
Transforming Common Service Centers into Village Knowledge Centers for effective delivery of Agricultural Extension Services to Farmers

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ABSTRACT

The policy paper explores the potential of transforming Common Service Centers (CSCs) into Village Knowledge Centers (VKCs) to address critical agricultural challenges faced by rural farmers in India. The CSCs, established under National E-Governance Plan (NeGP), currently serve as digital hubs providing government-to-citizen (G2C) services, including financial transactions, e-governance, and limited agricultural services. However, with over 596,000 operational CSCs (4.67 lakhs at Gram Panchayats), there remains significant untapped potential to expand their role in rural agricultural empowerment. By transitioning CSCs into VKCs, these centers can deliver tailored agricultural extension services such as crop advisory, soil testing, pest management, and real-time market linkages, directly contributing to the socio-economic development of rural communities.

The study identifies several barriers that limit the effectiveness of CSCs in agricultural service delivery. These include a lack of specialized agricultural training for Village Level Entrepreneurs (VLEs), insufficient infrastructure such as internet connectivity and digital tools, and low awareness among farmers about existing CSC services. Farmers report moderate satisfaction with services like government scheme applications but express dissatisfaction with agricultural advisories, citing them as untimely and inadequate. Additionally, financial constraints and limited access to real-time market and price information remain significant challenges for small and marginal farmers.

To address these issues, the policy brief proposes a comprehensive roadmap for transforming CSCs into VKCs. Key recommendations include expanding agricultural services to cover agriculture, horticulture, livestock, and fisheries, strengthening VLE capacity through targeted training programs, efficient market linkages, upgrading infrastructure to support advanced tools like soil testing kits and IoT devices and leveraging digital platforms for precision agriculture. These measures aim to make

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VKCs a one-stop solution for farmers, providing them with the knowledge, tools, and resources to enhance productivity and income.

The paper presented the VKC model, the key inputs will enhance the performance of VKCs for the benefit of farming community. The VKC model operates on a clear Theory of Change that links assumptions, inputs, activities, outputs, and outcomes. It assumes that farmers are willing to adopt VKC services if they are accessible, relevant, and affordable, and that VLEs can be trained to deliver high-quality services. The paper also presents an implementation plan for short-term, medium-term and long-term for effective operationalisation of VKCs for effective delivery of agricultural services to farmers in rural India.

Keywords: Common Service Centers (CSCs), Village Knowledge Centers (VKCs), Village Level Entrepreneurs(VLEs), National e-Governance Plan (NeGP)

Introduction

India's agricultural sector is a cornerstone of its economy, employing nearly 60% of the population and contributing significantly to rural livelihoods. However, despite its importance, the sector continues to face persistent challenges, including low productivity, fragmented supply chains, limited access to markets, and inadequate dissemination of critical agricultural information. To connect the rural India, the Government of India established Common Service Centers (CSCs) under the National E-Governance Plan (NeGP) to bring digital services closer to rural communities. Currently, over 4.67 lakhs CSCs (5.96 lakh CSCs operate across India) established at Gram Panchayats level, delivering services such as government-to-citizen (G2C) transactions, financial inclusion, and limited agricultural services.

CSCs, which currently serve as digital gateways for government-to-citizen (G2C) services, financial transactions, and educational initiatives, are ideally positioned to bridge the critical gaps in agricultural extension services. However, their current agricultural offerings are limited to agricultural scheme applications, financial services and inputs. This lack of focus on tailored agricultural solutions has led to dissatisfaction among farmers, who often rely on informal sources of information and face challenges like crop management, crop advisory, price volatility, climate change impacts, and insufficient access to modern farming techniques. Though CSCs have successfully showcased to deliver a wide range of G2C services, but their potential to provide specialized agricultural support remains underutilized.

The proposed transformation of CSCs into Village Knowledge Centers (VKCs) aims to address these gaps by reimagining them as hubs for agricultural

innovation and support. VKCs would provide farmers with real-time data on weather and market prices, expert advice on crop management and pest control, and access to modern technologies like precision agriculture tools and e-commerce platforms. This initiative is not only crucial for enhancing farm productivity but also aligns with broader national goals of rural development and fostering sustainability in agriculture. By bridging the digital and informational divide, VKCs have the potential to revolutionize rural agricultural practices and uplift millions of small and marginal farmers across the country.

Background and Context

Current Role of Common Service Centers (CSCs)

Common Service Centers (CSCs) were established under the National E-Governance Plan (NeGP) as digital service delivery gateways, aimed at improving rural access to essential services. Operating as a Public-Private Partnership (PPP) model, CSCs are designed to act as a one-stop solution for delivering a wide range of Government-to-Citizen (G2C), Business-to-Citizen (B2C), and financial services at the grassroots level. These centers play a pivotal role in bridging the urban-rural divide by providing affordable and convenient access to services such as utility bill payments, birth and death certificates, Aadhaar enrolment, and insurance schemes. CSCs have also contributed significantly to digital inclusion through initiatives like digital literacy programs and telemedicine services.

Despite their success in improving access to digital and government services, the current role of CSCs in agriculture remains limited. While they offer basic agricultural services such as facilitating applications for government schemes like the Pradhan Mantri Fasal Bima Yojana (PMFBY), banking services, very limited services in agricultural marketing, crop management and these services are not comprehensive or widely adopted. Additionally, Village Level Entrepreneurs (VLEs), who operate the CSCs, often lack specialized training to provide expert agricultural guidance. This limited focus on agriculture leaves significant potential untapped, particularly given the large rural population reliant on farming. By expanding the scope of CSCs to function as Village Knowledge Centers (VKCs), their role can evolve into a more targeted and impactful solution for addressing the pressing needs of India's agricultural sector.

