaburagi Division). This is a good trend that the technology adoption rate is higher among SC farmers.
- Fertilizer and Pesticides utilization was seen to be high in districts such as Belagavi, Bellary and Bagalkot which fall in the northern belt of Karnataka; lowest utilization was observed in Kodagu, Dakshina Kannada and Udupi districts in the coastal belt of Karnatakawhere land under food crops is less.
- Among the farmers who reported availing from other sources as well for agri inputs included local shops (80%), private companies (55%) and FPOs/Societies (17.4%), the reasons are- ease of availability, better quality and timely availability.
- Soil testing and providing support to farmers through Soil Health Cards is a major concern as in both the CRC survey and the CSC exercises, farmers have reported not receiving support from the RSK.

Challenges & constraints

- RSKs were found to be handling a substantial number of Gram Panchayats ranging from an average of 6 to 8 GPs and 40 plus villages. This puts a huge burden on the RSK to cater to all deserving farmers across the villages covered under its jurisdiction. Distance also leads to low access to the farmers.
- RSKs are mandated to provide basic amenities in its premises like electricity, drinking water, telephone, extension and exhibition materials. It was noted that only 18% of the RSKs had a computer and 15% had internet connectivity. Only 7.2% of the RSKs had a waiting room or space for the farmers to wait while visiting the RSK. However, RSKs do have provision for storage of inputs which are to be distributed to the beneficiaries.
- The post of Assistant Agriculture Officer was filled in for only 49 of the 254 RSKs covered in the CRC survey. This was reconfirmed through calls to the AOs in the RSK to ensure credibility of the data. Mysore and Bangalore Divisions showed vacancies of more than 95%. This has increased the work pressure on the other staff.
- CHSCs form an important institutional linkage for RSKs to ensure modernization and better farm equipment. However, 67% of the beneficiaries interviewed were not aware of CHSCs that were located nearly 10 kms from their village. On the other hand, CHSC reported that beneficiaries were not able to make payments upon borrowing of the equipment, however, some CHSCs working on the PPP model were providing additional technical and advisory services and were found to be successful as well.

Replicability of RSKs in other States.

The PAC Study team extensively studied the agriculture extension services provided by 8 States across India with an attempt to cover all the four regions and states that are agriculturally predominant. These States are- Karnataka, Tamil Nadu, Chattisgarh, Uttar Pradesh, Punjab, Gujarat, Uttarakhand & Assam.

Many states have adopted various forms of Public Private Partnership models unlike Karnataka and now Uttar Pradesh as well with its Krishi Kalyan Kendras. RSKs' advantage of having backward linkages with institutions such as ATMA, KVKs, University of Agricultural Sciences has put them in an advantageous position as this convergence has led to better access to knowledge and information leading to increased production and productivity among farmers registered with them. Strengthening the linkage with CHSCs will make the functioning more effective. The RSK is a good model that can be replicated in agriculturally predominant States.

RECOMMENDATIONS

To improve the effectiveness of Raitha Samparka Kendra in Karnataka to achieve the desired outcomes, the following specific evidence-based recommendations are provided to improve the service delivery & outcomes created through the system.

Increase awareness about services- Use the social media platform, which is observed to be more popular among the farmers. Conducting Jathas, discussions in Gram Sabhas will help to increase awareness. The Social volunteers from agri. Colleges, NSS volunteers from Colleges and Universities may also be involved in the campaign. The Haranhalli model has proved effective.

Providing appropriate services and consultancy at convenience:

• The utilisation of certain services like farm mechanization is very low. It should be enhanced through proper awareness and field demonstrations. Instead of the present practice of officers meeting the farmers on Thursday in many of the Centres, make the day flexible, aligning with the weekly market day (Sante day).

Provision of Mobile Services:

• one of the constraints in utilising services was the distance factor. Introducing mobile services (like Krishi Rath in Gujarat), in remote areas may help to overcome the distance factor. This will also optimise the utilization of RSKs.

Provision of quality inputs:

• The Department should establish quality check mechanisms in collaboration with Agri. Universities to ensure quality inputs. (60% of beneficiaries are not satisfied with quality of inputs).

Safe and adequate storage and effective information systems:

• Adequate storage capacity to ensure timely supply of seeds, equipment and fertilizers to all the farmers. Develop mobile apps, SMS systems to provide information to the farmers about the availability of inputs.

Address the small and marginal farmers on priority:

• The first-come first-serve method of serving farmers has proved to be detrimental for the small and marginal farmers who are not able to arrive at the RSKs in time to avail benefits. Some preference system needs to be introduced.

Promote integrated Farming Systems:

• It is observed that RSKs work closely with small and marginal farmers, therefore, they should promote awareness and adoption of integrated Farming Systems to ensure security of income.

Streamline the FID registration process:

• RSK guidelines to be simplified for the registration process, ensure timely processing of applications, and help farmers in obtaining as well as submitting documents. The FPOs to be involved more for handholding with the farmers.

Address infrastructure challenges:

• Allocate more resources to improve infrastructure, including digitalization and modernization of RSK buildings and better storage facilities.

Increase human resources:

• RSK should prioritize recruiting and training staff to ensure adequate and competent human resources through different hiring practices. Many posts are vacant. Tying up with Agri. Colleges and Universities through Internship Programme may help the Dept. and the students also.

Strengthen monitoring and evaluation mechanisms:

• RSK should develop and implement comprehensive monitoring and evaluation mechanisms to assess the effectiveness of their services and identify areas for improvement. Community associations and gram Panchayat Committees as well as FPOs may be involved in the process of conducting a social audit.

Increase the coverage and counselling of soil testing:

• Soil Health Cards should be generated post soil testing and to be given to farmers with clear advice about the application of correct nutrients and appropriate crops to ensure optimum utilisation and soil rejuvenation.

Strengthen linkages with ATMA, KVKs, and University of Agricultural Sciences:

• This will help in providing better technical knowledge and support to the farmers and Increase the Technology Adoption Rate. Ensure frequent interactions and systematic demonstrations on farmer fields to bring successful experiments closer to farmers. Implement the farm mechanization schemes more effectively.

Improve functioning of CHSCs:

• Efforts should be made to reach out to the currently successful CHSCs to expand their operations while also identifying potential partners who can be engaged through a PPP model. Better maintenance of equipment in CHCs to be ensured.

Provision of Repair services at Hobli level:

• Multipurpose mobile van may be maintained at Hobli level for providing the repair services. Utilise the services of youth Associations and Agri. College students in implementing it.

Mandatory Internship for Agri. Graduates:

• The Agricultural Universities and colleges can collaborate with the agriculture department to introduce mandatory internship programmes to provide hands-on skills to the students as Field Officers and link them with RSK activities. This will also provide skilled graduates to RSKs for better service delivery.

Promotion of Farmer Producer Organizations:

• RSKs should provide counselling services and support to farmers to form FPOs and provide handholding to them in the initial stage. This will ensure the sustainability of the extension programme in the long run.

Replication of RSK model:

• RSKs' advantage of having backward linkages and convergence with institutions such as ATMA, KVKs, and University of Agricultural Sciences has maximised linkage effect. This has increased production and productivity among farmers who have registered with them and availed benefits. The RSK is an integrated model that can be replicated by agriculturally dominant States.

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LIST OF ABBREVIATIONS

AACP	Assam Agricultural Competitiveness Project				
AGRISNET	Agricultural Information and Services Network				
ATMA	Agricultural Technology Management Agency				
АНО	Assistant Horticulture Officer				
AFC	Amma Facilitation Centers				
AMMA	Amma Mobile Medical Ambulance				
AO	Agricultural Officer				
AAO	Assistant Agricultural Officer				
ARIAS	Assam Rural Infrastructure and Agricultural Services				
ADA	Assistant Director of Agriculture				
ASOs	Assistant Seed Officers				
ATM	Assistant Technology Managers				
BRGF	Backward Regions Grant Fund				
BPL	Below Poverty Line				
BFAC	Block Farmers Advisory Committee				
BTM	Block Technology Managers				
CSS	Centrally-sponsored scheme				
CHC	Custom Hiring Centre				
CHSCs	Custom Hiring Service Centers				
CIG	Common Interest Group				
CBO	Community Based Organisations				
CMRC	Community Managed Resource Centers				
DBT	Direct Benefit Transfer				
DCB	Development Credit Bank				
DAOs	Deputy Agricultural Officers				
DATC	District Agriculture Training Centre				
DRDA	District Rural Development Agencies				
FCMS	Farm Crop Management System				
FACs	Farmer Advisory Committees				
FID	Farmer Identification Number				
FRUITS	Farmer Registration Unified Information System				
FFC	Farmers Facilitation Centres				
FGD	Focus Group Discussion				
FID	Farmer ID card				
FROs	Field Research Officers				
FIGS	Farmer Interest Group				
FGD	Focus Group Discussions				
FPRI	Food Policy Research Institute				
FPO	Farmers Producer Organisation				
FSG	Food Security Group				
GEV	Gram Panchayat				
651 ICT	Gram Swarozgar Yojana				
	Information and Communication Technology				
ILU	Information Education and Communication				
IJAF ISAD	Indian Society of Agribusiness Professionals				
19AB	Indian Society of Agriculture Business				
199	interest subvention scheme				

JAC	Joint Action Committee				
JDA	Joint Development Agreement				
JAP	Joint Action Plan				
KDP	Karnataka Development Programme				
KSDA	Karnataka State - Department of Agriculture				
KII	Key Informant Interviews				
KCC	Kisan Call Centre				
KVK	Krishi Vigyan Kendra				
MYRADA	Mysore Resettlement and Development Agency				
M&M	Mahindra & Mahindra				
MF	Marginal Farmer				
MI	Micro Irrigation				
FM	Farm Mechanization				
MoAFW	Ministry of Agriculture and Farmers Welfare				
NABARD	National Bank for Agriculture and Rural Development				
NFSM	National Food Security Mission				
NMSA	National Mission for Sustainable Agriculture				
NAEP	New Agricultural Extension Project				
NSS	National Service Scheme				
PAC	Public Affairs Centre				
PACS	Primary Agricultural Credit Societies				
PDO	Panchayat Development Officer				
PPP	Public Private Partnerships				
PPS	Probability Proportional to the Size				
PAU	Punjab Agricultural University				
RKVY	Rashtriya Krishi Vikas Yojana				
RFP	Release for Request for Proposals				
R-E-F	Research- Extension- Farmer Linkages				
RSK	Raitha Samparka Kendra				
RDPR	Rural Development and Panchayat Raj Department				
SAU	State Agricultural Universities				
SC	Scheduled Caste				
SDGs	Sustainable Development Goals				
SHGs	Self-Help Groups				
SST	Self-Service Technology				
SF	Small Farmer				
SATs	Social Accountability Tools				
CRC	Citizen Report Card				
CSC	Community Score Card				
SKDRDP	Sri Kshetra Dharmasthala Rural Development Programme				
ST	Scheduled Tribe				
STAMIN	State Agricultural Extension Management Institute				
SAMETI	State Agricultural Management Extension and Training Institute				
SEWPs	State Extension Work Plans				
TNADP	Tamil Nadu Agricultural Development Project				
TANSEDA	Tamil Nadu State Seed Development Agency				
TNAU	Tamil Nadu Agricultural University				
T&V	Training & Visit				

VEW	Village extension Workers
VELW	Village Level Extension Worker
WMTC	Water Management Training Centers

'Everything else can wait but not Agriculture'– Shri Jawaharlal Nehru

INTRODUCTION

Agriculture is a system that has thrived from 15000 BCE and provided for the sustenance beings. Chronological of human developments in Indian agriculture and technology point out towards the growth of agriculture from mere domestication to a systematic process, serving as a livelihood for more than 65 percent of the country's population, sustainable agriculture has become the foremost concern of India. In 1981, India created its Department of Revenue. Agriculture and Commerce. Governments developed agri-specific support uplift rural schemes to and populations. Since the country observed vacillating trends of agriculture in the pre and post-independence eras, the planning process of the Indian government has prioritized agriculture to ensure food security for India's citizens.

Agriculture is a major source of employment in India as well as in Karnataka. Accordingly, the State government has planned and implemented several programmes to ensure better production and productivity among farmers especially those vulnerable to the vagaries of nature and the market – the small and marginal farmers. One of the important programmes of the Agriculture Department of the Government of Karnataka is the Raitha Samparka Kendra or the Farmer Contact Centre, a first-mile unit providing agriculture extension services to farmers that include information, inputs and equipment. Karnataka has a composition of regions that mostly typifies the agro-climatic regions and conditions in the country. While there are large tracts of green agricultural belts, a large portion of the land also falls under semi-arid conditions facing severe agro-climatic and resource constraints. To manage this

variation, the state has taken the lead in implementing many innovative programmes. Karnataka is the first State in the country to have unveiled its own Agricultural Policy as early as 1995.

The Raitha Samparka Kendra (RSK) programme was introduced by the Government of Karnataka under the Ministry of Agriculture and Co-operation during 2000-01 to provide effective agricultural extension services to farmers. This was envisaged to meet the growing demands of the farming community to adopt the latest technologies. This was complementary to the Raitha Mitra Yojane that was implemented in the State. The Raitha Mitra Yojane, a demand driven Agricultural Extension System replaced the earlier extension system called T&V (Training & Visit). The Agricultural Extension Centres opened under this new programme at Hobli level are called Raitha Samparka Kendras (RSK). The main aim of the RSK is to provide up-to-date information on farm practices and market intelligence to the farmers. The 2006 Karnataka state policy has come up with more initiatives to strengthen the working of RSKs.

The purpose of the RSK as outlined in its operational guideline include:

- To provide updated information to farmers on crop selection, crop production options, market practices
- To facilitate on site provision for critical inputs like seeds, bio fertilizers, micro-nutrients
- To provide primary seed and soil testing facilities locally.
- To provide a forum for on-farm demonstration about new technologies developed by both public and private sector agencies.

The total number of registrations in the Farmer Registration Unified Information System (FRUITS) portal managed by the Horticulture Department accounts for 83.87.348 farmers of which 78.4% are beneficiaries of the Agriculture Department. Of the total beneficiaries, 12.9% belong to the Big Farmer and 20.1% to the Small Farmer (SF) category. About 41.3% farmers fall under the Marginal Farmer category and 26% of the farmers are landless (Karnataka, n.d.).

The RSK programme has been designed to systematically address the issues which are faced by Small Farmers and Marginal Farmers with regard providing to information, inputs and support services. Further, it also monitors farm efficiencies, increasing production and productivity, transforming SF & MF farming practices, application and dissemination of information, provision of inputs and extended support Knowledge services. management in agriculture. development content and management processes as well as bridging the knowledge gap of farmers constitute the key elements that determine the effectiveness of RSKs.

Considering the important role that this institution plays to improve farm productivity and thus contribute to increasing farmer incomes, that also comprises Target 2.3 of Sustainable Development Goal 2 - Zero Hunger, Public Affairs Centre (PAC, not-for-profit www.pacindia.org) a independent think tank working towards good governance using citizen-centric action research approaches, carried out an effectiveness evaluation study of Rait Sampark Kendras in Karnataka with funding support under 'Research and Development Project' from NABARD.

OBJECTIVES OF THE STUDY

The specific objectives of the study were as follows:

- Assess scientifically the quality, responsiveness and outcomes created by services provided by RSKs to farmers
- Determine to what extent the services provided through the RSKs are relevant to the requirements & issues of concerns to the farmers in Karnataka and efficiency in their delivery.
- Understand the challenges & constraints faced by the RSK extension officers various of Government Departments, in their role as service providers to the farmer communities.
- Provide specific evidence-based policy & programme implementation recommendations with the view to improve the service delivery & outcomes created through the system. These would be aimed at improving the proactive, and reactive response to farmer needs delivered through the RSKs.
- Look into the replicability of such Kendra's in other states.

Research questions

- What are the current standards, processes and practices followed by RSKs to ensure their effective functioning?
- What are the experiences of farmers registered with RSKs with regard to access to and availing of services provided by the RSKs?

- How can the relationship between RSKs and SFs and MFs be further strengthened to ensure effective service delivery that will help all users?
- What are the impacts of RSKs on agricultural income, cropping intensity and crop diversification among SF and MF? Has there been adoption of technology?
- What is the farmers' perception of the Raitha Samparka Kendras?

This project ensures an empirical, primary survey-based, effectiveness assessment of the RSKs in Karnataka, with the objectives of generating an evidence-based gap analysis, identifying felt needs based actionable knowledge to enhance the effectiveness and providing a roadmap for improving the effectiveness of the RSKs. The outcome targeted is the strengthening of the symbiotic relationship between the RSK and the small and marginal farmers in Karnataka.

SCOPE OF THE STUDY AND LIMITATIONS

Karnataka has 745 Hoblis, each with an RSK. The study is based on a sample of 254 RSKs (at 95% confidence level+5% error) across all 30 districts. The study focused on covering RSKs in all the four administrative divisions of Karnataka including the Malnad region to explore the relevance of service provision in all geographies. The selection of sample units is proportionate to the number of RSKs in each district. Each RSK-level exercise covered10 farmers and 2 service providers.

The total sample size was expanded from 3,048 to 3,448 post scoping visits conducted by the field team. The scoping visits contributed in identifying various other

stakeholders and institutions working closely with RSK in service provision.



Figure 1: Geographic Profile of RSK Study

LITERATURE REVIEW

The following section provides an extensive examination and critical analysis of the Indian agriculture extension system. The literature review presented below covers the evolution of Agriculture extension in India, an overview of Karnataka and evaluation studies of the Raitha Samparka Kendra along with an Institutional Analysis of agricultural extension services across eight states.

Genesis

The emergence of Agricultural programme and extension activity in India can be traced back to the mid-18th and 19th century. India surfacing as an agrarian economy in the preindependent era roped in the concept of rural development to the development of the nation as a whole. The first village development programme to be run by a State was started in Punjab in 1920 known as the Gurgaon experiment. The massive rural upliftment programme aimed at increasing crop production, management of expenditure, health, and sanitation and women-education. This was followed by the establishment of Shriniketan Institute for Rural Reconstruction in West Bengal by Rabindra Nath Tagore under the Shriniketan Project. The programme was formulated for the allround betterment of villages by helping the villagers to improve agriculture, livestock and formation of co-operatives. The Baroda village Reconstruction Project also focused on providing basic necessities for the development of agriculture production and re-stabilization of Panchayats. 'Grow more food' campaigns was organized to tackle the Bengal Famine during World War II in the year of 1943 which had largely impoverished the state. To promote intensive farming, irrigation works, manure schemes, seed distribution and campaigns were undertaken to cope with the pressurised circumstances. Other major programmes like Firka Development Scheme (1947), Indian Village Service (1947), and Etawah Pilot Project (1947) contributed widely to increasing rural incomes and sustaining the capacity of the rural sector.

post-Independence The era witnessed extensive progress in the agriculture sector contributing significantly to the total national income of the country. The Indian government introduced various initiatives to develop the agriculture sector with dynamic objectives covering expansion of the area cultivated, agriculture production and further to agricultural productivity. Land reforms (1950-1970) mainly contributed in the elimination of intermediaries, tenancy reforms and redistribution of lands. The combined efforts of the Community Development Programme (1952)and National Extension Service (1953) at the Block level led to the holistic development of the rural communities. The Agriculture Price Commission was set up to provide support prices for agricultural crops in 1965.

New agricultural strategy (1966-67) or better known as the Green Revolution brought in a full-fledged boom in the sector with access to

vielding variety high seeds, multiple protection cropping techniques, plant fertilizers. irrigation measures. new techniques and integrated development of dry areas. The Green Revolution drove the economy to overcome the problem of food grain shortage and become more selfsufficient. The Training and Visit (T&V) system was developed by the World Bank (1979) for promoting agriculture extension services to sustain agriculture production and income. The T&V system was adopted by few states initially and later extended to many states that followed this system since 1984. The early 1980s witnessed increased growth in agricultural GDP with the diversification of agriculture to poultry, fisheries, dairy and horticulture (Chand, 2003). With the advent of economic reform in 1991, agriculture sector was indirectly affected due to devaluation of exchange rates and external trade laws. The government launched the New Agriculture Policy (2000) to address the challenges with respect to the new reforms.

Studies have pointed out that the public sector extension services have diminished after the intervention of the private sector, NGOs and Community Based Organisations (CBO) which marked the termination of the T & V system. A farmer household survey conducted by the Food Policy Research Institute (IFPRI) in 5 states sheds light on the diversity in extension provision and access of extension services by the farmers. It was observed that the main source of agriculture information was input dealers (68.6%), followed by agriculture extension staff (51.2%) in 2010. In Karnataka, 22% of the farmers had a contact with the government extension worker. Uttar Pradesh exhibited contradicting results where only 18% households used extension (extension officers, KVK, University extension, All India Radio and plant protection unit) while 7% of the extension came from the public sector (Babu, 2012). The public sector extension provision witnessed vacant posts, multiple roles of personnel and pre-occupied service with regard to implementation of government schemes linked to subsidies and subsidised inputs. "Although farmers require information for the whole food and agriculture value chain, the public extension system largely concentrated on On- farm activities" (Glendenning, 2010).

One of the significant reforms in the public extension system was sector the establishment of Agricultural Technology Management Agency (ATMA) for technology dissemination at the district level to ensure integrated extension delivery. ATMA is channelized through Block level technology teams and Farmer Advisory Committees (FACs), farmers groups and Self-Help Groups (SHGs). The institution has brought in bottom-up planning and commodity interest groups into field extension practices thus supporting other institutions. Krishi Vigyan Kendras (KVK) are funded by Indian Council for Agriculture Research (ICAR) to promote technology through Onapplication farm trials. demonstrations and trainings. Each State in India has its own State Agricultural Management Extension and Training Institute (SAMETI) at the State level and extension centres at the district level to directly aid farmers. Various central and state level schemes were introduced by the government like Rashtriya Krishi Vikas Yojana (RKVY), Backward Regions Grant Fund (BRGF), Gram Swarozgar Yojana (SGSY) through support institutions such as District Rural Development Agencies (DRDA), MANAGE and NABARD to develop the agricultural scenario of the nation. Irrespective of the extensive schemes and institutional support, agriculture extension provision in India faces issues like singular focus on technology dissemination,

inadequate technical support for extension, limited human and financial resources, and poor capacity to respond to changes and manage partnerships (Rasheed, 2012).

India has been battling adversities pertaining to agriculture and rural development through various institutional support systems and development programmes. Since Independence the agrarian landscape of India had undergone significant changes in land use patterns, shift from cultivators to agriculture labourers altering the agriculture structure, and change in cropping patterns due to shift in consumption patterns (Tripathi, 2010). These gradual changes have impacted the country as a whole influencing States to equip themselves through unique geography specific goals and action plans to address their contextual challenges.

Interstate Analysis of Agriculture Extension Services

Agricultural extension services in India are aimed at providing farmers with the knowledge, skills, and technologies they need to improve their agricultural practices and increase their yields. These services are provided by both public and private organisations and are delivered through a variety of channels, including government agencies, NGOs, and private companies. The Ministry of Agriculture and Farmers Welfare is the main government agency responsible for providing agricultural extension services in India. It oversees various programmes and schemes for improving the livelihoods of farmers and promoting sustainable agriculture like the Krishi Vigyan Kendra (KVK) scheme, National Food Security Mission (NFSM), Rashtriya Krishi Vikas Yojana (RKVY) ATMA etc.

The following analysis provides an understanding of the patterns of agricultural extension services that are being provided in different states in India. It focuses on a comparative description of the roles of different institutions, groups and committees, and other relevant stakeholders, in imparting extension services and the Raitha Samparka Kendras (RSKs) in Karnataka.

A total of 8 States were selected including Karnataka to carry out the comparative analysis of agriculture support institutions. This will enable an interpretation of what are the best practices or models being followed by States which can be replicated by Government of Karnataka to increase the efficiency of RSKs along with some suggestions that can be scoped from the RSK model to be implemented at the Central level. The following States were selected for the interstate analysis of agriculture support institutions:



Figure 2: States selected for Interstate Analysis

Framework for Comparative inter-State study: The study aims to draw a comparison of extension services across different states by understanding the following aspects of the agriculture extension system:

- 1. Institutional and extension model
- 2. Services provided
- 3. Registration Mode
- 4. ATMA Training

5. Grievance Redressal

Agricultural extension services vary across different states in India depending on the needs, priorities, and resources of each State. The following is a brief overview of the extension services in some of the major agricultural States in India.

Tamil Nadu: Public Extension Services

The State of Tamil Nadu has a wellestablished extension service system that includes government agencies, NGOs, and private sector players. The Department of Agriculture is the main agency responsible for providing extension services to farmers. The state also has a network of KVKs and Agro-Service Centres that provide training and advisory services to farmers. The Tamil Nadu Agricultural Development Project (TNADP), run by the state government, brought together agriculture and its linked industries, including horticulture, animal husbandry, fisheries, sericulture, and forestry, under the auspices of the Broad-Based Extension System. The State government launched its own Agricultural Information and Services Network (AGRISNET) at the start of the twenty-first century to connect extension agents with all farmers online. The State government used this web-based data to launch Farm Crop Management System (FCMS), another ICTintervention. track the based to resources/factors of crop production in the farms so that the farmers could cultivate crops in accordance with the resources available in deliberation with the extension officers. Small and Marginal holders account for 93% of the total holdings operating 62% of the area occupied. The remaining 38% of the total landholdings are occupied by 7% of medium and big farmers. The average size of landholding is around 0.75 ha, which is below the national average (1.08 ha) (GoTN, There are also, decentralised 2019). extension services such as Mini (also mobile) Soil Testing Lab, village-level Custom Hiring centres, Amma Mobile Medical Ambulance (AMMA) etc., support farmers ensuring crop/livestock for quality (marketability) and minimising the cost of production (Vincent, 2020).

