

INSTITUTIONAL CONVERGENCE FOR AGRICULTURAL DEVELOPMENT: THE CHANGING ROLE OF EXTENSION



Extension agencies globally face the twin challenges of limited finances and manpower. However, some extension agencies manage these challenges and achieve larger

impacts by converging their efforts with others. Based on their experiences with convergence of activities at the Krishi Vigyan Kendra (KVK) in Khordha under ICAR-Central Institute for Freshwater Aquaculture, Bhubaneswar, Odisha, PN Ananth, S Babu, NK Barik, AK Dash and JK Sundaray demonstrates how convergence at the KVK level can enhance innovation and impact.

INTRODUCTION

Krishi Vigyan Kendras (KVK), the farm science centres, have been claimed as one of the major institutional innovations of the NARS (National Agricultural Research System) in India. KVKs act as knowledge and resource centres for the district extension system in India. KVKs are fully sponsored by the Indian Council of Agricultural Research (ICAR) and are authorised to organise technology assessment and refinement. Apart from this they also organise demonstrations to provide technological backstopping to state agencies at the district level and training to farmers (Box 1). Agriculture is considered to be a state subject which means that states are mainly responsible for agricultural development. But KVKs are centrally sponsored. The KVKs work closely with the state governments in providing information and knowledge on latest innovations, along with technologies and updates on agriculture and allied sectors for district agricultural development.

Though KVKs are knowledge and resource centres of the district, the organisation is plagued with low budgetary provisions and inadequate manpower, which inhibits its ability to cater to the district's extension system, farmers, and other stakeholders. On average, a district in India has 10 blocks and between 1000-2000 villages ranging in area from 2500-3000 sq. km. So the potential coverage for a KVK is fairly large. However, each KVK is manned by only six subject matter specialists with one scientific cadre staff heading the unit, and has an annual budget of one crore (almost 80% of this amount is spent on salaries).



Interface meet between KVK-Khordha and District Extension System

WHY CONVERGENCE FOR KVK?

There is a general misunderstanding that a KVK has to cover the whole district (as it is a district level organisation) with its extension services. The latest directive speaks on **Technology Assessment and Demonstration** for its **Application** and **Capacity Development**. The earlier directive had also mentioned Technology Assessment, Refinement and Demonstration. Additionally many consider and feel that KVK is a training centre. Training of KVKs are part of the demonstration programmes and a standalone activity. Demonstrations too differ from the state government's way of demonstration as it is unique being a Front Line Demonstration (FLD). The FLDs of KVKs means that a cutting edge innovation/technology is demonstrated for the first time in the district involving scientists and extension workers of the state government.

Though the mandates of KVKs clearly indicate that it is entirely different from a full time extension agency, many expect it to function like a district level extension agency. For instance, if a technology being assessed by KVK is found to be feasible and productive for farmers, many believe that it is the role of KVK to extend its outreach to the entire district. But it must be kept in mind that KVKs are not appointed to play this role. Apart from this, they are also not in a position to do this because they lack adequate budget and manpower. However, it is possible for KVKs to expand viable, assessed and demonstrated technologies if they work with other partners at the district level.

Box: 1 Achievements of KVKs

- All over the country KVKs have conducted 29,805 on-farm trials on 3301 technologies at 4312 locations – to identify their location-specific advantages under different farming systems;
- KVKs have organized 129,678 Front Line Demonstrations (FLD) to demonstrate the production potential of newly-released production technologies on farmers' fields;
- Trained more than 1.3 million farmers/farm women, rural youths and extension personnel in agriculture and allied fields;
- Conducted a large number of extension activities benefiting about 19.87 million farmers and other end users;
- Produced more than 339,000 quintals of seeds and 147.56 million sapling/seedlings/livestock strains, as well as various bio-products made available to farmers;
- Sustained functioning of 44 Agricultural Technology Information Centres in ICAR institutes and SAUs;
- Organized 358 capacity development programmes for 9878 KVK personnel;
- Organized 268 interface meetings involving scientists and development officials at the district level.