Rural Agricultural Challenges

India's agricultural sector is the backbone of rural livelihoods but is fraught with persistent challenges that hinder productivity, profitability, and sustainability. These challenges span across financial, infrastructural, technological, and

informational dimensions, creating barriers for small and marginal farmers who constitute the majority of the farming community. The key challenges faced by farmers are;

- **Lack of Access to Reliable Information:** Farmers often lack timely and accurate information on weather forecasts, pest control, crop management, and market prices. Dependence on informal sources like fellow farmers or input dealers often leads to suboptimal decisions.
- **Market Linkages and Price Volatility:** Limited access to reliable market linkages results in farmers relying on intermediaries, reducing their profit margins. Additionally, volatile market prices for crops increase financial uncertainty and risk.
- **Climate Change and Environmental Issues:** Irregular rainfall, extreme weather events, and soil degradation pose significant threats to agricultural productivity. Farmers often lack the knowledge or resources to adopt climate-resilient practices.
- **Infrastructure Deficits:** Poor connectivity, lack of storage facilities, and limited access to farm machinery further exacerbate challenges, especially for smallholders who cannot afford individual investments in these areas.
- **Digital Divide:** While digital tools and platforms have immense potential in agriculture, many farmers lack the literacy or resources to leverage these technologies effectively.

Addressing these challenges and meeting farmers' needs through targeted initiatives on agricultural services from Common Service Centers, that will act as Village Knowledge Centers for creating a resilient and productive agricultural ecosystem

With this background, the study was undertaken with the following objectives

- To study the I.T. enabled Agricultural and allied Services (ITeAS) that delivered through CSC to cater the needs of farmers at village level.
- To study the satisfaction level of farmers on agricultural services available through CSCs and other needy agricultural services to be available at CSCs.
- To study the training needs of Village Level Entrepreneur (VLE) to operate the agricultural services through CSCs.
- To suggest a mechanism to deliver efficient I.T. enabled Agricultural Services (ITeAS) by VLEs to farmers through CSCs.

Methodology

The Research Project was highly process oriented and used participatory approach to understand the agricultural services available through CSCs gateway

and satisfaction level of farmers on the services. The CSCs operationalised in Telangana also implementing agricultural services for the benefit of farmers. The study confines to two districts Siddipet and Suryapet of Telangana where CSCs are operationalized with agricultural services. Four mandals/blocks of Siddipet and Suryapet district are selected for the study purpose. A total of 120 farmers taken as sample from these two districts. From each block 2/3 CSCs were randomly selected for the study. 12 farmers from each CSC taken as sample and interviewed, data collected in a structure questionnaire. Thus the sample size was 120 (10 CSCs \times 12 farmers = 120 farmers covered).

The methodology includes:

- A. Data collection using Structured Questionnaire.
- B. The data compiled from online resources as secondary sources for data collection.
- C. Group discussions with farmers and CSC operators.
- D. Discussions with the stake holders of service providers.

Details of the Sample size selected from Telangana

S.No	District/Block	No. of CSC	No. of Farmers selected in each CSC area	Sample size
1	Suryapet/ Nadgudem	2	12	24
2	Siddipet/Munagala	3	12	36
3	Siddipet/Bejjanki	2	12	24
4	Siddipet/ Chinnakodur	3	12	36
	Total	10		120

Key Findings from the Study

CSC Agricultural Service Gaps and Satisfaction of Farmers

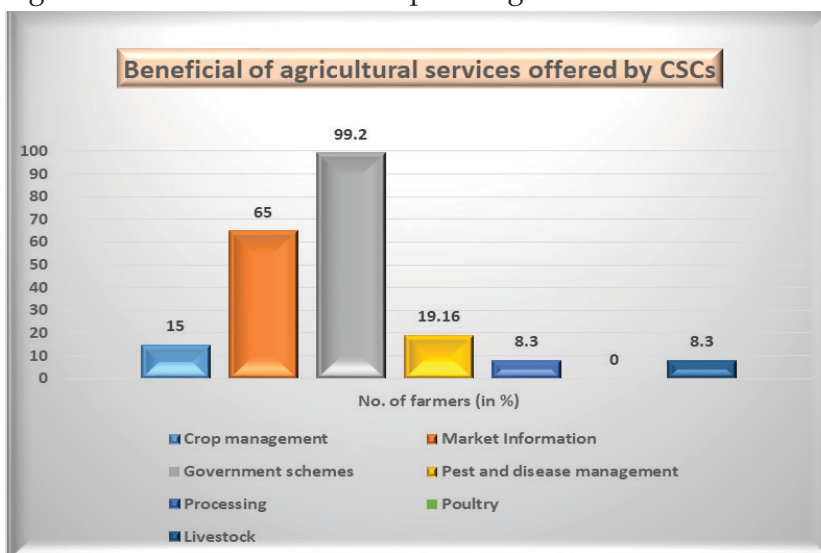
The prioritization of information services by farmers reflects their practical needs, with crop management and pest and disease control being the most essential, followed by information on subsidies, market prices, and weather forecasts. Farmers' reliance on these services highlights areas where information can significantly enhance decision-making and productivity. A moderate level of agreement among farmers on these priorities emphasizes that a well-rounded

approach is essential, integrating financial support, market transparency, and targeted advisory services. Such improvements could empower farmers to navigate contemporary agricultural challenges, improve productivity, and ensure equitable market access, thus fostering sustainable rural development.

