

JSS AGRI CLINIC – AN INNOVATIVE AGRICULTURE HEALTH CENTRE



In spite of several reforms, the public-sector extension in India continues to be 'supply and subsidy driven', often failing to address the genuine needs of farmers. The ICAR-JSS-KVK, in 2013, developed a model to address this problem by creating a demand driven Agri Clinic extension service at Mysuru, Karnataka. Dr Arun Balamatti shares the experience of JSS Agri Clinic here.

INTRODUCTION

Agriculture today is extremely knowledge intensive and mere information/advice/ alone is not enough for farmers to embrace new technologies. There is a need for comprehensive support in the form of personalized guidance on how and when to use various inputs, so as to facilitate sustained yields by farmers. While Indian agricultural extension system is striving to enhance outreach of technologies to farmers, Krishi Vigyan Kendras (KVKs) offer training programs in addition to assessing and demonstrating frontier technologies to farmers. However, studies show that technology uptake is disappointingly slow across India. Conventional approach to technology delivery has not been effective, since many agencies offer training programmes, on topics of 'their choice' through lectures, PowerPoint presentations, etc. These trainings are not very effective and fail to provide farmers with any opportunities to discuss specific issues and avail end-to-end solutions. Lack of personalised services on the part of extension professionals/departments is resulting in farmers approaching input traders, many of who are neither qualified nor have the necessary knowledge and skills. With their sales being profit oriented, input traders encourage farmers to purchase more products/inputs than the actual requirement. This causes increased input costs (incurred by the farmers) and an indiscriminate use of agro-chemicals causing environmental degradation as well.

AGRI CLINICS

“Agri Clinic” was conceived as an innovative social enterprise¹ and built as a ‘Demand-driven Rural Advisory Service (RAS)’ where the Krishi Vigyan Kendra² (KVK) positions itself in the ‘input market’. Agri Clinic is meant to provide twin services, ‘Agri Doctor’ and ‘Agri Pharmacy’. The technical staff of KVK (Agri Doctors) provide diagnostic services, free of cost, by studying the affected plant specimen brought in by the farmers and provide written ‘prescription’; the other service i.e., “Agri Pharmacy”, involves selling agri inputs to farmers, based on the prescription. In this process, the KVK staff is ensuring that the farmers are provided with appropriate diagnostic and advisory

¹ A social enterprise is an organization that applies commercial strategies to maximize improvements in human and environmental well-being—this may include maximizing social impact alongside profits for external shareholders (Source: Wikipedia).

² Krishi Vigyan Kendras (KVKs) are frontier agricultural extension centres created by ICAR (Indian Council of Agricultural Research and its affiliated institutions) at district level. The mandate of KVK is to take up Technology Assessment and Demonstration for finding out location specificity of new technologies for their application and to undertake necessary Capacity Development.

services, and are also educated on buying and using only such inputs that are absolutely necessary, particularly the chemical inputs.



The goal of Agri Clinic is to meet the farmers' information and input demands on time, at competitive price and to make them available at an easily accessible location. This will also help in bringing down farmers' production costs and reducing the indiscriminate use of agro-chemicals. The Agri Clinic is meant to provide these services 'on demand'.

GOOD PRACTICES

Agri Clinic: The KVK innovation

JSS KVK, in Mysuru district of Karnataka state, India (ICAR-ATARI Zone VIII), started the pilot programme "JSS Agri Clinic" in July 2013 at Suttur village, about 30 km from Mysuru city. The naming of the centre as 'Agri Clinic' and a tagline, 'A health centre for crops', in local language, was specifically meant to communicate a strong message that there is now a clinic for plants. The brand value of JSS added to its popularity since JSS is a popular spiritual institution offering education as well as health services, especially in rural areas, through its many institutions.

While the clinic started attracting many farmers, it was mostly farmers from the two closer taluks of Nanjangud and T. Narasipur, who started frequenting the clinic. These two taluks are predominantly paddy growing areas. It was soon recognized that the service of the Agri Clinic needed to extend its outreach to the entire district and to the neighbouring districts as well. Therefore, another outlet was opened in Mysuru city, in June 2015, in order to make the services accessible to more farmers in Mysuru district and reach out to farmers visiting Mysuru for agricultural inputs from neighbouring districts of Chamarajanagar, Mandya, Hassan and Coorg.