ATMA closely collaborates with all the line departments to provide the extension and advisory services that farmers need. The following extension activities are carried out by ATMA: demonstrations, farm schools, district-level training, visits to other states for exposure, Kalajatha exhibitions, farmers awards, and information distribution through local print, electronic, and online media. The latest innovations in agriculture, horticulture, animal husbandry, fisheries, sericulture, and agricultural marketing are all covered by ATMA's extension programmes. The State's extension systems are now more effective as a result of the ATMA's convergence with the affiliated departments. The State's low farmer to extension worker ratio (2500:1) reflects the need in determining the requirements of transferring technologies, farmers. and disseminating information on everything from weather forecasts to market demand. Additionally, it was discovered that the State's extension system had been impacted by more paperwork, fewer extension activities, and higher financial accountability for each scheme. Even in Tamil Nadu, there is a problem with inadequate staffing. Although 6 AAOs per one Block are approved, they are not posted. In addition, AOs keep the majority of the cash books, bill books, stock books for stock verification, under Tamil Nadu State Seed Development Agency (TANSEDA); in many circumstances, one AO is given the responsibility of maintaining two centres that are important for stock verification under TANSEDA.

Consequently, there is low reliance on public extension systems. According to a survey, farmers mostly rely on private dealers for fertilizers. inputs like insecticides. herbicides, and so forth, and dealers provide 68.6% of the information that farmers require. Additionally, only 0.33% (Rs. 41.75 Crore) of the Rs. 12,400 Crore allotted for agriculture was given to ATMA in 2017-18. Likewise, just Rs. 58.31 crore (0.4%) of the Rs. 13,968 Crore approved for agricultural and allied sectors in 2018-19 went to ATMA to support its extension services. A dismal amount of money-well below 0.5% of the overall budget allowed for agriculture - is given to ATMA (Vincent, 2020). The community method has been a successful extension model in agriculture. Throughout the State, a number of CBOs are in operation. Tamil Nadu has had great success with the Community Managed Resource Centre (CMRC), which was developed by KVK-MYRADA, Erode. This KVK has so far promoted 7 CMRCs with 71 **CRPs** (Community Resource Persons), and these CMRC have helped about 5904 members in the Erode area. Identification of innovative farmers and farm innovations are these CMRC's two key aspects. The agricultural activities (during and after) have been made easier by the innovations identified by CMRCs of KVK. Therefore, scaling up this extension model would assist the state in efficiently covering a large number of farmers and customizing extension services that are based on the need and want of the farmers on occasion.

The 22 Farmers Facilitation Centers (FFC), the State Agricultural Extension Management Institute (STAMIN), Pudukkottai, and the Water Management Training Centers (WMTC), Madurai, meet the needs of farmers and extension functionaries in terms of capacity and expertise. FFC and STAMIN WMTC yearly train 900 farmers and 180 field workers on irrigation management technologies and water usage efficiency. Each year, more than 29000 farmers, youth, conveners, and farm women receive training on farm management techniques and technology (Sarvanan Raj & Vincent, 2020).

The study referred to above also talks about 1100 field level extension functionaries having received skill improvement training from STAMIN in 2016-17 in order to meet the need for the most recent farm knowledge and technology. 1918 Assistant Agricultural Officers (AAOs), 385 and 770 Block Technology Managers (BTM) and Assistant Technology Managers (ATM) respectively visited 12,620 village panchayats in 385 Blocks to promote direct communication farmers/farmers between groups and extension employees. Every two weeks, each AO visits eight segments, while the Assistant Agriculture Officer goes out into the field three times a week. Both the Joint Director of Agriculture and the Deputy Director of Agriculture supervise by making two weekly visits to the field level officers. 880 Amma Facilitation Centers (AFC) have the authority to educate farmers about the most recent technological advancements and connect them to a variety of market and network services. It is significant that these AFCs also offer farmers crop advisory services. In Coimbatore district, 1/4th (21.56 %) of the AOs, 61.11 per cent of the Assistant Seed Officers (ASOs), 16.66 per cent of the Deputy Agricultural Officers (DAOs), 21.25 per cent of the AAOs, 50 per cent of the Depot Manager Grade 2.25 per cent of Depot Manager Grade 3, 71.42 per cent of the Sales Assistant, 64.70 per cent of Office Assistant, 28.12 per cent of the Night Watchmen, 75 percent of the Assistant Draughting Officers,

all of Mazdoor and Skilled Assistant Grade 2 posts are vacant against the sanctioned posts (Joint Director of Agriculture, Coimbatore, 2018).

Tamil Nadu Agriculture Centres: The Block-level agriculture extension centres in Tamil Nadu supply farmers with agricultural inputs like seeds. bio-fertilizers, micronutrients, etc. These centres integrate the departments of horticulture, agriculture, marketing, engineering, and seed certification within one structure. The centres have resources for teaching farmers about agricultural and mechanisation various techniques, providing advice on important issues, and having space to store seeds and bio-fertilizers intended that are for distribution at subsidised prices.

farmer-friendly 2018. the mobile In technology Uzhavan Mobile application was released. The app's primary advice services include stock availability for seeds. fertilisers, and farm equipment (both public and private). Aside from this, algorithmdriven AI enables farmers to know the cost of crop insurance, the notified crops and locations, and the location of AAO and AHO visits in advance. Farmers need information on the market price, the current weather, the instantaneous diagnosis of pests and diseases, and remedial procedures in order to efficiently manage their farms. The fact that the app was created in both Tamil and English means that farmers have little to no trouble using its contents and services. As for the app's reach, 4.5 lakh farmers have already downloaded it. At the Block level, a Farm Information Advisory Committee made up of farmer representatives and officers from Agriculture and sister departments creates plans for the scheme in accordance with local needs and oversees its execution. Farmers can obtain farm advice at any time (7 AM to 10 PM) by simply calling the toll-free number provided by the Kisan Call Centre (KCC) (1551 or 1800-180-1551). KCC's operation at TNAU serves as an illustration for the State's mobile-based agricultural advisory. Farmers are calling KCC more frequently each year. On the other hand, less calls were answered in 2018–19 approximately 2.14 lakh - than in 2013-14. It could be linked to farmers having more access to field-level extension agents and other agricultural advisors (Sarvanan Raj & Vincent, 2020).

The model is highly complex as too many agencies are working in the field and the picture is distorted. Limited convergence among the extension service providers within the public extension system hinders the largescale impact among the farmers.

Chhattisgarh: Training & Visit system

Chhattisgarh follows the model of publicprivate partnership in most of its extension service institutions. In convergence with ATMA, there are function-based institutions that operate at decentralized levels. They are continuing with the visit and training system. These include Krishi Yantra Seva Kendras, Krishak PACS. control rooms, Khet Pathshalas, Rural Krishi Gyan Kendras. In terms of human resource committees, block technical team. BFAC (Block Farmers Advisory committee, Krishak Sangwaris, and commodity interest groups are amongst the major extension functionaries. All grants are digitised, following a direct beneficiary transfer model. To ensure that agriculture mechanisation reaches remote areas, Krishi Yantra Seva Kendras are set up. These are either established as public private ownership or private ownership. The public-private partnership approach also guides soil testing lab operations to ensure reliable and consistent soil health monitoring. Each khar (village) provides samples that are then examined (Farmer Portal, 2022).

In Krishi Yantra Kendras, machinery as per the demand of the farmers is made available. However, the farmer will have to present a report for proposal. Approval of a bank loan for buying this machinery is given by the Director of Agriculture or an equivalent officer. The farmer can thereby purchase the machinery. A physical inspection of the machinery is undertaken by the department officials. The policy also recommends that seeds and fertilizers and other inputs can also be kept at these centres. However, grants are not provided for these inputs here. Applications by agricultural engineers can be made to open such private Kendras, for which they will be provided with grants; they will have to follow a minimum requirement for machines and equipment to be available at these centres. Beneficiaries are selected on the basis of the report submitted on a "first come first serve" basis (Krishi Yantra Seva Kendra Establishment (Amendment, 2017). The Agriculture policy of Chhattisgarh also proposes constructing control rooms in each district to monitor the availability and quality of agricultural inputs. On a contract basis, it was advised that unemployed agricultural graduates oversee and direct hybrid seed protection. The policy also encourages agriculture graduates to open private Krishi Seva Kendras. It has laid great emphasis on a meaningful convergence of ATMA and Training and Visiting officials, along with coordination with all stakeholders. The extension officer to farmer ratio suggested in the policy is 1:1000. Rural Krishi Gyan Kendras are in charge of ICT tasks and information sharing on agriculture, particularly associated with production tasks. The policy promotes both local traditional ways and new ones in order to improve productivity (Indigenous technology knowledge). Following certification of these techniques, a database would be developed that all farmers could access.

PACS, also known as societies, act as the primary resource centre for farmers. All procurement work. information dissemination regarding schemes, input distribution and other functions are provided here. As per the Ministry of Cooperation, "PACS will become the nodal service delivery point for interest subvention scheme (ISS), PM Fasal Beema Yojana, Direct Benefit Transfer and provision of inputs like fertilizers, seeds etc. It will ensure speedy disposal of loans, lower transition cost, faster audit and reduction in imbalances in payments and accounting with SCBs and DCBs". As of now there are 1391 PACS in Chhattisgarh. study conducted Α to investigate the performance of PACS in Chhattisgarh found out that the respondents' overall levels of awareness and satisfaction with relation to the various PACS services were 90.00 and 50.41 per cent, respectively. The average PACS performance across the entire sample was 78.17%, and the majority of these PACS (75.00%) came into the very high performing category. Towards the end, the study also suggested that one of the main strategies to improve the performance of PACS could be to include and render more extension services at PACS. This will make an already existing institution a single window system for all extension and farmer support services. The paper further suggests that "publicity and propaganda" of services available at PACS through audio visuals, radio and other mass communication channels will translate into better performance of PACS. It also recommends coordination between PAC, ATMA KVKS and other local extension functionaries. (Gupta, 2018).

Designated to be as the operational arm of ATMA, Block Technical Team, the extension staff from the line departments convene regularly on this team to produce integrated work plans (WPs) and coordinate

their execution. In addition to this central team, Farmer/ commodity interest groups are formed, and according to their demands and needs, Krishi Sangwaris frame strong links with them and further two-way delivery. Farmers with similar commodities and skill levels are assisted together for input management, mechanisation, and other areas of agricultural advancements through the formation of farmer/commodity interest groups. At the panchayat level, Krishi Sangwaris serve as vital connections between extension personnel and KVKs. They arrange for regular gatherings of different interest groups. The Department of Agriculture as well as Horticulture largely relies on pamphlet distribution for information dissemination in order to inform the farmers about where and what services are being provided to them by the state. In accordance with this, Krishak Khet Pathshalas are conducted on a weekly basis. This setup selects a new crop every week, and sessions are conducted for communicating best practices and training workshops related to that particular crop (Agri Portal, Chattisgarh, 2022).

All stakeholders. including farmers. agricultural input dealers, extension agents, and others, receive training from SAMETI Agricultural Management (State and Extension Training Institute) on how to improve traditional agricultural practices while considering the problems of managing agriculture successfully as well as the modernization of technology. This is located at Indira Gandhi Agriculture University Campus, Labhandi, Raipur (Agri Portal, Chattisgarh, 2022).

Uttar Pradesh: Krishi Kalyan Kendra

The State of Uttar Pradesh has a large agricultural sector, and the government has implemented various extension programmes to improve agricultural productivity and farmer income. Some of the key programmes include the Farmer Service Centre scheme, the Kisan Call Centre, and the Krishi Vigyan Kendra scheme. Farmers can register themselves online on an portal upagriculture.com, from where they can get their Farmer Registration Number. This becomes the basic eligibility for availing any schemes online/offline. The following data was collected from the Department of Agriculture website of Uttar Pradesh on the current status of welfare disbursement:

Table 1: Status of seed & fertilizersdistributed in Uttar Pradesh (in lakhquintals)

Year	Seeds Distribution		Fertilizer Distribution	
	Target ed	Distrib uted	Targeted	Distribut ed
2015- 2016	52.26	45.53	886.7	736.4
2016- 2017	51.06	55.63	895.0	668.5

The Department provides extension services in coordination with the central scheme of ATMA extension personnel. Major focus of providing access to the services of extension is carried through the online portal called "Pardarshi Kisan Sewa Yojana". The current registration status of this extension website is 3,34,35,966 farmers, as displayed by the website of the scheme. However, as per the recent data reported by the Agri-Census of India (2015-16), total number of operational holdings in Uttar Pradesh was 2,38,22,000. The app/ website is originally used for claiming direct beneficiary transfers given by the department of agriculture under various schemes to the registered farmers. Direct Benefit Transfer is being used to transfer

subsidies for seeds, farm equipment, and micro-units to the state's registered farmers. Receipts of purchases are to be uploaded on the app/ portal, following three days of which, DBT from the department takes place. In the financial year 2017-18, an amount of Rs 456.14 crore was transferred to the accounts of 23.29 lakh farmers through DBT under all the schemes. In the financial year 2018-19, a grant of Rs 531.99 crore was transferred through DBT to the bank accounts of 26.76 lakh beneficiaries under all the schemes till March 2019. Apart from this, an amount of Rs 137.14 crore was transferred to the accounts of farmers under the Promotion of Agriculture Mechanization for In-Situ Management of Crop Rescue Scheme. (*Home*, n.d.)

For grievance redressal, farmers can log into <u>http://upagriculture.com/Complain_monitori</u> <u>ng.aspx</u>. This grievance platform can be accessed for complaints, suggestions and technical assistance.

Krishi Kalyan Kendras: From 2017-18, 100 Krishi Kalyan Kendras are being built in different districts, from where 'Single Window System' has decided to provide quality seeds, agricultural defense chemicals and advice to farmers. It will be easy to register for the purchase of fertilizers, seeds, machines and other items. Seeds and fertilizers are supplied to them from the fertilizer-seed warehouse at the Block headquarters. Sanctioned under the Rashtriya Krishi Vikas Yojana, an approximate amount for constructing a Krishi Kalyan Kendra is Rs 80 Lakhs. (2022; Bureau, 2020) This "Kendra" houses the following facilities and infrastructure:

- Agriculture Warehouse
- Seed Warehouse
- Chowkidar Room

- Farmers' meetings for technical trainings will be organized every month in the "meeting hall"
- Farmer registration

Punjab

Punjab has a robust Department of Agriculture & Farmer Welfare serving agriculture and allied activities. The state also has the Punjab Agricultural University (PAU) for agricultural research, education and extension services. Various departments of the State government provide frontline extension services, and other input and regulatory services. The Departments of Agriculture, Horticulture, Dairy, Animal Husbandry, and Fisheries, which have an extensive network of extension specialists provide services at the District, Block and village levels.

The majority of funding for agricultural research in Punjab comes from the Government of Punjab (GoP), besides various programmes under Indian Council of Agricultural Research and small amounts from other sources. An increasing share of the budget has been spent on staff salaries and other scheme expenditures (Bhavanishankar. 2021). In recent years, research N. expenditures and priorities have been slow to respond to new demands as most of the extension expenditures are consumed by salaries. Research on marketing, policy, integrated pest and nutrient management, and organic farming has been especially weak. Although water has emerged as a critical input for the future of agriculture in Punjab, a comprehensive research strategy for addressing various aspects of water management has been lacking (Karnataka, Agricultural Policy, 2002).

Easy and free access to power may have incentivised farmers to over-exploit ground water resources. To address this issue, GoP launched the *Paani Bachao Paise Kamao* scheme. It is a pilot Direct Benefit Transfer (DBT) scheme being implemented in six agriculture feeder areas. The participant farmer gets a fixed allocation of electricity consumption. If the farmer consumes less than the fixed allocation, they receive a benefit of Rs. 4 per KWh of electricity not consumed. The *Pani Bachao Paise Kamao Scheme* is targeted towards proper utilisation and conservation of water and electricity (Bhavanishankar. N, 2021).

Punjab has a well-developed irrigation network almost with all the cropped/cultivated land under irrigation. However, the sources of irrigation in the state are not diversified; almost all the area covered is under tube wells, which has major availability implications on the of groundwater in the state. Area irrigated by tube wells has increased over recent years as the number of tube wells have increased drastically from 10.73 lakhs in 2000-01 to 14.76 lakhs in 2019-20. Again, this is on account of the free electricity provided in the state. Excessive groundwater extraction is incompatible with objectives of sustainable agriculture (Bhavanishankar. N, 2021).

The GoP has been promoting agricultural mechanisation for management of crop residue due to the known environmental and health hazards of crop residue burning. The state government has set up a Paddy Straw Challenge Fund, with an award of USD 1 million, for anyone who develops an appropriate technology as a solution to tackle and address crop residue burning. In addition, financial assistance of over Rs. 850 Crore has been provided to individual farmers/farmer groups/ cooperative societies during 2018-19 to 2021-22 for purchase of agricultural machinery for crop residue management. More than 86,000 types of agricultural implements have been provided on subsidy to the Custom Hiring Centres and individual farmers towards reducing the financial burden on farmers by providing latest agriculture equipment for hire. Private extension activity has increased; however, much of this is associated with contract farming by large agribusiness entities, such as Pepsi and Nestle. As part of the contract, these firms provide intensive extension advice to their farmer clients, sometimes а fee for the service charging (Bhavanishankar. N, 2021).

Uttarakhand

The Government of Uttarakhand (GoU) follows a model of public provisions of public and private goods for extension services. The state government's Department of Agriculture provides extension services through the ATMA centres, KVKs and Kisan Call Centres. These agencies provide information on crop production technologies, soil health management, including soil testing, nutrient management, market information, demand, and supply, among other subjects, to farmers to help them make informed decisions.

Uttarakhand has its own State Agricultural Management and Extension Training Institute (SAMETI), established in 2005. SAMETI provides research and technical guidance as well as regional and national linkage for extension activities under the ambit of National Institute of Agricultural Extension Management. Together, the Department of Agriculture and SAMETI engage farmers through trainings, on-farm demonstrations, workshops and capacity building sessions.

Common Service Centres also provide knowledge and information on various centrally-sponsored and state-aided schemes for farmers' welfare as well as help them with filling out application forms to access schemes, banking services, participating, and providing feedback, among other things.

Benefits

The ATMA centres and KVKs network are in place along with Common Service Centres and Kisan Call Centres.

The Department of Agriculture is proactive and aware of the challenges faced by the farmers in the region.

There is greater ecological and environmental awareness as well as a drive towards encouraging sustainable agricultural practices.

There are several untapped opportunities and a viable market for adoption of agricultural greater extension practices for increasing production productivity, and increasing or recovering land for cultivation, conservation of water, crop diversification, post-harvest technologies, strengthening market interventions, farm mechanisation for efficiency and cost-effectiveness.

Issues and Challenges

- Most extension personnel employed at various levels across KVKs, State Agriculture Department, NGOs, community-level agencies and farmers are not clearly aware of the extension practices and models (Bhavanishankar. N, 2021).
- The approaches of the state have not been inclusive of women farmers. They have not been gender-inclusive or gender-Attitude sensitive. of women farmers have not been favourable towards extension centres and (Bhavanishankar. services N. 2021).
- Farmers have been grappling with depletion of natural resources and

climate change. The agricultural extension practitioners in the state need adequate expertise and practice to be able to support the farmers with respect to farming activities as per the changing environment and needs.

Assam

Assam has adopted a multi-agency strategy for providing agricultural extension services in the state, which comprises both public and private extension service providers. Since 2012, the Assam Rural Infrastructure and Agricultural Services (ARIAS) Society, which was established by the Government of Assam (GoA), has been responsible for managing agricultural extension services in the state. ARIAS Society manages extension services through the ATMA at the district level. This approach is demand-driven, location-specific, and bottom-up, aimed at decentralizing the extension machinery and decision-making at the district level to ensure effective participation of farmers in programme planning and resource allocation (Goswami, 2017).

Until 2015, there were two forms of ATMA that were operational in Assam — one was and still is part of the centrally-sponsored scheme "Support to State Extension Programmes for Extension Reforms" (CSS-ATMA), while the other was part of the World Bank-funded "Assam Agricultural Competitiveness Project" (AACP-ATMA; now known as AACP-AF or AACP Additional Fund). The CSS "Support to State Extension Programmes for Extension Reforms" has the exclusive focus on providing extension services through ATMA whereas AACP aims to stimulate the growth of the agrarian economy as a whole and ATMA is an important component of it.

The AACP-ATMA project was to contribute towards the client's development objective of

reducing poverty through upgraded infrastructure and improved physical access to market and social welfare services. It would do so by increasing farm productivity and family incomes, particularly those identified as small and marginal producers. It would also seek to improve sustainable resource management natural and community access to common resources (WorldBank, 2015). It was estimated that over 410,000 farmers and other producers across the agriculture, fishery, dairy, forestry, and livestock sectors were to benefit directly from the interventions, which were to focus on the most disadvantaged sections of the farming community, including small and marginal farmers, and traditionally socially excluded groups.

Ground Realities: The Directorate of Agriculture under the Department of Agriculture and Horticulture, Government of Assam, provides various services and schemes for farmers in the State. Some of these schemes include Pradhan Mantri Kisan Samman Nidhi, Mukhya Mantri Krishi Sa Sajuli Yozana. National Food Security Mission (NFSM), National Mission for Sustainable Agriculture (NMSA), Chief Minister Samagra Gramya Unnayan Yojana, among others (GoA, n.d.) The State government also provides Soil Health Cards as part of the Soil Testing Programme under the ambit of the NMSA. As per available literature, the agriculture extension services are public and private. Public extension services include Village Level Extension Worker (VELW), Extension Officer, training by government, radio, print media, KCC, KVK. The private sources of extension services include fellow farmers, Field Management Committee (FMC), NGOs, Local private players, printed materials and Agri- businesses.

Among the farmers accessing extension services, the percentage of farmers accessing public sources is less compared to those accessing private sources in all the land-size classes indicating a lack of faith of the small and marginal farmers in public extension services and a nexus between the large farmers and the extension workers. Despite extension reforms and the subsequent introduction of the ATMA model, public extension services are still absent in many regions. While steps have been taken to foster gender-sensitivity and inclusivity with respect to policy, there are few on-ground initiatives in action. The Guidelines For 'Support to State Extension Programmes for Extension Reforms' Scheme by MANAGE, MoAFW, GoI, emphasises the need, and provides a framework and guidelines for gender sensitivity, gender inclusion and gender budgeting for the scheme at all stages and interlinkage points. However, on ground, ATMA Centres, KVKs, FIGs, CIGs, FSs, and other platforms are usually male dominated and women seldom find space for expressing their concerns or issues. There is a shortage of women personnel as well at these centres. More needs to be done for gender inclusion than just connection with Self-Help Groups (SHGs).

Gujarat

Besides the ATMA centres and KVKs under the centrally-sponsored ATMA scheme and the Support to State Extension Programmes for Extension Reforms scheme, the Government of Gujarat (GoG) has taken several initiatives to promote farmer and rural welfare. These include the Sat Pagla Khedut Kalvan Yojana, Mukhya Mantri Pak Sangraha Structure (Godown) Yojana, Kisan Parivahan Yojna, Mukhya Mantri Kisan Sahay Yojana, Minimum Support Price, Rashtriya Krishi Vikas Yojana, among others.

Gujarat has adopted a unique approach to extension service provisioning through collaboration and forming a nexus between varied institutions including NGOs, private organisations, public sector agencies, input dealers, extension workers, and state departments at different levels. It has experimented with public-private а partnership model of extension service provisioning through its initiative, the Krishi Mahotsav. The Krishi Mahotsav programme has been operational since 2005; the initiative aims at bridging the gap between service centres and farmers by taking the services to the famers' doorstep. It aims at expediting the of technology diffusion process and adoption, providing farmer-centric and specific information and advice, and increase coverage to ensure that services reach resource poor, marginal and small farmers in remote areas that private service providers may not serve (Pattanaik, 2012)

The Krishi Mahotsav activities begin every year before the onset of the monsoon, with agricultural scientists, experts, technical personnel. among others proactively participating and lending a hand in organising some of the activities for farmers. In order to facilitate farmers' participation, the schedule of the Mahotsav is announced through advertisements. media. and massive campaigns. The month-long program begins on the day of Akshay Tritiya (an auspicious day for preparing the land for cultivation during the Kharif season) and around 100,000 personnel from across 18 government departments in the state are deployed for the same. The Krishi Mahotsav programme has three critical components —

Krishi Rath (a mobile extension centre)

Krishi Shibir (farmers' training programme)

Krishi Mela (agriculture and extension fair)

Even though Krishi Raths have actively helped in issuing soil health cards and Kisan Credit Cards, Lack of incentive for poor and marginal farmers to attend the Krishi Rath visits and Krishi Mahotsav events. Infrastructural support is preferred over information support. For most of them, it would not be possible to translate the information and training they receive into practice, so they do not find the programme useful. Most small and marginal farmers consider the travel expenses too much to bear. They consider the travel time waste of a day and labour, translating to a waste of wages and money. Hence, they prefer not to attend.