While general awareness of and accessibility to CSCs is high, certain agricultural services particularly those related to pest management and market information remain underutilized. While farmers frequently turn to CSCs for government schemes, there is comparatively less engagement with the agricultural advisory services available. This imbalance suggests the need for targeted promotional efforts and educational programs to increase awareness about these agricultural resources, enabling farmers to maximize the benefits that CSCs can provide.

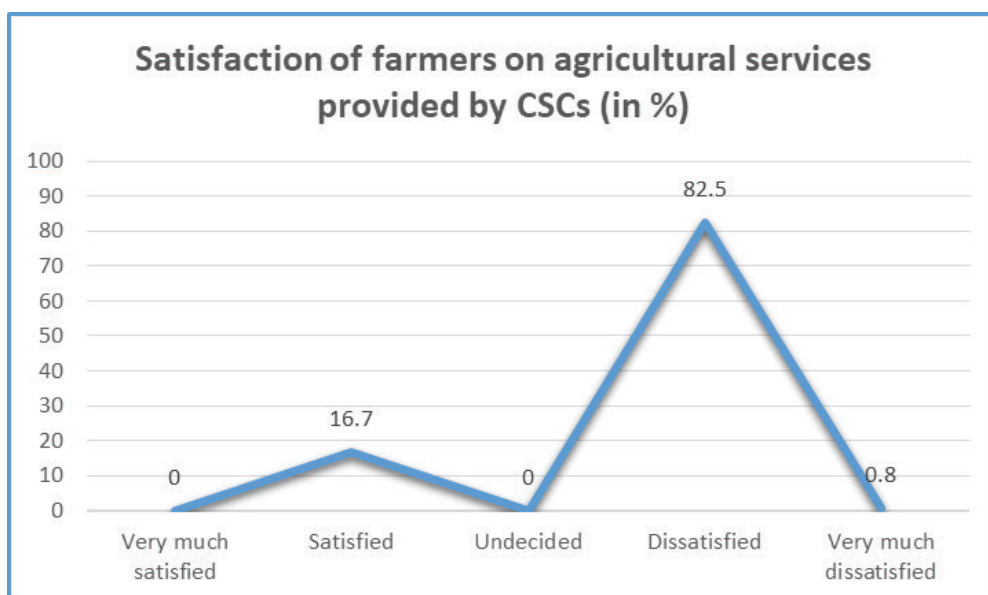
The scheme Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) is highly utilized and valued by farmers, with most finding it both useful and timely. Banking services, Kisan e-Mart, and the Pradhan Mantri Kisan Maandhan Yojana (PMKMY) also receive positive responses regarding utility and timeliness. Conversely, agricultural advisory services, such as teleconsultations and soil health testing, show significant dissatisfaction, with high ratings of poor satisfaction due to perceived ineffectiveness. Additionally, low usage and limited satisfaction with services like Farm Machinery on Rent and protected cultivation indicate areas where CSCs could enhance support. Financial services, notably the KCC and PMFBY schemes, reflect mixed satisfaction levels, while banking services enjoy a relatively higher approval rate, signalling key areas for improvement in CSC agricultural service offerings.

The findings reveal that while farmers express high satisfaction with financial and



support schemes like PM-KISAN, Banking Services, Kisan e-Mart, PMKMY, and PMFBY, they show significant dissatisfaction with advisory services. Protected Cultivation & Organic Farming had no positive ratings, and services such as Agricultural Tele Consultation and Soil Testing Center received predominantly very poor ratings, indicating areas needing substantial improvement to better meet farmers' needs through CSCs.

The findings indicate that while there is some agreement among farmers regarding the affordability and time-saving benefits of agricultural services provided by Common Service Centres (CSCs), concerns remain about the quality of information and the adequacy of services offered. A notable percentage of farmers expressed dissatisfaction with the knowledge of Village Level Entrepreneurs (VLEs), highlighting a critical area for improvement. To enhance the effectiveness of CSCs, it is essential to address these gaps in service provision and ensure that VLEs are equipped with the necessary expertise to meet farmers' needs effectively.



The results highlight that farmers derive significant benefits from CSC services, including increased access to financial resources and enhanced knowledge and skills. Additionally, many farmers report improvements in crop yield and market access, alongside better pest and disease management. This indicates a strong interest in expanding the range of services offered by CSCs in agriculture, horticulture, animal husbandry, and fisheries to meet diverse farmer needs.

Challenges in Agricultural Services offered by CSCs

Farmers face significant challenges primarily due to a lack of awareness regarding the agricultural services offered at Common Service Centres (CSCs), VLEs knowledge on agricultural services, inadequate infrastructure, especially in internet connectivity. Although issues like insufficient support and high service costs are less frequently cited, the absence of distance-related concerns indicates that accessibility is not a major barrier. To enhance the effectiveness of CSCs, it is essential to address these awareness, VLEs capacity building and infrastructure gaps. Additionally, financial constraints and market-related issues, such as ineffective price discovery mechanisms, hinder farmers' economic resilience. A successful transition to Village Knowledge Centres (VKCs) will require the timely provision of market information and price advisory services, enabling farmers to make informed decisions and improve their market access.

Role of Village Level Entrepreneurs

The data collected from Village Level Entrepreneurs (VLEs) provides additional insights into the current CSC setup and its potential for expansion into VKCs. Most VLEs are well-educated, primarily male, and between 26-45 years old, yet their incomes remain modest, reflecting limited financial incentives under the current model. This finding underscores the need to establish sustainable revenue streams or support mechanisms to sustain VLE engagement and dedication.