Technical staff of KVK -as Agri Doctors

The nine technical staff at KVK are postgraduates in various disciplines of agriculture, namely, agronomy, horticulture, plant protection, seed technology, soil science, sericulture, extension, home science and fisheries sciences. Six of them are competent in carrying out basic diagnosis and providing advisory services by virtue of their education and hands-on experience at KVK. Deployed

to the clinics on a rotation basis they are available from 10am to 7pm, to assist the farmers. The timetable and the list of Agri Doctors are prominently displayed at each centre. The Agri Doctors tend to learn new things by discussing complex issues with peers, experts in the field and by 'trial-and-error' method, as the farmers visiting the Agri Clinic tend to judge them based on their knowledge and confidence in resolving issues.



Access to quality inputs

It was decided that the Agri Pharmacy would sell inputs only on prescription from the Agri Doctors. Also, considering the fact that the market is flooded with a vast range of products sold by different companies and brands, at varying prices, KVK decided that the Agri Doctors would study the market and deal with only reliable products, brands and such inputs which are affordable. This would ensure that farmers get quality inputs at reasonable prices and safeguard them from possible confusion and exploitation due to their ignorance.

Thus the KVK staff screen the market periodically for quality agricultural inputs, reliable brands having reasonable price; procure and display such inputs at the Agri Clinic outlet. The inventory is expanding each day as the Clinic is growing popular. KVK has also established a rapport with private input dealers and distributors and started procuring products on credit from them. This way, the Clinic operated even without huge capital investment.



Initially, farmers complained of lower prices on some products elsewhere. As KVK had clearly negotiated with distributors on the selling price so that it is not discriminatory, they looked into this allegation and found that a few private dealers were underselling branded products but were earning higher margin by tagging other products such as micronutrients, hormones, adjuvant etc. Such trade practices were explained to the farmers, making them understand the nuances of input trade.

Agri Clinic - Commercially and legally strong

It was necessary that KVK complied with financial and legal requirements as it is a project and not an institution. Therefore, the KVK obtained the necessary registration from the Department of Commercial Tax in order to undertake commercial activities and the required licences from the Department of Agriculture for engaging in input trade. This added authenticity to the clinic and its activities apart from providing legal backing.

KVK products add to inventory and revenue

KVK is gradually expanding the scope of Agri Clinic by providing comprehensive technology, inputs and market services to farmers by adding its own products such as micronutrient formulations, quality planting material, including seeds and seedlings, bio agents and many other essential agri inputs. In an important development, KVK obtained the license to multiply its micronutrient formulations, Banana Special and Vegetable Special from the Indian Institute of Horticulture Research (IIHR), Bengaluru. KVK in about six years produced and sold approximately 28 tons of Banana Special³, covering 1,200 ha of banana area and spreading the technology to more than 3,000 farmers.

³ Banana Special: It is a micronutrient foliar formulation developed by IIHR, Bengaluru. The formulation has the micronutrients, boron, copper, iron, manganese, molybdenum and zinc. These plant elements are needed for plants in very small amounts, as they are important for plant development. They act as activators of many plant functions. Use of Banana Special improves disease resistance of banana plant and contributes to about 10% yield improvement.

AGRI CLINIC SCALING: PROGRESS

14,798 farmers visited the Agri Clinics in the past three years (July 2013-July 2016). On an average 16 farmers visit Agri Clinics per day for inputs and diagnostic service. Large percentage (90%) of repeat visits indicates that the farmers have become loyal customers of the Agri Clinic. The total transaction (3 years) is Rs 96,82,136; with an average daily transaction of Rs. 10,478.50. (Ref: Table 1 and 2).

Month	2013-14	2014-15	2015-16	2016-17
April		137	210	483
May		150	130	701
June		309	316	770
July	193	189	560	987
August	289	169	690	
September	366	442	593	
October	463	706	826	
November	84	291	689	
December	104	261	770	
January	104	190	750	
February	83	241	525	
March	152	276	612	
Total	1838	3361	6671	2941

Month	2013-14	2014-15	2015-16	2016-17
April		106164	164581	327779
May		90924	299987	558666
June		224091	192100	675945
July	187080	168533	348928	809975
August	233182	151597	431112	
September	239042	276729	382351	
October	298536	303985	507162	
November	71213	207896	239550	
December	98085	156789	255899	
January	124165	88543	268472	
February	102381	157488	217144	
March	151758	335431	302029	
Total	1505442	2268170	3609315	2372365

** Figures in red and green indicate minimum and maximum numbers, respectively.*

Thus, a farmer spends about Rs. 654.29 per visit to the JSS Agri Clinic. The farmers claim they spend in excess of Rs. 2,000 when they visit private traders.