Source: <https://kvk.icar.gov.in/ABOUTKVK.ASPX>

There was an extensive reform during 2014-15 wherein KVK Heads were re-designated as Senior Scientists and Heads from the former designation as Programme Coordinators – this was done in order to leverage the district administration. The Heads of KVKs currently sit in the front row in meetings whereas earlier they used to sit at the back. Now it is time for KVKs to work on realistic district action plans and play proactive roles in extending the reach of its activities (although still plagued with low investments and manpower). This expansion process is always in the hands of KVKs, but it can happen only via self-induced practices/personal traits in the personnel working in KVKs rather than through external push factors (especially in the case of Heads of KVKs). With set mandates KVKs normally assess a technology, demonstrate, train and then sends it the state government for scaling out (a linear model is what a government-sponsored official offers). Such a linear model will not be good for better reach of technologies assessed and demonstrated by KVKs.

KVKs now have to devise mechanisms to overcome the challenge of low investments and inadequate manpower. This blog gives details on how a KVK in the eastern state of Odisha (in India) has expanded its activities, covered more farmers, and provided technical backstopping to other organisations using similar partners in the district and many other ways, including tapping into Corporate Social Responsibility (CRS) funds. The experiences shared here are from KVK-Khordha, which works in the district of Khordha, under the administrative control of ICAR-Central Institute for Freshwater Aquaculture.

APPROACH ENVISAGED BY KVK-KHORDHA

With an idea to expand its activities for better reach, the KVK made an action plan and named it as 'People and Partnership'. The approach was launched in 2012 in collaboration with various agencies to improve delivery of technical and extension services in a convergence mode. Since, then KVK-Khordha has been working with more than 21 partners, such as Employment Mission (GoO), ATMA-Khordha (GoO) supported by GoI, Odisha Community Tank Management Project (OCTMP) (a World Bank-aided project of GoO), District Rural Development Agency (DRDA) (GoO), National Council of Rural Institutions (NCRI) (GoI), Watershed Mission (GoO), Bringing Green Revolution to Eastern India (BGERI) a GoI-aided GoO project, Odisha Watershed Development Mission, Indian Farmers Fertilizers Cooperative (IFFCO), Coconut Development Board (GOI), Paradeep Phosphates (Pvt), Krishi Jagran Media group, Reliance Foundation, National Institute for Agricultural Marketing, RKVY-Odisha, and many others. Having understood the background this blog goes on to cover the nature of convergence initiated by a KVK marked with limited funding and manpower.

Joint Demonstration of KVK and ATMA, Khordha



KVK- Khordha and OCTMP joint Vaccination camps for backyard poultry



ANALYSIS ON THE CONVERGENCE

A brief analysis of the initiative is imperative as the aim of working with partners (Table 1) is for mutual benefit with main focus on strengthening farmers in terms of increasing their incomes. The convergence envisaged by the KVK has yielded better outreach of activities and benefits to farmers that have been realised over time. By converging its activities with the efforts of others, the KVK started playing the role of a bridging organisation as envisaged under Extension Plus (Sulaiman and Hall 2004; Sulaiman 2012). As a bridging organisation at the district level with much better grasp of the ground situation, the KVK could better support agricultural extension system with aspects related to technology backstopping, integration, and management.

