

Capacity Building in Secondary Agriculture through Skill Training Programmes at KVKs

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Abstract

The present study examines the intersection of agriculture, entrepreneurship and skill development in India. Agricultural workers, four times more likely to be impoverished, face a critical need for skill training. With 62% of the population within the working age group, the agricultural sector's 45.5% employment share underscores its significance. The majority lacks education and skills due to economic constraints. Skill development emerges as a catalyst for job creation and economic growth. The study navigates historical contexts, explores contemporary agricultural skills and analyzes the transformative impact of Krishi Vigyan Kendras (KVKs) skill training initiatives. The study concludes by emphasizing the pivotal role of KVKs in shaping a skilled and empowered agricultural workforce. It calls for continued efforts to refine and expand skill development initiatives, ensuring equitable access and opportunities for a skilled and diverse workforce in agriculture sector.

Keywords: Skill development training, NSQF, KVK

Introduction

Agricultural workers are more than four times as likely to be poor than those employed in other sectors (World Bank 2016). With 62% of India's population falling within the working age bracket of 15 to 59 years and over 54% being below 25 years old, the significance of agriculture in the overall employment landscape is notable at 45.5%. Majority of the agricultural workforce is neither educated nor skilled which is a result of them being poorer than workers in other sectors. Economic condition does not allow them to invest in training and skill development.

Agricultural livelihoods have a

Why Skilling in Agriculture

Non-formal educational settings like field-based training Job-specific skills training. Vocationalisation aimed towards the changing nature of rural livelihoods and labour markets. Wood's dispatch of

direct linkage with poverty and hunger. Employing youth is a major challenge because of increasing numbers combined with a lack of gainful employment opportunities in other non-farm sectors. Skill training in agriculture can create a win-win situation for both the people seeking employment as well as agril. sectors in terms of higher productivity and growth. Access to innovations and technology with the right skill and education can play a major role in enabling to open up new avenues like entrepreneurs and agribusiness specialists and curtail jobless migration from rural to urban areas.

1854, first time highlighted the need for introducing vocational education. Indian Education Commission (1882) examined problems of vocational and technical education. Hartog Review Committee

(1929) and Sapru Enquiry Committee (1934) emphasized the vital role of vocational education in the country's economic development. Radhakrishnan Commission (1948) emphasized the need for vocational education 'to meet a variety

Vocational Education and Training in agriculture in the 21st century

In past Agricultural Technical Vocational Education and Training focused primarily on production skills and producers. Modern value chains, demand skilled workers to fill variety of roles that relate to agricultural but are not directly related to traditional roles of production. In the context of agricultural workforce development, there is still a lack of agreement on the types of occupations needed and how best to prepare and train individuals for those roles. Two-tiered agricultural system, with individual farmers directly engaged in agricultural production while a second level of businesses and individuals provide them with the support and services necessary to succeed. Agribusinesses and self-employed farm entrepreneurs also play roles in this vision of the agricultural system.

Skills necessary for agriculture relate to occupations become increasingly diverse and potentially technical. Skill training

Skill Development Initiatives

With rapid economic growth and an evident shortage of skilled workers, the modernisation of formal vocational education and training (VET) in India increasingly came into focus. Skill development has been on top of the agenda of the Indian government for more than a decade, resulting in state policies and related schemes to upgrade and develop a system struggling with quantitative and qualitative issues^[4]. XI five-year plan (2007-2012) marked the beginning of a structured approach to a skill development programme. Skills Development Initiative

of needs of our young men and women. Working Group on Vocationalisation of Education and Work Experience (1978) emphasized skill development at all levels through formal and non-formal programmes.

programme needs to be demand-driven, catering to the needs of the farming sector, agribusiness and industry. Emphasis is needed on business and managerial skills. Skills offered and the means of acquiring those skills must follow the client-driven approach and be tailored to specific situations and demands of those being served. Address the existing skill gaps by evolving designs of skill development programmes, thus bringing in innovations and entrepreneurship. Involvement of various stakeholders, such as public and private sectors and their efforts in advancing skill development. Skills need to match the complexity of emerging demands and new technologies in workplace environments. Drop-outs and illiterate young people in search of work enter the informal sector without structured guidance or a perspective on career development and in conditions that are usually worse than those in organised settings^[5].

(SDI) in 2008 and establishment of National Skill Development Corporation (NSDC) 2008. National Policy on Skill Development (NPSD) in 2009. Ministry for Skill Development and Entrepreneurship 2014. National Policy for Skill Development and Entrepreneurship 2015.

