



SWOT Analysis of Krishi Vigyan Kendra: Implications for Policy and Future Directions

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ABSTRACT

The purpose of this study was to identify and rank the SWOT issues of Krishi Vigyan Kendra (KVK), a district level farm science centre established by Indian Council of Agricultural Research, Ministry of Agriculture and Farmer Welfare, Government of India. The study was conducted in Chittoor district of Andhra Pradesh to identify the SWOT issues of RASS- Acharya Ranga Krishi Vigyan Kendra. The perceptions of 180 beneficiaries of the KVK were utilized to identify, rank and describe SWOT issues of KVK using two surveys and the Likert method of summated ratings. In the first survey, critical SWOT issues were listed by the respondents and in the second survey, the SWOT issues were ranked by extension specialists working in the country on a Likert scale from 1 (not important), 2 (somewhat important) and 3 (very important). The assessment of agricultural technologies and their dissemination in the area is the major strength of KVK followed by capacity building of different stakeholders involved in agriculture through various extension efforts, application of ICT tools for faster dissemination of technologies etc. Remote location of KVK, poor soil and water conditions etc were the weaknesses of the KVK. The opportunities for the KVK were scope to promote food processing as the district is horticultural important, establishment of good marketing facilities due to adjacency of the district to two metropolitan cities Chennai and Bangalore etc. Poor investment ability with the farmers to adopt some new technologies, exploitation of farmers by middlemen in marketing and credit facilities etc are the major threats hindering the effective functioning of KVK.

Key Words: KVK, Strengths, Weaknesses, Opportunities, Threats, SWOT and Likert scale.

INTRODUCTION

Krishi Vigyan Kendra's (KVKs) are the grass root level organizations established by Indian Council of Agricultural Research (ICAR), New Delhi initially meant for assessment, refinement and demonstration of proven technologies under different 'micro farming' situations in a district (Das, 2007). However, the major activities of KVKs are: conducting On Farm Trials (OFTs) to assess the newly released technologies; demonstrate the proven ones through front line demonstration (FLDs) followed by training of the extension personnel and farmers. Thus, KVK serves as a light house for the overall development

of agriculture and allied enterprises in district. A large number of highly qualified manpower and huge amount of budgets are diverted for the KVKs mandated activities all over the India. Therefore, a study was conducted applying SWOT analysis for strategic planning of programmes and approach to improve the efficiency of KVK. A SWOT is an acronym for strengths, weaknesses, opportunities and threats. Strengths are the basic assets of KVK that helps in its growth and development i.e., technology assessment and refinement (TAR), conducting FLDs, organizing vocational courses for unemployed rural youth, updating knowledge of extension functionaries etc. Weaknesses are

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the liabilities of the KVK that hinders its growth and development which leads to situation specific disadvantage to ultimate beneficiaries i.e., farmers. Opportunities are the ability of KVK to utilize the resources available in the district for development of farming community and threats are the situations that may block the ability of KVK to grow and develop for meeting its objectives.

MATERIALS AND METHOD:

Acharya Ranga Krishi Vigyan Kendra (ARKVK) in Chittoor district of Andhra Pradesh was purposively selected for the study. It is one of the oldest KVK established by ICAR in 1992 under the management of a reputed NGO-Rashtriya Seva Samithi (RASS). The study was confined to eight adopted villages from five different mandals of Chittoor district. A total were selected for the study. About 180 respondents were randomly selected ranging between 18-45 no's from each village depending upon the population of the villages (Table 1).

The perceptions of the beneficiaries of the KVK were utilized to identify, rank and describe SWOT issues using two surveys and the Likert method of summated ratings. The first survey contained open-ended questions that asked respondents to list the most critical issues of KVK as per their perception. The overlapping responses were removed after a

careful review. A second survey was conducted by mailing these SWOT parameters to 57 extension specialists working in KVK's across the country asking them to rate each entry on a Likert scale from 1 (not important), 2 (somewhat important) and 3 (very important). Of the 57 experts who were mailed, 32 members responded and gave their judgment accordingly. The responses were combined to obtain mean values for ranking of SWOT issues. The top six SWOT issues with mean values of 2.0 or above were ranked and considered for discussion.