KVK operates out of a rented premise in Mysuru city and has hired a helper at each outlet. The operational cost is about Rs. 25,000 per month.

KVK has made a profit of about Rs. 10 lakh in three years, at a monthly average of about Rs. 27,775 (maintaining a 10% profit on gross transactions). It is noteworthy that KVK initially invested about Rs. 4 lakh from its Revolving Funds to fund the Agri Clinic concept. A large percentage (60 %) of the products sold from Agri Clinic are KVK's own products viz. Banana Special, Vegetable Special, vermicompost, seeds and seedlings, fodder cuttings etc., produced by using the Revolving Funds, while the rest 40% constitutes agro chemicals, including environment-friendly products like neem oil, neem cake, humic acid etc., obtained from dealers and distributors on credit (a fortnightly or monthly credit basis). Quality of the products is ascertained by all parties by comparing the various brands being dealt with through the Agri Clinic outlets.

Further analysis of the data shows that transactions peak during October. This largely coincides with pest and disease incidence in the major crop of the district, namely paddy. Number of farmers' visiting Agri Clinic in the years 2013, 2014 and 2015 was 463, 706 and 826 and the corresponding financial transactions were worth Rs. 2.98 lakh, Rs. 3.03 lakh and Rs. 5.07 lakh, respectively. However, the highest recorded transaction was Rs. 3.35 lakh during March 2015.

Farmer visits and annual transactions have grown steadily every year.

First year (2013-14): 1,838 visits; Rs. 15.05 lakh transactions (average Rs. 1.67 lakh/month)

Second year (2014-15): 3,361 visits; Rs. 22.68 lakh transactions (average Rs. 1.89 lakh/month)

Third year (2015-16): 6,671 visits; Rs. 36.09 lakh, (average Rs. 3.00 lakh/month)