VLEs offer a variety of services, with high engagement in government programs such as PM-KISAN and PMFBY. However, there is notably less involvement in operational services like farm machinery rentals, indicating possible gaps in addressing farmers' specific needs. This variation in service delivery suggests that although VLEs are willing to provide assistance, they may lack the necessary resources or specialized knowledge to effectively deliver certain types of services. The preference expressed by VLEs for short, focused training sessions indicates a practical approach to improving their service delivery capabilities. Regular, accessible training sessions could help bridge existing knowledge gaps and equip VLEs to better serve their communities. VLEs often lack specific agricultural expertise, affecting service quality. Only 36.8% of VLEs reported receiving agricultural training, which indicates a considerable gap in the knowledge needed to effectively assist farmers. Regular, practical training for VLEs, focusing on agriculture-specific topics and digital tools, could significantly enhance their ability to meet farmer's needs.

Challenges also arise from infrastructure limitations and procedural barriers that reduce the effectiveness of CSC services. Poor internet connectivity and delays

in arranging expert consultations significantly hinder VLEs' ability to support farmers. Addressing these infrastructure challenges is crucial for enabling VLEs to meet the needs of farmers more effectively. Enhanced connectivity, simplified processes, and efficient access to expert advice would enable VLEs to provide timely, accurate information and services, thereby improving the overall efficacy of VKCs.

Sector-specific analysis reveals that VLEs recognize the importance of CSCs evolving into VKCs to address diverse agricultural needs. There is strong demand for expanded advisory services, high-quality inputs, accessible machinery, and support in areas such as insurance and credit access. Services for horticulture and animal husbandry also emerge as priorities, with particular emphasis on veterinary support, animal feed provision, and access to horticultural information. These insights demonstrate that VLEs are aware of the varied and complex needs of farmers and understand the potential impact of a more comprehensive suite of services.

Towards an Integrated Approach: Building Resilient Village Knowledge Centers

Overall, the findings suggest a compelling vision for CSCs to evolve into VKCs, thereby bridging critical knowledge and service gaps for rural farmers. To successfully transform CSCs into effective VKCs, service options expanded, VLEs equipped with practical continuous training, digital tools support for agricultural operations to be in-built into CSC frame work and infrastructure challenges must be addressed. Such steps would empower VLEs to support rural farmers more comprehensively, fostering a more resilient and responsive agricultural extension network.

This transformation promises to cultivate a knowledgeable, empowered farming community that is better equipped to navigate modern agricultural challenges. By leveraging VKCs as center of information, advisory support, and resource access, rural development initiatives can achieve sustainable, long-term impact, ultimately making VKCs indispensable resources for advancing rural resilience and prosperity.

In nutshell, the study underscores the importance of targeted improvements in CSC operations, with recommendations that span service diversification, enhanced VLE training, and infrastructure upgrades. By addressing these areas, CSCs have the potential to evolve into VKCs that better serve rural farming communities in the country, thereby strengthening agricultural productivity and rural livelihoods.

Policy Recommendations

1. **Strengthen Partnerships with Agricultural Institutions:** Collaborate with State Agricultural Universities (SAUs), Krishi Vigyan Kendras (KVKs), and departmental officials to offer expert advice and specialized knowledge through CSCs, enhancing their role as Village Knowledge Centers for rural communities. A continuous support from KVK and department is very essential to strengthen the VLEs for mainstreaming the agricultural extension services through CSCs.
2. **Diversify Agricultural Services:** Expand CSC services to cover a broader range of agricultural needs, including support for horticulture, livestock management, fisheries and establish fixed-day veterinary services and offer access to quality seeds, fertilizers, and farm machinery rentals for comprehensive support to address the diverse needs of rural farmers. Integrate market access services and price forecasting tools to help farmers make informed decisions about selling their produce. At present there are only 12 services are available at CSCs and out of which particularly schemes related services are working effectively. Need to focus on all agricultural services to be made available and effectively implemented through CSCs. Annexure-I shows the list of services recommended by the both farmers and VLEs at CSCs.
3. **Practical Training for VLEs:** Organize hands-on, practical agriculture focused training sessions for Village Level Entrepreneurs (VLEs) that focus on real-world challenges they face and to improve their ability to deliver relevant agricultural advice and support farmers. Include mentorship programs with experienced district level KVK scientists and departmental officers that will guide VLEs on best practices in service delivery. Ensure VLEs receive periodic training on critical agricultural services, such as agricultural schemes, soil health management, pest control, crop advisory, inputs and efficient water usage. Such training could be scheduled quarterly to keep VLEs updated on best practices.
4. **Expert Consultation Networks:** Create a network of agricultural experts who can provide regular consultations via phone or online platforms. Facilitate access to these experts through the CSCs to ensure farmers receive timely and relevant advice. Equip CSCs with good internet connectivity, teleconsultation applications for expert consultation on farming practices.
5. **Introduce Digital Tools for CSCs:** Introducing digital tools such as mobile applications and IoT devices for weather, pest and crop management to enhance productivity and efficiency. Leverage Mobile Apps and IoT De-

vices can improve decision-making and enhance productivity by providing real-time information. Provide drone services at CSCs for precision agriculture, including pesticide spraying and crop monitoring, to improve productivity while reducing costs. This technology has been shown to increase efficiency and can be a valuable addition to CSC services. Implementation of VISTAAR application needs to be part of CSC agricultural services, to strengthen the CSCs with resource rich in agricultural information that will benefit farming community.