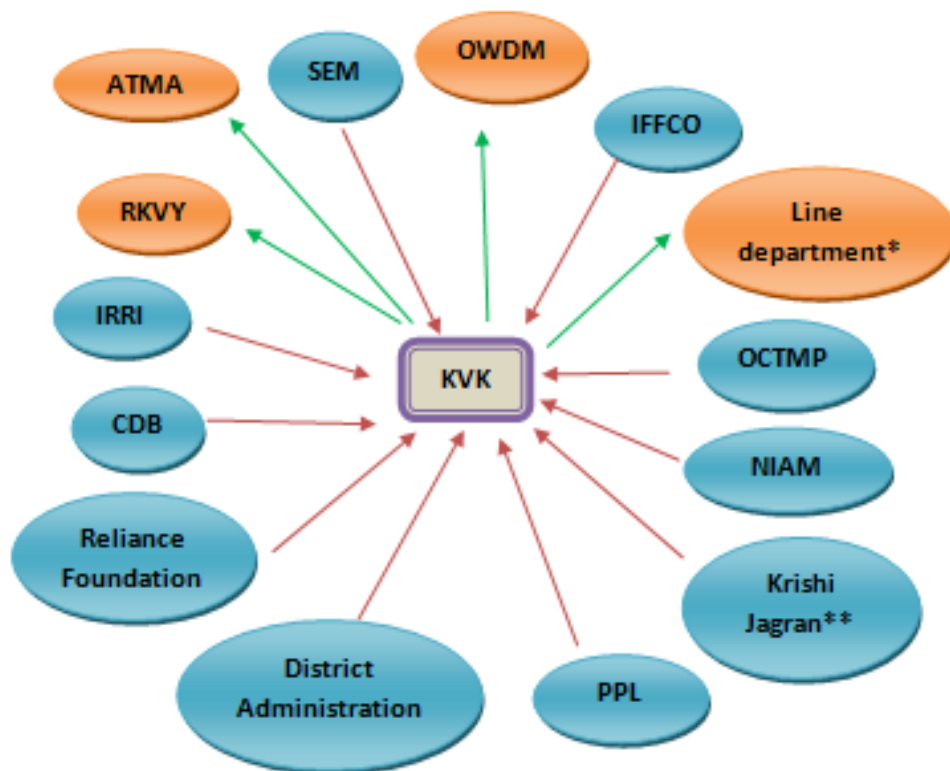
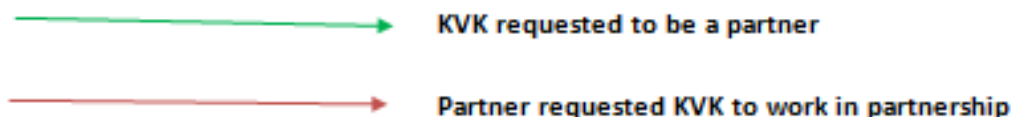


Fig.1: Convergence and Partners of KVK-Khordha



*District Extension Agencies of the government for agriculture, horticulture, veterinary and dairying, fisheries and other development missions

** A media house with a farm magazine in Odia

KVK-Krishi Vigyan Kendra, OCTMP-Orissa Community Tank Management Project, OWDM-Odisha Watershed Development Mission, SEM-State Employment Mission, ATMA-Agricultural Technology Management Agency, IFFO-Indian Farmers Fertilizers Cooperatives, IRRI-International Rice Research institute, CDB-Coconut Development Board, National Institute for Agricultural Marketing, PPL-Paradeep Phosphates Ltd

As the KVKs are not formally mandated to do these roles, they often concentrate more on organizing programmes by themselves. However, KVK-Khordha was well ahead in understanding its position and presence in the district and demanded to work with partners having its own capacity. The KVK identified partners who have similar objectives for expanding its activities. A brief analysis on the few partners with benefits from the KVK is presented in Table 1.

Table: 1 Objective, mechanism, funding pattern, achievement and lessons learnt of the approach