Taking some of the major parameters into account, Table 2 presents a comparative picture of the provision of agriculture extension services in the selected 8 States of India.
Table 2:	Interstate	Comparison	Matrix
10010 10		Comparison	

Indicators	Institution and Extension Model	Services Provided	Registration Mode	State proportion of total training (Total Trainings: 21396) (ATMA 2021-2022)	Grievance Redressal	Remarks
Karnataka	Department of Agriculture (KSDA)- Raitha Samparka Kendras at Hobli level (745 RSK)- PPP Model Convergence with ATMA	Farmer registration, Subsidised farm Inputs, Machinery- Custom Hire & Service Centre (CHSC), IEC, training & schemes, Climate, Kisan Suvidha, Seva Sindhu	Hybrid mode	4.28 % No. of Trainings: 918	Offline at RSK Grievances can be registered online in Janaspandana	Integrated service on a single platform. All institutions work through RSKs. Overburdened RSKs in some areas. The institutional base is comprehensive.
Tamil Nadu	Agriculture and Farmer Welfare Department-Agriculture Extension Centres (880 centres)- PPP Model Agri- clinics by TNAU Amma Facilitation Centers, AECs and ATMA converge for information dissemination.	Subsidized Agricultural Inputs along with Knowledge and Training	Hybrid mode (Physical registration in AECs as well as online login available on AGRISNET)	37.22 % No. Trainings: 7964	Offline and Online	Highly decentralized structure with lack of coordination but the assistance covered is substantial
Chattisgarh	Agriculture Development and Farmer Welfare and Bio- Technology Department Krishi Khet Pathshalas, KVK and ATMA. Both PACS and District Control rooms to monitor input availability	Facilitates state and centrally funded schemes for input provision, machineries- Agriculture Machinery Service Centre, Irrigation, seeds	Unified Farmer Portal	0 No. Trainings: 0	Online Portal	PACs are brought in the structure.
Uttar Pradesh	Construction of Krishi Kalyan Kendras underway- PPP Model Convergence with KVK and ATMA	Subsidized Inputs, Knowledge and Training, Warehouse, Meeting halls, offline registration	Currently online registration	1.90 % No. Trainings: 410	Online Portal along with upcoming KKKs	Still in initial stage

Assam	Multi-agency extension strategies involving PPP Model ARIAS Society converge with CSS-ATMA	Subsidized inputs, machinery, knowledge and training and registration + Kisan Call Centre	Physical registration of Farmer Interest Groups (FIGs) through the Project Director of the respective district.	1.06 % No. Trainings: 228	Offline	No strong institutional set up for knowledge production and dissemination. Dependence more on private sources.
Gujarat	Agriculture, Farmers Welfare and Co-operative Department- Krushi Mahotsav Joint efforts of public institutions, private institutions, NGOs, extension workers and private input dealers	Subsidized inputs, machinery, knowledge and training, and registration	Physical registration of FIGs of 11-25 farmers through the Project Director of respective district. Registration fee- Rs. 250/ group	1.72 % No. Trainings: 639	Offline and Online through the i-Khedut portal	Spread out set up. Service coverage is limited.
Punjab	Multi-agency extension strategies involving both public and private extension service providers SAU, KVK, ATMA	Knowledge, training, personal visits, mobile apps (I-Khet Machine, Kisan Suvidha App, M-Kisan) Farmers Portal, & Kisan Call Centre	Commodity Interest Groups (CIGs), FIGs and Food Security Groups (FSGs)	1.03 % No. Trainings: 222	Online submission of applications for fertilisers, pesticides and seeds, and Offline	Less focus on training. Service coverage is high. Convergence is limited. Extension system is multi pattern.
Uttarakhand	SAMETI- state institution. KVK and SAU work with it. PPP Model	Knowledge, training and information	Physical registration	0.54 % No. Trainings: 117	Offline	Capacity building is not focused. The services offered are not comprehensive.

Karnataka - An Overview

The state of Karnataka has a long history of agriculture dating back to ancient times. During the medieval period, the Vijayanagara Empire, which ruled the region from the 14th to the 16th century CE, encouraged agriculture and established extensive irrigation systems.

During the colonial period, Sir Mark Cubbon, the Commissioner of the state in 1834-1861, established the agriculture society in Mysuru and took steps to promote scientific agriculture. The State witnessed several developments in agriculture and horticulture with the appointment of Visternew as Superintendent of the Bengaluru Botanical Garden in 1857 and Signore Vichi's introduction of new mulberry varieties and sericulture techniques in 1862. The British introduced new crops such as tea, coffee, and sugarcane, and established experimental farms and agricultural research institutions. In 1899, the then Maharaja of Mysuru, Sri Nalwadi Krishnaraja Wadeyar, appointed Dr. Lehman, who set up a soil laboratory and a multi-disciplinary agricultural laboratory in 1901. Dr. Leslie C. Coleman was also appointed in 1905 as Scientist to take up entomology and pathology research. Later, in 1913, a separate Department of Agriculture was started with Dr. Coleman as its first director, who took the credit of starting the four-year diploma course in agriculture at Hebbal, Bengaluru. He also started several research stations to cater to the needs of local agricultural problems. In 1946, agricultural colleges were established in Hebbal and Dharwad, which later graduated into the University of Agriculture Sciences in 1966. The Department of Agriculture owes a debt of gratitude to Dr. Coleman for his vision and determination for the overall development of agriculture education. research. and development in Karnataka.

After independence, the government of Karnataka initiated various agricultural extension activities to promote modern farming techniques, increase crop productivity, and improve the livelihoods of farmers. In 1951, the State of Mysore had a progressive agriculture sector with improved crop varieties, a network of tanks and open irrigation wells, and infrastructure such as agricultural schools and factories for fertilizers and agricultural implements. Over time, the state has achieved systematic development in agriculture with six major crops, and significant progress in coverage of high yielding varieties in all food crops. The state had the highest productivity in maize and has made remarkable progress in cotton with the introduction of a long-staple variety, sugarcane. Additionally, and in the institutional base for agricultural development had expanded. In 1956, Mysore had no opportunity to formulate a comprehensive agriculture development plan, but it implemented piecemeal plans successfully. The Third Five Year Plan, implemented from 1961 to 1966, was essentially the state's first comprehensive agriculture plan. The development of agriculture in the state is then divided into four phases, with each phase focusing on different priorities such as expanding cultivated areas, increasing irrigational sources. and providing support to underprivileged farmers. The fourth phase, from 1995. was marked bv the implementation of a New Agricultural Policy that emphasized integrated growth and achieving high growth rates in agriculture and allied sectors in response to globalization and liberalization.

The T&V system (1978-79) was implemented in Karnataka under the New Agricultural Extension Project (NAEP). However, after the termination of funds for the Village extension Workers (VEW) by the World Bank, various para- extension with Public Private Participation (PPP) models came into existence in different States. Karnataka established several agricultural universities. research institutions. and extension centres, that provide training, advisory services, and technical assistance to farmers. The State government has also implemented various agricultural development programmes, such as the Karnataka Comprehensive Crop Insurance Scheme, the Krishi Bhagya Scheme, and the Raitha Mitra Scheme, to support farmers and enhance their agricultural productivity. In 2000- 01 Karnataka introduced the Raitha Samparka Kendra programme replacing the T &V system to ensure access and localisation of agrarian knowledge to farmers at the Hobli level. Overall, agriculture has played a significant role in the history and development of Karnataka, and the State continues to prioritise the sector through various extension activities and programs.

Institutional Analysis of Raitha Samparka Kendras



The Raitha Samparka Kendra programme was launched by the Government of Karnataka in India to provide various services to farmers in the State. The programme is aimed at bridging the gap between farmers and the government, and it provides a platform for farmers to voice their grievances, seek information, and access government services. There are 745 Raitha Samparka Kendras established at Hobli levels and each RSK is equipped with a toll-free helpline number that farmers can call to get information and support. The centres are staffed with trained professionals who can provide guidance on various aspects of agriculture, such as soil health, crop management, irrigation, and pest control.

The Raitha Samparka Kendra has been instrumental in helping farmers to increase their productivity and income by providing with necessary them support and information. It has also helped to bridge the gap between farmers and the government, which has led to better policy formulation and implementation in the agricultural sector. The services offered by the Raitha Samparka Kendra include soil testing, crop advice, market information, and access to government schemes and subsidies. The centres also organize workshops, training programmes, and awareness campaigns to educate farmers on best practices and the latest technologies in agriculture. RSK activities involve – the transfer of the latest technology developed by Agriculture University Scientists or progressive farmers by way of Demonstrations fields; conducting "Kshethrotsava", an activity which is held at farmer's field with an aim to impart first-hand providing knowledge; technical and knowledge support to farmers with the problem of pest disease and selection of seeds, fertilizers, cropping pattern, etc., The following literature provides a better understanding of Raitha Samparka Kendras.

Findings from the Studies

Raitha Samparka Kendra: Role in Agro- information delivery

Information delivery mechanisms are the mode through which information is disseminated to the farmers/ beneficiaries. The study focuses on

information delivery mechanisms of RSKs in South Karnataka highlighting the farmer profile of RSK visits. The educational level of the people was highly illiterate (40 percent) and the extension participation level of the farmers were medium/ average. The RSKs are primarily used as government retail outlets where farmers avail agricultural inputs at subsidised rates instead of seeking technical agriculture information. The paper also measured the information delivery mechanisms against various indicators like field visits, training programmes, visual aids in RSK, and farm literatures. It was revealed that due to inadequate usage of information delivery sources, the RSKs were unable to effectively provide information to the The information seeking farmers. behaviour of the farmers to obtain both technical and non- technical information was less. This draws a clear indication of how RSKs are regarded as material hubs rather than a knowledge hub. The policy documents mandate the adoption of ICT in service delivery by RSK but the a recent study show that the RSKs are neither effectively using the traditional methods of extension such as audiovisual aids, nor adopt the latest and emerging extension methods such as ICT-enabled services (Raghuprasad).

A study conducted in 71 RSKs of Belagavi District indicated that buying seeds, fertilizers (which includes biofertilizers as well), pesticides and implements are the prime reasons for the farmers to visit RSKs. The majority of farmers are visiting RSKs occasionally shows that frequency of technical information seeking among farmers was little. The study further noticed that majority of farmers not only benefited from services provided by RSKs but also agreed that the role of RSK has an impact on agricultural services as well as improvement of the economic conditions

of farmers. While analysing farmers' opinion about RSKs, it revealed that on the one hand majority of farmers disagree with the importance of the services rendered by RSKs to remote villages and poor farmers, on the other, they strongly agree with the opinion that RSKs give importance to rich people (Bhavanishankar. N, 2021)

Profile Characteristics of extension personnel and Clientele of RSK

A study was conducted among 24 RSKs in Davangere district of Karnataka with 45 extension personnel and 90 farmers capturing the profile characteristics of the study population. The study revealed that nearly half of the respondents (extension personnel) had a low level of education and belonged to the old age category. It was observed that 40 percent of the respondents received average training and 44 percent had a medium level of awareness about the use of ICT. The results showed that most extension personnel indicated that RSKs had a low and medium level of performance concerning infrastructure and other physical facilities; supply of critical inputs and customised services to farmers: planning for agricultural extension activities: follow-up of and extension activities overall performance on different dimensions. It also pointed out that majority of the farmers (85%) preferred to connect with progressive farmers in the village for agriculture information as a first step rather than connecting with RSK officials (Patil, 2019).

Peripheries of Raitha Samparka Kendra

The RSKs function in convergence with ATMA, KVK and other departments for effective delivery of services to farmers (Kaur, 2021). The Department of Agriculture provides support through its institutions (University of Agriculture

Sciences) established across the state. The Agriculture University provides technology backup to Raitha Samparka Kendras (RSKs) under "One RSK- One Scientist" programme by deputing one Scientist to one RSK as "Contact Scientist". During the period each contact Scientist visits the RSK on an average 6-7 times to provide the required technology/information to the farmers (Darshan, 2019).

As in the case of other States, ATMA was launched in the State as well. ATMA has active participation of farmers/farmergroups, NGOs, Krishi Vigyan Kendras (KVKs), Panchayati Raj Institutions and other stakeholders operating at district level and below. Release of funds under ATMA scheme is based on State Extension Work Plans (SEWPs) prepared by the State Governments. Allocation of resources for activities related to extension is linked to number of farm households and Blocks. The RSK works closely with the ATMA staff in carrying out farmer-oriented activities, farm information dissemination, Research-Extension-Farmer (R-E-F) Linkages, and innovative technology dissemination activities. A study of attitudes based on extension field functionaries of six districts of Karnataka revealed 37 percent to have favourable attitude towards ATMA as a well-structured programme and positive impact on agriculture development Karnataka in (Shamshadunnisa, 2017).

A study was conducted in Tumakuru district of Karnataka in 2019-20, involving eight Talukas and 130 farmers using Custom Hiring Service Centres (CHSC). Farmers reported that CHSC helped overcome labour problems and provided cost-effective access to modern machinery. Overall, 43.8% of the farmers had a favourable perception of CHSC. The study recommended strengthening extension efforts to raise awareness about CHSC services among the farming community. Small and medium-sized farmers faced challenges accessing modern machinery due to high hiring charges, while some large farmers also needed CHSC services (Kadaraiah, 2022).

Irrespective of the staff support, studies have pointed out the major challenges respect personnel with to and administration. A study conducted by the Directorate of Extension on RSK's role in service delivery emphasizes the lack of both technical and non- technical staff in RSK which acts as a major hindrance for providing uniform and effective extension services to the farmer community. It was reported that about 21 per cent of the RSKs did not have any technical staff and 56 per cent only had one technical staff against four sanctioned staff (Raghuprasad).

Empowering farmers in India through E- government services

The paper examines the Information and Communication technology (ICT) model in the facilitation of government extension services. The study looks at the question of better service delivery pattern with a shift from traditional methods to electronic self- service delivery. The study analyses the current workflow model to understand the methods of information dissemination and scope of Self-Service Technology (SST). Initially, in 2001 when RSKs were established, they were being set up in rented places because of the lack of infrastructure at the Hobli level. After the due date, extending the rent agreement and constant relocation of RSKs were some issues faced initially. Furthermore, as agricultural lands were being converted to commercial or industrial estates, RSK at these Hoblis were being shut down and some villages whose agricultural lands were not commercialized, clustered under these Hoblis were transferred to nearby RSK. This led to increasing the responsibilities of the technical staff at RSKs. It was also observed that few farmers were unwilling to avail the subsidies because of the extra cost involved - sometimes they have to visit RSK more than once, and several documents were required to be produced to the authorities each time a subsidy was to be availed from the RSK. The issues faced by the provider of the service include a lack of infrastructure, loss of time and money due to travel and waiting time. Overall, it was a lost opportunity caused due to incomplete work in their fields on a particular day (Nair, 2019).

The Paper "Impact of ICT on Agriculture sector in Karnataka: A study on Raitha Samparka Kendras, examines the significance of content development and management process in agriculture extension services. Localisation of the content is influenced by how the RSKs access, apply and deliver the content. Effective and efficient extension services bv RSK ensures improved farm management and bridges the knowledges gap of farmers (Nandeehsa, 2014).

Farmers' Perception on Agriculture Extension Services

To understand the clientele perception of effectiveness of extension services, a study was conducted in the regions of Raichur, Gulbarga, Bidar, Yadgiri and Ballari districts of Hyderabad- Karnataka region of Karnataka state during 2013-14. KVKs and RSKs were selected across the study area. The study results deployed effectiveness indicators like awareness creation, farmer participation, method organising demonstrations, field meetings, visiting farmers and training programmes. Among these indicators, the clientele of RSKs ranked creating awareness of extension services as very effective and organising scheduled

meetings with farmers were considered to be less effective (Sathish, 2019).

A similar study was also carried out in 12 RSKs on the perception of farmers about the functioning of Raitha Samparka Kendras in Tumukuru district of Karnataka (2017-18). It captured the perception of 120 farmers availing services from RSK. The results revealed that about three fourth of the farmers had positive perception about a the functioning of RSKs (Darshan, 2019). Another study on the perception of farmers about the functioning of Raitha Samparka Kendras brings out the significance of Extension activities carried out by the RSK personnel. For instance, the frequency of agriculture personnel visits to the field is very less and remains to be a major issue among the farmers in Raitha Samparka Kendras (Darshan, 2019).

Major Takeaways from the literature review

Literature review and anecdotal evidence point to several lacunae in meeting the felt needs of SFs and MFs. Some of the areas to be addressed that emerged from the studies are as follows-

- Timely support of scientific approaches,
- systematic risk assessment,
- frequent education training and outreach programmes,
- adequate human resources,
- external influences on service delivery,
- Adequate and timely training and capacity building of farmers on innovative agricultural practices and use of technology.
- Farmer friendly extension systems.

RESEARCH DESIGN

The Research Design adopted for the study is a **mixed method approach** which uses both qualitative and quantitative research methodology. The Social Accountability Tools (SATs) both Citizen Report Card (CRC) and Community Score Card (CSC) were adopted in the study that aimed to understand the effectiveness of RSKs, the statistical tools were applied for analyzing the primary and secondary data.

RESEARCH OBJECTIVES

- Assess scientifically the quality, responsiveness and outcomes created by services provided by RSKs to farmers
- Determine to what extent the services provided through the RSKs are relevant to the requirements & issues of concern to the farmers in Karnataka and efficiency in their delivery.
- Understand the challenges & by the constraints faced RSK extension officers of various Government Departments, in their role as service providers to the farmer communities.
- Provide specific evidence-based policy & programme implementation recommendations with the view to improve the service delivery & outcomes created through the system. These would be aimed at improving the proactive, and reactive response to farmer needs delivered through the RSKs.
- Look into the replicability of such Kendra's in other states.

This study attempts to bridge the gap and assess the effectiveness of the RSKs in improving agricultural practices among SFs and MFs through a diagnostic and prescriptive action research approach.

RESEARCH QUESTIONS

- What are the current standards, processes and templates followed by RSKs to ensure their effective functioning?
- 2. What are the experiences of farmers registered with RSKs with regard to access to and availing of services provided by the RSKs?
- 3. How can the relationship between RSKs and SFs and MFs be further strengthened to ensure effective service delivery that will help all users?

The following are the additional research questions that emerged in the course of the study:

- 4. What are the impacts of RSKs on agricultural income, cropping intensity and crop diversification among SF and MF? Has there been adoption of technology?
- 5. What is the farmers' perception on the Raitha Samparka Kendras?

EVALUATION METHODOLOGY

Sampling Design

Karnataka has 745 Hoblies which are administrative units at the sub-taluka level, each of which has an RSK. The sample size chosen for this study is 254 RSKs (at 95% confidence level+5% error) across all 30 districts. The selection of sample units is proportionate to the number of RSKs in each district. Each RSK-level exercise covered around 10 farmers and 2 service providers. Multiple stakeholders were identified through scoping and orientation visits. The sample size for the study was calculated using Skinner's sampling process of probability proportional to the size (PPS).

To avoid the limitations of memory recall method, the farmers who are registered in 3-5 years are taken up in the sample.

Probability Proportional to Size (PPS) sample size



Figure 3: Geography covered in the study

Table 3: Number of RSKs selected

Districts	RSKs selected for survey					
BANGALORE Division	82					
Bengaluru Rural	6					
Bengaluru Urban	6					
Chikkaballapura	9					
Chitradurga	8					
Davangere	7					
Kolar	9					
Ramanagara	6					
Shivamogga	14					
Tumkur	17					
BELAGAVI						
Division	51					
Bagalkote	6					
Belagavi	12					
Dharwad	5					
Gadag	4					

Haveri	6
Uttara Kannada	12
Vijayapura	6
KALABURAGI	57
Division	57
Ballari	11
Bidar	10
Kalaburagi	11
Koppal	7
Raichur	13
Yadagir	5
MYSORE Division	65
Chamarajanagara	5
Chikkamagaluru	11
Dakshina Kannada	6
Hassan	13
Kodagu	5
Mandya	11
Mysore	11
Udupi	3

Data Collection: Methods and Tools

Primary data was collected by administering surveys through questionnaires (Primary & secondary stakeholders).

Scoping exercises were carried out at the beginning of the study through observations and pilot testing of the tools.

Subsequently, the draft questionnaires were revised.

The PAC study team also covered nonregistered farmers to be able to analyse experiences of intervention and control groups.

The study pooled secondary data through a literature review, which was extracted from empirical papers and other journals. Secondary data analysis was carried out to understand the overall functioning of the RSKs.

Standardization of data and mapping of stakeholders were used in the selection of samples sizes covering the whole State. In addition to the CRC and CSC approaches, other data collection tools deployed in the study were Scoping/ orientation visits to RSKs, Focus Group Discussions (FGD) and Field Observations (5% of 254 **RSKs**). The breakdown of the total sample size is given below:

SI. No	Respondent Category	Respondents		Sample per Unit	Total sample size (30 Districts)	Sample Size covered
1	District	Joint/ Deputy Directo	or of Agriculture	1/ District	30	27
	Officials	District Technical M Technical Manageme	Ianager- Agriculture ent Agency (ATMA)	1/ District	30	28
		Assistant Director- Training Centre (DA	District Agriculture TC)	1/ District	30	35
2	Service	Agriculture Officer (RSK)	1/ RSK	254	251
	Providers	Assistant Agriculture	Officer (RSK)	1/ RSK	254	49*
		Assistant Technical N	Manager (ATMA)	3/ District	90	113
		Scientist (UAS/ KVk	()	1/ District	30	30
		Custom Hiring Serv In- charge	vice Centre (CHSC)	3/ District	90	74
3	Beneficiaries	Registered Farmers	Big Farmers	1/ RSK	254	78
			Medium Farmers	2/ RSK	508	717
			Small Farmers	6/ RSK	1524	1488
		Unregistered Farmers	S	1/ RSK	254	251
4	Other Key	FPO/ SHG/ Societies	5	1/ District	30	32
	Informants	Panchayat Developm	ent Officer	1/ District	30	30
		Farmer Advisory con	nmittees	1/ District	30	30
		Land registration off	icial	5/ State	5	5
		Lead Bank Manager		5/ State	5	5
	Grand Total				3448	3243

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*A large number of posts for AAOs were found to be vacant across the selected RSKs and this seemed to be the case across other RSKs as well. The team confirmed this through a follow up calling exercise among AOs in randomly selected RSKs,

The farmers who are registered between last 3-5 years (Pre-pandemic period) were covered in the sample. A period longer than 5 years was not considered suitable due to memory recall limitations and varying weather conditions.

Social Accountability Tools

In undertaking this impact assessment, PAC deployed its own well tested Social Accountability Tools (SATs) in engaging the community to foster participation and ownership, enhance equity and inclusion and obtain primary data (quantitative & qualitative) to understand the socioeconomic determinants of the outcomes under assessment. The SATs involved an evidence-based, context-specific and resource-sensitive approach. The two SATs that were used in this project included the **Citizen Report Card (CRC)** and the **Community Score Card (CSC)** tools.

1. The *Citizen Report Card* (*CRC*) is a survey-based stakeholder feedback tool for service delivery improvement, used by civil society to advocate for improved services, and

service providers to diagnose gaps and initiate/strengthen reform measures. The CRC approach uses structured questionnaires among various stakeholders including farmers and service providers.

- 2. The *Community Score Card* (CSC) is a mixed-approach tool that uses scoring of various indicators to assess quality of service delivery, by both communities of users and service providers. The tool is deployed at a certain 'unit' of service (e.g. a health unit, a school, a particular RSK centre). This is followed by the creation of a platform for constructive engagement between service providers and users/beneficiaries for joint decision making and implementation of those joint action plans. The CSC follows a six-step process and has been used by PAC in Gram Panchayat-level services, maternal health services and Swachh Bharat Mission-Gramin related services. The CSC implementation approach involves
 - Preparatory groundwork,
 - Conducting score card exercise with community
 - CSC with Service providers,
 - Interface meeting and,
 - Institutionalisation.

In this study, 5 CSC exercises were carried out in 1 RSK and its jurisdiction per Division adding to 4 and 1 in an RSK located in the Malnad region. Many of the findings from the CRC Survey among individual farmers have found resonance among communities of farmers as well as can be seen in this report. Wherever possible, scores from the CSCs have been presented along with the CRC survey findings to highlight triangulation.

SCOPING EXERCISES

Preliminary scoping exercises were carried out by PAC's Field Research Officers (FROs) to RSKs at the Division level where they had interactive sessions with service providers and other associated stakeholders that included KVKs. The meetings brought in other actors who also play a role into the ambit of the study, the major ones include –

- Assistant Director of Agriculture (ADA),
- Agriculture Officer (AO) -1 officer
- Assistant Agriculture Officer (AAO)-2 officers
- Agriculture Assistant (AA)-1 in each GP coming under the jurisdiction
- Quality controller / Customer Hire Service Centre (CHSC) staff at Hobli-level (NGO or CBO)
- Societies / Farmers / Agriculture labour / Community
- Gram Panchayat staff dealing with MGNREGS
- District Agriculture Training Centre (Assistant director and team)
- Agriculture Technology Management Agency ATMA (DPD, BTM, ATM)
- Farmers Advisory Committees at Block, District & State levels

Stakeholder Mapping



Figure 4: Stakeholders identified through field visits

Orientation visits to RSKs in three Hoblis were carried out to understand the functioning of RSKs and their challenges. The following were the three Districts where RSK orientation visits were conducted:

- Ponnampet village, Virajpet Taluk, Kodagu District
- Amminabhavi, Dharwad District
- Bidadi Taluk, Ramnagara District.