The complexity of educational governance in India is increased by a large number of further ministries which are engaged in vocational training programmes and initiatives in one way or the other, sometimes ineffectively, through

parallel schemes^[6]. MSDE tried to bundle skill development initiatives for effective implementation, involving 16 ministries under their heading (MSDE, 2018). Skill India Mission under 'Atmanirbhar Bharat'

Sector Skill Council in Agriculture

Sector Skill Councils play important role in bridging the gap between what the industry demands and skilling need. Sector Skill Councils are responsible for identifying skill development needs per sector; listing out options for candidates and maintain a repository of skills. government has made several efforts to enhance learner-centred methods by means of modernised curricula that integrate new approaches and teaching methods^[1, 2]. Training should be imparted by trainers themselves aware of what employers expect, with training incorporating theory,

Skill Training initiatives by KVKs under NSQF in Madhya Pradesh and Chhattisgarh

KVKs play an important role in developing the skill of farmers as the KVKs have vast experience in the field and odder to improve the quality of training programmes at KVKs to cater the need of the hour and to provide qualified skilled workforce in agriculture sector. Agricultural skills will play in transforming the youth into the agripreneurs. These self-employed agripreneurs can provide employment to the others. In collaboration with Agriculture Skill Council of India, Indian Council of Agricultural Research took an initiative of taking up entrepreneurship development programmes through imparting skill training by KVKs during 2016-17. At

Material and Method

The skill development training programme implemented at KVKs as per different qualification packs developed by ASCI. The QP were selected based on the demand for skill training by farmers, youths and women the district by the KVKs. The Master trainers were

aimed to create and implement comprehensive skill development to bridge the gap between industry demands and skill requirements^[3].

practical workshop experience and on-the-job internship or apprenticeship. With such training, competency will be an inevitable outcome. Agricultural Skill Council of India (ASCI) is Sectoral Skill Council for agriculture & works towards capacity building by bridging gaps and upgrading skills of farmers, wage workers, self-employed & extension workers. ASCI conduct skill-based assessment & certification of Qualification Packs. ASCI developed 176 Qualification Packs and certified more than 10 lakh participants.

national level KVKs have been affiliated by ASCI and the trainers will be certified by ASCI. This was in consonance with the directives received from the Ministry of Skill Development and Entrepreneurship, Govt. of India. KVKs/ SAUs/ ICAR Institutes in Madhya Pradesh and Chhattisgarh were assigned with the job of undertaking the training programmes in the line of ASCI norms. The present study attempts to analyze the role of KVKs in capacity building in secondary agriculture through skill training programmes as per ASCI framework among farmers, rural youth and women in Madhya Pradesh and Chhattisgarh.

identified for conducting the skill training as per NSQF framework. The selected master trainers completed training on platform skills, NSQF compliance, qualification packs, job roles, skill data management system, etc. The assessment

included written and oral examinations for Mater Trainer.

The present study is based on the skill development training programmes conducted by KVKs in Madhya Pradesh and Chhattisgarh as per National Skill Qualification Framework (NSQF) by Agriculture Skill Council of India. Total 151 Skill Development training programmes were conducted which comprised of 200 to 240 hours duration under different qualification packs and common cost norms of the ASCI. The participants in training programmes comprised of farmers, rural youths and

Results and Discussion

Demographic profile of participants: Skill development training programme at KVKs in Madhya Pradesh and Chhattisgarh have attracted 3,136 participants who were interested to

women. Training programmes comprised of technical lectures, discussions and practical sessions as per the qualification packs of the job role. The information was collected from the KVKs and training participants about the skill development training programme conducted during 2017-2021, enrollment of the participants in different qualification packs, the performance of the participants, follow up after the training programmes and establishment of entrepreneurial unit, feedback of the trainees was sought about the skill training programmes conducted at the KVKs.

enhance their capabilities and contribute to the skilled workforce in agriculture sector. The participation in training provides a detailed comprehension of the demographic profile of the trainees.

Table 1 Demographic profile of skill training participants

State	No. of Skill Training Prog. Organized	No of Participants		
		Male	Female	Total
Chhattisgarh	59	564	498	1062
Madhya Pradesh	92	1765	309	2074
Total	151	2329	807	3136

In Chhattisgarh and Madhya Pradesh, a total of 151 skill training sessions comprised of 200 to 240 hours duration were organized at KVKs under different qualification packs and common cost norms of the ASCI. The training programmes had 3,136 participants who joined skill development training to enhance their capabilities. Demographic profile of trainee participants indicated that out of 3,136 participants under the training programme 2,329 (74.27%) were male and 807 (25.73%) were female. Moreover, a closer examination of the state-wise data uncovers interesting patterns. Chhattisgarh, in particular, stands out for its higher female participation rate as

compared to Madhya Pradesh. In Chhattisgarh out of 1,062 participants joined training programme comprising of 564 (53.11%) male and 498 (46.89%) female participants. Whereas, In Madhya Pradesh out of 2074 participants joined training programme comprising of 1,765 (85.10%) male and 309 (14.90%) female participants.