6. **Align CSCs to FPOs:** The CSCs should be made aligned with FPOs, so that the services needed by the farmers in that FPOs will be effectively met. It is a win-win situation for CSCs, FPOs, and Farmers as everyone gets the benefits from this.
7. **DAESI Certified holder as VLE:** The trained certified holder of DAESI dealer is a good choice for running CSCs as VLE. The training under DAESI programme not only equip certain knowledge on agricultural practices and also has business knowledge on selling inputs. The DAESI VLE can collaborate with IFFCO like institution to sell the quality inputs to farmer and provide the services needed by the farmers effectively.
8. **Soil Testing Kits with CSCs:** The CSCs are equipped with Soil Testing Kits to test the soil samples of farmers and update the information online through CSC-Agricultural portal for recommendations and generating soil health cards, on periodically. The CSCs working at block-level and major gram panchayats shall be equipped with these kits.
9. **Market Access Workshops:** Host regular workshops focused on market access and price discovery. Invite local market experts to educate farmers on pricing mechanisms, market trends, and negotiation skills, enabling them to sell their produce more effectively. Offer marketing platforms for real-time market prices and crop management information, helping farmers make informed decisions and improve profitability.
10. **Streamline Access to Financial and Government Services:** Simplify the application process for government schemes, financial products, and insurance at CSCs, providing farmers with clear guidance and support.
11. **Establish Farmer Feedback Channels:** Create simple, accessible channels for farmers to provide feedback on services received, such as suggestion boxes or regular community meetings. This feedback loop can help refine services and ensure CSCs are meeting local needs effectively.

12. **Enhance Awareness and Outreach:** Launch grassroots awareness campaigns that leverage local leaders and community networks to educate farmers, both male and female about available services at CSCs. Use simple language with focused community meetings and posters and relatable examples to ensure clear communication and engagement at CSCs will improve access to agricultural services.

Implementation Plan

1. Village Knowledge Center (VKC) Model

The Village Knowledge Center (VKC) Model builds on the existing infrastructure and operational framework of Common Service Centers (CSCs), transforming them into agricultural-focused knowledge hubs, in addition to other services. The VKC model is designed to provide integrated, technology-driven, and farmer-centric services that address key agricultural challenges in the country.

2. Core Components of the VKC Model

2.1 Service Framework

VKCs will deliver a mix of agricultural, financial, technological, and capacity-building services tailored to the needs of rural farmers. Key services include:

- **Agricultural Advisory:** Real-time crop management guidance, pest control, and weather forecasts.
- **Soil Testing and Analysis:** On-site soil testing kits with expert recommendations integrated with National Soil Health Card.
- **Market Information and Linkages:** Digital platforms providing real-time price updates, e-marketplace integration, and buyer-seller connections.
- **Financial Services:** Simplified access to crop insurance, credit schemes, and government subsidies.
- **Technology Access:** IoT devices for monitoring, precision farming tools, and mobile-based advisory apps.
- **Capacity Building:** Training programs for digital literacy, sustainable practices, and advanced farming techniques.

2.2 Infrastructure and Technology Integration

The VKC model leverages existing CSC infrastructure while incorporating targeted upgrades to meet agricultural service needs. VKCs will utilize advanced digital tools and platforms to enhance service delivery:

- **Connectivity:** Reliable internet access and backup power systems for

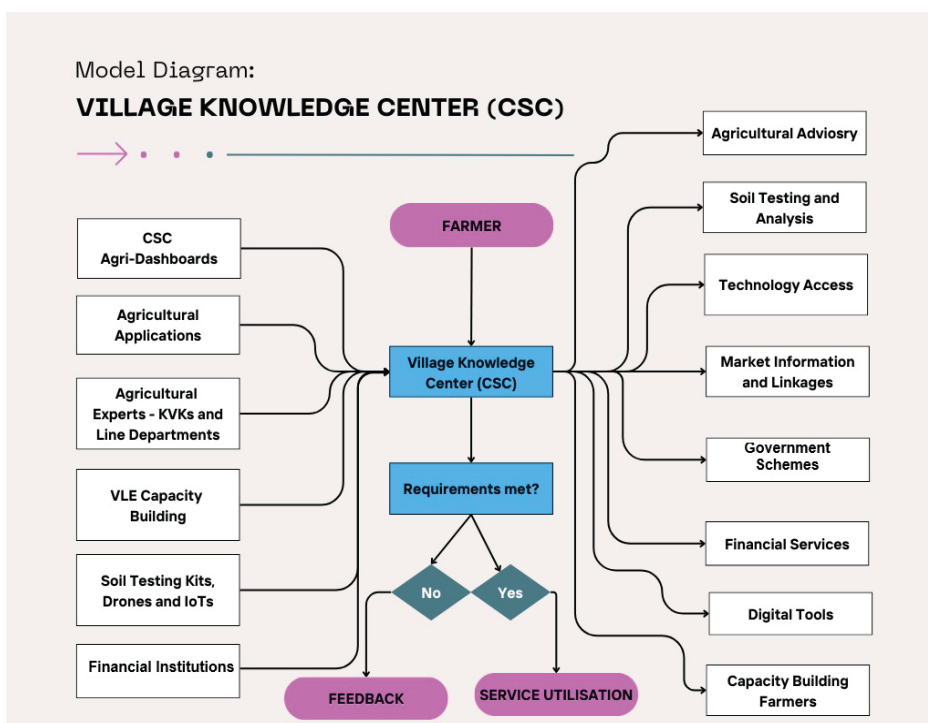
uninterrupted operations.

- Digital Tools: Soil testing kits, drones, and IoT-enabled crop monitoring devices.
- Physical Space: Dedicated kiosks for advisory services, training, and community interactions.
- Mobile Applications: Apps for advisory services, weather updates, and subsidy tracking.
- AI and IoT Systems: Precision farming tools for pest monitoring, irrigation scheduling, and yield optimization.
- Data Dashboards: Centralized platforms for real-time data on crop health, market prices, and farmer feedback.