Focus Group Discussions (FGD) were conducted with the beneficiaries in the jurisdiction of three more RSKs to understand the demand perspective of RSK. These FDGs were carried out to understand general awareness levels of the farmers about their RSK. The third FGD captured both beneficiaries and the non-beneficiaries of RSK following which an FGD Matrix was developed (Attached as Annexure 1). The FGDs were carried out in -

- Kestur village, Yelandur Taluk, Chamrajanagara District,
- Chikka Myadageri, Yalaburga Taluk, Koppal District

• Hosahalli village, Mudigere Taluk, Chikkamagaluru District

Direct Observations were conducted in 7 districts of Karnataka- Belagavi, Bidar, Dakshina Kannada, Gadag, Hassan, Shivamogga and Vijavanagara. The field team administered an Observation Checklist capture the insights for to the preparation of Observation Matrix (Attached as Annexure 2)

QUESTIONNAIRE DESIGN

The questionnaire canvassed in the study included all the components of the CRC method as mentioned earlier. To ensure the representation of all the significant stakeholders, the study deployed five questionnaires:

- 1. District level questionnaires-District officials
- 2. RSK Level questionnaires- AO and AAO
- 3. ATMA, CHSC and Scientists

4. Beneficiary questionnaire-Registered farmers and Nonregistered farmers

5. Key Informant Questionnaire

Components in the RSK Survey Questionnaires:

The following are the various components covered in the above-mentioned survey questionnaires of the study:

DISTRICT OFFICIALS	 Duties and responsibilities, Role in the management of RSK Decision making and facilitation Convergence activities and Monitoring
RSK- SPs	 Organisational structure & Infrastructure, Roles and responsibilities Functions of RSKs, Convergence activities and Grievance mechanisms

FARMERS	 Awareness and Accessibility RSK Services and inputs- access & utilization Timeliness & Relevances of services Grievance redressal and User satisfaction
KEY INFORMANTS	 Service linkage with RSK Convergence activities Community perspectives

Figure 5: Components in the Questionnaires

DATA ANALYSIS FRAMEWORK

The data analysis framework is a set of principles and practices that ensures high quality throughout the complete lifecycle of data collection. The framework described elucidates and substantiates the linkages between the services provided through the RSKs, and the intended or observed benefits, thus facilitating the attribution of benefits to specific interventions under the scheme. The data analysis framework embodies the following indicators:

Table 5: RSK Indicator Framework

Sl.no	Evaluation concept	Indicator level	Indicators					
1	Organisational structure	Input Indicator	Facilities and Resource (Infrastructure, Personnel, Challenges)					
			Job competence (sufficiency/ adequacy of abilities or qualities)					
			Organisational climate (the perception of RSK officials about his workplace, facilities, co-worker & work culture)					
			Job satisfaction of RSK staff					
2	Operational Mechanisms	Activities/ Process Indicators	s Operational Mechanism: Roles and responsibilities of RSK staffs (Registration, documentation, inventory management, convergence activities, field visits, IEC)					
			Frequency of visits/ trainings/ services/ IEC activitie Adequacy of services Usefulness/ Relevance of services provided by RSK)					
			Grievances redressal Mechanisms					
3	Service Capacity	Output Indicators	Output in terms of number of registrations, trainings, exposure visits, IEC activities, groups formed, number of beneficiaries received various services, Grievances redressal (cases reported and resolved)					
4	User Satisfaction	Outcome Indicators	Access to agricultural inputs & services (seeds, fertilizers, pesticides, micro-nutrients, machineries at subsidized prices)					
			Quality of inputs and services					
			Usefulness of inputs, trainings, advisory services					
			Cropping intensity					
			Farm diversification					
5	Knowledge gain	Impact Indicators	Agriculture productivity					
	and change		Technology adoption					
			Income security					



The following are the broad themes under which the indicators were developed for the study:

Figure 6: Evaluation Themes

SCHEME PROGRESS

Raitha Samparka Kendras facilitate major schemes (State and Central) such as Agro processing, Micro Irrigation, Farm mechanization, Fertilizers & Pesticides and NFSM. The Department of Agriculture, Government of Karnataka provided select secondary data to support the study of RSK in Karnataka which has been analysed as follows.

Overall distribution of farmers in various schemes-

The graph below provides the overall distribution of farmers who have availed various schemes from Raitha Samparka Kendras in Karnataka. It can be noticed that Seeds are the most availed input from RSKs accounting for 52.4% followed by Micro Irrigation (15%), Pesticides (14%), Fertilizers (13.8%), Farm mechanization (4.3%) and Agro processing (0.1%).



Figure 7: Distribution of total Beneficiaries - Scheme wise

Beneficiaries availing Seeds (Social Category wise):

A large number of schemes especially in agriculture are formulated to cater to the needs of small and marginal farmers belonging to socially backward clusters.



Figure 8: Distribution of Beneficiaries availed Seeds by Social Category

The Table 6 portrays the social category of beneficiaries who are availing seeds from RSK which was also observed to be the most availed agriculture input. The majority of the share is occupied by farmers of general category rather than farmers belonging to Scheduled Caste and Scheduled tribes across all the districts.

Districts	GM	GM %	OBC	OBC %	SC	SC %	ST	ST %
Bangalore Division	108841	58	22164	13	42769	18.87	32615	10.13
Bengaluru Rural	6410	61.8	1721	16.6	1622	15.6	615	5.9
Bengaluru Urban	2369	65.5	455	12.6	706	19.5	88	2.4
Chikkaballapura	10910	61.4	2129	12	2962	16.7	1766	9.9
Chitradurga	22218	36.7	5000	8.3	15812	26.1	17550	29
Davanagere	15294	55.7	2477	9	4863	17.7	4846	17.6
Kolara	4642	56.4	1249	15.2	1804	21.9	534	6.5
Ramanagara	6443	61.2	2495	23.7	1421	13.5	166	1.6
Shivamogga	17513	69	2505	9.9	4286	16.9	1070	4.2
Tumakuru	23042	54.3	4133	9.7	9293	21.9	5980	14.1
Belagavi Division	323560	67.41	88455	18.03	49424	9.47	23616	5.1
Bagalakote	38945	61.5	10874	17.2	9244	14.6	4285	6.8
Belagavi	79783	65.9	25763	21.3	9228	7.6	6243	5.2
Dharwad	47490	81.8	5246	9	2661	4.6	2643	4.6
Gadag	36804	71.2	5950	11.5	5618	10.9	3351	6.5
Haveri	43847	70.7	7905	12.7	5386	8.7	4882	7.9
Uttara Kannada	15229	61.9	7440	30.3	1093	4.4	824	3.4
Vijayapura	61462	58.9	25277	24.2	16194	15.5	1388	1.3
Kalburgi								
Division	187980	41.49	51912	13.94	81211	26.5	63847	18.06
Bellary	21897	35.7	11799	19.3	13506	22	14054	22.9
Bidar	69528	59.7	8058	6.9	17884	15.4	21036	18.1
Kalaburagi	39035	52.7	13119	17.7	20144	27.2	1704	2.3

Table 6: Division wise Distribution of Beneficiaries availed Seeds by Social Category

Koppala	35170	54.8	9236	14.4	9674	15.1	10091	15.7
Raichuru	13943	31.8	6628	15.1	10488	23.9	12787	29.2
Vijayanagara	419	21.3	235	12	878	44.7	434	22.1
Yadagiri	7988	34.4	2837	12.2	8637	37.2	3741	16.1
Mysore Division	105355	62.6	31334	22.1	25938	10.98	8569	4.34
Chamarajanagara	14072	51.1	4010	14.6	7050	25.6	2410	8.8
Chikkamagaluru	18241	69.9	3917	15	3382	13	557	2.1
Dakshina								
Kannada	1065	64.7	460	27.9	41	2.5	80	4.9
Hassan	39823	74.5	6877	12.9	5946	11.1	835	1.6
Kodagu	2168	74.8	548	18.9	123	4.2	59	2
Mandya	10410	57.4	5741	31.7	1802	9.9	176	1
Mysuru	16856	45.5	8342	22.5	7541	20.3	4339	11.7
Udupi	2720	62.9	1439	33.3	53	1.2	113	2.6

Fertilizers and Pesticide Distribution

Fertilizers and Pesticides are distributed in the RSK at subsidised prices to farmers who require them. The graph indicates higher utilisation of both fertilizer and pesticides in districts such as Belagavi, Bellary and Bagalkot which fall in the northern belt of Karnataka.



Figure 9: Percentage distribution of beneficiaries availed Pesticides and Fertilizers

The lowest utilization can be observed in Kodagu, Dakshina Kannada and Udupi districts which lie in the coastal belt of Karnataka and largely involve the production of plantation crops rather than cereal cultivation.

Micro Irrigation (MI) and Farm Mechanization (FM)

Raitha Samparka Kendras provide various agricultural implements to encourage farmers to adapt micro-irrigation especially in dry and arid zones. All the Divisions have a greater proportion of farmers of general category availing micro irrigation. It can be noted that Hassan, Vijayapura and Chitradurga are frontrunners in availing micro irrigation equipment. Similar to the above analysis, the repeating trends of farmers belonging to general category availing more services compared to OBC, SC and ST can be noticed in the graph below. Unlike the above trends, a distinct pattern can be seen in farm mechanization. The machineries availed by the number of farmers belonging to Schedule Caste are relatively equal to the number of general category farmers. Kalaburagi Division has higher proportion of farmers belonging to SC community availing FM inputs. The districts utilizing the lowest of farm mechanization schemes are Bengaluru Urban, Udupi and Kodagu.



Figure 10: Distribution of MI Beneficiaries by Social Category



Figure 11: Distribution of FM Beneficiaries by Social Category

RESULTS AND DISCUSSIONS SECTION I

This section provides an overview of the demographic profile of the beneficiaries, district officials, RSK staff, ATMA staff, CHSC staff and Scientists.

SOCIO-ECONOMIC BACKGROUND OF FARMERS

Type of Area:

The proportion of farmers covered in the study belonging to rural areas accounts to 76.2%, semi- urban is 12.8% and urban are up to 10.2% respectively,



Figure 12: Type of Area owned by farmers

			Semi-			
Divisions	Rural	%	urban	%	Urban	%
Bangalore	793	97.10	3	0.32	24	2.59
Belagavi	324	70.18	37	6.54	146	23.29
Kalaburagi	478	86.79	29	4.42	59	8.79
Mysuru	336	55.26	256	33.48	48	11.26
Karnataka	1931	77.60	325	11.43	277	10.97

Table 7: Division wise Distribution of Beneficiaries by type of area

The table 7 presents the distribution of farmers across different areas in all the Divisions. In Bengaluru Division, the farmers are concentrated in rural areas as seen in Kalaburagi Division as well. But it can be noticed that one-third of the farmers are in semi-urban areas in Mysuru Division while nearly one-fourth of the farmers in Belagavi Division are in urban areas as well.

Religion and Social Category:

The table 8 reveals that the majority of the beneficiaries comprised farmers belonging to Hindu religion and only very few are Muslims (0.6%), leaving a handful of beneficiaries belonging to Christian and Jain communities.

									Not	%
Divisions	Hindu	%	Muslim	%	Christian	%	Jain	%	responded	
Bangalore	817	99.76	2	0.16	1	0.08	0	0.00		0.00
Belagavi	468	94.39	6	1.32	1	0.24	2	0.48	30	5.92
Kalaburagi	559	98.75	7	1.25	0	0.00	0	0.00		0.00
Mysore	640	100.00	0	0.00	0	0.00	0	0.00		0.00
Karnataka	2484	98.37	15	0.61	2	0.08	2	0.11	30	1.18

 Table 8: Division wise distribution of Religion of farmers

The figure 13 shows a significant presence of farmers representing backward caste in the study (OBC-77%).

Bangalore Division had only 12% of farmers from the General category.

Kalaburagi Division has 14% of Schedule Caste and Scheduled Tribe each.

Mysore Division has a very less percentage of SC (0.7%) and ST (0.5%) farmers.



Figure 13: Social Category of farmers

Divisions	General	General %	OBC	OBC %	SC	SC %	ST	ST %	Others	Others %
BANGALORE	132	12.9	54	74.7	590	7.2	36	3.8	8	1.3
BELAGAVI	69	15.9	66	65.8	342	13.0	29	5.1	1	0.3
KALABURAGI	44	7.2	84	64.2	348	14.2	90	14.4	0	0.0
MYSORE	4	0.4	7	96.7	608	0.7	5	0.5	16	1.7
KARNATAKA	249	9.2	211	76.4	1888	8.2	160	5.4	25	0.9

Table 9: Division wise distribution of Social Category of Respondents

Education level of Beneficiaries:

Overall for Karnataka, 29% of the farmers are illiterate followed by 23% having completed high school and 22% primary level. Only 5% hold a degree. A noticeable population of

the beneficiaries are illiterates (28%) who are highly constituted in the North Karnataka region. Farmers with secondary education account for 7% and 9.8% in Bengaluru and Mysore Division respectively.

Divisions	Illiterate	%	Literate	%	Primary	%	High	%	Higher.	%	Graduation	%
							school		sec		and above	
BANGALORE	302	39.0	32	5.2	161	18.9	186	21.1	84	9.2	55	6.6
BELAGAVI	80	17.5	88	15.5	118	25.7	102	21.0	83	14.4	19	5.9
KALABURAGI	241	42.0	105	17.5	127	22.9	45	8.7	33	6.2	36	2.7
MYSORE	97	17.7	27	4.8	154	20.8	249	36.4	87	15.3	26	5.0
KARNATAKA	720	28.9	252	10.0	560	21.8	582	22.7	287	11.4	132	5.2

Table 10: Division wise Distribution of Level of Education of Farmers

Household Category:

A substantial number of the farmers belong to the Below Poverty Line (BPL) category which signifies the economic and financial status of the farmers. This trend can be observed in all the Divisions where farmers of BPL occupy 80%. Further, Kalaburagi Division has the highest number of farmers belonging to the Antyodaya category which identifies them as the financially weakest section. 7% of the farmers belonging to Belagavi Division do not hold a ration card. It can be observed that both Kalaburagi and Belagavi Divisions have farmers of lowincome groups compared to other Divisions.





Divisions	APL	%	BPL	%	Antyodaya	%	No card	%
Bangalore	59	6.7	724	88.7	15	1.9	22	2.8
Belagavi	54	9.3	408	80.0	14	3.3	31	7.4
Kalaburagi	35	5.6	467	83.3	45	8.0	18	2.9
Mysore	79	17.7	553	81.0	5	0.9	4	0.4
Karnataka	227	10.0	2152	83.5	79	3.2	75	3.3

Table 11: Division wise distribution of Household Category by ration card

Income and Source of Income:

About 60% of the farmers earn an annual income of below Rs. 1 Lakh followed by 25% earning between Rs. 1-2 Lakh, 8% belonging to the earning category of Rs. 2-3 Lakh and only 7% of farmers earning an annual income of more than Rs. 3 Lakh per annum. The table below shows the annual income of farmers in various divisions of Karnataka:

75% of the respondents in Bangalore Division and 67% of the respondents in Kalaburagi Division belong to less than Rs. 1 lakh income category.

33% of the respondents in Mysore Division and 29% of the respondents in Belagavi Division belong to less than Rs. 1-2 lakh income category.

Belagavi also shows 13% of farmers in both Rs. 2-3 Lakh and more than Rs. 3 Lakh income groups.



Figure 15: Annual Income of farmers

Divisions	<1 Lakh		1-2 Lal	1- 2 Lakh		kh	> 3 Lakh		
	No.	%	No.	%	No.	%	No.	%	
BANGALORE	612	75.08	150	17.96	37	4.75	21	2.20	
BELAGAVI	236	43.36	130	29.66	69	13.50	72	13.48	
KALABURAGI	424	67.63	90	17.85	23	6.25	29	8.27	
MYSORE	362	53.06	212	33.66	44	8.17	22	5.11	
KARNATAKA	1634	60.32	582	24.85	173	8.00	144	6.82	

Table 12: Division wise distribution of Annual Income of farmers

All the Divisions exhibit a similar response pattern in the sources of income where income for Agri- laborers and farmers are higher followed by non- agricultural labour, small scale business, self- employment, government employed, private services and pensions.

Bangalore Division has captured higher number of respondents whose income sources are from agriculture Labour (97%) while farmers/ cultivators are only 11%. But, in all the other Divisions-Belagavi, Kalaburagi and Mysuru have more than 70% of the income source from farming and agriculture-labour. This is because they are marginal and very small farmers and therefore, income from crop cultivation is not enough for the family. Hence, 29% of the income source in Belagavi has been reported from non- agriculture labour.



Figure 16: Income sources of farmers

Land ownership Pattern:

About 99.5% of the land owned by the beneficiaries is agricultural land followed by 6.3% of Pasture land and 2.7% of barren/ uncultivable land. The table 13 shows the land ownership pattern district-wise where it can be observed that Kalaburagi has the higher number of barren lands (18%) and Mysore has 18% of pasture land.



Figure 17: Type of Land owned by farmers

	Agricultural/ cultivable		Pasture		Barren/ uncultivable	
Divisions	land	%	land	%	land	%
BANGALORE	819	99.9	9	0.9	3	0.4
BELAGAVI	507	100.0	8	1.7	7	0.8
KALBURGI	557	98.0	23	3.9	46	8.6
MYSORE	639	99.9	130	18.4	8	2.4
KARNATAKA	2522	99.5	170	6.3	64	2.7

Table 13: Division wise distribution of Type of Land owned by farmers

Farmer Category:

Among all the farmers covered in the study, small and marginal farmers account for 64.52% (1,277), while semi-medium and medium farmers comprised 34.66% (701) and large farmers up to 0.8% only (15).



Figure 18: Category of Farmers by land

Mysuru Division constitutes the highest number of marginal farmers (40.49%) followed by Bangalore Division (35.72%). Bangalore Division has large number of small farmers (39.91%), while Belagavi occupies the more number of semi-medium farmers, closely followed by Kalburgi division (28.41%). Medium and large farmers are constituted less in all Divisions, only Belgavi and Kalaburagi having 12.63% and 11.63% medium farmers and 1.57% large farmers in Kalburgi.%.

AWARENESS LEVEL AMONG FARMERS AND FID REGISTRATION

This section probes into awareness of farmers on Raitha Samparka Kendras and the

Awareness on RSK:

Out of the total farmers covered, 97.6% farmers were aware of the RSK through various modes and multiple sources, only 2.4% farmers were not aware of the RSKs. Farmers were aware of the RSKs largely through farmer friends and family (91.31%) followed by social media (36.95%). The information/ awareness were less from both Gram Sabha meetings and village heads.

Farmers were also aware of Farmer ID (FID) and the processes involved in registering with an RSK but through RSK and informal sources such as family and friends.

processes involved in getting registered with the RSK.



Table 14: Division wise distribution of Awareness on RSK (No. of farmers)

Divisions	Friends/ family	%	Social media	%	Print media	%	Govt. Officials	%	Village heads/ leaders	%	Grand Total
Bangalore	776	94.63	112	13.66	100	12.20	153	18.66	83	10.12	820
Belagavi	465	91.72	324	63.91	211	41.62	207	40.83	201	39.64	507
Kalaburagi	528	93.29	261	46.11	167	29.51	127	22.44	283	50.00	566
Mysore	544	85.00	239	37.34	248	38.75	314	49.06	277	43.28	640
Karnataka	2313	91.31	936	36.95	726	28.66	801	31.62	844	33.32	2533

In the Community Score Card exercises, communities of users have given a score of only 1 out of 5 against the indicator on whether awareness was created on RSKs and its extension services in the respective Hobli by the Department of Agriculture.

Farmer Registration- FID:

Farmers in Karnataka are required to register with FRUITS (Farmer Registration and Unified Beneficiary Information System) website/ portal to avail inputs and services through the Department of Agriculture, Government of Karnataka. Farmers can either register themselves with the FRUITS or visit the nearby RSK to avail an FID. FIDs for farmers are generated based on the application request provided with mandatory documents for verification purpose. 98.9% of the farmers have applied for FID along with submission of necessary documents like Pahani (RTC), ID Proof and Bank passbook. It is noted that overall, in Karnataka, 73% of the farmers had availed FID within 15 days of registration. Respondents of all Divisions have received FID within fifteen days and in Kalaburagi and Bangalore Divisions substantial number of respondents have received FID immediately.





Further, 86% of the farmers have a registered FID with highest number of registrations being in Bangalore Division (730 farmers). **RSKs** provide wide range of agricultural services and inputs to farmers which contribute to farmer upliftment. The benefits include access to agricultural inputs like seeds, pesticides, farm machineries, training, information, and other Agri- related schemes. The study reveals that 94% farmers register with RSK to avail seeds, pesticides & micro nutrients and 83%

of the farmers to get on rent farm machineries and small agricultural equipment. About 2533 farmers are registered with RSK out of which 82% of the total farmers surveyed are availing agricultural services and from Raitha Samparka inputs Kendras. 7% of the registered farmers are not availing any service from the RSK. The nearest RSKs for these beneficiaries as reported in the Focus Groups Discussions were 8-10 km from their villages.



Figure 21: Composition of farmers

Challenges in Registration:

One of the major observations in all the scoping visits conducted by the PAC team and primary data collected was with regard to the challenges faced by the farmers in availing an FID. These include lack of awareness of registration process (92.7%), delay in processing applications (67.9%), lack of supporting documents (76.0%), land issues (5.6%), and difficulty in following-up with the registration process (0.8%). Few of the challenges have been the same reason for the non-registered farmers like lack of application documents and delay in processes.



Figure 22: Challenges in Registration process (multiple responses)

Divisions	Lack of awareness of registration	%	Slow registration	%	Lack of documents	%	Land/ Property issues	%	Follow- up issues	0⁄0	No Issues	%	Grand Total
Bangalore	790	96.34	559	68.17	642	78.29	45	5.49	1	0.12	22	2.68	820
Belagavi	448	88.36	332	65.48	387	76.33	34	6.71	13	2.56	12	2.37	507
Kalaburagi	498	87.99	376	66.43	335	59.19	33	5.83	2	0.35	0	0.00	566
Mysore	612	95.63	453	70.78	561	87.66	16	2.50	5	0.78	11	1.72	640
Karnataka	2348	92.70	1720	67.90	1925	76.00	144	5.68	21	0.83	45	1.78	2533

Table 15: Division wise distribution of Challenges in Registration faced by the farmers (No)

It can be observed from the table 15 that Divisions such as Bangalore and Mysore reported higher responses on challenges such as lack of awareness on registration process and lack of documents required for FID registration.

Case Study – 1

Red Tape Woes: A need for Streamlining Bureaucratic Processes

Ms. Savithramma, a farmer from Bottahalli Yadiyur Hobli, Kunigal Tumkur District, had registered with the FRUITS portal of the RSK. She was aware of the services provided by the RSK and thought of purchasing a Power weeder through the programme. She followed all the necessary processes and submitted her application for entitlement. However, despite being shortlisted for entitlement, she did not receive the machinery for more than three months.

The delay in entitlements to Ms. Savithramma was due to the bureaucratic issue of red tape. Upon enquiring with the officials and the private agency selected for the supply of machinery, Ms. Savithramma realised that her application was not processed. The private agency representative refunded her contribution amount in cash instead of transferring it to her account, which was against the legal process. She also did not receive any concrete response from the officials on why her entitlements were denied.

Ms. Savithramma followed the due process and filed a fresh application for entitlement. However, she realized that the farmer's contribution amount had increased from Rs. 10,000 to Rs. 18,900. She approached the PAC team, who encouraged her to file an application to review why her previous entitlements were denied. Ms. Savithramma submitted the application, and the response is awaited.

The issue of red tapism in the RSK program is a problem that hampers the smooth functioning of the system. The delay in entitlements can lead to frustration among farmers who are in dire need of machinery to enhance their productivity. Therefore, it is crucial to streamline the system, identify and rectify the bottlenecks, and ensure that the farmers' grievances are addressed promptly.

The case of Ms. Savithramma highlights the challenges faced by farmers in availing the services of RSK due to procedural hurdles. The delay in entitlements and lack of transparency in the system can cause distress among farmers. It is necessary to improve accountability and transparency in the system, simplify the procedures, and ensure timely delivery of services. This will help the farmers to enhance their productivity, improve their income, and contribute to the overall growth of the agricultural sector.

Alternative Sources for Inputs and Services:

Farmers who are not registered with RSKs manage to avail inputs through other sources like local shops in the villages, other farmers, Societies and private players. They have quoted multiple sources.

Among the registered farmers 184 farmers (8.45%) are not availing the services from RSKs. The major reasons for beneficiaries

not availing services despite being registered in the RSK are reportedly due to lack of accessibility to RSKs (55%), poor quality of inputs (32.9%), hidden costs (28.5%) like travel expenses or wage loss, untimely services (21.95%) and service charges (9.3%) charged by the RSK.

They manage to get the inputs from different sources as mentioned in the following table. Local shops and private companies supplying inputs are the major sources of purchase.

Divisions	Local shops		Private companies		FPOs / Societies		Fellow farmer/ family		Rental from large farmer	
	N	%	N	%	N	%	N	%	N	%
BANGALORE	16	93.3	7	48.3	2	21.7	0	0.0	0	0.0
BELAGAVI	28	70.4	22	56.9	1	3.6	4	6.6	3	9.6
KALABURAGI	12	91.7	8	62.5	2	8.3	4	20.8	3	12.5
MYSORE	112	71.0	55	55.5	38	26.2	8	17.9	1	2.0
KARNATAKA	168	80.0	92	55.0	43	17.4	16	11.3	7	4.7

Table 16: Distribution of alternative source for inputs

In all the Divisions, registered farmers who do not avail services from RSK avail mostly from other places due to higher quality of products available in the market and also the ease of availability.

	Better							
	quality of		Ease of		Better		Timely	
Divisions	products	%	availability	%	efficiency	%	availability	%
BANGALORE	19	98.3	17	90.0	1	6.7	17	85.0
BELAGAVI	33	91.4	34	95.0	2	7.1	33	83.7
KALABURAGI	13	100.0	13	100.0	0	0.0	12	91.7
MYSORE	122	94.6	124	99.6	14	2.9	93	83.7
KARNATAKA	187	95.8	188	96.2	17	4.3	155	85.3

Table 17: Distribution of preferential reasons for alternative sources

This reflects the need to provide quality products through RSKs and also distribution of inputs on need basis and timely requirements.

Non-Registered Farmers:

The study identified 359 non-registered farmers (14%) across Karnataka. Some of the major findings are highlighted below-

- The major reasons for not registering with the RSKs stated by the farmers are lack of documents especially land ownership records (92.5%) and lack of ID proofs (71.9%).
- 92% of the farmers have applied for the FID and are in the application process.
- Out of the 359 unregistered farmers, 91% has not received any

information from Raitha Samparka Kendras

- 1.3% of the farmers have received trainings on dairy farming and other farming activities
- Only 3.5% farmers have crop insurance which they have availed through the help of banks and Societies.