RESULTS AND DISCUSSION

Within the context of SWOT analysis, strengths and opportunities refer to things that currently exist and have not been adequately realized, but could be addressed immediately to achieve competence by KVKs. On the other hand, weaknesses and threats existing within the KVK system are creating road blocks for future.

Strengths of KVK

The data (Table 2) indicated that 'introduction of innovative technologies / varieties, regular field visits / diagnostic visits, mobile advisory services, regular up-gradation of knowledge and skills through training, conducting OFTs and FLDs for technology assessment, refinement and

Table 1. Village wise distribution of respondents.

Mandal	Number of villages selected	Village	Number of respondents selected
Yerpedu	3	Madibaka	18
		Rajulakandriga	18
		Munagalapalem	13
Chandragiri	2	Mungilipattu	20
		Dhanamurthypalli	20
Ramachandrapuram	1	Mittoor	26
Narayanavanam	1	G. Kandriga	45
Karvetinagaram	1	Annur	20
Total	8	-	180

SWOT Analysis of KVK

Table 2. Strengths of KVK as perceived by the respondents.

N=180

Strength	Mean	SD
Introduction of innovative technologies / varieties	2.927	0.280
Regular field visits / diagnostic visits	2.905	0.311
Mobile advisory services	2.890	0.358
Regular up-gradation of knowledge and skills through training	2.838	0.437
Conducting OFTs and FLDs for technology assessment, refinement and popularization	2.520	0.655
Effective mass media coverage through newspapers, radio, TV	2.361	0.683

Note: Scale values: 1- not important, 2 - moderately important and 3 - highly important.

popularization and effective mass media coverage through newspapers, radio, TV were perceived as main strengths of KVK.

Respondents felt that introduction of innovative technologies / varieties as the top most strength of KVK and perhaps this might be due to the fact that KVK is the only agricultural institution in the district to validate the technologies at farmers fields and develop location specific technologies with the participation of the farmers and in this process new technologies / practices / varieties were first time introduced by KVK. The scientists of KVK regularly visit and monitor the crops, sometimes jointly with Mandal Agricultural Officers and DAATTC Scientists. The KVK also organizes field days involving the crop specialists from the Regional Agricultural Research Station, Tirupati and hence the respondents perceived it as one of the top most strength of KVK. About 2436 farmers in Chittoor district were registered with the Kisan Mobile Service of the KVK and SMSs are sent periodically @ 2 per week to their mobile phones on weather forecast, pest and disease alerts, marketing information etc. This service is very much appreciated by the farmers as the information is timely and reaches them irrespective of their location and they are planning their farm operations accordingly. Thus the mobile advisory service is providing the right information in right time to the right person at right place aiding in improving the agricultural productivity. As per the study conducted by Jagannath Patra (2011) in

KVK, Mayurbhanj, majority of the farmers opined that time specific advisories were most important followed by marketing information. Similarly Singh *et al* (2011) also stated in their study that the identified stakeholders agreed 100 per cent with delivery of timely information followed by 99.4% with strong linkage with KVK and 97.6 per cent with need-based information. KVK is well recognized in the villages through these activities for improving the productivity of the prevailing enterprises in the villages. Hence the respondents felt them as the top most strengths of KVK.

Weaknesses of KVK

Like six strengths respondent highlighted six weakness as well (Table3) showed that the farmers of adopted villages of KVK visited KVK now and then for advisory services or attending on-campus training programmes. They are well aware of the situations prevailing in the KVK farm and location of KVK very far from the villages, almost at the fag end of the district and difficulty in reaching. The soil status is very poor, red sandy consists of gravel, boulders and undulated. The irrigation water status is very poor due to deep groundwater table and irregular, insufficient power supply. Hence all the farming systems prevalent in the district are not being demonstrated in the KVK farm and the farmers perceived them as the weaknesses of KVK. With regards to the technical staff, for more than a decade, there was no scientist from Animal Husbandry discipline and dairy activity being a sustainable enterprise for majority of the

farming community this gap was clearly felt by the respondents. The respondents also felt that it is not possible to conduct follow up in each and every aspect might be due to limited number of technical staff to cover entire district.