2.3 Human Resources and Capacity Building

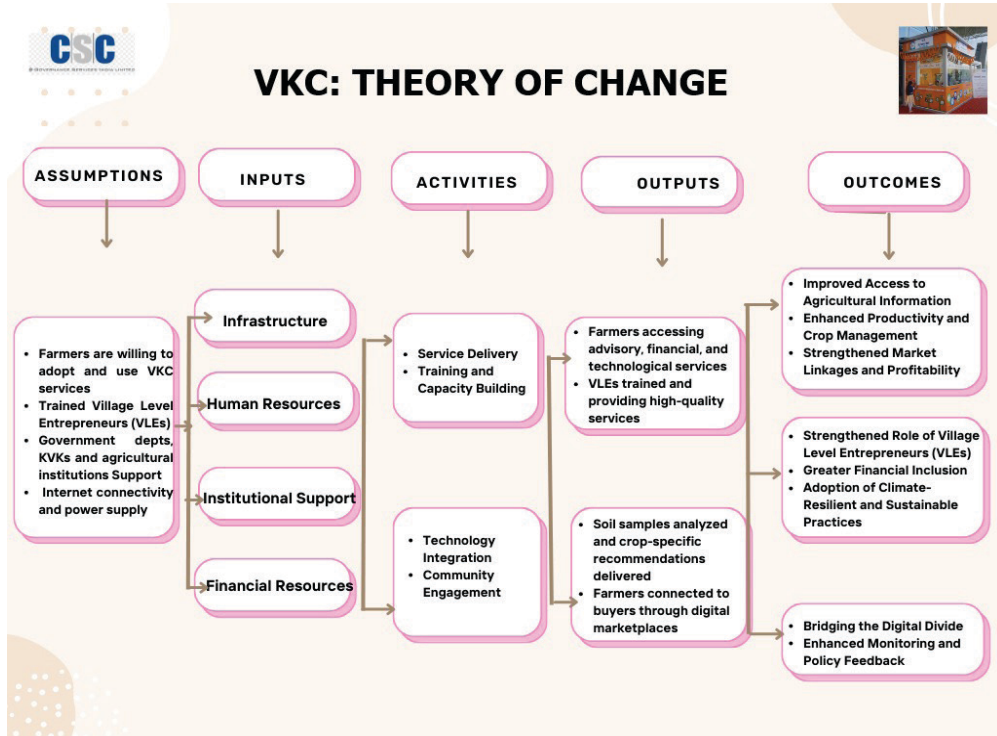
- Village Level Entrepreneurs (VLEs): Trained to deliver specialized agricultural services, including crop management and financial advisory.
- Agricultural Experts: Accessible through teleconsultations to provide advanced guidance.

MODEL VILLAGE KNOWLEDGE CENTER (CSC)



Operational Framework of VKC

The VKC model operates on a clear Theory of Change that links assumptions, inputs, activities, outputs, and outcomes. The Theory of Change diagram presented below:



The theory of change diagram illustrates the pathway through which the accessibility of Common Service Centres (CSCs) positively impacts farmers, highlighting key inputs, activities, outputs, outcomes, and the ultimate impact. Inputs include strategically located CSCs and extended operating hours, ensuring that these centres are conveniently accessible to farmers. These inputs support activities such as delivering agricultural services, providing technical support, and offering access to critical resources like market prices, weather forecasts, and crop insurance. The resulting outputs are increased farmer visits to CSCs and wider adoption of services, indicating their relevance and usability. As farmers leverage these services, outcomes such as improved access to agricultural information, higher utilization of farming technologies, and enhanced operational efficiency are observed. Ultimately, this leads to the impact of sustainable agricultural development, improved productivity, and better livelihoods for farmers. This structured progression underscores how targeted accessibility measures drive meaningful and measurable improvements in agricultural practices and outcomes.

The implementation plan for transforming Common Service Centers (CSCs) into Village Knowledge Centers (VKCs) is structured in three phases: Short-Term Goals (0–1 years), Medium-Term Goals (1–2 years), and Long-Term Goals (3+ years). Each phase focuses on specific actions to ensure gradual, measurable, and sustainable transformation.

Short-Term Goals (0–1 years)

Pilot the CSC-VKC model in select regions, enhance infrastructure, and train Village Level Entrepreneurs (VLEs).

1. Pilot Projects in Select Districts

- » Identify 2–3 districts representing diverse agro-climatic zones for pilot implementation, covering major states like Punjab, Haryana, Rajasthan, Uttar Pradesh, Bihar, Madhya Pradesh, Maharashtra, Odisha, West Bengal, Telangana, Andhra Pradesh, Tamilnadu, Kerala and Karnataka where 100% of rural CSCs are operationalised.
- » Focus on regions with active CSCs and high demand for agricultural services.
- » Test key VKC services, including soil testing, crop advisory, and teleconsultation.

2. Training Programs for VLEs

- » Collaborate with Krishi Vigyan Kendras (KVKs) and State Agricultural Universities to design and deliver training modules.
- » Focus on crop management, pest control, soil health, marketing information, weather-based advisory, financial benefits and use of digital tools.

3. Infrastructure Upgrades

- » Improve internet connectivity and power reliability in pilot regions.
- » Provide CSCs with basic agricultural tools such as Soil Testing Kits and digital advisory platforms.

4. Awareness Campaigns

- » Launch campaigns to educate farmers about new VKC services using community meetings, local radio, and mobile messaging.

5. Monitoring and Feedback Mechanisms

- » Establish a system for collecting farmer feedback on VKC services.
- » Monitor pilot project outcomes to identify best practices and areas for improvement.

Medium-Term Goals (1-2 years)

Scale up VKC services nationally, integrate advanced technologies, and enhance service diversity.