These farmers avail services from local shops, private players, FPOs/ societies, other farmers and sometimes they rent from big farmers. The major reason for the preference of other services over RSKs are the better quality of products (84%) available in the markets, ease of availability (66%) and lower prices (62%)

Division	Local shops	%	Private companies	%	FPOs/ Societies	%	Fellow farmer/ family	%	Rental from large farmer	%
BANGALORE	90	100.0	71	78.2	46	53.8	18	21.2	18	21.2
BELAGAVI	43	82.0	44	84.4	22	52.2	4	6.5	4	6.5
KALABURAGI	68	82.5	68	82.5	49	67.5	11	16.7	11	16.7
MYSORE	66	94.4	62	90.5	53	72.9	2	2.3	3	3.3
KARNATAKA	267	90.8	245	83.8	170	61.3	35	11.8	36	12.1

Table 18: Distribution of sources of inputs and services

It was also observed that 90% of the farmers had not reached out to any of the agricultural helplines to seek agri- related information or services. Only 2% had used PM-Kisan Samman Nidhi for seeking information. Farmers rather seek information from fellow farmers who update them on market prices, input availability and other necessary information. The non- registered farmers sell or market their products to local businessmen (54%) and sell to fellow farmers (8%).

SERVICE PROVIDERS

Demographic Profile of Service Providers

Profile of District Officials: The study interviewed various officials representing the different Departments such as the Joint Director of Agriculture, Deputy Project Director of ATMA and Assistant Director of DATC. The figure below portrays the gender distribution of district officials. It is very evident from the graph that the percentage of female officers are lesser than that of the male officers. At the Divisional level, Kalaburagi Division shows less deputation of female staff at all the fronts of ATMA, DATC and Agriculture department.



Figure 23: Gender Composition of District Officials

Division	Designation	Male	Male %	Female	Female %
BANGALORE	DPD (ATMA)	9	81.8	2	18.1
BANGALORE	AD (DATC)	6	60.0	4	40.0
BANGALORE	JDA	4	50.0	4	50.0
BELAGAVI	DPD (ATMA)	5	83.3	1	16.6
BELAGAVI	AD (DATC)	2	20.0	8	80.0
BELAGAVI	JDA	3	60.0	2	40.0
KALABURAGI	DPD (ATMA)	5	100.0	0	0.0
KALABURAGI	AD (DATC)	5	83.3	1	16.6
KALABURAGI	JDA	5	83.3	1	16.6
MYSORE	DPD (ATMA)	1	16.6	5	83.3
MYSORE	AD (DATC)	4	44.4	5	55.5
MYSORE	JDA	4	50.0	4	50.0

Profile of RSK Officials

Distribution of RSK Officers

As per the guidelines of Raitha Samparka Kendras, an Agriculture Officer and Assistant Agriculture Officer are deputed at the RKS to provide information, technical advice and required guidance to the farmers.

Division	No. of AOs	AO (%)	No. of AAOs	AAO (%)
BANGALORE	79	95.18	4	4.82
BELAGAVI	56	78.87	15	21.13
KALABURAGI	54	65.06	29	34.94
MYSORE	62	98.41	1	1.59
KARNATAKA	251	83.67	49	16.33

Table 20: Divisional level distribution of AOs & AAOs

Division	Districts	AO	%	AAO	%
BANGALORE I	DIVISION	67	16.36	146	93.78
BANGALORE	Tumakuru	5	23.81	32	100.00
BANGALORE	Chitradurga	59	84.29	19	76.00
BANGALORE	Shivamogga	0	0.00	22	88.00
BANGALORE	Davanagere	1	12.50	21	100.00
BANGALORE	Chikkaballapura	1	10.00	16	100.00
BANGALORE	Kolara	0	0.00	12	100.00
BANGALORE	Bengaluru (Rural)	1	16.67	11	100.00
BANGALORE	Bengaluru (Urban)	0	0.00	8	80.00
BANGALORE	Ramanagara	0	0.00	5	100.00
BELAGAVI DI	VISION	46	36.74	252	83.52
BELAGAVI	Belagavi	13	35.14	77	90.59
BELAGAVI	Vijayapura	1	4.35	51	82.26
BELAGAVI	Bagalkote	11	55.00	28	71.79
BELAGAVI	Uttara Kannada	11	68.75	36	100.00
BELAGAVI	Haveri	6	50.00	27	90.00
BELAGAVI	Dharwad	3	27.27	18	66.67
BELAGAVI	Gadag	1	16.67	15	83.33
KALBURGI DI	VISION	35	22.54	154	65.83
KALABURAGI	Kalburgi	11	30.56	32	65.31
KALABURAGI	Bidar	7	28.00	32	74.42
KALABURAGI	Ballari	5	19.23	34	82.93
KALABURAGI	Koppal	1	7.14	15	38.46
KALABURAGI	Raichur	9	36.00	26	83.87
KALABURAGI	Yadagiri	2	14.29	15	50.00
MYSORE DIVI	SION	6	10.91	117	95.23
MYSORE	Mysuru	0	0.00	33	100.00
MYSORE	Chikamagalur	0	0.00	19	100.00
MYSORE	Hassan	0	0.00	16	100.00
MYSORE	Mandya	3	27.27	14	100.00
MYSORE	Dakshina Kannada	0	0.00	14	100.00
MYSORE	Udupi	1	20.00	9	81.82
MYSORE	Kodagu	1	20.00	8	100.00
MYSORE	Chamrajanagara	1	20.00	4	80.00

Table 21: Mapping of vacant posts

Age Group

The figure 24 indicates the age group of officers in the Raitha Samparka Kendras. The pie chart shows that about 50% of the RSK staff belong to the age category of 26- 35 years.

16% of the staff belong to the age group of 56-65 and 12% of them are in the category of 46-45 years.



Figure 24: Age Group of RSK staffs

Gender Profile of Service Providers:

A major observation in the field visits were the lack of female staff in RSKs. Most of the RSKs are deployed with male staff across Karnataka. The piechart shows the presence of male staffs (81%) extensively in Karnataka while the female staff are on 18%.



Figure 25: Gender profile of RSK staffs

	Sex - Male	(%)	Sex -	(%)
Division			Female	
BANGLORE	68	81.93	15	18.07
BELAGAVI	58	81.69	13	18.31
KALBURGI	72	86.75	11	13.25
MYSORE	47	74.60	16	25.40
Karnataka	245	81.67	55	18.33

Table 22: Division wise distribution of Gender profile of service providers

The table 22 indicates the lack of women candidates working as officers in RSK that is dominant with 81% male Officers. It can also be observed that districts such as Chikkaballapura, Haveri, Chamrajanagara, Dakshina Kannada do not have any female Agriculture Officers or Assistant Agriculture Officers.

Education Qualification:

About 58% of the service providers have completed post-graduation and 26% have a degree. But it is necessary to note that only 1.3% (4) officers hold a relevant degree of agriculture as their Graduate degree. It can be noted that a large number of RSK staff in all the Divisions hold a Post-Graduation (PG) Degree or Under Graduate (UG) degree. Few of the people also hold a Doctorate in Kalaburagi Division.



Figure 26: Educational Level of RSK staffs

Table 23: Division wise distribution of Education level of RSK staff

Division	SSLC	%	PUC	%	Diplo	%	UG	%	PG	%	PhD	%
					ma							
Bangalore	2	2.4	5	6.0	0	0.0	27	32.53	49	59.0	0	0.0
Belagavi	3	4.2	4	5.6	7	9.9	27	38.03	30	42.3	0	0.0
Kalaburagi	4	4.8	3	3.6	3	3.6	19	22.89	50	60.2	4	4.8
Mysore	3	4.8	1	1.6	2	3.2	11	17.46	46	73.0	0	0.0
Karnataka	12	4.0	13	4.3	12	4.0	84	28.00	175	58.3	4	1.3

The education profile is very high and 58.3% of them are post graduates.

Area of Operation:

Area of operation helps to understand the number of Gram Panchayats and Villages that comes under the jurisdiction of an RSK. The study shows that on an average there are 8 GPs under an RSK and 42 villages handled by an RSK. Belagavi Division has the highest number of GPs and Bangalore Division has the highest number of villages handled by RSK in the study.

The table 24 shows the number of Gram Panchayats and Villages handled by Raitha Samparka Kendras in each District.

Districts	No of Gram Panchayat	No of Villages	No of RSKs	Average no of Gram Panchayat	Average no of Villages
Bagalkot	201	625	18	11.17	34.7
Ballari	239	686	31	7.71	22.1
Belagavi	506	1271	35	14.46	36.3
Bengaluru_Rural	105	1119	17	6.18	65.8
Bengaluru_Urban	96	642	17	5.65	37.8
Bidar	190	637	30	6.33	21.2
Chamarajanagara	132	518	16	8.25	32.4
Chikkaballapura	159	1627	26	6.12	62.6
Chikkamagaluru	233	1200	32	7.28	37.5
Chitradurga	190	1086	22	8.64	49.4
Dakshina_Kannada	232	407	17	13.65	23.9
Davanagere	199	830	20	9.95	41.5
Dharwad	146	426	14	10.43	30.4
Gadag	123	316	11	11.18	28.7
Hassan	269	2749	38	7.08	72.3
Haveri	223	686	19	11.74	36.1
Kalburgi	272	921	32	8.50	28.8
Kodagu	103	557	16	6.44	34.8
Kolara	158	1954	27	5.85	72.4
Koppal	155	630	20	7.75	31.5
Mandya	232	1559	31	7.48	50.3
Mysuru	268	1488	33	8.12	45.1
Raichur	186	881	37	5.03	23.8
Ramanagara	128	867	18	7.11	48.2
Shivamogga	271	1653	40	6.78	41.3
Tumakuru	330	2916	50	6.60	58.3
Udupi	160	259	9	17.78	28.8
Uttara_Kannada	232	1393	35	6.63	39.8
Vijayapura	232	646	18	12.89	35.9
Yadgir	124	518	16	7.75	32.4
Karnataka	6094	31067	745	8.18	41.7

Table 24: Distribution of Districts, RSKs and area of operation

Source RDPR Dept.

Table 25: Distribution of Dis	tricts with high burden	(above the state average)	& Division wise status
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Districts	Average no of Gram Panchayat	Average no of Villages	Division	No of GPs	No of Villages	No of RSKs	Average no of GPs	Average no of Villages
Udupi	17.78	28.8	BANGLORE	1636	12694	237	6.90	53.56
Belagavi	14.46	36.3	BELAGAVI	1663	5363	150	11.09	35.75
Dakshina Kannada	13.65	23.9	KALBURGI	1166	4273	166	7.02	25.74
Vijayapura	12.89	35.9	MYSORE	1629	8737	192	8.48	45.51
Haveri	11.74	36.1	KARNATAKA	6094	31067	745	8.18	41.70
Gadag	11.18	28.7	-					
Bagalkot	11.17	34.7						
Dharwad	10.43	30.4	-					
Davanagere	9.95	41.5	-					
Chitradurga	8.64	49.4	-					
Kalburgi	8.50	28.8						
Chamarajanagara	8.25	32.4						

Table 25 provides the districts with high burden on RSK as the number of Panchayats served is above the state average of 8.18. While Belagavi has maximum number of GPs, Chitradurga has maximum number of villages (49.4)

KEY INSTITUTIONS

PROFILE OF CHSC, ATMA AND KVK SCIENTIST

The study team identified various institutions which function very closely with RSKs in service provision and knowledge dissemination. The major institutions are:

 Agriculture Technology and Management Agency (ATMA) Block Technical Managers (BTM) Assistant Technical Manager (ATM)

- Custom Hire and Service Centres (CHSC Manager)
- Scientists from KVK

Senior Scientists/ Scientists
The graph and table below provide an overall picture of the gender profile of the above-mentioned service providers. It can be understood that the female staff are very less among both Scientist and Managers CHSC. But, ATMA has a considerable representation of female (45%) staff working as BTM or ATM.

SPs	Female	Female %	Male	Male %
ATMA	51	45.13	62	54.87
CHSC Manager	3	4.05	71	95.95
Scientist	2	6.67	28	93.33

Table 26: Distribution of gender profile of ATMA/ Scientist/ CHSC



Figure 27: Gender Profile of Other SPs





Key Informant Interviews (KII)

Key Informant Interviews were carried out through semi- structured questionnaires to capture the specific perspectives of the individuals who have specialized knowledge and significant role in improving farmer lives. The key informants selected for the study included members of FPOs/ SHGs, Farmer Advisory Committees, Panchayat Development Officer (PDO), Land registration officials and Lead Bank Managers.



Figure 29: Key Informant composition

SECTION II

ANALYSIS OF INSTITUTIONAL ARRANGEMENT OF RAIT SAMPARK KNDRAS

Section two provides details on the Organizational Structure and Operational Mechanisms of RSKs.

FACILITIES AND RESOURCES

Infrastructural Facilities of RSK:

The building type of Raitha Samparka Kendra can be either owned or rented. It was observed that 85% of the RSK buildings were owned and remaining 14.3% were rented. The RSK guideline mandates measurement of buildings in three different categories which are i) 50ft*80ft, ii) 40ft*50ft and iii) 45ft*60ft. Out of the RSKs surveyed, 61% of the RSKs were constructed as per the first category, 22% as per second and 16% belonged to the third category.

RSKs are mandated to provide basic amenities in its premises like electricity, drinking water, telephone, extension and exhibition materials. The table below identifies the availability of various facilities provided at the RSK. It can be noted that 18% of the RSKs have computer and 15% have internet connectivity. Only 7.2% of the RSKs have waiting room or space for the farmers to wait while visiting the RSK.



Figure 30: Basic amenities in RSKs

Table 27: Division wise distribution of Basic amenities available at RSK

Division	Table and	Computer	Telephone/	Notice/	Drinking	Wash	Waiting room/
	Chairs	(%)	Internet	Bulletin	water	rooms	space for
	(%)		connectivity (%)	boards (%)	(%)	(%)	farmers (%)
BANGALORE	19.8	18.1	15.5	17.2	13.4	11.2	4.8
BELAGAVI	18.7	18.5	14.8	14.5	14.5	12.1	6.9
KALABURAGI	21.3	19.0	14.6	13.3	12.1	11.0	8.7
MYSORE	20.5	19.2	16.0	13.7	10.7	10.7	9.1
KARNATAKA	20.1	18.7	15.2	14.8	12.8	11.3	7.2

The figure 31 shows the storage facility available with the Raitha Samparka Kendras. Overall, for Karnataka it is observed that RSKs do have provision for storage of inputs which are to be distributed to the beneficiaries. The also shows that Kalaburagi Division (75.9) and Mysuru Division (66.7) has less storage facility compared to other two Divisions.



Figure 31: Availability of storage space in RSK

Digitalization of RSK

The study observed that around 82% of the RSKs are digitalized, and are using electronic for information storage devices and processing. RSKs uses various web portals such as Farmer Registration and Unified beneficiary Information System (FRUITS,) PMKVY, K-Kisan Portal, KSDA staff grievance redressal, Bele Dharshak portal, Farm Mechanisation and Bhuvan. Farmers also use these apps for registration, gaining information and other enquiries.

17% of the RSKs use FRUITS (Farmer Registration and Unified beneficiary Information System) and 16% use K-Kisan portal of **Agriculture Department**

One of the most used applications used by the farmers is Bele Dharshak - up to 33.7%

28% of the farmers use Pradhan Mantri Kusum Yojana application.

Infrastructural Constraints

Various infrastructural constraints have been identified in the study which directly affect the efficiency of service provision by RSK. The RSK staff has pointed out multiple constraints which require immediate attention and resolution. Few of the key issues are as follows;

Low internet connectivity/ server issues in RSK (29%),

Lack of functioning toilets (19%),

Lack of drinking water (15%).



Figure 32: Infrastructural challenges of RSK

Human Resource Development and Challenges:

> Number of posts sanctioned were captured against the number of posts filled in RSKs to assess the actual number of personnel deployed in each RSK. The figure shows a stark difference in the

number of AAO posts sanctioned and actually filled in RSKs. The major reasons identified for the posts being vacant in RSKs are majorly lack of active recruitments (61%) and lack of mandate from higher officials to recruit more staff (32.65%).



Figure 33: Personnel deployed in RSK centres

Table 28: Distribution of Working staff against Sanctioned Posts in the RSKs: AO and AAO

Division	AO sanctioned	AO working	% working	AAO sanctioned	AAO working	% working
BANGALORE	149	82	55.0	157	11	7.0
BELAGAVI	125	79	63.2	297	45	15.2
KALABURAGI	140	105	75	233	79	33.9
MYSORE	64	58	90.6	120	3	2.5
KARNATAKA	478	324	67.8	807	138	17.1

Source: Dept. of Agri.

 Table 29: Distribution of Working staff against Sanctioned Posts in the RSKs: AO and AAO

Division	DEO sanctioned	DEO working	% working	ATMA sanctioned	ATMA working	% working	Scientist sanctioned	Scientist working	% working
BANGALORE	83	83	100	83	77	92.8	51	23	45.1
BELAGAVI	90	77	83.1	80	65	83.3	45	22	48.9
KALABURAGI	88	83	94	89	81	91	42	36	85.7
MYSORE	69	65	93.8	66	61	92.4	41	24	58.5
KARNATAKA	330	308	92.9	318	284	89.9	179	105	58.7

Source: Dept. of Agri.

The human resource constraints affecting effective service delivery are presented in the Table below. Overall, for Karnataka, lack of staff is the most reported issue or challenge faced by the RSKs which affects their service delivery. Other issues that emerge from this overarching constraint include, overburdening of work and communication issues. 15% of the staff are dissatisfied with employee benefits provided by the management and 8% each with salary provisions and communication channels.

HR Constraints- Agriculture Officer (%)								
Division	Lack of staff	Poor internal communication	Delay in salaries	Lack of employee benefits	Lack of Training	Poor management practices	Work burden	
BANGALORE	48.1	5.7	3.8	15.8	6.3	0.6	19.6	
BELAGAVI	29.6	8.5	9.0	16.9	11.6	5.8	18.5	
KALABURAGI	34.0	3.5	9.0	18.8	6.3	2.8	25.7	
MYSORE	35.5	15.7	7.2	9.6	4.8	4.8	22.3	
KARNATAKA	36.5	8.5	7.3	15.2	7.5	3.7	21.3	
HR Constraints-	Assistant	Agriculture Office	r (%)					
BANGALORE	50.0	0.0	12.5	0.0	0.0	0.0	37.5	
BELAGAVI	35.7	2.4	4.8	19.0	4.8	0.0	33.3	
KALABURAGI	30.3	7.9	13.5	13.5	7.9	9.0	18.0	
MYSORE	33.3	33.3	0.0	0.0	0.0	0.0	33.3	
KARNATAKA	33.1	6.3	10.6	14.1	6.3	5.6	23.9	

Table 30: Human Resource Challenges in RSKs

Accountability mechanisms:

Overall, for Karnataka, 53.9% of the RSK officials reported that there are no grievance mechanisms for RSK staff. Grievances are

raised through meetings which are conducted within the department and phone calls and meetings which take place with the higher officials of the department.

Division	Yes	Yes (%)	No	No (%)
BANGALORE	54	69.8	29	30.2
BELAGAVI	45	64.6	26	35.4
KALABURAGI	28	31.5	55	68.5
MYSORE	22	17.7	41	82.3
KARNATAKA	149	46.1	151	53.9

Table 31: Distribution of Grievance Redressal Mechanism for RSK staffs

SUGGESTIONS

Suggestions for improving human resources of RSKs were captured from the staff. About 53% of the staffs suggested recruitment of more staff in the RSKs and attention to better infrastructure amenities in the RSK and regular training of the RSK staff.

RSK FUNCTIONS AND ACTIVITIES

The following Table provides a quick mapping of the internal functions in the RSKs.

Particulars		Agriculture Officers	Assistant Agriculture Officer		
Internal meetings	on	63.6% RSK conducted meetings	Only 15% RSKs conducted		
updated guidelines	and		meetings due to lack of staff.		
other issues					
In- service trainings		68% of the AO have received in- service trainings in the past 5 years	75% of the AAO have received in- service trainings in the past 5		
			years		
		• The type of trainings received by AOs involved Induction training (26.45%), Foundation training (26%), on the job training (17%), maintenance training (17.6%) and career development training (12.2%)			
		 The type of trainings received by AAOs involved Indu training (18.8%), Foundation training (35.5%), on the training (22%), maintenance training (12.6%) and of development training (11%) 			
Internal Meetings		Meetings are conducted fortnightly	Meetings are conducted		
		- 60%	tortnightly - 54%		
Auditing		92% of the RSK undergo regular	92% of the RSK undergo regular		
		auditing	auditing		

Table 32: Internal functions of RSKs

The roles and responsibilities of the Officers are as follows.

Particulars	Agriculture Officer	Assistant Agriculture Officer		
Awareness of services	All the AO and AAO are aware of the	services and schemes of RSK		
and schemes				
Roles and responsibilities	84% of the work is undertaken	79% of the work is delegated		
delegated to RSK	according to the RSK guidelines and	through the department and 74% as		
	78% carry out the work as delegated	delegated through higher officials		
	by the higher officials			
Major managerial roles	Roles reported include:			
in RSK	Providing technical support	ort		
	• Convergence with other in	nstitutions		
	• Facilitating distribution o	f inputs		
	• Ensuring quality of service	ces		
	• Enabling stakeholder par channels	rticipation and communication		
	Organising trainings			
	Inspections/ verifications			
	• Grievance redressal of fai	rmers		
Frequency of field visits	48% of the officers carry out field visits weekly once and 36% carryout everyday	AAOs reported carrying out field visits everyday (46.9%) and weekly once (38.7%)		
Gram Sabha Meetings	84% AOs participate in Gram Sabha meetings	85% AAOs participate in Gram Sabha meetings		
KDP Meetings	64% AOs do not participate in KDP	69% of AAOs do not participate in		
	meetings as they are not a part of it.	KDP meetings as not part of it.		
Advisory Committees	Only 30% of the RSKs reported advisory committees located at the Taluka level (17%). The committee meetings take place on a monthly basis in most of the RSKs. Meetings are held to discuss farmer benefit-related issues, RSK service distribution across its jurisdiction, and other timely issues. 21% of the staff agree that the decisions taken in these meetings are implemented in the			
Convergence Rodies	RSK functions in convergence wit	th the Department of RDPR and		
Convergence Domes	Horticulture followed by Animal Husl &SWD (27%), Health (10%), Rever (0.4%)	bandry (64%), Forestry (56%), WCD nue (2.7%) and Labour Department		

SERVICES OF RSK

Input and Service Provision

The Figure below shows the inputs and services provided by the RSK and those received by the beneficiaries.



Figure 34: Inputs and Services provided by RSK



Figure 35: Agriculture support provided by RSK

Education and Communication (IEC) activities are critical for creating awareness among farmers regarding their entitlements from RSKs to enable them to seek the

services. IEC strategies therefore need to be in sync with the mode of communication that farmers currently use for quicker reception.



Figure 36: Mode of IEC activities carried out by AO & AAO

IEC Activities by RSK:

The Agriculture Officers and the Assistant Agriculture Officers are mandated to carry out various functions at the RSK to help poor and marginal farmers get access to agricultural services and inputs. The figure 36 shows various IEC activities carried out by RSKs involving multiple roles of which field visits are reported to be conducted more according to RSK staff (89%). However, beneficiaries have reported that field visits are very less (16%). Few other observations include-

- Beneficiaries have received information mainly from RSK officials followed by ATMA staff and Scientists. The department officers are proactive in accessing the farmers.
- Farmer- Scientist interaction is very less among RSKs (38%)
- Irrespective of the vast coverage of IEC activities through field visits and other modes, only 64% of the total farmers have received any information on agriculture in the past five years.

The CSC exercises carried out among the communities of users in Mysore, Belgaum, Kalaburagi Divisions and Malnad region reiterate the point of not having observed RSK staff visits by giving a score of 1 out of 5.

The fact that farmers are accessing mobile friendly messages on WhatsApp and other modes of social media shows that these should now be considered as the major mode of outreach and used extensively for IEC.

Selection of Beneficiaries by RSKs:

While efforts are made to reach out to as many farmers as possible, RSKs follow the method of First- come First- serve to provide services to their beneficiaries. One of the biggest challenges, which requires to be addressed in this criterion, is to ensure effective communication to all the beneficiaries on the availability of the stock/ inputs. Farmers who are not informed have higher chances of not being able to avail services, combined with lack of access to the RSK itself. Since the RSKs cover many Gram Panchayats, farmers from far off villages have lower chances of availing the services compared to villages closer to the RSK. Selecting beneficiaries on a need basis scale (e.g., registered but are far away) and Small and Marginal farmers can be considered by the RSKs to cater to those farmers who most need their services.





Beneficiaries availing services from RSK face multiple challenges in the whole process of receiving agricultural inputs and services. Some of the major time crunches are noted in the aspects of registration process and

availing inputs from RSK. This can be an issue arising from the lack of human resources in RSK and the first cum first serve principle which leads to the delay in providing services to the farmers.

Division	Registration	Purchase	Seed/ soil	Slow	Any
	process	of inputs	testing	response	other
BANGALORE	86.8	3.9	8.0	0.4	0.0
BELAGAVI	27.7	52.9	12.0	0.7	0.2
KALABURAGI	74.8	16.8	2.2	0.0	0.0
MYSORE	61.2	21.4	10.1	2.1	1.3
KARNATAKA	63.8	22.6	8.3	0.8	0.4

 Table 34: Distribution of Major Constraints faced by Beneficiaries (%)

Service Charges:

It was reported by the AOs that there are no service charges applicable on RSK services while AAOs had contrasting opinions. Few of the beneficiaries have been charged for availing inputs especially sprinklers, tillers and fertilizers. A share of charges from private partnerships in service provision is deposited in the bank and also utilized for the maintenance of RSKs. This is likely to ensure the sustainability of services.