Partner	Objective of partnership	Mechanism of partnership	Funding and sharing of resources	Achievements	Lessons learnt
Employment Mission	Developing entrepreneurs in freshwater aquaculture	Joint implementation	Full funding and sharing of expertise	143 entrepreneurs developed (one-month long skill development training)	Long-term capacity building is key for developing entrepreneurship
Orissa Community Tank Management Project	Support to agricultural livelihoods	Joint implementation	Full funding for implementation by the partner with additional manpower	412 ha of land under line sowing in paddy; 25 ha of community tanks under fish culture; 80 units of backyard poultry; 85 trainings benefitting 2285 farmers; trained 180 master farmers	Short-term partnerships to achieve targets in a livelihood project is a constraint
Odisha Watershed Development Mission	To train farmers on off-season vegetable cultivation	Implemented capacity building with own design	Full funding and expertise sharing	210 farmers trained in off-season vegetable cultivation; Unique guide for off-season vegetable cultivation in the local language	Absence of funds for assessing impact
District Administration	KVK key in the district extension system	Joint implementation of activities	Full funding and sharing expertise	Awareness camp--cum-workshop for 50 fish farmers to link with state schemes; and 120 farm women on drudgery reduction	KVK - vital for the district level extension system
National Council for Rural Institutions	Promoting rural enterprises	Implemented with own design	Funding on completion of the program	Training on rural enterprise for 35 farmers – trained on rural technologies	One time initiative for promoting rural enterprises is an uphill task
ATMA	Problem solving skills and feedback	Independent and joint implementation of activities	Formal allocation of funds to KVK by ATMA for validation trials and other activities	Technical backstopping to bring 10,000 ha of paddy cultivation by adopting the practice of line sowing; Organised validation trials on crops; Sharing expertise on suitable	Personal relationships are key. Although it is mandatory to provide funds by ATMA to KVK, yet lobbying is required

				technologies for promotion in the district; Support to prepare Strategic Research and Extension Plan (SREP); Key member to prepare the Comprehensive District Action Plan (C-DAP); Interface meetings to scale up best practices for larger development in the district; Trained 850 progressive farmers identified by state actors	
Coconut Development Board	Focus on employment for rural youth	Joint implementation of skill development training	Full funding	210 rural youth trained in using coconut climbing machine; 210 climbing machines provided free of cost	Providing skill development training and support of a climbing machine can create impact
National Institute for Agricultural Marketing (NIAM), Jaipur	Develop a model to connect fish farmers to best marketing ways (Aquaculture Business Schools)	Development intervention in critical stages of fish production; and connecting to better markets	Full funding	Formed one aquaculture business school (other activities ongoing)	Model to be scaled up using different methods
RKVY	Developing and strengthening of Demonstration Unit of KVK	Infrastructure development to KVK	Full funding (INR 78 lakhs)	Construction of eight additional demonstration units	Critical inputs for providing certain innovations will be realised
International Rice Research Institute	Introduce innovations to reduce post-harvest losses	The new innovations of IRRI, such as Solar Bubble Dryer, cocoon and supper bags have been provided to	Full funding	Demonstrated the innovations in five villages	Most of the innovations of KVK are related to production aspects. KVK has started working extensively by demonstrating

		KVK worth INR 2.5 lakhs to create awareness and demonstrate its usefulness			innovations related to reducing post-harvest losses with this partner.
Private-1 Paradeep Phosphates Ltd	Soil health cards (SHCs) using CRS funds	Achieve the target of providing SHCs	Financial support for providing SHCs	3000 soil health cards prepared and distributed; Support for a few farmer scientist interactions on soil fertility management	Realised the expertise of private sector; Tapping into Corporate Social Responsibility funds
Private-2 IFFCO	Product testing and upscaling	On-farm testing and joint demonstration of IFFCO products	Financial support	Seven products tested and reports provided; Introduced IFFCO products through cluster demonstration initiatives of KVK	Tapping both expertise and importance of KVK as a certifying agency
Private-3 Krishi Jagran (KJ) Media group	Using print media (monthly magazine for extending outreach)	Joint decision on content for Odia KJ farm magazine and digital platform of KJ Odia	Agreed that KVK should have two articles in all issues of the magazine (monthly). KVK suggests innovations, and technology assessed and demonstrated for KJ Odia for each issue. Joint content creation	Contents for Odia KJ since eight months (and continuing). Increased visibility for KVK-Khordha in Odisha, even though it is just a district level organisation	Realising the power of print media
Private-4 Reliance Foundation	Extending outreach through media	Sharing expertise	Investing in events	Organised eight video and audio conferences for farmers at out of range places	Reaching unreachable farmers using media tools

Impact of convergence on the KVK's mandatory activities

1. A KVK that used to work on technology assessment with 22 technologies each year before convergence has now grown to include 40 as there has been demand from partners to assess technology for adaptive trials and to provide results for scaling up.