Table 3. Weaknesses of KVK as perceived by the respondents. N=180

Weakness	Mean	SD
Location of KVK farm with poor accessibility	2.895	0.362
Poor soil status at KVK	2.778	0.397
Poor irrigation sources at KVK	2.710	0.415
Inadequate staff strength to cover entire district	2.605	0.509
Absence of faculty on animal husbandry	2.243	0.691
Inadequate follow up	2.050	0.762

Note: Scale values: 1- not important, 2 - moderately important and 3 - highly important.

Opportunities for KVK

Important opportunities for KVK as perceived by the respondents (Table 4) were horticulturally important district and scope for food processing, nearness to two cosmopolitan cities (Chennai and Bangalore) for marketing and exports, favorable policy on KVKs, seed procurement centers to reduce the intervention of middlemen in marketing, tap traditional wisdom of farmers and integrate it with latest technologies and agricultural input subsidies through KVK. Chittoor district is geographically nearest to two major cities of the country, Chennai and Bangalore. Proximity to a large catchment area of raw materials, availability of skilled labour and advantageous location within the reach of major markets for the end products are the major locational advantages enjoyed by the cluster. Hence the respondents might have felt that KVK may take lead step to provide additional marketing facilities and fetch remunerative prices to farmers so that they are released from the clutches of middlemen. In order to achieve the objective of development in villages, people's participation is essential. It

is required to involve them actively in project activities by respecting their traditional knowledge and experimental ethics. KVK demonstrate the critical inputs required for on- farm trials and frontline demonstrations in time and at village level free of cost only to the selected beneficiaries. The respondents might have felt that KVK may be a good alternative agency to deliver the critical inputs timely on subsidy basis so that the benefits reach all the farmers.

Table 4. Opportunities of KVK as perceived by the respondents. N=180

Opportunities	Mean	SD
Horticulturally important district and scope for food processing	2.915	0.294
Nearness to two cosmopolitan cities for marketing and for exports	2.861	0.326
Favourable Government's policy on KVKs	2.783	0.429
Seed procurement centres to reduce the intervention of middlemen in marketing	2.565	0.512
Tap traditional wisdom of farmers and integrate it with latest technologies	2.302	0.723
Agricultural input subsidies through KVK	2.188	0.789

Note: Scale values: 1- not important, 2 - moderately important and 3 - highly important.

Threats for KVK

Respondents perceived that KVK has no say on exploitation of farmers by middlemen in marketing, KVK has no say on poor credit facilities, inadequate availability of new varieties, inadequate farm labour in rural areas and rising cost of inputs as the major threats for effective functioning of KVK (Table5).

The productivity of the agricultural and allied enterprises increased due to the interventions of KVK but the farmers are being exploited by the middlemen during marketing. The economic development of the farmers is being affected by

SWOT Analysis of KVK

poor credit facilities, crop damage due to natural calamities, inadequate skilled farm labour in the rural areas and ever increasing costs of agricultural inputs like fertilizers. Hence, the respondents have felt these parameters as the threats for efficient functioning of KVK. To overcome the threat like natural calamities to some extent, KVK has introduced 'kisan mobile service' to alert the farmers on weather forecasting so that they can plan the agricultural operations accordingly, 'mechanization' to overcome shortage of labour and 'seed village concept' to address the problem of inadequate seed availability.

Table 5. Threats of KVK as perceived by the respondents. N=180

Threats	Mean	SD
Inadequate funds	2.944	0.252
KVK has no say on exploitation of farmers by middlemen in marketing	2.905	0.345
KVK has no say on poor credit facilities	2.833	0.429
Inadequate availability of new varieties	2.744	0.560
Inadequate availability of skilled farm labour in time	2.622	0.733
Rising cost of inputs	2.272	0.864

Note: Scale values: 1- not important, 2 - moderately important and 3 - highly important.