Figure 38: Service charges by RSK

Success Story-1

Harnahalli RSK's Innovative Information Centre for Farmer Empowerment

Harnahalli Raitha Samparka Kendra (RSK), located in Shivamogga district, Karnataka, is a unique agricultural centre that provides services to around 4787 farmers in 29 villages across 4 Gram Panchayats. The farmers primarily grow Jowar, arecanut, and paddy, and the Malnad region's favourable climate ensures that they do not face any water shortage issues. Harnahalli RSK covers an area of 21 km from the district headquarters, and it has a total cultivable land of around 6500 acres. It has well-equipped infrastructure, and has been serving farmers by providing various services like training, storage, and market linkage. In this case study, we explored an innovative initiative undertaken by Mr Satish, the Agriculture Officer (AO) at Harnahalli RSK, to empower farmers with knowledge about farming techniques, issues and solutions.

The farmers often face challenges related to pests, diseases, and market access. The RSK has been supporting farmers in various ways, such as providing training sessions, storing their produce, and linking them with markets. However, Mr Satish, the Agriculture Officer at Harnahalli RSK, felt that more could be done to empower farmers with information and knowledge about new techniques and solutions.

Initiative: Mr Satish collaborated with BSc Agriculture students to create an innovative information centre that would serve as a knowledge hub for farmers. Information is disseminated through, chart sheets, and colour paper. The charts are placed on the walls of the RSK, and each chart provided information about a specific topic related to farming. The topics covered issues related to crops, such as pests, diseases, and market access, and solutions such as adopting new technology and multi-cropping systems. The charts were created in the regional language to make them easily accessible to farmers. Additional information was provided by the officer and the graduates.

Impact: The information centre has been well received by the farmers who visit the RSK. The information provided in the charts has helped individual farmers gain knowledge about issues related to their crops and possible solutions. The use of the regional language has made the charts more accessible to farmers who might not be proficient in English. The innovative initiative has been a boon for the farmers who can now access information at any time when they visit the RSK. The Agriculture Officer and his staff have also been actively responding to issues raised by farmers, further enhancing the effectiveness of the information centre.

The Harnahalli RSK's innovative information centre is a prime example of how technology and innovation can be used to empower farmers with knowledge and information. The initiative has been successful in providing farmers with access to information on issues related to their crops and possible solutions. The information centre's use of the regional language has made it more accessible to farmers who might not be proficient in English. The Agriculture Officer and his staff have also been actively responding to issues raised by farmers, further enhancing the effectiveness of the information centre. Overall, the initiative has been a success and has the potential to be replicated in other agricultural centres across the country.

CONVERGENCE ACTIVITIES

RSKs are working with personnel of ATMA to ensure outreach to farmers.

Particulars	Agriculture Officer	Assistant Agriculture Officer		
Convergence activities with ATMA	Registration process, awareness camp is carried out in complete convergence	baigns, and information dissemination e with ATMA		
	• Exposure visits (74%)	• Exposure visits (83%)		
	• Field visits and training (52%)	• Field visits and training (73%)		
	Engaging with FPOs & SHGs (42% & 33%)	• Engaging with FPOs & SHGs (46% & 48%)		
Frequency of convergence activities with ATMA	25% of the activities are carried out m	nonthly and 29% on a fortnightly basis		
Engagement with SHGs	57% of the RSKs engage with SHGs	53% of the RSKs engage with SHGs		
	Irainings (43%) and formation of interest groups (36%) are	interest groups (38%) are		
	undertaken to help the SHGs	undertaken to help the SHGs		
Frequency of Scientist	It is observed that in 44% of the	It is observed that in 61% of the		
visits	RSK, scientists visit fields only	RSK, scientists visit fields only		
	when need arises	when need arises		
Functions of Scientists	It is reported that scientists play an a awareness, field visits, resolving farm	ctive role in providing information & issues and provide recommendations.		
	Only 35% agreed to scientists provide	ing active advisory services to RSKs		
Working relationship with	About 49% of them agreed that the	About 66% of them agreed that the		
ATMA	performance of ATMA is good with	performance of ATMA is good		
	respect to the communication, team	75% has reported that the overall		
	field work trainings	performance of ATMA is good		
	48% has reported that the overall			
	performance of ATMA is excellent			

 Table 35: Convergence Activities carried out by the RSK

It is clear that RSK and ATMA are working in convergence to maximize the impact.

	AO/	AO/		Scientist	ATMA	ATMA
Division	AAO	AAO (%)	Scientist	(%)	Staff	Staff (%)
BANGALORE	389	49.31	45	6.30	48	7.08
BELAGAVI	360	71.09	130	23.48	228	44.97
KALBURGI	433	80.40	116	22.28	176	31.22
MYSORE	318	51.10	111	14.82	104	16.73
KARNATAKA	1500	61.09	402	15.77	556	23.32

Table 36: Information sources for beneficiaries (No.)

Agriculture Technology Management Agency (ATMA) and Scientists:

ATMA provides technical support to RSK through Block Technical Manager (BTM) or Assistant Technical Managers. Apart from that, Scientists from Krishi Vigyan Kendras are also deployed to RSKs to extend their expertise and service in the field of agriculture.

The major duties of ATMA include joint field visits and trainings (40%), demonstrations (18%), formation of Common Interest Group (CIGs) among farmers (16%), creating platforms for farmer- scientist interactions (16%) and organising Melas/ Kisan Goshtis (10%). ATMA also carries out Quality checks along with the RSK staffs on the inputs and equiments distributed to the farmers.

The major duties of the scientists involve provision of information and awareness to farmers (35%-field visits) like seed and crop management, technical support, assisting in soil and water tests (22%) and resolving issues regarding agriculture through providing sustainable solutions (33%). Scientists also actively participate in IEC activities with RSK such as awareness campaigns, group meetings and field visits.

68% of the beneficiaries are aware of Agriculture Technology Management Agency (ATMA) mostly through Raitha of Samparka Kendras. 43% the respondents have agreed to ATMA carrying out field visits and trainings 32%. However only 2% of the beneficiaries have received trainings mostly in the period ranging from 2018-2020. Some of the major themes covered in the training are application of pesticides, organic farming and schemes.

More than fifty percent (54%) of the RSK staff have stated that IEC activities are conducted on a monthly basis. IEC activities are significant for farmers to get access to wide range of information from crop management to market information. Beneficiaries have received information extensively on crop information (65%), seed management (55%) and government schemes (52%). Aspects of farm technology, training opportunities and market information are scarcely covered through IEC activities.



Figure 39: Distribution of components of IEC activities carried out by ATMA and Scientists

Perceptions of ATMA staff and Scientists;

- Some of the major achievements in working with RSKs mentioned are:
- Being helpful in increasing the income of the farmers and addressing farmers' issues as and when required
- Innovative ideas were provided by the staff on relevant information in the implementation of new policies at ground level
- Major challenges faced by the RSK is the lack of resources leading to overburdening of tasks. ATMA staffs and Scientists agreed upon the need for more human and infrastructural resources in RSK to improve quality of service provision to farmers
- Major issues farmers face with RSK services are settlement of crop insurance (77%), delay in supply of inputs (47%), and poor

quality of inputs distributed (38%)

• ATMA staff are 90% satisfied with the overall service provision of RSKs.

Custom Hiring Service Centres

Under the scheme of Farm Mechanisation, RSKs partner with private players to provide farm machineries to poor and marginal farmers on a rental basis. The centres are run by entering into contracts with the private companies. The CHSC in Karnataka is managed by significant players like Sri Kshetra Dharmasthala Rural Development Programme (SKDRDP), Indian Society of Agriculture Business (ISAP), VST, JOHN, Kalachetana Yuva Samasthe (KALA) and Mahindra & Mahindra (M&M).

Around 67% of the beneficiaries interviewed are not aware of CHSCs. On an average CHSCs are located 5Kms from the Raitha Samparka Kendras according to the RSK staffs. For beneficiaries, the closest CHSC is located 8km from their villages on an average.

Divisions	Yes	(CHSC)_Yes %	No	(CHSC)_No %
BANGALORE	316	12.48	494	19.50
BELAGAVI	224	8.84	283	11.17
KALBURGI	155	6.12	411	16.23
MYSORE	132	5.21	518	20.45
KARNATAKA	827	32.65	1706	67.35

Table 37: Distribution of Beneficiary awareness on services of CHSC

It was reported that there are 67% of the RSKs have CHSC representative in their RSKs. The major services provided at the CSHC is highlighted below. CHSCs provide services like rental of machineries, demonstration of machineries, and resolve issues regarding farm machineries. 96% of the farmers have stated CHSC provides rental services while only 6% have agreed to them providing demonstrations of the machineries.

- 59% of the beneficiaries have availed machinery from CHSCs and 41% have not availed any machineries from CHSCs
- According to the beneficiaries the major challenges that they face are the high rentals and poor maintenance and quality of machineries and lack of availability on time.

• CHSC Managers reported that almost half of the beneficiaries are unable to pay rentals on the same day and resort to borrowing money to pay off the rents or stop availing services from the CHSCs. There is an urgent need to make some provisions or payment slabs for the benefit of the farmers

Information on CHSC and farm machineries has not been effectively communicated to the beneficiaries. Farmers have given a score of 1 out of five on the availability of farm machineries in the CSC exercises.

The Shri Kshetra Dharmasthala Rural Development Project (SKDRDP)- has shown high performance due to its commitment and approach to the farmers.

Field visits were conducted to identify the best performing CHSC in Karnataka by the study group- CHSCs managed by SKDRDP were identified as the most effective model which is detailed in the case study given below.

The Shri Kshetra Dharmasthala Rural Development Project (SKDRDP) is a non-governmental organization based in Karnataka, India. It has established Custom Hiring Service Centres (CHSC) in 164 Hoblis covering 24 Districts of Karnataka. The specific objective of this case study is to identify the strategies deployed for the successful implementation of CHSC by SKDRDP and explore the scope of its replication throughout the state based on the best practices adopted. The case study involved a field visit to SKDRDP's CHSC in Dakshina Kannada. The observation was conducted by interacting with SKDRDP CHSC staff, RSK Technical Uppinagady Assistant Manager (ATMA) & Accountant, and a farmer. The field visit helped to understand the process followed, service provision. and distribution and communication channels used by SKDRDP CHSC.





Success Story -2

Successful Implementation of Custom Hire Service Centres (CHSC) by Sri Kshetra Dharmasthala Rural Development Programme

The SKDRDP has established CHSCs in 164 Hoblis covering 24 Districts of Karnataka, with five CHSCs in Dakshina Kannada. The CHSC in Periyadka, Dakshina Kannada is located 6 kilometres from Uppinagady RSK and 100 metres from Sri Kukke Subhramaya Temple State Highway, making it very accessible to farmers. The SKDRDP CHSC consists of State Regional Directors, Zonal Office Director (50 CHSC), Project Officer (10 CHSC), Manager at CHSC, Yantra Shri Yodhas can be found on Field Level 3. SKDRDP provides agricultural machinery at fixed rates which suits the needs of the farmers, based on taluk maps collected from RSK and analysed for paddy growing regions.

The CHSC managers are required to meet a target of 50 farmers for knowledge provision, and various paddy cultivation machinery is also available, along with pepper cleaning machinery based on demand. SKDRDP maintains a separate database to keep a record of the latest services received by each farmer, which helps to keep track of the rental period and provide reminders to the farmers on due dates. The organization also provides trainings to the farmers through SHG federations on themes like benefits of organic farming, ease of upgrading the machinery, and its benefits.

The farmers can book machineries through the 'Krushi Yanthradhaare Driver App' and pay 80% in advance while availing the rental services, and the remaining amount to be paid after 10 days post the completion of the agriculture work. The farmers can also make direct payments or pay through Yantra Shri Yodas. SKDRDP CHSCs charge agricultural machinery at Rs. 100 less from prices charged by other private institutions. In Udupi and Dakshina Kannada. SKDRDP has SHGs at the village level, each with a "Seva Pratinidhi" who attends SHG meetings to disseminate information regarding the importance of farm mechanization and its benefits.

Takeaways: The case study highlights the effective process followed by SKDRDP in establishing and managing their CHSCs in Karnataka. The organization's focus on providing customised and advanced agricultural machinery at fixed rates, along with training and knowledge provision, has helped enhance farm productivity in the region. The use of technology and the involvement of Yantra Shri Yodas have also contributed to the success of the programme. The model can serve as an effective example for other organizations looking to promote farm mechanisation and enhance rural livelihoods.

Soil Testing

All the RSKs facilitate soil testing to support farmers in understanding their soil fertility and choose the crops accordingly. The major procedures carried out by the RSK as part of soil testing are field visits (90%), collection and sending of samples to lab, generation of reports (61%) and provide recommendations to farmers (64%). The figure above provides the average number of soil testing conducted in each Division as reported by the RSK officials. However, during the Focus Group Discussions and observation visits, the beneficiaries raised the concern that there are no soil tests conducted in the past few years and the soil testing labs are also quite far from their villages which makes it very difficult for the farmers to get their soil tested.





Figure 40: Total number of soil testing conducted by RSK

Crop Insurance:

All the RSKs have reported to facilitate crop insurance and cover the risks of the farmers such as yield loss and natural calamities. The RSK staff's carryout assessment of damages to crops through field visits (33%), conducting assessment (23%), developing reports along with photographs (27%) and farmer interactions (17%). 43 % of the staffs reported that it takes more than 6 months to settle the claims of the farmers.



Figure 41: Total number of crop insurance settled in RSK

Except Bengaluru Division all other places have reflected poor performance in the provision of crop insurance and disaster management. Even though the number of cases settled are higher in other divisions, the beneficiaries have informed that they have not received any compensation in CSC. In General the case settlement is slow due to procedures.

Role of other stakeholders

The FPOs interviewed for the study play an active role in ensuring services to the farmer Karnataka, community. Across Farmer Producer Organizations facilitate 50% programs and also provide awareness information on marketing (26.7%). Panchayat Development Officers assist the farmers in giving information on government benefits (93%). Lead Bank Managers has also supported farmers by providing loans (40%). 74% of the key informants have reported that they carry out IEC activities excluding Lead Bank Managers and Land registration officials. The IEC activities are carried out majorly through awareness campaigns, print media and mass media. Trainings are also carried by FPOs, advisory committees on the following themes:

- New government schemes
- Crop management
- Application of crop protection
- Vermi -compost management



Figure 42: Activities carried out in convergence with RSK

23% of trainings are carried out in convergence with RSKs covering topics like organic farming, soil health and agriculture inputs. Since the key informants engage closely with both RSK and farmers, they are aware of various problem faced by the farmers. Some of the major problems faced by farmers were regarding the purchasing of seeds, soil testing and farm mechanisation. Grievance Redressal Mechanisms:

It was reported that all the RSKs have a grievance redressal mechanism in place and all the farmers are made aware of the same. All the grievances are registered at the RSK with the AO/ AAO. The farmers register their grievances through various modes such as complaint box, phone calls/ oral and written letters. 74% of those farmers who raised grievances, did through phone calls, and written complaints. According to the RSK staff, the major areas in which grievances are raised frequently by the beneficiaries are registration of FID, followup processes, and crop insurance. Other fields included issues with RSK staffs and private players.



Figure 43: Major Grievance of Beneficiaries

Beneficiaries stated that the major areas of grievances as related to the registration process, soil testing. They have also reported facing problems in linking the PM Kisan and Kisan Credit Cards.

The grievance redressal mechanism gets a low score in the CSC exercises carried out among communities of users in Belgaum, Kalaburagi and Mysuru Divisions.

SECTION III IMPCT ANALYSIS

With an extensive establishment of Raitha Samparka Kendras, the major aim has been always to increase the income and production of the small and marginal farmers. This section will dive into the changes that have been brought about by the RSKs in improving the livelihood of farmers.

The farmers adapted their cropping patterns subsequent to receiving guidance from the RSK. It is apparent that they followed to the recommended cultivation durations for various commodities and implemented the strategies provided by RSK, which included soil testing and other assessments. Following the service delivery from RSK, there was a notable increase in the area dedicated to the production of pulses, including Avare/Field beans, beans, and Bengal gram. Additionally, the area allocated for vegetable production expanded across all seasons, encompassing crops such as cabbage and coriander. This shift resulted in enhanced crop intensity and increased income for the farmers. The detailed impact of the analysis of services are given in following sections (Annexure table 6).

IMPACT ANALYSIS OF RSK SERVICES

For calculating the extent of effectiveness of the RSKs, change in specific indicators were analysed before and after registering with the RSKs by the farmers. The following were the key indicators selected to track the effect of the intervention on the beneficiaries:

- Total area sown and average area sown
- Total production and average production
- Productivity/ yield

- Total income and average income
- Cropping intensity

The table below reflects the overall impact of RSKs at the State level. It can

Indicators **Before registering** After registering Increase % change with RSKs with **RSKs** Change in Area sown in acres 9684.39 12272.78 (kharif+ rabi) 2588.39 26.73 Average Area sown (acres) 4.86 6.16 1.3 26.75 Total Production (quintal) 2,10,775 2,90,998.05 80223.05 38.06 Average Production (quintal) 147.68 183.06 35.38 23.95 Yield RSK (quintal/acre) 21.76 24 2.24 10.29 Cropping Intensity RSK (%) 105.49 133.68 28.19 26.72

Table 38: Impact of RSK by Registered farmers

Change in % of Area sown: It is the % of the total area sown during the seasons to the total area sown. Here, the value taken includes total area cultivated more than once in the year which means throughout various agricultural seasons like Kharif, Rabi and Summer. The table shows a significant change in the total area sown across the sample in Karnataka. The percentage change is 26.73% after registering with the RSK. Likewise, the average area cultivated has also increased from 4.86 acres to 6.16 acres in the sample farmers.

Total Production: The total production is the quantity of food grains produced in a given year measured in tonnes. We have selected the unit of Quintals in the study to accommodate the significant number of small and marginal farmers. The table shows a change in the total production from 2,10,775, Quintals to 2,90,998.05 Quintals after registration due to the facilitation for getting the inputs and technical advice. This accounts to a percentage increase of 38.06% in the total production. The average production witnesses a higher percentage change of 23.95%.

Agricultural Yield: The agricultural yield is the average net output of agricultural produce per unit of agricultural land per year. The agricultural yield has increased after registering with RSK. The percentage change observed is only 10.29%.

Cropping Intensity: Cropping intensity is defined as the Gross Cropped Area/Net Area Sown x100 in a given year. It is the % of gross area sown to net area sown. The study has revealed that there is noticeable change in the cropping intensity after registering with the RSK for the beneficiaries. With adoption technology more area is brought under different crops during the ajor seasons-Kharif & Rabi. The cropping intensity has increased from 105.49 to 133.68 percent.

be observed that all the indicators depict an increase signifying the positive impact achieved by RSKs.

Indicators	Non-Registered farmers (control group)	Registered farmers (Treatment group)	Difference
Average Area Sown (acre)	4.24	6.16	1.92
Average Production (quintal)	90.24	183.06	92.82
Yield (quintal/acre)	21.29	24	2.71

Table 39: Comparison between Control Group and Treatment Group

The additional exercise to assess the impact was to compare the outcomes of different groups- control group (non- registered farmer) and treatment group (registered farmers) to evaluate the effectiveness of RSK as an intervention in improving farm output and income of the farmers.

The table above compares various agricultural indicators between two groups of farmers- non-registered farmers (control group) and registered farmers (treatment group). The indicators compared include Average Area Sown, Average Production, Yield, and average Income.

The Average Area Sown per farmer is also higher for registered farmers, with an average of 6.16 acres sown compared to 4.24 acres for non-registered farmers. This represents a 31.17% difference. Similarly, the Average Production per farmer is higher for registered farmers, with an average of 183.06 quintals produced compared to 90.24 quintals for nonregistered farmers. This represents a difference of 92.82.

The Yield per acre is also higher for registered farmers, with a yield of 24 quintals per acre compared to 21.29 quintals per acre for non-registered farmers. This represents a 2.71 quintals difference.

The validation of results in comparison with control group confirms the impact of RSKs on farm income and productivity.

Indicators	Bengaluru	Belgaum	Kalaburagi	Mysuru (% change)
mulcators	(70 change)	(70 change)	(70 change)	(70 change)
Total Area sown in acres				
(kharif+ rabi)	31.92	20.83	5.87	21.21
Average Area Sown	31.85	20.81	6.01	21.34
Total Production	25.11	30.09	12.30	28.55
Average Production per farmer	25.14	30.09	12.31	28.55
Yield per Ha.	9.65	11.71	6.89	9.30
Total Income RSK	15.55	35.10	-15.58	10.21
Average Income	15.55	35.10	-15.58	10.21
Cropping Intensity	31.91	20.83	5.87	21.21

Table 40: Impact of RSK by Division wise percentage change

The Table above presents the percentage change in the selected indicators for Bengaluru, Belgaum, Kalaburagi, and Mysuru Divisions. The indicators-wise change in these Divisions are as follows:

Total Area sown in acres (kharif+ rabi): The table shows that the RSK has a positive impact on the total area sown in all four Divisions, with Bengaluru and Mysuru experiencing the highest percentage change.

Average Area Sown: The average area sown has also increased due to the RSK in all four Divisions, with Belgaum having the smallest increase and Bengaluru having the largest increase.

Total Production: The RSK has had a positive impact on the total production in all Divisions, with Belgaum experiencing the highest percentage change.

Average Production: The RSK has also increased the average production in all four Divisions.

Yield: The yield has increased due to the RSK in all Divisions.

Cropping Intensity: The cropping intensity has increased in all four divisions due to the presence of RSK.

Overall, the table shows that RSK has had a positive impact on the selected agricultural

indicators in all the divisions at varying levels in Karnataka.

A District-wise impact analysis was also carried out to identify the high performing districts and the ones which require immediate attention. The high performing districts are divided into three categories which show a significant increase/ change – above 30% in each indicator which are mentioned above.

The categorization of the high impact districts is given below:

- Very High Impact: This category includes a high impact in 3 or more indicators.
- **High Impact:** Districts belonging to this category has high impact in 2 indicators.
- **Medium Impact:** The medium impact category districts has a high impact in only one indicator.
- Low Impact: The change in any of these indicators is marginal or less than 30 percent.

The table below shows the Districts which has portrayed a higher impact and lower impact due to Raitha Samparka Kendra:

Sl.No	Impact level	District Names
1	Very High Impact (3+)	Chikkaballapura, Chikkamagaluru, Kodagu, Kolara and Udupi
2	High Impact (2 +)	Bengaluru (urban), Chamarajanagara, Chitradurga, Dakshina Kannada, Dharwad, Tumakuru, Uttara Kannada, and
		Vijayapura.
3	Medium Impact (1)	Bengaluru (rural), Bagalkote, Belagavi, Kalaburagi
4	Low Impact	Ballari, Bidar, Davanagere, Gadag, Hassan, Koppal, Mandya,
	(<30% change)	Mysuru, Raichur, Yadgir Ramanagara, Bidar and Shivamogga.

Table 41: Distribution of Impact of RSK in each District



Figure 44: High Impact districts (change more than 30%)

Impact categories

Impact Level	Indicators	Colour code
Medium Impact	1	
High Impact	2	
Very high Impact	3	

The table below shows the Districts which has portrayed a higher impact and lower impact due to Raitha Samparka Kendra and the factors contributing to the variations.

Sl.no	Impact level	District Names	Factors contributing to
	•		variations in Impact
1	Very High Impact (3)	Chikkaballapura, Chikkamagaluru, Kodagu, Kolara and Udupi	 Change in cropping pattern - better awareness and utilisation of services. Majority of the farmers belong to OBC and are semi- medium and medium farmers (60% in Kodagu, 36% in Chikkballapura) Better awareness leading to better utilisation of services.
2	High Impact (2)	Bengaluru(urban),Chamarajanagara,Chitradurga,DakshinaKannada,Dharwad,Tumakuru,Uttaraand Vijayapura.	Better awareness, education and utilisation of services. Majority of the farmers belong to OBC group in Dharwad, Uttar Kannada, Vijaypura
3	Medium Impact (1)	Bengaluru (rural), Bagalkote, Belagavi, Kalaburagi	Good response about the services of RSK in these districts with changes in cropping pattern but the impact is medium due to low adoption of cropping practices, caused by high illiteracy (60 percent Kalaburagi)
4	Low Impact (<30% change)	Ballari, Bidar, Davanagere, Gadag, Hassan, Koppal, Mandya, Mysuru, Raichur, Ramanagara and Shivamogga.	Illiteracy (52% Bidar) Ballari, Bidar, Davanagere, Hassan, Koppal, Mandya, Mysuru, Raichur, Ramanagara and Shivamogga (except Gadag) farmers reported that RSK has not contributed much for agricultural transformation.

Table 42: Distribution of Impact categories and factors contributing to it

Source: Primary data

FARMERS' PERSPECTIVES SATISFACTION WITH RSK SERVICES AND INPUTS

RSKs are providing services and inputs to the beneficiaries extensively with the support of

internal and external institutional linkages. The figures and tables presented below helps to acquire an overall understanding of the stakeholder satisfaction with the RSKs.







Figure 46: Overall satisfaction of beneficiaries with RSK services

Indicators	Not Satisfied	Partially satisfied	Satisfied
Registration process	18.8	39.7	41.5
Access to RSKs	12.1	35.2	52.7
geographical coverage of RSK services	14.8	40.7	44.5
Selection Criteria	15.0	36.4	48.6
Infrastructure	21.7	33.8	44.5

Table 43: Indicator wise satisfaction of users with RSK services and inputs

Quality of inputs & services	22.9	37.4	39.7
Timeliness of services	10.5	42.6	46.9
Relevance of services	18.8	34.5	46.7
Information dissemination	13.9	37.8	48.3
Relevance of information	16.4	35.8	47.8
IEC activities	17.6	38.3	44.1
Responsiveness of RSK staffs	13.5	44.1	42.3
Attitude of RSK staffs	13.6	41.8	44.5
ATMA services	11.1	34.6	54.3
Scientist interactions	18.0	33.4	48.6
CHSC services	22.9	37.8	39.4
Training & capacity buildings	29.6	36.8	33.6
Grievance redressal	16.1	41.8	42.0



Figure 47: Satisfaction with key informants on RSK services and inputs

SECTION IV

COMMUNITY ASSESSMENT OF SERVICES- COMMUNITY SCORE CARD

This section provides a consolidated narrative of the user experience and the supply side opinions through the Community Score Card Exercise (CSC). The Division wise performance of the score card is attached in the Annexures.