The demographic distribution of participants underscores the commitment to inclusivity, with 74.27% of the trainees being male and 25.73% female. Notably, Chhattisgarh exhibited a higher female participation rate, with 46.89% of the 1,062 participants being women. In contrast, Madhya Pradesh saw a relatively

lower female participation rate at 14.90%, out of the 2,074 individuals enrolled in the training programmes.

These findings highlight the need for targeted efforts to further encourage and support female participation in skill development initiatives to ensure gender inclusiveness, especially in regions where disparities exist. The high level of participation in the skill training

Performance of Participants in Skill Development Training

Skill development training programmes aimed to equip participants with practical knowledge and capabilities to thrive in various field with essential skills. Assessment is a critical component of the training process. The trained participants underwent rigorous assessments conducted by the Agricultural Skill Council of India (ASCI). The results of this evaluation provide valuable insights into the effectiveness of the training

programmes in both states signifies a positive step toward building a skilled and diverse workforce, contributing to the overall socio-economic development of the regions. As we move forward, it is imperative to continue refining and expanding these initiatives to ensure equitable access and opportunities for all, irrespective of gender or geographical location.

programme. On the performance of the participants as depicted in Fig 1. out of 3,136 participants who joined skill development training 2818 (89.86%) candidates passed the assessment and received certificate for completion of the programme. Total 983 (34.38%) participants from 2818 candidates passed stated the entrepreneurship after the skill training completion.



Fig 1: Performance of participants in skill training

The performance of participants in the skill development training at KVK is a testament to the programmes success in achieving its objectives. The high pass rate in the assessment indicates the participants' dedication and the programmes efficacy in imparting

practical skills. Furthermore, the substantial number of individuals venturing into entrepreneurship post-training is a noteworthy outcome, highlighting the programmes role in imparting confidence and fostering self-reliance.

Skill Training Programmes Transforming Livelihood

Krishi Vigyan Kendras (KVKs) have emerged as catalysts for transformation in the ever-evolving landscape of agricultural education and entrepreneurship. They played a pivotal role in fostering agricultural expertise and entrepreneurial skills among farmers, rural youth and women through a diverse array of skill training programmes. The success of these programmes is evident in the comprehensive data associated with various Qualification Packs (QPs). From Mushroom Growers to Soil and Water Testing Lab Assistants, KVKs have organized training programmes in 19 distinct QPs.

Offering a spectrum of skill training programmes to the stakeholders, KVKs have effectively bridged the gap between knowledge and application. Among the diverse Qualification Packs, the Mushroom Grower training programme tops with 38 trainings organized by KVKs with 744 candidates enrolled and 674 candidates passing the course with 193 eventually starting the enterprise, followed by Vermicompost Producer with 32 trainings, 551 candidates enrolled and 466 candidates being qualified and 157 pursued to start an enterprise. Similarly, Small Poultry Farmer and Nursery Worker were the most sought QPs after Mushroom Grower Vermicompost Producer. Under Small Poultry Farmer with 20 trainings, 264 candidates enrolled and 252 candidates

being qualified and 84 pursued to start an enterprise. Whereas in Nursery Worker 13 trainings were organised, 175 candidates enrolled and 152 candidates qualified and 40 started an enterprise.

Feedback from the participants revealed that the QPs like Mushroom Grower, Vermicompost Producer, Small Poultry Farmer and Nursery Worker were in high demand by the farmers, rural, youth and women in view of its competitive advantage in terms of providing entrepreneurial opportunities, low investment to start the enterprise and less complex nature of these enterprise.

Whereas specialized enterprises like Dairy Farmer/Entrepreneur Beekeeper with four training each, Assistant Gardener and Tractor Operator with four training each, Garden Keeper with three training and Soil and Water Testing Lab Assistant, Agriculture Extension Service Provider, Micro Irrigation Technician with four training each had moderate preference by the aspiring trainees in view of high level of skill set needed and relatively high investment need to start enterprise. Training with specialized QPs with complex set of skills as perceived by the aspiring trainees included Community service provider, Agriculture Machinery Operator Citrus Fruit Grower, Floriculture Open Cultivation, Forest Nursery Raiser with one training each conducted each were least demanded.