Fig. 1: Month-wise farmers' visit to Agri Clinic between July 2013 to July 2016

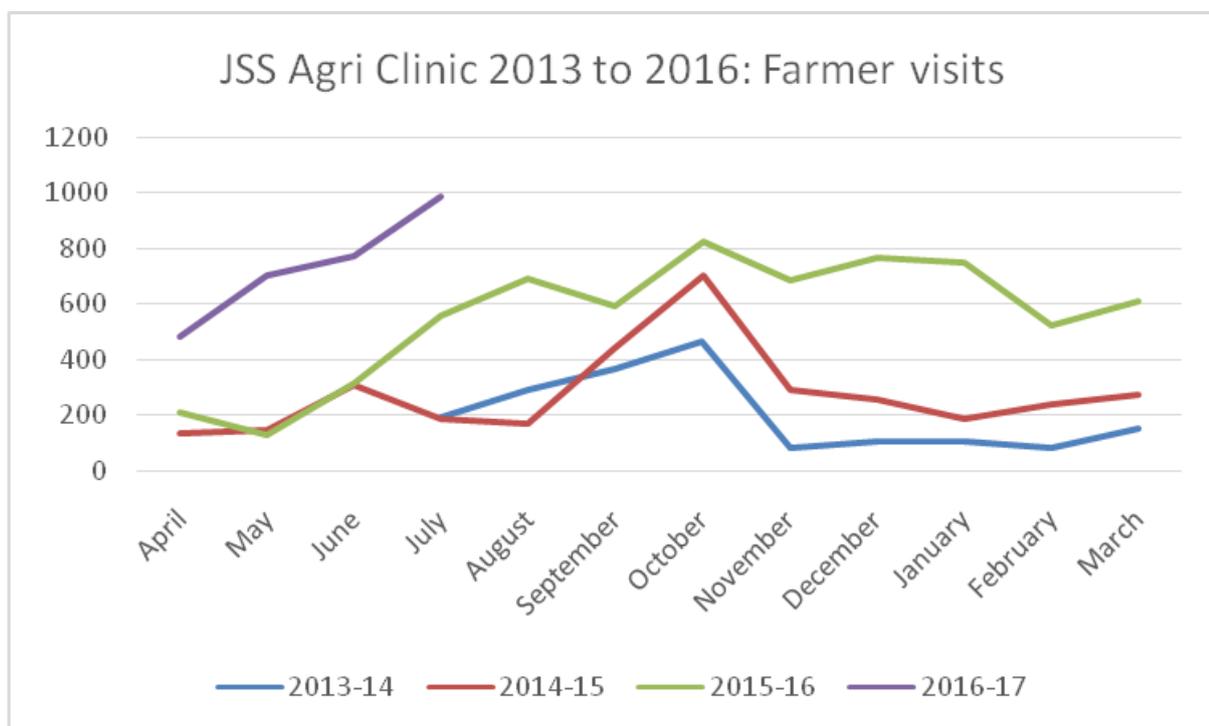
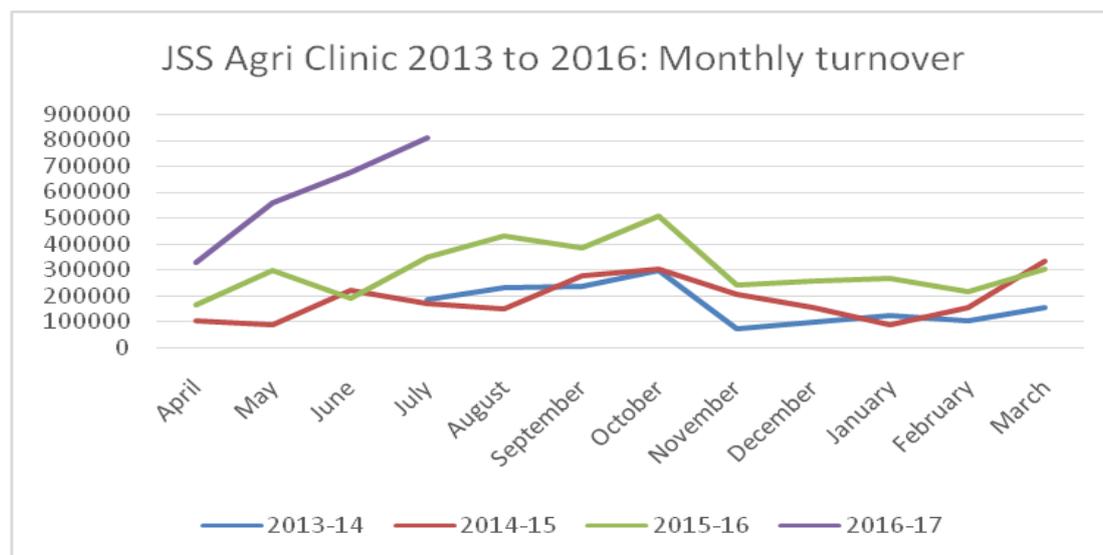


Fig. 2: Month-wise transaction of Agri Clinic between July 2013 and July 2016



The 3-year trial phase of Agri Clinic has been successful and the striking feature of its popularity is evident from the clear spurt in all three parameters for the first quarter of the fourth year (April to July 2016). Nearly 3,000 farmers have already visited and the total transaction has reached Rs. 23.72 lakhs which is more than the annual figures for the years 2013-14 and 2014-15. The prominent success of Agri Clinic as an enterprise is evident by the rise in monthly transactions during the financial year 2016-17, ranging from Rs. 3.28 lakh (April) to Rs. 8.10 lakh (July) at an average of Rs. 5.93 lakh; the significance of this level of transaction is that, it is the 'off-season low-key agricultural activity' period. This also indicates that Agri Clinic services are now being accessed not only by farmers growing paddy during kharif season but also by those growing summer paddy and vegetables around the year.

IMPACT

Broadening the reach and impact of KVKs

The swell in the number of farmers' visiting the Agri Clinic tells a unique success story. Through its mandated activities such as trials, demonstrations and on and off-campus trainings KVK reaches about 500 farmers a year. Additional diagnostic services offered to visiting farmers or staff field visits reach another 500 in a given year. Thus, about 9 technical staff members of KVK would be able to extend technical assistance to about 1,000 farmers in a year. The KVK considered this as a limitation of the conventional 'supply-oriented extension system'. By re-positioning KVK as a 'demand-driven extension system' the same number of KVK staff can now reach out to 5,000 farmers in a one-to-one personalized contact method which is still the most trusted and effective extension method. If the innumerable advisories offered over phone and WhatsApp are accounted for the reach would be at least ten times more than personal consultations.

Farmers learn to use Agri Clinic via WhatsApp!