THE COMMUNITY SCORE CARD



The Community Score Card (CSC) process is a monitoring tool that combines social audit, community monitoring, and citizen report cards. Its purpose is to hold service providers accountable and encourage responsiveness to the community. The CSC process includes an interface meeting between service providers and the community, which allows for immediate feedback. This makes the process a strong tool for empowering the community. It is crucial to recognize that service delivery systems are ineffective when government officials are not accountable, when there is no emphasis on performance, inadequate incentives for good work, stagnation, a fixed mindset, demotivated staff, limited exposure poor monitoring to innovations, and supervision, corruption, and a lack of information for decision-making. Community score card help the communities to;Assess the quality of service delivery and Performance of the service provider

The **CSC approach** includes a scoring exercise on a 5-point scale using the following 4-step approach -

1. Preparatory Ground Work

The foremost step consists of identifying the geographical scope of the exercise, indicators to be tracked, groups in the communities that use the facility and NGO partners who can implement the exercise on ground at the local level and initiating contact with the relevant service providers and securing their co-operation. In this study, communities of users (SFs and MFs) are selected from within the jurisdiction of the RSK. Indicators covering the scope of the schemes implemented by the RSK are listed. The PAC study team had engaged with its network of District Level Partner Organisations (DLPOs) to work with both farmers and RSK service providers to secure their cooperation.

2. A. Conducting 'Performance' Score Card with the Community

The community generated score card is a report card on the quality of service delivered by the service provider. Users assess the performance against indicators developed in the preparatory phase. Reasons for giving the scores are documented as feedback from the community.

The first part in this step includes an 'Entitlement sharing' exercise where communities (gathering of about 25-30 SFs and MFs) are informed about the services that they are entitled to from their RSK. The second part comprises of a scoring exercise against each of the entitlements to be presented as indicators under aspects similar to that covered in the CRC approach. The scoring is done on a 5-point scale basis of the experiences that the communities have had with the RSK and its services. The reasons for the scores are recorded alongside each indicator.

B. Conducting 'Self Evaluation' Score Card with the Service Providers

The service providers carry out an evaluation of their own performance. It brings out their own perspective of their performance as well as gives an understanding of issues faced by the service provider in delivering services. The evaluation is based on the indicators that were followed in the community scoring process. The same indicators are presented to the service providers in a separate exercise for scoring basis their work in terms of providing services to the communities, along with reasons for giving the score

3. Interface Meeting

Post the scoring exercise, an interface meeting between service users and providers is held to share and discuss the scores and the reasons for the scores. The meeting allows for an open and participatory dialogue where both sides engage in constructive discussions to resolve issues. Here, a committee titled (JAC)'Action Committee 'Joint composed of community members, block level officers, gram panchayat officials, village level motivators and NGO representatives is formed. The function of the JAC is to develop a Joint Action Plan which prioritizes issues that must be addressed, decide steps to be undertaken to resolve the issues and the persons responsible for it.

The scores are presented in this open forum to understand gaps in scores for the same indicators and arrive at ways to address them. The action plan was implemented in the letter and spirit as committed in the open platform by both communities of users and providers through the Joint Action Plan (JAP) by the Joint Action Committee (JAC) the members of which are selected transparently during the meeting itself.

4. Institutionalization

The score card exercise is repeated after approximately 2 months to institutionalize the practice, with followup meetings in between to monitor progress and address any implementation issues being faced by the JAC members.

IMPLEMENTATION OF CSC IN THE STUDY AREA



The study comprises of 5 CSC exercise that were conducted in 5 Hoblis in 5 Taluks of 4 administrative divisions and one representing the Malnad region across Karnataka. The following Hoblis were identified based on the number of villages and number of RSKs present in the districts. The table below indicates the choice of Hoblis, Taluks and Districts where the CSC exercise was implemented:

Sl. No.	Division	District	Taluk (High Farmer Proportion)	Hobli/ RSK	Criteria
1	Bangalore	Tumkur	Pavagada	Kasaba	More number of villages
2	Kalaburagi	Yadgir	Shorapur	Shorapura	Less number of RSKs
3	Belgaum	Uttar Kannada	Karwar	Kinnara	Higher number of RSKs
4	Mysore	Udupi	Kundapur	Kundapura	Less number of villages
5	Malnad Region	Shivamogga	Bhadravati	Kudligere	Malnad (Heavy rainfall) area

Table 44: Hoblis, Taluks and Districts for the CSC exercise

PARTICIPANTS IN THE CSC EXERCISE

The participants in the CSC exercise comprised of 4 categories of respondents:

- Beneficiaries of RSK Registered Users
- Beneficiaries of RSK who are registered but did not avail any services- Registered Nonusers
- Unregistered Farmers- Non- Users
- Agriculture Labourers

The service providers included Agriculture Officers/ Assistant Agriculture Officers from RSK, Assistant Technical Manager of ATMA, representative of Custom Hiring Service Centre (CHSC), and members of FPO/ SHGs.

The above group of participants were accompanied by the DLPO investigators and Field Research Officers (FROs) of PAC.

Sl.no	District	Taluk	Beneficiaries	SPs	Total
			/Community		
1	Shivamogga	Bhadravati	52	5	57
2	Tumakuru	Pavagada	22	2	24
3	Udupi	Kundapur	32	4	36
4	Uttar Kannada	Karwar	46	5	51
5	Yadgir	Shorapur	36	5	41

 Table 43: Participants in the round 1 of CSC Exercise

Table 44: Participants in the JAC meeting

Sl.no	District	Taluk	Beneficiaries	SPs	Total
1	Shivamogga	Bhadravati	3	5	8
2	Tumakuru	Pavagada	4	4	8
3	Udupi	Kundapur	6	4	10
4	Uttar Kannada	Karwar	5	5	10
5	Yadgir	Shorapur	5	3	8

INDICATORS USED IN THE CSC EXERCISE

A list of indicators was prepared for the Raitha Samparka Kendra scheme based on the guidelines and government orders issued by the Government of Karnataka.

Table 45: Indicators for RSK scheme

Sl.no	Theme	Indicators
1	Information, Education and	Is there any awareness created on the existence of Raitha
	Communication (IEC)	Samparka Kendra (RSK) and on the various extension services
		provided in the respective Hobli by the Department of
		Agriculture?
		Simplicity of the messages
		Comprehensiveness of the messages
2	Process for getting registered	Experience of filling the application form
	on FRUITS	Ease of attaching supporting documents and submission to
		Raitha Samparka Kendra (RSK)
		Experience of getting the Farmer Identification Number (FID)

3	Application procedure for	Experience of filling the application form while applying for						
	availing extension services	Agricultural implements and submission to Raitha Samparka						
	and agricultural implements	Kendra						
		Selection of Agricultural Implements						
		Ease of attaching supporting documents and submission to						
		Raitha Samparka Kendra (RSK)						
		Submission of completed application form						
4	Selection Process	Mode of selection of Beneficiaries						
		Intimation to the Farmer/ Beneficiary						
5	Process involved in availing	Process in getting Sanction order						
	the agricultural implements	Ease in arranging for post sanction requirements						
		Receipt of Equipment sanctioned						
		Support provided by the Empaneled Company whose						
		Agricultural Implement is procured, in using the Implement						
6	Process involved in availing	Experience in placing the order for the Seeds, Fertilisers and						
	seeds, fertilizers, medicines	Crop Protection Medicines						
	for crop protection	Mode of selection of Beneficiaries						
		Intimation to the Farmer/Beneficiary						
		Ease in arranging for post sanction requirements						
		Receipt of the Seeds/ Fertilizer/Crop protection medicine						
		Guidance on Usage/Technology						
7	Processes involved in	Conduct of soil testing by the Department of Agriculture						
	getting soil tested	through RSK						
		Information on collecting soil samples and processes involved						
8	Capacity building on	Awareness created on information related to agriculture / latest						
	technology in agriculture	technologies in agriculture						
	to increase production	Demonstration of new Agricultural Implements						
		Field Day – Facilitating farmers to learn from the Model						
		Farmer						
		Training on specific needs of Farmers						
		Regular trainings conducted at District Training Centre						
		Exposure visit for the Farmers						
		Information on farm process for getting increased production						
		Information and encouragement of Organic farming						
		Crop Insurance						
		Knowledge provided to identify the crop disease at an early						
0		stage by the texture or color of the leat/leaves etc. $\mathbf{\Sigma} = 1 1 \mathbf{V}$						
9	Monitoring the agricultural activities by the $\Delta \Omega / \Delta \Delta \Omega$	Field VISITS by AU/AAU						
10	Disaster Management and	Crop loss due to natural calamities such as rain OR diseased						
10	compensation	crop						
11	Process involved in availing	Information on availability of Farm Mechanisation and						
	farm mechanization on rentals	processes involved						
	from CHSC	Receipt of Farm Mechanisation						
12	Grievance redressal	Ease of lodging Complaints if Agricultural Implements is						
		found defective or malfunctioning						
		Post lodging complaint by Farmer/Beneficiary						
		Grievance Redress mechanism						

		Satisfaction on Grievance Redressal			
13	Fund flow and programme	Release for Request for Proposals (RFP)			
	implementation	GPS Marking and Maintenance of records			
14	Programme implementation at	Having stock of the Farm Mechanisation			
	CHSC	Maintenance of records and have track of equipment			
		Maintenance of Farm Mechanisation			
		Renewal of contract			

CONSOLIDATED SCORES OF CSC

The table below provides the scores of CSC 1 and CSC 2 for each indicator across all the Divisions and Malnad region. The CSC

scores in round 2 has increased due to the actions taken in the Joint Action Committee (JAC) followed by the implementation of Joint Action Plan (JAP) at the community level.

Table 46:	Consolidated	Scores	of Beneficiary	- Division	wise
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Sl.	Indicator Themes	Pavagada RSK		Kinnara RSK		Shorapur RSK		Kundapura RSK		Kudligere RSK	
no		Tumakuru District		Uttara	Kannada	Yadagir District		Udupi District		Shivamogga	
		Bangalore Division		District	District Kalaburagi Divisi		gi Division	1 Mysuru Division		District	
				Belagavi Division						Malnad Region	
		CSC 1	CSC 2	CSC 1	CSC 2	CSC 1	CSC 2	CSC 1	CSC 2	CSC 1	CSC 2
1	Information, Education and Communication	4	13	3	13	4	10	0	15	12	14
	(15)										
2	Registration Process- FRUITS (15)	10	15	3	13	10	12	0	13	9	14
3	Application procedure for availing extension	15	19	4	12	15	18	1	12	12	17
	services and agricultural implements (20)										
4	Selection Process (10)	9	9	0	10	5	8	1	10	7	8
5	Process involved in availing seeds,	30	29	4	26	14	21.5	6	26	25	27
	fertilizers, medicines for crop protection (30)										
6	Process involved in getting soil tested (10)	0	6	3	7	0	4	0	7	0	2
7	Capacity building on technology in	40	45	17	36	25	46.5	11	36	9	36
	Agriculture to increase production (50)										
8	Monitoring the agricultural activities by the	5	5	0	3	0	3	0	3	0	4
	AO/ AAO (5)										
9	Disaster Management and compensation (5)	5	5	0	2	2	3	0	2	0	5
10	Process involved in availing farm	10	10	3	7	0	5	0	7	7	10
	mechanization on rentals from CHSC (10)										
11	Grievance redressal (20)	16	16	6	11	6	11	0	11	13	20
Actions Taken post Interface Meetings

Information, Education and Communication: Tumakuru, Uttara Kannada, Udupi and Yadagiri district scores have increased as it was reported by the beneficiaries that, they are informed by the RSK staffs through social media and other sources.

Registration Process- FRUITS: In Uttara Kannada, the service providers had conducted group meetings with the beneficiaries after the JAC to provide them with necessary information on FID.

Application procedure for availing extension services and agricultural implements: In Uttara Kannada, the staff have contacted the private implement providers to ensure the quality of implements supplemented to RSK and farmers have reported in availing assistance from RSK staff in filling the application especially in Udupi and Tumakuru district.

Selection Process: The selection of the beneficiaries is on seniority basis of reaching the RSK in all the RSKs which has been a major issue for the small and marginal farmers who need the RSK services and inputs. Udupi district RSK staff have taken necessary action to notify the beneficiaries of input availability through social media. Thus, they can reach out the RSKs as soon as they are aware of the information and avail inputs.

Process involved in availing seeds, fertilizers, pesticides for crop protection: In Uttara Kannada, the staff had conducted a group meeting to discuss the issues faced by the farmers in availing agricultural inputs and have agreed to take necessary steps to resolve the same. Likewise, in Yadagiri, the beneficiaries had been made aware of the processes involved in availing seeds, fertilizers, medicines for crop protection by the RSK staffs.

In Udupi District, Scientists were requested to visit the field to discuss with farmers and resolve their queries on crop management.

Process involved in getting soil tested: In Tumakuru District, the RSK agreed to provide more information on soil testing and its requirements to the farmers. In Uttara Kannada, farmers were informed about the nearest soil testing centres and follow-up procedures.

Capacity building on technology in Agriculture to increase production: During the interface meetings, farmers requested for training on various themes organic farming and like vermicomposting in Uttara Kannada for which the staffs have agreed to make arrangements for the same. Yadagiri district have agreed to conduct more demonstrations for the farmers. Based on the needs of the farmers trainings were organised in Udupi district.

Monitoring the agricultural activities by the AO/ AAO: It was reported by the beneficiaries of Yadagiri District that there has been increase in the frequency of field visits made by the RSK staffs.

Disaster Management and compensation: The ATMA officials in Uttara Kannada district had engaged actively in disseminating information about crop insurance, risks and the process involved. In Yadagiri district, RSK officials have agreed to carryout joint inspections with settle the claims ATMA to of beneficiaries.

Process involved in availing farm mechanization on rentals from CHSC: RSK staff have ensured to provide the beneficiaries farm machineries and also made them aware on availing machineries from Farmer Producer Organisations (FPOs) in Udupi District. In Shivamogga, beneficiaries raised their concern on issues related to repairing the machineries to which RSK staff have responded in resolving the issue.

Grievance redressal: ATMA had taken the initiative to provide awareness to beneficiaries on grievance redressal in Udupi District.

It is observed from the scores and the activities under the respective Joint Action Plans (JAP) that were carried out by the Joint Action Committee (JAC) includedfocused attention towards creation of awareness among farmers on available options and quick handholding support to the farmers which led to a discernible improvement in scores in the second round of the CSC exercises (CSC-2). Joint ownership by users and provider of such institutions at the first mile is the best way towards development, as observed from the application of this Social Accountability Tool (SAT).

Relevance of services provided through RSKs to farmers in Karnataka, and the capacity of RSKs to deliver the services of relevance:

The RSKs in Karnataka established at the Hobli level have been equipped with the required infrastructure and workforce with technical experts. Farmers associated RSKs have easy access to the facilities at RSKs. RSKs have been equipped with all necessary facilities to deal with farmers' grievances and these Kendras are successful in addressing the issues and challenges elated to agriculture. Farmers attached to RSKs have access to quality seeds, fertilisers, pesticides etc on time. Farmers are also helped with new technologies, knowledge, capacity building and other services. In particular, RSKs are very helpful to small and marginalised farmers. These Kendras are providing services related agricultural activities to all farmers across all groups.

MAJOR FINDINGS

The study set out with a certain set of objectives as outlined in the proposal and the Sanction letter agreed between NABARD and PAC. The findings presented in the report have been summarized under the same objectives –

Awareness, access and Outcomes created by services provided by RSKs to farmers

Karnataka has 745 Hoblis which are administrative units at the sub-taluka level, each of which has an RSK. The sample size chosen for this study is 254 RSKs (at 95% confidence level+5% error) across all 30 districts

Raitha Samparka Kendras facilitate major schemes (State and Central) such as Agro processing, Micro Irrigation, Farm mechanization, Fertilizers & Pesticides and NFSM. The analysis shows that Seeds are the most availed input from RSKs accounting for 52.4% followed by Micro Irrigation (15%), Pesticides (14%), Fertilizers (13.8%), Farm mechanization (4.3%) and Agro processing (0.1%).

- A significant presence of farmers representing backward caste is observed in the study area (OBC-77%). Bangalore Division had only 12% of farmers from the General category. Kalaburagi Division has 14% of Schedule Caste and Scheduled Tribe each. Mysore Division has a very less percentage of SC (0.7%) and ST (0.5%) farmers
- Among all the farmers covered in the study, small and marginal farmers account for 67.4% (1,709), while medium farmers comprised 18% (458) and big farmers up to 14.4% (365).

Out of the total farmers covered, 97.6% farmers were aware of the RSK through various modes and only 2.4% farmers

were not aware of the RSKs. Farmers were aware of the RSKs largely through friends and family (90.3%) followed by social media (36.3%). The information/ awareness has been less from both Gram Sabha meetings and village heads.

- Upon successful submission of the completed application, farmers were registered in RSKs. The time duration varied 48.7% (from farmers in Kalaburagi Division to 86% farmers in Mysore Division reporting registration in 15 days). However, there is very low reporting of having the actual FID card in hand. Additionally, the application process was found to be very tedious since there were major issues relating to lack of awareness of registration process (89%), delay in processing applications (62.8%), lack of supporting documents (73.6%), land issues (6.6%), and difficulty in following-up with the registration process (0.8%)
- Farmers were found to be mobile friendly in accessing WhatsApp and other social media applications as against the traditional modes of print media. Farm visits found a huge gap in terms of reporting, with 80% of the officers reporting conducting field visits as against 15% farmers experiencing the same. A strategy turnaround switching to new ways of demonstrations should be the need of the hour.
- The first-come first-serve method of serving farmers has proved to be detrimental for the small and marginal farmers who are not able to arrive at the RSKs in time to avail benefits.
- Despite, all the constraints faced, farmers who have registered with RSKs have witnessed improvements in area sown, total production, yield and income as well. A focused impact analysis shows that after registering with RSKs farmers have experienced a

26.7 % improvement in acreage sown, 38% improvement in total production, 10.29% improvement in yield and a 19.6% improvement in total and average income. A quick comparison between registered and non-registered farmers have also shown that the registered farmers have had much to gain as against the latter

- Very high impact has been witnessed in the districts of Chikkaballapura, Chikkamagaluru, Kodagu, Kolara and Udupi,
- Ballari, Bidar, Davanagere, Gadag, Hassan, Koppal, Mandya, Mysuru, Raichur, Ramanagara and Shivamogga with less than 30% impact need more proactive support from their RSKs. This is due to low usage of RSKs by farmers, tide up with private shops, low awareness levels.
- Resultant satisfaction is seen in most in Bangalore Division while much needs to be done in the Belagavi and Kalaburagi Divisions to ensure better satisfaction among farmers.

Extent of the services provided through the RSKs that are relevant to the topics & issues of concerns to farmers in Karnataka; further determine the capacity of RSKs to deliver services of relevance

- Seeds are the most availed input from RSKs accounting for 52.4% followed by Micro Irrigation (15%), Pesticides (14%), Fertilizers (13.8%), Farm mechanization (4.3%) and Agro processing (0.1%).
- However, majority of the share of beneficiaries of seeds is taken up by farmers of General Category (58.1%) rather than farmers belonging to Scheduled Caste (16%) and Scheduled Tribes (10.3%) across all the districts.

- In the case of farm mechanization, the proportion of SC farmers availing the same is higher (ranging from 26% in Belagavi Division to 37% in Kalaburagi Division)
- Fertilizer and Pesticides utilization was seen to be high in districts such as Belagavi, Bellary and Bagalkot which fall in the northern belt of Karnataka; lowest utilization was observed in Kodagu, Dakshina Kannada and Udupi districts which lie in the coastal belt of Karnataka and largely involve the production of plantation crops rather than cereal cultivation
- Among those farmers who availed other sources as well for agri inputs included local shops (80%), private companies (55%) and FPOs/Societies (17.4%), the reasons being ease of availability, better quality and timely availability.
- Soil testing and providing support to farmers basis the results through Soil Health Cards is a major concern as in both the CRC survey and the CSC exercises, farmers have reported not receiving support from the RSK.

Challenges & constraints faced by the RSK-related Officers in their role as service providers to the communities

- RSKs were found to be handling a substantial number of Gram Panchayats due to variations in coverage of GPs and villages under Hoblies. This puts a huge burden on the RSK to cater to all deserving farmers across the villages covered under its jurisdiction.
- RSKs are mandated to provide basic amenities in its premises like electricity, drinking water, telephone, extension and exhibition materials. It was noted that only 18% of the RSKs

had a computer and 15% had internet connectivity. Only 7.2% of the RSKs had waiting room or space for the farmers to wait while visiting the RSK. However, RSKs do have provision for storage of inputs which are to be distributed to the beneficiaries.

- The post of Assistant Agriculture Officer was filled in for only 49 of the 254 RSKs covered in the survey. This was reconfirmed through calls to the AOs in the RSK to ensure credibility of the data. The roles to be played by the AAOs in improving effectiveness then becomes a major constraint – Mysore and Bangalore Divisions showed vacancies of more than 95%.
- Due to AAO positions lying vacant, the Agriculture Officers are pressured to work under many constraints that include lack of supporting staff (36%), work burden (21%), and lack of employee benefits (15%). A mapping of their function roles show the support that both posts provide to each other reflecting the need to fill vacant posts at the earliest.
- **CHSCs** form important • an institutional linkage for RSKs to ensure better farm mechanization. However, 67% of the beneficiaries interviewed were not aware of CHSCs, were located to nearly 10kms from their village. CHSC reported beneficiaries not able to make payments upon borrowing of the equipment, however, some CHSCs working a PPP model providing additional technical and advisory services were found to be successful as well.

Replicability of such Kendras in other States.

The PAC Study team extensively studied the agriculture extension

services provided by 8 States across India with an attempt to cover all the four regions and states that are agriculturally predominant. Most states have adopted various forms of Public Private Partnership models unlike Karnataka and now Uttar Pradesh as well with its Krishi Kalyan Kendras.

RSKs' advantage of having backward linkages with institutions such as ATMA, KVKs, University of Agricultural Sciences has put them in good stead as this convergence has increased production and productivity among farmers who have registered with them and availed benefits. The RSK is an integrated model that can be replicated by agriculturally predominant States in India.

Recommendations

To improve the effectiveness of Raitha Samparka Kendra in Karnataka to achieve the desired outcomes, the following specific evidence-based recommendations are provided to improve the service delivery & outcomes created through the system.

Increase awareness about services- Use the social media platform, which is observed to be more popular among the farmers. Conducting Jathas, discussions in Gram Sabhas will help to increase awareness. The Social volunteers from agri. Colleges, NSS volunteers from Colleges and Universities may also be involved in the campaign. The Haranhalli model has proved effective.

Providing appropriate services and at consultancy convenience: The utilisation of certain services like farm mechanization is very low. It should be enhanced through proper awareness and field demonstrations. instead of present practice of officers meeting the farmers on Thursday in many of the Centres, make the day flexible aligning with the weekly market day (Sante day).

Provision of Mobile Services: one of the constraints in utilising services was the distance factor. Introducing mobile services (like Krishi Rath in Gujarat), in remote areas may help to overcome the distance factor. This will also optimise the utilization of RSKs.

Provision of quality inputs: The Department should establish quality check mechanisms in collaboration with Agri. Universities to ensure quality inputs. (60% of beneficiaries are not satisfied with quality of inputs).

Safe and adequate storage and effective information systems: Adequate storage capacity to ensure timely supply of seeds, equipment and fertilizers to all the farmers. Develop mobile apps, SMS systems to provide information to the farmers about the availability of inputs.

Address the small and marginal farmers on priority: The first-come first-serve method of serving farmers has proved to be detrimental for the small and marginal farmers who are not able to arrive at the RSKs in time to avail benefits. Some preference system needs to be introduced.

Promote integrated Farming Systems: It is observed that RSKs work closely with small and marginal farmers, therefore, they should promote awareness and adoption of integrated Farming Systems to ensure security of income.

Streamline the FID registration process: RSK guidelines to be simplified for the registration process, ensure timely processing of applications, and help farmers in obtaining as well as submitting documents. The FPOs to be involved more for handholding with the farmers.

Address infrastructure challenges: Allocate more resources to improve infrastructure, including digitalization and modernization of RSK buildings and better storage facilities.

Increase human resources: RSK should prioritize recruiting and training staff to ensure adequate and competent human resources through different hiring practices. Many posts are vacant. Tying up with Agri. Colleges and Universities through Internship Programme may help the Dept. and the students also.

Strengthen monitoring and evaluation mechanisms: RSK should develop and implement comprehensive monitoring and evaluation mechanisms to assess the effectiveness of their services and for improvement. identify areas Concurrent monitoring of RSKs will enhance efficiency and effectiveness of the Kendras. For this, Aap based monitoring can designed be and implemented. Monitoring techniques like real-time data and information through Kobo will be effective. Further, for better results RSKs can be fully digitised. Farmers should be the first stakeholders of RSKs and farmers should be involved in concurrent monitoring through social audit.

Replicability of RSKs:

As evidence from Karnataka reveals that though there is scope for improvement of RSKs, the services which are provided by RSKs and the extent of farmers availing these services indicates that this institutional arrangement has a good potential of replicating in other States as well.

Increase the coverage and counselling of soil testing: Soil Health Cards should be generated post soil testing and to be given to farmers with clear advice about the application of correct nutrients and appropriate crops to ensure optimum utilisation and soil rejuvenation.

Strengthen linkages with ATMA, KVKs, and University of Agricultural Sciences: This will help in providing better technical knowledge and support to the farmers and Increase the Technology Adoption Rate. Ensure frequent interactions and systematic demonstrations on farmer fields to bring successful experiments closer to farmers. Implement the farm mechanization schemes more effectively.