2. In most instances, before convergence ‘fordism’¹ prevailed; but after convergence, most of the interventions were need-based as the KVK was contacted by partners to decipher their problems by sharing expertise and resources. Understandably, the KVK took on a new role in extension delivery.
3. Through partnerships the number of trainings organized increased from 73 to 110 every year, benefitting more than 5000 farmers. The core competencies of the KVKs shifted from – relevant technology assessment to scanning the need for technological interventions, to simple delivery of package of practices through demonstration – towards farming system models. The KVK’s investment per training increased from INR 5000 to INR 45,000 and then to INR 1,20,000 as the shift moved from short-term to long-term.
4. During 2005-2010, the number of beneficiaries was 6000/year; and since 2012-2017 after implementing this approach, it has grown to 12,000/year, for which a number of partners are responsible.

The coverage of the KVK has expanded considerably to all the blocks whereas before convergence the reach was only to five out of 10 blocks in the district.

CONVERGENCE: BEFORE AND AFTER

Enhancement in outreach was the key outcome of this convergence as it was visualized shrewdly by the KVK. Nonetheless, with this key outcome many other advantages were also observed over a period of time. The reason to keep enhanced outreach as the key for partnership was the recognition that the KVK had poor visibility, had fewer interactions, was secluded, and also had many other problems. This was the state of affairs despite possessing capabilities higher than other extension organizations in the district. It is an accepted fact that before convergence, the KVK was an isolated institution with minimal reach and had to achieve the set targets with available resources and manpower.



KVK-Khordha and Coconut Development Board Skill Development Training

¹The so-called ‘Fordism’ (Chambers 1992) is a central hindrance to reform, since farmers will not make demands, and extension service providers will not consider locally perceived needs if both assume that extension only deals with fixed packages.

As a result of convergence, improvements arising from expertise, use of different multiple extension methods, use of innovative approaches in demonstrations, transformations in training pattern and other activities, were observed (see Table 2).

Table 2: Measures of convergence output of KVK-Khordha

Functions	KVK before convergence	KVK after convergence
Convergence with other institutions (No.)	1	21
Technology assessment/year (No.)	21	40
Interaction with research system	Prevailed	Strengthened
Involvement of scientists and academicians in KVK activities	Prevailed	Increased
Coverage of technology demonstration	Low outreach	High
Approaches in demonstration	Traditional	Cluster and block demonstrations
Expertise	Involved in basic demonstration of improved practices of crops, fruits, vegetables	Enterprise development
Trainings/year	73	110
Typology of training	Short duration (1-2 days)	Long-term (5-30 days)
Core competency expedited	Package of practices in lecture mode	Skill acquisition
Extension methods in training	Predominantly lectures	Multiple extension methods
Investment in training on one unit (INR)	5,000	45,000 to 1,20,000
Farm and rural advisory services in terms of beneficiaries (No.)	2000-2500	12000
Advisory delivery methods	Farm and home visits and all other traditional methods	Mobile, Short Message Service (SMS), WhatsApp and other ICT tools, audio and video conferencing
Interaction with other extension agencies	Prevailed	Increased
Participation in meetings	Low	High
Institutional investment on extension/year (INR)	70-80 lakhs	100-120 lakhs
Outreach and capacity of rural poor as service users	6000 farmers	12,000 farmers
Extension activities	Traces	50 events/year
Involvement with private sector	Traces	10-12 private sector and Corporate Social Responsibility funds are invested in KVK
Coverage	5 blocks of the district	All 10 blocks of the district
Green services	Traces	Increased to a considerable extent
Fordism	Prevailed	Changed
Trust and cooperation	As usual in business	Unusual (heightened)
Prominence in the pluralistic extension system	Existed	Enhanced
Demonstration units	2	12

NEW EXTENSION ROLES

The increased funds and involvement of more partners in demonstration of improved practices had greater impact – by involving additional farmers, adopting practices uniformly, introducing farm-mechanization, and putting into place a strong monitoring and evaluation system. In most of the instances before convergence, Fordism prevailed and after convergence, most of the interventions were need-based as the KVK was approached by partners to decipher their problems by sharing expertise and resources. Understandably, the KVK took on a new role in extension delivery which is presented in Table 3.