Farmers have now realized the importance of accuracy of diagnosis. They bring the affected plant parts to KVK. Many farmers are now able to understand the delicate difference between pest, disease and nutrient deficiency symptoms. Going a step forward, they are also being guided to address the immediate problem, be it pest, disease, nutrient deficiency or even water stress. They

are also being educated on adopting measures to improve the 'overall health' of the crop through advisories on soil testing, nutrient management based on soil test analysis, addressing 'hidden hunger' by identifying and meeting secondary and micronutrient deficiencies and the likes.

Modern information technology (IT) gadgets, have empowered both the staff and farmers to connect with each other, especially after personal visit by the farmers. With growing familiarity between the farmer and the technical staff, the information exchange over phone becomes free flowing. More significantly, the personal connect between the two go beyond the confines of formal consultation. Though personal visit of technical staff to their fields is still preferred by most farmers, farmers are gradually realizing the limitations in this, and the smart ones now wield smart phones. They have started exchanging digital images and video clips through 'WhatsApp'. This has helped farmers in seeking advice from distant locations also. The farmers can procure inputs locally by writing down the oral recommendations or the prescriptions sent by the Agri Doctors in the form of SMS.

Enhanced capacities of KVK staff

Each KVK technical staff attends the Agri Clinic duty on 2 days a week, one day at KVK outlet and the other at the Mysuru outlet. This hands-on experience of diagnosis and offering advisory services compels them to update their knowledge not only in their specialized subject but also in other important agricultural disciplines like agronomy, horticulture, plant protection covering different field crops and horticulture crops, soil science, seed technology, animal husbandry, fisheries, etc. This helps them develop skills to be a competent 'general physician' or a 'skilled generalist'.

LESSONS LEARNT

First obvious lesson is that farmers are most receptive when they have a problem on hand.

Second lesson reinforces all the earlier extension research findings of farmers preferring one-to-one contact at least the first time. Once rapport, trust and confidence are established, further interaction can continue through non-personal tools such as phone and social media.

While individual staff sit in the Agri Clinic one each at two outlets, attending to farmers as well as phone calls, all the technical staffs attend to numerous phone calls every day including holidays. However, all these telephonic 'free advisories' do not necessarily get converted into 'business' for Agri Clinic in the form of input purchases. Therefore, the staff has learnt to offer generic advisories on phone and provide complex and detailed advisories in person.

With a transaction of Rs 8 lakh per month, KVK is nearing a stage where every rupee invested by the government through ICAR will be converted into services to farmers matching or even exceeding the monetary value. In the process, KVK would be directly saving farmers' production costs by about twice the amount they would have otherwise paid to the input traders while simultaneously reducing indiscriminate use of agro-chemicals, thereby reducing pressure on the environment.

Agri Clinic is a workable model of 'demand-driven RAS system' and KVK plans to further expand the clinic into a super speciality hospital for plants by extending the portfolio of services and inventory.

POLICY IMPLICATIONS

Agri-clinics do have limitations; however these can be addressed by making some organizational changes. For instance, every 'doctor' is not perceived to be equally effective, the consultation with some farmers take longer keeping other farmers waiting, especially during peak seasons when there are more than 30 farmers visiting the Agri Clinic per day. Having just one Agri Doctor at the Agri Clinic sometimes makes it difficult to administer the enterprise and take control of the inventory and financial transactions. However, IT enabled information exchange between the farmers and the technical staff, inventory management, billing, and incentivising services by technical staff and the loyal customers has the potential to take Agri Clinic to greater heights and thus redefine the way KVKs work as technology and resource centres at the district level.

The success of Agri Clinic will place a tremendous demand on staff time and scaling up of the clinic will possibly distract staff from some of its mandated activities. Hence, a full-fledged Clinic might need more technical staff even if it means going beyond the existing KVK staff structure. A policy shift by either restructuring the KVKs or equipping mainstream extension agencies to emulate the concept can trigger scaling up of the concept.

FINAL WORDS

It is not just the existing extension systems and structures that have failed to meet the farmers' needs due to inadequate investments, limited manpower and their willingness to innovate. In the long run, it will prove more difficult and expensive to position adequate competent manpower to go out and service the vast number of unorganized farmers. Instead, a relatively small team of extension workers could be sought out by the large number of farmers as presented in this good practice note. It may be inappropriate to allege all the success of the model to its demand-driven nature of services. The JSS brand, technical abilities of the staff, low-investment and the social enterprise angle of the business have together contributed to the success.

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