Table 2 Qualification Pack wise distribution of skill training participants

Qualification Pack Details	No of Trainings organised	No. of Candidates Enrolled	No. of Candidates Passed	No. of Candidates Started Enterprise
Mushroom Grower	38	744	674	193
Vermicompost Producer	32	551	466	157
Quality seed grower	8	345	329	63

Organic Grower	6	315	292	62
Small Poultry Farmer	20	264	252	84
Nursery Worker	13	175	152	40
Dairy Farmer/Entrepreneur	6	117	100	17
Assistant Gardener	4	105	97	34
Beekeeper	6	96	85	22
Garden Keeper	3	45	25	5
Soil and Water Testing Lab Assistant	2	45	39	2
Agriculture Extension Service Provider	2	40	38	10
Micro Irrigation Technician	2	40	38	20
Tractor Operator	4	40	40	16
Community service provider	1	21	21	8
Agriculture Machinery Operator	1	20	10	2
Citrus fruit grower	1	20	20	16
Floriculture Open Cultivation	1	20	18	2
Forest Nursery Raiser	1	18	18	12

Enterprise-Wise Returns post skill development training among participants

Skill development training played a pivotal role in agricultural development by offering skill training programmes aimed at empowering individuals and transforming livelihoods. This study focuses on evaluating the tangible impact of KVKs' skill training initiatives on income and livelihoods. The analysis

encompasses a diverse range of agricultural enterprises by assessing changes in income levels to provide a comprehensive understanding of how KVK skill training programmes contribute to the socio-economic upliftment of participants.

Table 3 Enterprise-Wise Returns among entrepreneurs

Particulars	Details	Avg Income form Enterprise Rs./yr
Enterprises with high income potential (Above Rs 3 lakh)	Citrus fruit grower	360000
	Agriculture Extension Service Provider	325000
	Beekeeper	306250
Enterprises with medium income potential (Between Rs 1-2 lakh)	Quality seed grower	124733
	Vermicompost Producer	116260
	Organic Grower	115754
	Soil and Water Testing Lab Assistant	110000
Enterprises with low-income potential (Below Rs 1-2 lakh)	Mushroom Grower	72106
	Small Poultry Farmer	65158
	Assistant Gardener	64400

	Community service provider	60000
	Dairy Farmer/Entrepreneur	56166
	Nursery Worker	49312
	Micro Irrigation Technician	42500
	Floriculture Open Cultivation	42000
	Garden Keeper	41500
	Forest Nursery Raiser	32000
	Agriculture Machinery Operator	25000
	Tractor Operator	39000

Table 3 provides a detailed breakdown of the average income generated from various agricultural enterprises post skill training. Categorized into enterprises with high, medium and low-income potential, the data reveals the financial outcomes of diverse skill development initiatives. Enterprises like Citrus Fruit Grower, Agriculture Extension Service Provider and Beekeeper stand out for their high-income potential, with average returns exceeding Rs 3 lakh per year. Meanwhile, ventures such as Quality Seed Grower, Vermicompost Producer and Organic Grower, falling under the medium income potential category, demonstrate substantial returns ranging from Rs 1 to 1.25 lakhs annually. The enterprises categorized as low-income potential, including Mushroom Grower and Small Poultry Farmer present a more modest yet significant economic impact. This analysis provides valuable insights for stakeholders and policymakers aiming to understand the effectiveness of skill training programmes in enhancing the economic prospects of different agricultural enterprises.

Key factors such as average income generated post-training, the

Conclusion

The study highlights the transformative role of Krishi Vigyan Kendras in elevating agriculture through skill development initiatives in shaping a skilled and empowered agricultural

initiation of entrepreneurial endeavors and the overall economic transformation of individuals within different agricultural sectors shed light on the effectiveness of KVK skill training programmes in fostering sustainable income generation and enhancing the overall quality of livelihoods within rural communities.

Feedback from the participants indicated that skill development in agriculture needs to be complemented by creation of opportunities in the primary, secondary and tertiary sectors for overall economic growth including entrepreneurship. An all-inclusive approach to strengthen the entrepreneurship development scenario in agriculture and allied sectors needs to be carefully mentored and encouraged by the policy planners. Facilitate group approaches for entrepreneurial development through FPO, SHG, FIG. Collaborative efforts leveraging the advantages of public and private sectors in investments, infrastructure, expertise and human resources are critical to strengthen skill development in agriculture.

workforce. Profile of participants in skill training programmes, with over 25% being female, emphasizes the commitment to inclusivity, although targeted efforts are necessary to further encourage female

participation. The success in entrepreneurial development among participants in various qualification pack highlight KVKs effectiveness in bridging the gap between knowledge and application. The significant proportion of participants starting entrepreneurial ventures post-training signifies not only personal growth but also the socio-economic impact at the community level. The enterprise-wise returns analysis demonstrates the tangible outcomes of skill training, with ventures like Citrus Fruit Growing, Agriculture Extension Services and Beekeeping showing substantial average incomes. Medium and

low-income potential enterprises, including Quality Seed Growing, Vermicompost Production and Mushroom Growing, contribute significantly to economic upliftment. There is need of continuous refining and expanding skill development initiatives. It calls for equitable access and opportunities for a diverse workforce in the agricultural sector. The entrepreneurial success underscores the need to tailor future programmes by administrators and policy makers to meet the evolving demands of the agricultural landscape, ensuring sustainable income generation and enhanced livelihoods.

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