1. National Expansion

- » Roll out the VKC model to 25% of CSCs nationwide, prioritizing areas with high agricultural activity and digital infrastructure readiness.
- » Incorporate findings from pilot projects to refine implementation strategies.

2. Service Diversification

- » Expand VKC offerings to include
 1. Horticulture, fisheries, and animal husbandry support.
 2. Real-time market price forecasts and weather updates.
 3. E-commerce platforms for direct farmer-to-market transactions.

3. Advanced Technology Integration

- » Introduce IoT devices and mobile applications for precision agriculture.
- » Deploy drones for crop monitoring, pest control, and spraying.
- » Implement AI-based advisory tools to provide personalized crop management recommendations.

4. Strengthening Partnerships

- » Establish collaborations with private companies, banks and Agri-Tech Startups to enhance VKC offerings.
- » Partner with NGOs for grassroots outreach and capacity building.

5. Enhanced Training and Certification:

- » Develop certification programs for VLEs in collaboration with agricultural institutes – KVKs and SAUs.
- » Include modules on advanced technologies like AI and data analytics for agriculture.

Long-Term Goals (3+ years)

Ensure sustainability and establish VKCs as self-sufficient, farmer-centric knowledge hubs.

1. Universal VKC Access:

- » Transform all CSCs into VKCs, covering rural regions across the country.

- » Ensure equitable access to services, including marginalized and remote communities.

2. Sustainability and Revenue Models

- » Develop self-sustaining revenue models, such as subscription-based services for advanced tools and premium advisories.
- » Encourage community ownership and engagement to reduce dependency on external funding.

3. Impact Measurement and Continuous Improvement:

- » Conduct impact assessments to evaluate improvements in farmer productivity, income levels, and service utilization.
- » Use data-driven insights to continuously refine VKC services and operations.

4. Integrated Knowledge Ecosystem:

- » Link VKCs with state agricultural universities, KVKs and research organizations to provide cutting-edge agricultural knowledge and innovation.
- » Create a unified digital platform connecting all VKCs for seamless information sharing.

Monitoring and Timeline

To ensure timely execution, the implementation plan will be monitored using the following timeline:

Phase	Key Activities	Timeline
Short-Term	Pilot implementation, Training, and upgrades	0-1 years
Medium-Term	National rollout, Tech integration, Partnerships	1-2 years
Long-Term	Universal access, sustainability, global benchmarking	3+ years

This phased approach ensures that the VKC transformation is practical, impactful, and sustainable, addressing immediate needs while preparing for long-term goals.

Anticipated Outcomes

The transformation of Common Service Centers (CSCs) into Village Knowledge Centers (VKCs) is envisioned to address critical challenges faced by rural farmers and catalyse sustainable agricultural development. By implementing the proposed policy measures, the following outcomes are anticipated:

Improved Access to Agricultural Information

VKCs will serve as centralized hubs offering real-time access to essential agricultural data, including Crop advisory, weather forecasts, pest control advisories, marketing and crop management strategies. Farmers will gain localized, actionable insights tailored to their needs, reducing their reliance on informal and often unreliable sources of information. Real-time advisory services will empower farmers to make informed decisions.

Enhanced Productivity and Crop Management

Through advanced tools like Soil Testing Kits, IoT devices and precision agriculture solutions, VKCs will empower farmers to make informed decisions about irrigation, fertilizer use, and pest control. These interventions are expected to enhance crop yields, improve resource efficiency, and minimize losses caused by poor farming practices. Better crop management and market access will boost agricultural output.

Strengthened Market Linkages and Profitability

Real-time market price updates and e-commerce platforms offered through VKCs will enable farmers to bypass intermediaries, ensuring better profit margins. The ability to connect directly with buyers and access reliable market intelligence will reduce price volatility and provide farmers with fairer and more predictable returns for their produce.

Greater Financial Inclusion

Simplified access to financial products, including government subsidies, crop insurance, and agricultural credit will reduce financial barriers for farmers. With the support of VKCs, farmers will be able to navigate application processes more efficiently, fostering a culture of financial literacy and security.

Strengthened Role of Village Level Entrepreneurs (VLEs)

The targeted training and capacity building, VLEs will evolve as agricultural service providers, capable of addressing local challenges. This will enhance the quality of services delivered and create entrepreneurial opportunities in rural areas.

Adoption of Climate-Resilient and Sustainable Practices

By disseminating knowledge about sustainable farming techniques, water conservation methods and crop diversification strategies, VKCs will promote climate-resilient agriculture. These efforts will enable farmers to adapt to changing climatic conditions, ensuring long-term environmental sustainability and productivity.

Bridging the Digital Divide

By leveraging technology and ensuring digital infrastructure in rural areas, VKCs will help bridge the urban-rural digital divide. Farmers will gain access to modern tools and platforms, integrating them into a digitally connected agricultural ecosystem.

Enhanced Monitoring and Policy Feedback

VKCs will provide a platform for collecting real-time data on farming practices, service adoption and farmer feedback. This data can be used to refine agricultural policies and ensure that interventions are responsive to the evolving needs of the farming community.

By realizing these outcomes, VKCs will not only address the immediate challenges faced by farmers but also create a foundation for a sustainable, inclusive, and resilient agricultural ecosystem in India.

Conclusion

The transformation of Common Service Centers (CSCs) into Village Knowledge Centers (VKCs) offers a unique opportunity to revolutionize rural agricultural service delivery in India. By addressing critical gaps in agricultural advisory support, weather, market linkages, and infrastructure, VKCs can empower farmers with timely, relevant, and actionable information. This transformation would significantly enhance farm productivity, improve income levels, and reduce the vulnerabilities faced by small and marginal farmers.