Implications for Policy and Future Directions

The SWOT issues identified could be similar to KVKs in many other regions with minor variations. Establishment of KVK in the Country has been strictly confined to rural locations of the districts and in few cases the accessibility of KVK to the farming community has become difficult. Moreover the mandatory requirement of 20 ha land for establishing a KVK may force the host organizations to acquire whatever land available at cheaper rates as the land value has increased a lot due to boom in real estate. However ICAR completely funds for the full fledged development of the land of KVK to bring it to a good shape and sometimes it

may be a monetary burden for the funding agency. The location of KVK in very remote places makes inaccessible to the farmers of the entire district. Hence it is suggested to reduce the mandatory requirement of 20 ha for establishment of a KVK to 10 ha which will help in finding good cultivable land by the hosting organization and at the same time minimize the land development budget burden on the part of ICAR.

KVKs functioning under different management in the Country have common mandate with the same workload and nature of activities and they are fully funded by ICAR. In order to boost up morale of the employees and augment the performance of KVK's in the Country, the discrepancy in pay scale of staff among KVKs of different administrative management needs to be resolved by the Government.

The staff of KVK is limited to 16 including the ministerial staff and supporting staff. Of this, Programme Coordinator is the head of KVK with a Doctorate in any discipline of Agriculture or Veterinary Sciences followed by six Subject Matter Specialists (SMSs) from any of the multi-disciplines viz., Agronomy/Plant Protection / Agril. Extension / Soil Science / Animal Husbandry / Dairy / Agril. Engineering / Home Science / Sericulture / Fisheries etc. In the context of Globalization, delivering the agricultural information should be geared up to use innovative extension methodologies like ICT enabled extension, market linkage, post harvest management, value addition etc. Hence to improve the capabilities of the KVK, capacity building programmes for the existing manpower of KVK needs to be conducted or the KVK may be strengthened by increasing the number of posts of SMSs by filling with specialists from the disciplines of Agriculture marketing, Post harvest technology, Value addition etc., Since, it is a policy decision to be taken at National level it may take years to be practically implementing the decision. Meanwhile KVKs in the Country may find alternatives to surmount this gap by using the services of Scientists

from Universities or National Institutes as resource persons.

The limitation of human resources in KVK to cover entire district may be subjugated by combination of application of ICT tools for transfer of technology, master trainer concept and rural entrepreneurship. Mobile advisories on timely farming operations, crop management, pest and disease management, weather forecasts, market prices etc are very well accepted by the beneficiaries and they felt it as effective means of communication.

Kisan Mobile Service started by RASS-ARKVK was found to be the cheapest mode of extension method of delivering the timely information to around 2500 farmers in the district. Identified young and dynamic farmers may be developed as 'Master trainers' for a specific technology or crop and his services may be used to train, guide and support farmers to adopt recommended practices. Development of entrepreneurship in rural areas also helps in faster spread of the technologies in newer areas. Transfer of Technology (ToT) through Entrepreneurship is one form of Farmer led extension and hence the adoption of new technologies by the farmers will be high as the entrepreneurs will own the responsibility of transferring the technologies to the ultimate users. To bring all the farmers especially, the unreached small and marginal farmers into the mainstream of agricultural development, innovative steps like micro-entrepreneurship needs to be

promoted by the Governments. Subsidy component for establishment of micro-enterprises needs to be enhanced to sustain the enthusiasm among the young entrepreneurs.

CONCLUSION

The SWOT analysis revealed the internal strengths and weaknesses, and the external opportunities and threats of the KVK in reckoning. The administrators at the helm of affairs of different KVKs may take cue from this finding to further augment the positives and refurbish the negatives to enrich the functioning of KVKs to serve the farming clientele in a better way.

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