Table 3: New roles of extension upon convergence

Strategic questions	Expected new roles required	Perception of KVK's new role in extension delivery after envisaging convergence
How to win trust and cooperate with partners having similar mandates?	Developing a commitment to actively explore ways to work together with small-scale farmers and rural producers	Prevalence of a commitment towards exploring possible ways to serve farmers involving multiple stakeholders; Due to involvement of partners, the KVK could identify the needy farmers that it has to work with.
How to target and achieve equity?	New approaches to overcome the elite, high-external input, and gender biases which have affected extension	Shift from traditional capacity building initiatives to skill development, towards eliminating high external-input agriculture to low external-input sustainable agriculture; New approaches, like cluster demonstration and training master farmers, were envisaged.
What is the mode of integration for better outputs?	Efforts to be focused on a realistic set of service components related to information and communication about agricultural technologies, keeping farmers' needs in a complex environment	Majority of the works have been demand-driven focussing on agricultural technologies that are relevant to the operating environment of the farmer; Partners sought help of KVK as they needed to partner for sharing resources and expertise.
How effectively can an extension agency like KVK use extension pluralism?	Enhancing the effectiveness of one agency to work strategically within a multitude of organizations and individuals that provide information and other services to farmers	Clearly brought multiple stakeholders into the fold to jointly deliver information, knowledge, and skill for boosting farmer and institutional capacity; Enhanced outreach was possible due to convergence.
What is the view from the field, i.e., from end users, of the KVK?	Objectives and approaches focusing on poor farmers be operationalized by extension agents in their day-to-day tasks	Sharing of resources, expertise and other aspects of each partner made KVK look closely into the field and carry out day-to-day tasks.

The shift has been from target crops to people through all these initiatives, as the KVK has responded to farmers' needs rather than to partners' needs. The whole convergence experience of the KVK deduced that rural development is complex; and demands that farmers, their neighbours, input salesmen, local officials, and other actors meet and negotiate to arrive at joint decisions for addressing complex problems of natural resource management (as observed by Christoplos 1996). There is very little empirical research on the Agricultural Innovation System (AIS) and on how partnerships are formed, and how they affect extension service provision within AIS (Ragassa et al. 2016). Our experience fills this shortcoming to some extent.

LESSONS

Firstly, the key to the success of this initiative of institutional convergence has been the mutual understanding between a KVK and its partners, which has been complementary in terms of sharing resources and expertise. Both the KVK and partners have been in synergy due to the clear understanding of their respective strengths and weaknesses within a pluralistic extension system. It is worth researching whether partnerships are externally induced or self-induced, and why a partner demanded to partner? Questions may arise several times on why an extension services providing agency needs another partner. Given these arguments, it also means that similar extension organizations in a region should work with strong linkage mechanisms, and the government needs to be proactive in inducing partnerships.

Secondly, given the experience of this initiative it is evident that restrictively-funded public extension services providing organizations with rich diversified knowledge and expertise, can perform better with the help of partners for convergence of ideas, resources, and expertise. Their ability to drive agricultural development should also be beyond reproach. It is also evident that partnerships will continue only as long as mutual benefits exist, and withdrawal is common when goals diverge. It must be inferred that partners can continue only through continuous dialogue and interactions, especially when new targets and innovations are to be delivered. In the present context of climate change and its impact, most of the agricultural extension agencies need to collaborate as pooled expertise is vital for providing appropriate solutions to farmers. Development projects/programmes should be forced to have dedicated partnerships in order to reach end-users effectively, and also to disseminate its many benefits to a larger audience.

END NOTE

In the increasingly pluralistic extension landscape, partnerships are going to be the key to design and delivery of effective and efficient extension. Frameworks such as Best Practice to Best Fit (Birner 2006), Extension-Plus and Agricultural Innovation Systems (AIS), too emphasize this. Extension professionals need to learn how to fit themselves into the existing AIS, rather than wait for policy directions from the top – if they want to remain relevant in these changing times.

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