Improve functioning of CHSCs- Efforts should be made to reach out to the currently successful CHSCs to expand their operations while also identifying potential partners who can be engaged through a PPP model. Better maintenance of equipment in CHCs to be ensured.

Provision of Repair services at Hobli level: Multipurpose mobile van may be maintained at Hobli level for providing the repair services. Utilise the services of youth Associations and Agri. College students in implementing it.

Improve the functioning and service delivery in low performing districts: Ballari, Bidar, Davanagere, Gadag, Hassan, Koppal, Mandya, Mysuru, Raichur, Ramanagara and Shivamogga are districts with less than 30% impact and need more proactive support from the RSKs.

Mandatory Internship for Agri. Graduates: The Agricultural Universities and colleges can collaborate with agriculture department to introduce mandatory internship programmes to provide hands on skills to the students as Field Officers and link them with RSK activities. This will also provide skilled graduates to RSKs for better service delivery.

Promotion of Farmer Producer Organizations: RSKs should provide counselling services and support to farmers to form FPOs and provide handholding to them in the initial stage. This will ensure the sustainability of extension programme in the long run.

Replication of RSK model: RSKs' advantage of having backward linkages and convergence with institutions such as ATMA, KVKs, and University of Agricultural Sciences has maximised linkage effect. This has increased production and productivity among farmers who have registered with them and availed benefits. The RSK is an integrated model that can be replicated by agriculturally dominant States.

CONCLUSION

The study on evaluating the effectiveness of Raitha Samparka Kendra (RSK) in Karnataka has shown that RSK has improved service delivery to farmers in the state. The findings indicate that the RSK has been successful in creating awareness among farmers regarding various government schemes and programs. Additionally, the RSK has played a vital role in providing access to technology and market information, agricultural inputs, and extension services.

The study has also brought out that RSK has been instrumental in creating a platform for farmers to voice their grievances and concerns. The farmers' feedback has been taken seriously by RSK, and the necessary steps have been taken to address their issues promptly. Furthermore, it has highlighted the role of RSK in promoting sustainable practices and encouraging agriculture farmers to adopt modern techniques. Overall, the study suggests that RSK has been successful in achieving its objective of enhancing service delivery to farmers in Karnataka. However, there is scope for improvement, particularly in the areas of technology adoption of farmers and capacity building of RSK staff. As RSK is closely working with small and marginal farmers, it has to focus more on promoting awareness and adoption of integrated farming systems.

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ANNEXURE 1 - FGD MATRIX

Table 1. FGD Matrix

District	CHAMRAJANAGARA	KOPPAL	CHIKKAMAGALURU
Taluk name:	Yelandur Taluk	Yalaburga	Mudigere Taluk
Village name:	Kestur Village	Chikka Myadageri	Hosalli village
Date:	16.07.2022	26.07.2022	06.08.2022
Total Participants	20-25 farmers	40-45 farmers	10-12 farmers
Nearest RSK	8 km	9 km	10 km
Registration & FID	Registered	Registered	Registered
	FID not issued	FID not issued	FID not issued
Seed Distribution	Distribution not based on	No timely distribution	Lack of varieties and
	seniority basis	of seeds	poor quality of seeds
	Farmers purchased seeds	Farmers purchased	Farmers purchased seeds
	from private companies	seeds from private	from private companies
		companies at higher	
		costs	
Soil testing	No soil testing conducted	Conducted few years	No soil testing conducted
		back	
Fertilizer/ Pesticides	Purchased from private	Purchased from	Purchased from private
Distribution	companies	private companies	companies
Machineries	CHSC not preferred due	Not aware of CHSC	Poor quality and lack of
CHSC	to immediate payment of		maintenance of
	rent		machineries
Storage/ warehousing	Not available	Not available	Not available
Field visits	Not conducted	Not conducted	Not conducted
Trainings	Few farmers received	Not conducted	Not conducted
	ATMA training		
Crop Insurance	Not received,	No crop insurance	No crop insurance
	Delay in processing		
Recommendations by	Individual follow- up on	Formation of Samitis	Allocation of RSK staffs
Farmers	availing RSK services	for awareness and	for creating awareness
	through SMS	follow-up activities	

Focus Group Discussion-1



Kestur village, Yelandur Taluk, Chamarajanagar District (16.07.2022)



Focus Group Discussion- 2



Chikka Myadageri, Yalaburga, Koppal District (26.07.2022)



Focus Group Discussion- 3



Hosalli village, Mudigere Taluk, Chikkamagaluru (06.08.2022)



ANNEXURE 2- PERCENT OF ILLITERATE SAMPLE FARMERS ACROSS THE DISTRICTS



OBSERVATION MATRIX

Table 1. Observation Matrix

Sl.	Observation	BIDAR	BELAGAVI	HASSAN	SHIVAMOGGA
no	RSK	Mannali RSK	Savadatti RSK	DM Kurke RSK	Harnahalli RSK
	(location)				
1	Staff details	RSK managed by	ATMA staff	AAO posts are vacant	RSK managed by
		ATMA since the AO	operating from	Shortage of staffs in the	AO and
		works from JDA	ADA office	RSK	Accountant.
		office			AAO posts are
		Shortage of staffs			vacant
2	Infrastructure &	Lack of Toilets and	Good	Good infrastructure	Good
	basic amenities	drinking water	infrastructure- Lack	and facilities	infrastructure
		facility	of Toilets and		including training
		Poor Internet and	drinking water		space and storage
		power shortage	facility		facilities
3	Accessibility	Very accessible	Good transport	Very accessible	Good connectivity
			facilities		
4	Storage &		Sufficient storage		Storage facility
	maintenance		space available		available
5	Services	Provision of Agri-	Provision of all	Provision of agri-	Information
		inputs	mandated services	inputs	dissemination,
		_		_	Trainings and

		Demand for		Demand for Pipes and	provision of agri-
6	0.11.0.1	Tarpaulin		Tarpaulins	inputs
6	testing	RSK, seed testing lab is 300 km away	-	26 Km away from KSK	-
7	ATMA & IEC Activities	IEC materials available in RSK	IEC activities carried out by AO & ATMA	IEC materials available in RSK SHG groups formed by ATMA	IEC materials available in RSK
8	Farmer foot fall	Good number of foot fall	Good number of foot fall	Average	Average
9	CHSCE	Ineffective functioning	Located in the RSK premises Poor maintenance	Requirement for more machineries	No CHSC
11	Grievance mechanisms	Received and addressed orally	Received and immediately addressed orally Critical issues are transferred to ADA office	Addressed orally	Maintenance of SPANDANA register for grievance redressal
12	Recommendati ons/ Suggestions	Scientists should be made available at district level Transport facility for field visits Supply required for paddy planter machineries	Need for farmer friends at village level Consideration of multiple landholdings of farmers as one FID in order to avoid non-registration of land	Village level RSK person for effective communication	Conduct of training programmes Establishment of more RSKs
Sl. no	Observation RSK (location)	VIJAYANAGARA Telagi RSK	GADAG Konnur RSK	DAKSHIN KANNADA Surtkal RSK	Δ
1	Staff details	RSK managed by Accountant & ATM Shortage of staffs	AO works in Taluk HQ and visits RSK twice a week. AAOs are not recruited	Managed by Accountan sits in other RSK- shorta	t. The assigned AO age of staffs
2	Infrastructure & basic amenities	Poor hygiene Lack of Toilets and drinking water facility Poor Internet and power shortage	RSK is less equipped	Good infrastructure in the RSK	
3	Accessibility	Very accessible	Accessible Location	Good transportation faci	lities
4	Storage & maintenance	Shortage of area for storage	Available	Available	
5	Services	Huge demand for services	All mandated services are provided by the RSK	Demand for tarpaulins a	nd seeds

6	Soil & seed testing	50 km away from RSK	Not near	25 km away from RSK		
7	IEC Activities	Carried out	IEC activities are carried out by AO and ATM	IEC materials are available based on schemes.		
8	Farmer foot fall	Average	Good number of foot fall	Very less		
10	Grievance mechanisms	Staff grievances- KSDA	Orally resolved in the RSK	Most of the grievances are received orally and responded to immediately, registers are not maintained		
11	Recommendati ons	Deletion of FID at district levels Provision of updated machineries to RSK	Training for RSK staffs	Provision of Paddy planters in paddy zone. More staff recruitment for RSK.		

ANNEXURE 3- CHSC VISIT MATRIX

 Table 2: CHSC Field Observation Matrix

S. No	Indicators	Belagavi Division			Mysore Division		Kalaburagi Division
1	Location of CHSC	Amminabhavi RSK, Dharwad	Savadatti RSK, Belagavi	Konnur RSK, Gadag	DM Kurke, Hassan	Periyadka RSK, Dakshina Kannada	Honnali, Raichur
2	Name of Service Provider	RSK, Department of Agriculture	RSK, Department of Agriculture	SKDRDP	Varsha Agri Business Centre for Development	SKDRDP	SKDRDP
3	Functionality	Active	Active	Active	Active	Active	Active
4	Accessibility	Accessible	Accessible	Accessible	Accessible	Accessible	Accessible
5	Human resource	1 Volunteer	1 Volunteer	3 staffs (Manager, Clerk, Mechanic)	1 Manager	1 manager 3 Yantra Shri Yodhas	3 staffs
6	IEC activities	IEC materials displayed in RSK	IEC materials displayed in RSK	IEC activities carried out through SHGs	IEC materials displayed in RSK	-	Conducted with the help of SHGs
7	Trainings	Trainings are conducted	Trainings are conducted	Trainings are conducted	Trainings are conducted	Trainings are conducted	
8	Need Assessment	No	No	No	No	No	No
9	Verification	Physical verification is carried out by officials	Physical verification is carried out by officials	Physical verification is carried out by officials	Physical verification is carried out by officials	Physical verification is carried out by officials	Physical verification is carried out by officials
10	Inspections	Once in a year	Once in a year	Once in a year	Inspection are carried out	Inspection are carried out	Once in a year
11	Annual Turnover	NA	NA	NA	NA	35,00,000	NA

S. No	Indicators	Belagavi Division		Mysore Division		Kalaburagi Division
12	Best Practices observed		SHG and FPO members are involving very actively in promoting CHSC services.The rates on the rented machines are decided by the district committees.		Yantra Shri Yodhas work based on commission and they have appointed 'Krishi Adhikari' at taluk level who attends SHG meetings and clarifies Agri- related queries	
			Well established at community level by having coordination with the local FPOs and SHGs.		SKDRDP has SHGs at the village level; Seva Pratinidi participates in SHG meetings to disseminate information	

ANNEXURE 4 – CSC EXERCISE

States.	NURSHWITES CERTER INCODER		D NUMBER OF DES		N
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Community Score Card- Udupi District



ANNEXURE 5– DISTRICT FACT SHEETS

Impact on Total area sown

Division	District	TotalAreasownbeforeRSK (acre)	TotalAreaCultivated afterRSK (acre)	Change	% change
Bangalore Di	vision	2388	3508	1120	31.92
Bangalore	BENGALURU (RURAL)	171	234	63.22	26.96
Bangalore	BENGALURU (URBAN)	188	285	96.31	33.82
Bangalore	CHIKKABALLAPURA	212	364	152.10	41.82
Bangalore	CHITRADURGA	259	384	124.21	32.38
Bangalore	DAVANAGERE	256	334	77.17	23.14
Bangalore	KOLARA	251	399	148.40	37.19
Bangalore	RAMANAGARA	186	261	74.67	28.66
Bangalore	SHIVAMOGGA	430	610	179.63	29.47
Bangalore	TUMAKURU	435	639	204.00	31.93
Belgaum Div	ision	2894	3655	761.20	20.83
Belgaum	BAGALKOTE	214	252	38.29	15.18
Belgaum	BELAGAVI	1195	1540	344.04	22.35
Belgaum	DHARWAD	357	476	119.20	25.05
Belgaum	GADAG	158	182	24.00	13.20
Belgaum	HAVERI	611	703	92.66	13.18
Belgaum	UTTARA KANNADA	280	387	106.50	27.55
Belgaum	VIJAYAPURA	79	116	36.51	31.61
Kalaburagi I	Division	2308	2452	143.85	5.87
Kalburgi	BALLARI	476	162	-314.00	-194.43
Kalburgi	BIDAR	256	272	16.08	5.91
Kalburgi	KALBURGI	545	616	71.32	11.57
Kalburgi	KOPPAL	344	423	79.00	18.70
Kalburgi	RAICHUR	688	980	291.45	29.74
Mysore Divis	sion	2094	2658	563.63	21.21
Mysore	Chamrajanagara	103	123	20.00	16.33
Mysore	CHIKKAMAGALURU	79	119	39.69	33.44
Mysore	DAKSHINA KANNADA	35	43	8.20	18.98
Mysore	HASSAN	592	763	170.66	22.38
Mysore	KODAGU	69	101	32.00	31.68
Mysore	MANDYA	665	794	128.30	16.16
Mysore	MYSURU	485	616	131.28	21.31
Mysore	UDUPI	66	100	33.50	33.53

Impact on Total Production

Division	District	Total Production before RSK (quintal)	Total Production after RSK (quintal)	change	% change
Bangalore Div	Bangalore Division		18100	4544.8	25.11
Bangalore	BENGALURU	895	1347	452.2	33.57
_	(RURAL)				
Bangalore	BENGALURU (URBAN)	958	1320	361.8	27.41
Bangalore	CHIKKABALLAPURA	1341	2337	995.5	42.61
Bangalore	CHITRADURGA	1447	1823	376.4	20.64
Bangalore	DAVANAGERE	1286	1554	267.5	17.22
Bangalore	KOLARA	1422	2128	705.8	33.17
Bangalore	RAMANAGARA	1002	1265	263.1	20.80
Bangalore	SHIVAMOGGA	2883	3296	413.3	12.54
Bangalore	TUMAKURU	2321	3030	709.2	23.40
Belgaum Divis	sion	111290	159191	47901	30.09
Belgaum	BAGALKOTE	17737	25791	8054	31.23
Belgaum	BELAGAVI	58333	78253	19919.8	25.46
Belgaum	DHARWAD	11404	19298	7893.5	40.90
Belgaum	GADAG	5356	4819	-537	-11.14
Belgaum	HAVERI	16012	26205	10193	38.90
Belgaum	UTTARA KANNADA	2038	4251	2213	52.06
Belgaum	VIJAYAPURA	410	575	164.5	28.63
Kalaburagi Di	vision	25284	28831	3547	12.30
Kalburgi	BALLARI	4594	832	-3762	-452.16
Kalburgi	BIDAR	1175	760	-415.5	-54.71
Kalburgi	KALABURAGI	6733	9824	3091	31.46
Kalburgi	KOPPAL	3873	5510	1636.5	29.70
Kalburgi	RAICHUR	8909	11906	2997	25.17
Mysore Division	0 n	60646	84877	24231	28.55
Mysore	CHAMRAJANAGARA	554	1659	1105	66.61
Mysore	CHIKKAMAGALURU	1390	2281	891	39.06
Mysore	DAKSHINA KANNADA	704	1946	1241.5	63.81
Mysore	HASSAN	6529	9079	2550	28.09
Mysore	KODAGU	2039	3515	1476	41.99
Mysore	MANDYA	42888	56931	14043	24.67
Mysore	MYSURU	5902	8293	2390.5	28.83
Mysore	UDUPI	640	1174	533.5	45.46

Impact on Total Yield

Division	District	Yield before	Yield after		
		RSK	RSK	ahanaa	0/ shanga
Rangalore D	ivision	(quintal/acre)	(quintal/acre)		% change
Bangalore	BENGALURU	5.08	5.10	-0.52	-10.0775
Dangalore	(RURAL)	5.23	5.75	0.52	9.043478
Bangalore	BENGALURU				
_	(URBAN)	5.08	4.63	-0.45	-9.71922
Bangalore	CHIKKABALLAPURA	6.34	6.42	0.08	1.246106
Bangalore	CHITRADURGA	5.58	4.75	-0.83	-17.4737
Bangalore	DAVANAGERE	5.02	4.66	-0.36	-7.72532
Bangalore	KOLARA	5.67	5.33	-0.34	-6.37899
Bangalore	RAMANAGARA	5.39	4.86	-0.53	-10.9053
Bangalore	SHIVAMOGGA	6.71	5.41	-1.3	-24.0296
Bangalore	TUMAKURU	5.34	4.74	-0.6	-12.6582
Belgaum Div	vision	38.46	43.56	5.1	11.70799
Belgaum	BAGALKOTE	82.88	102.23	19.35	18.92791
Belgaum	BELAGAVI	48.79	50.83	2.04	4.013378
Belgaum	DHARWAD	31.97	40.55	8.58	21.15906
Belgaum	GADAG	33.94	26.51	-7.43	-28.0272
Belgaum	HAVERI	26.23	37.27	11.04	29.62168
Belgaum	UTTARA				
	KANNADA	7.28	11	3.72	33.81818
Belgaum	VIJAYAPURA	5.19	4.97	-0.22	-4.42656
Kalaburagi	Division	10.95	11.76	0.81	6.887755
Kalburgi	BALLARI	9.66	5.15	-4.51	-87.5728
Kalburgi	BIDAR	4.59	2.79	-1.8	-64.5161
Kalburgi	KALBURGI	12.36	15.94	3.58	22.45922
Kalburgi	KOPPAL	11.28	13.04	1.76	13.49693
Kalburgi	RAICHUR	12.94	12.15	-0.79	-6.50206
Mysore Divi	sion	28.96	31.93	2.97	9.301597
Mysore	CHAMRAJANAGARA	5.4	13.54	8.14	60.11817
Mysore	CHIKKAMAGALURU	17.59	19.22	1.63	8.480749
Mysore	DAKSHINA				
	KANNADA	20.11	45.03	24.92	55.34088
Mysore	HASSAN	11.03	11.9	0.87	7.310924
Mysore	KODAGU	29.55	34.8	5.25	15.08621
Mysore	MANDYA	64.45	71.72	7.27	10.13664
Mysore	MYSURU	12.17	13.46	1.29	9.583952
Mysore	UDUPI	9.64	11.75	2.11	17.95745

Impact on Total Income

Division	District	Total Income before	Total Income after RSK (Rs.)	Change	% change
		RSK (Rs.)			
Bangalore	Division	4,44,21,690	5,25,98,762	81,77,072	15.5461
Bangalore	BENGALURU	24 28 110	22 21 556	8 02 116	24.9625
Bangalore	RENGALURU	24,28,110	52,51,550	8,05,440	24.8023
Dungalore	(URBAN)	36,72,280	40,86,392	4,14,112	10.1339
Bangalore	CHIKKABALLAPURA	46,05,075	57,15,764	11,10,689	19.432
Bangalore	CHITRADURGA	42,72,305	54,82,984	12,10,679	22.0807
Bangalore	DAVANAGERE	42,04,700	51,07,991	9,03,291	17.6839
Bangalore	KOLARA	57,54,665	63,60,750	6,06,085	9.52851
Bangalore	RAMANAGARA	32,87,255	35,94,923	3,07,668	8.5584
Bangalore	SHIVAMOGGA	71,10,365	88,35,193	17,24,828	19.5222
Bangalore	TUMAKURU	90,86,935	1,01,83,209	10,96,274	10.7655
Belgaum D	ivision	5,42,63,600	8,36,05,680	2,93,42,080	35.0958
Belgaum	BAGALKOTE	38,05,500	43,60,050	5,54,550	12.7189
Belgaum	BELAGAVI	23,27,2000	4,13,65,200	1,80,93,200	43.7401
Belgaum	DHARWAD	67,48,600	98,15,830	30,67,230	31.2478
Belgaum	GADAG	22,20,500	23,72,350	1,51,850	6.40083
Belgaum	HAVERI	1,21,70,000	1,80,31,500	58,61,500	32.507
Belgaum	UTTARA KANNADA	49,81,000	64,70,750	14,89,750	23.0228
Belgaum	VIJAYAPURA	10,66,000	11,90,000	1,24,000	10.4202
Kalburgi D	Division	4,26,33,000	3,68,86,100	-57,46,900	-15.58
Kalburgi	BALLARI	67,94,000	18,01,500	-49,92,500	-277.13
Kalburgi	BIDAR	39,58,000	24,37,050	-15,20,950	-62.409
Kalburgi	KALBURGI	1,01,70,000	95,48,600	-6,21,400	-6.5078
Kalburgi	KOPPAL	73,35,000	76,01,850	2,66,850	3.51033
Kalburgi	RAICHUR	1,43,76,000	1,54,97,100	11,21,100	7.23426
Mysore Div	vision	4,86,21,000	5,41,48,650	55,27,650	10.2083
Mysore	CHAMRAJANAGARA	17,25,000	14,86,000	-2,39,000	-16.083
Mysore	CHIKKAMAGALURU	24,70,000	28,15,250	3,45,250	12.2636
Mysore	DAKSHINA KANNADA	9,77,000	10,28,200	51,200	4.97958
Mysore	HASSAN	1,24,22,500	1,28,91,950	4,69,450	3.64142
Mysore	KODAGU	17,93,000	20,15,100	2,22,100	11.0218
Mysore	MANDYA	1,67,56,000	2,13,90,200	46,34,200	21.6651
Mysore	MYSURU	1,09,95,500	1,08,67,450	-1,28,050	-1.1783
Mysore	UDUPI	14,82,000	16,54,500	1,72,500	10.4261

Impact on Total Income

Division	District	Cropping Intensity before RSK (%)	Cropping Intensity after RSK (%)	change	% change
Bangalore l	Division	82.339	120.62	38.28	31.74
Bangalore	BENGALURU (RURAL)	61.03	83.56	22.53	26.96
Bangalore	BENGALURU (URBAN)	111.08	167.85	56.77	33.82
Bangalore	CHIKKABALLAPURA	58.85	101.14	42.29	41.81
Bangalore	CHITRADURGA	66.07	97.72	31.65	32.39
Bangalore	DAVANAGERE	92.7	120.61	27.91	23.14
Bangalore	KOLARA	79.16	126.02	46.86	37.18
Bangalore	RAMANAGARA	77.35	108.43	31.08	28.66
Bangalore	SHIVAMOGGA	115.4	163.61	48.21	29.47
Bangalore	TUMAKURU	79.41	116.67	37.26	31.94
Belgaum Di	vision	129.87	163.53	33.65	20.58
Belgaum	BAGALKOTE	83.92	98.94	15.02	15.18
Belgaum	BELAGAVI	181.43	233.64	52.21	22.35
Belgaum	DHARWAD	179.91	240.03	60.12	25.05
Belgaum	GADAG	77.81	89.64	11.83	13.20
Belgaum	HAVERI	243.14	280.04	36.90	13.18
Belgaum	UTTARA KANNADA	80	110.43	30.43	27.56
Belgaum	VIJAYAPURA	62.89	91.96	29.07	31.61
Kalburgi Di	vision	95.082	100.63	5.55	5.51
Kalburgi	BALLARI	86.6	29.41	-57.19	-194.46
Kalburgi	BIDAR	62.51	66.44	3.93	5.92
Kalburgi	KALBURGI	126.33	142.86	16.53	11.57
Kalburgi	KOPPAL	104.41	128.42	24.01	18.70
Kalburgi	RAICHUR	95.56	136.01	40.45	29.74
Mysore Divi	ision	101.64	132.57	30.93	23.33
Mysore	CHAMRAJANAGARA	73.28	87.58	14.30	16.33
Mysore	CHIKKAMAGALURU	85.28	128.12	42.84	33.44
Mysore	DAKSHINA KANNADA	64.73	79.9	15.17	18.99
Mysore	HASSAN	185.48	238.95	53.47	22.38
Mysore	KODAGU	24.19	35.4	11.21	31.67
Mysore	MANDYA	158.5	189.06	30.56	16.16
Mysore	MYSURU	136.76	173.79	37.03	21.31
Mysore	UDUPI	84.91	127.75	42.84	33.53

ANNEXURE 6

	Area before RSK			Area after RSK		
Crops	Kharif	Rabi	Summer	Kharif	Rabi	Summer
Avare/Field bean	17	32	8	39	55	0
Banana	49	30	6	39	51	2
Baragu	3	15			30	
Beans	38	0	122	37.5	0	214
Bengal Gram	4	1		66	2	
Black Gram (urd bean)	8	74	1	39.5	112.5	1
Brinjal	4	3	4	21	5	6
Cabbage	63	28	5	112	31	3
Cardamom	4	0	1	7	0	1
Coriander	440	415	0	494.5	582.5	1
Cotton	137	25	3	176.5	40.5	0
Cowpea/Alasande	53	12	14	3.5		13
Ginger	28	57	61		88.5	61
Grapes	10	26		14.5	41	
Green Chillies	107	152	2	90	209.5	0
Green Gram (Moong Bean/ Moong)	28	5	7	24.5	7.5	-5
Groundnut	2	0	22		0	6
Jute	71	5		20	7.5	
maize		3		5	5	3
Maize (Makka)	4	29	83		47.5	23
Mustard	469	8		587.5	13	
Navane	3	1	2	6	1	4
Onion	3	27		4	47	2
Paddy/ Rice	26	68	25	62.5	93	9
Pearl Millet (Bajra/Bulrush Millet/Spiked Millet)	94	0	2	61.5	0	2

Distribution of cropping pattern and area before and after RSK

Potato	6	3	3		5	
Ragi	1	45	30		42.5	22
Red Chillies	14	55	6	1	87	10
Safflower	49	313	3	42	428	
Save	145	1		157	2	28
Sesame (Gingelly/Til)/Sesamum	4	31			55	
Sorghum (Jowar/Great Millet)	26	7		68	12	
Soybean (bhat)	4	74	2	6	128.5	
Sugarcane	13	75	17	43	133	45
Sunflower	435	32		258.5	55	
Sweet potatoes	17	30	1	39	51	
Tomato	49	15	34	39	30	7
Turmeric	3	0	6		0	3
Wheat	38	1	1	37.5	2	



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