Key measures, such as targeted training for Village Level Entrepreneurs (VLEs), advanced digital tools, and diversified service offerings, can ensure that VKCs become one-stop hubs for agricultural extension services. And, integrating real-time crop information, market intelligence, and financial resources will enable farmers to make informed decisions, fostering long-term sustainability in agriculture. This policy shift requires collaboration between government organisation agricultural departments, KVKs, CSC-SPV and farming community. Overall, VKCs have the potential to bridge the digital divide in rural India, contributing to socio-economic development and aligning with national priorities of farmer's income and promoting inclusive growth. The appropriate actionable steps are necessary to unlock the full potential of CSCs to serve the farmers.

Recommended Agricultural Services at CSCs

S.No.	Area	Type of Service	Service description
1	Advisory Services	a) Land preparation,	Land preparation for seasonal crops and selection of varieties
		b) Crop selection, varieties, sowing time	Selection of crops and varieties based on soil, its fertility, sowing time
		c) Soil testing and Soil Health Card	Soil testing services to provide customized fertilizer recommendations. Issue of Soil Health Card
		d) Weed management	Weed Management, herbicides availability
		e) Irrigation scheduling	Irrigation schedule for the crop. Efficient irrigation systems like drip or sprinkler irrigation to optimize water use.
		f) Pest and Disease management	Integrated pest management (IPM) practices. Knowledge and training on identifying and managing pests and diseases.
		g) Weather related information	IMD forecast weather for next 3 days and alerts, Agromet Bulletins for the blocks and advisory
2	Farm Inputs	a) Quality seeds	Access to high-quality, high-yielding, and disease-resistant seeds.

		b) Planting material	Availability of planting material for various crops and plants.
		c) Fertilizer availability	Adequate supply of fertilizers to ensure soil fertility
		d) Pesticides availability	Availability of effective pesticide, herbicides and it usage
3	Farm Machinery	a) Farm Machinery and hiring service	Access to modern and appropriate agricultural machinery and tools. List of custom hiring centers close to farmers area for hiring
4	Marketing	a) Marketing and price forecast	Real-time information on market prices, demand, and trends. MSP Platforms for direct sales to consumers or bulk buyers.
		b) Logistics	Providing logistics services to the farmers for transportation of inputs and farm produce
		c) Quality assurance	Providing quality assaying and assurance services on the farm produce and certification.
		d) Traceability	Providing traceability services for farm produce to the traders and end consumers

5	Processing and Post-harvesting technologies	a) Drying, Grading and storage	Storage facilities to reduce post-harvest losses. Details of cold storage facilities available nearby the farmers location, and charges etc.
		b) Post-harvesting technologies	Post harvesting technologies and value-addition including processing
6	Government Schemes and Subsidies	a) Government Schemes and subsidies of State and Central Government	Access to government scheme subsidies and grants provided by the Central sector schemes and State Level schemes.
7	Insurance	a) Insurance	Crop insurance notified for crops and insurance policy details, claims etc. Crop loss assessment during cyclones, droughts, pest & diseases etc. Providing insurance cover for farm machinery.
8	Banking and finances	Credit and finance	Affordable credit and loans for purchasing inputs, machinery, and infrastructure. Information on KCC.
9	Drone services	Drones Hiring Service	Drone hiring services for fertilizer, pesticide applications, crop survey and crop health monitoring etc.
10	Mobile Apps/ Technologies	Mobile Apps in Farming	Mobile apps providing weather forecasts, market prices, and farming tips.
11	IoT devices	IoT devices	Devices for Real-time crop health monitoring, Irrigation schedule etc

12	Training and Demonstrations	Trainings and demonstration	Training in modern farming techniques and best practices.
B. HORTICULTURE			
13	Schemes and subsidies information	Horticultural schemes and subsidies information	Horticultural schemes and subsidies information such as Horticulture Crops, Greenhouse Construction, Drip Irrigation, Polyhouse, Fruit Crop Plantation. Online application forms for subsidy claims etc.
14	Marketing linkages	Marketing linkages between horticultural producers and traders	Marketing linkages between horticultural producers and traders
C. ANIMAL HUSBANDRY			
15	Veterinary Clinics	Veterinary Doctors fixed day visits to farmers place. Animal Health Card issuance	Veterinary Doctors fixed day visits to farmers place. Animal Health Card issuance etc.
16	Schemes and subsidies in Animal husbandry	Subsidies and loans for purchase of cattle, sheep, Goat, poultry etc.	Subsidies and loans for purchase of cattle, sheep, Goat, poultry etc.
17	Animal Feed information	Availability of animal feed and price etc.	Availability of animal feed and price details etc.
D. FISHERIES			
18	Water Quality Management Service	Water Quality Management Service	Regular monitoring and management of water quality parameters such as pH, dissolved oxygen, ammonia, and temperature to ensure a healthy environment for fish growth and prevent diseases.

19	Fingerlings Supply	Fingerlings Supply	Provision of high-quality fingerlings of various fish species, ensuring optimal growth rates and survival rates in local conditions
20	Feed Supply and Nutrition Management service	Feed Supply and Nutrition Management service	Supply of nutritionally balanced fish feed and guidance on feeding schedules and quantities to optimize fish growth and minimize feed waste
21	Disease management and Advisory service	Disease management and Advisory service	On-site diagnostic services for identifying fish diseases, along with recommendations for treatment protocols and the supply of necessary medications or treatments.
22	Aquaculture Equipment Supply	Aquaculture Equipment Supply	Details about essential equipment such as aerators, nets, pumps, and tanks, along with installation and maintenance services

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