

Case Study

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## Community Vegetable Farming: A way to Empower SHGs at Rajanawagaon, Kabirdham District, India

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### ABSTRACT

The aim of this study is to analyze the importance of Self Help group activities in rural economy. This paper also describes the role of community to achieve the environmental, economic and social sustainability for the enhancement of the rural farm families and healthy lifestyle through community participation in food supplies, nutrition and space utilization. This also evaluate the benefits and potential of rural farming activities within limited resources and how the involvement of Government agencies helps to accelerate the working pattern and improving skill of the group members.

### Introduction

Challenging condition of crops, poor harvests results not only in debt, but also in malnutrition for smallholder farmers. Many farm families of the village pull of the city, in search of better employment and money, farm women and young ones also engaged in different types of labour works, which makes them away from their land.

In such situation community farming is the best way to mitigate not only daily additional livelihood but also support to the employment generation to the members of farmer's family. Women in Village scenario have always been involved in farming, typically doing traditional agricultural works like sowing, transplanting, weeding, plant protection

practices, fertilizer application and harvesting, but they have very less or meager involvement in marketing and direct financial benefit of their output. Apart from farming on their small piece of land, women also engaged in many other activities through Self Help groups to improve their livelihood resources.

Community Vegetable farming was started by the joint effort of District administration, DRDA, Line departments and Krishi Vigyan Kendra, Kabirdham in Chhattisgarh state. A total of five self help groups were encouraged and supported for the community farming of Zaid Vegetable production at Barren land of Multiutility centre, Rajanawagaon. Group approach was a simple and farm women oriented participatory extension mechanism with limited

resources was being practiced. This type of farming not only supplement the income of the women but also help in increasing the family labour employment.

The farm wastes are better recycled for productive purposes in such an integrated system. This system of community farming helps to improve the resources of poor farmers and also meets several socio-economic, nutritional and ecological conditions which contribute to their better living and sustainability.

Low input cost, stable yield, application of simple technology, and intensive management practices helps to increase the income and daily livelihood security of SHG members.

### **Background Information of the Study Area**

The intervention of Community Vegetable farming was implemented by District administration in Multiutility centre Rajanawagaon, where 15 acres of barren land is available and the soil condition of the centre is rocky and sandy, which is kept fallow by the villagers since from many decades. The selected village is located Ten km away from Kawardha, on the way of Boramdev Temple, Village is good in basic amenities like electricity, drinking water, formal schools and Police station, Weekly market facility and good shops. The total geographical area of village is 643.12 hectares, out of which cultivated area is about 515.91ha, only 22.46 ha is irrigated.

Average annual rainfall is 870 mm but the average seasonal Rainfall of the village is 750 mm. Main occupations is Agriculture and allied activities. Paddy (Average productivity 37.5 q/ha), sugarcane (Av. Productivity 800 q/ha), Chick pea (Av. Productivity 7.0 q/ha) is the major crops grown by the farmers in the village.

### **Background to case study**

The SHGs comprises of very poor people who do not have access to formal financial institutions also

facing the problem of employment scarcity, leads to migration problem, low nutritional status of group members because most of them are landless.

The community farming in Rajanawagaon Gram Panchayat are in accordance to the prioritization options to boost up their livelihood resources, employment generation and to improve the nutritional status of SHG members and their families. They act as the forum for the members to provide space and support to each other. It also enables the members to learn to cooperate and work in a group environment

### **Major problems**

#### **Erosion**

Soil erosion is one of the major concerns. High surface runoff leads to sever sheet erosion in the cropland area as well as on the scrub/ waste land area.

#### **Irrigation status**

In Rajanawagaon irrigation facilities is limited to only 22.46%, the cultivation is primarily rain fed. In case of weather variability like intermittent dry spells, partial to complete loss of crops affects the livelihoods of the community.

#### **Employment status**

Out of total 621 House Holds registered in MNREGA, 599 House Holds are active. However, only average 68 person days per household provided employment during year 2017-18. Due to lack of the planning and awareness of different NRM activities, the benefits of MGNREGA are limited.

#### **Group activities**

Sixteen women Self Help group are created by National rural livelihood mission to generate employment through groups. Even Two years after the group formation no activity is started by the

group members though they have the ample resources in their village itself.

### **Government policy support for technology promotion and adoption and role of line Department Intervention Details**

To promote the Livelihood activities of Self Help group through Natural resource management of the village the following activities are taken by the District administration, a community based approach through SHGs was identified like Community vegetable production and fish farming activities to increase the income of SHG members. The selected work has the potential to improve the livelihood and provide employment to the Self-help group members as well as improve water harvesting and conservation activities.

This activity is done under the supervision of Specialist of Krishi Vigyan Kendra, State Horticulture department and ATMA, they provide good variety of seed recommended for Chhattisgarh region by Research institutes, Field preparation for different crops, Provides Drip irrigation system for 10 acres of land and Fertigation scheduling according to the crops.

The main objectives of the Community farming were:

Prepare seedling depot of High yielding fruit and vegetable crops at village level, so that farmers at village level can easily approach good quality planting material.

To empower the Self Help groups through community farming

Increase the Nutrition security of farm families through enriching Integrated based community farming round the year.

To support the livelihoods and employment generation for the vulnerable households of the SHG member

### **KVK Intervention**

Though Self Help group members are engaged in cultivation of different crops at their household level but cannot much benefitted in individual level due to following the traditional way of cultivation practices, they force to engage in labour work to get some extra money for household requirements. Their way of cultivation was scattering seeds on the land, using chemical fertilizers and pesticides without following the RDF of particular crops. Therefore the pest and disease incidence in crops was increasing resulting crop loss, on the other hand, the soil fertility and moisture was decreasing due to the use of uneven use of fertilizer. Eventually their cost of cultivation was increasing, whereas the income was decreasing and they are forced to work as labour work.

Seen all this problems District administration comes in force to accelerate the group activities, so that SHG members can get employment through community farming. Krishi Vigyan Kendra Kawardha mitigate the technology gaps through organizing Farmers scientist interaction training, Off campus training on Scientific method of Summer vegetable production, provide good quality of vegetable seeds released from Indian Agricultural Research Institute, Pusa, New Delhi, schedule field visit since from field preparation to harvesting, plan diagnostic visit at random crop growth stage to manage the insect and disease incidence in Integrated method, scheduling irrigation and Fertigation for different crops and crop stage, so that the SHG members can get more profit as well as better nutritional security on per unit area of land.

### **Capacity Building Activities Conducted by KVK, Kawardha**

Group members underwent numerous training programmes, for instance, all members attend six training programme conducted by Krishi Vigyan Kendra, Kawardha in different stages of Vegetable crop production, PGR application, irrigation and fertigation scheduling of different crops, Organic

production of insecticides and pesticides. These training programme helped group members to produce high quality vegetable production.

### **Profile of Groups**

The result of the survey of 50 members of the Five Self-help group reported that about 70 % were from landless families mainly engaged in labour work, 28 % members were belongs to small farmers and 2 % members belongs to marginal farmers. Demographic situation of the five SHG members are quite good having involvement of each category of people, out of which 72% members belongs to other backward caste, 12% each from Schedule caste and Schedule tribe and 4 % from General Category. Most of the members were between 25 and 40 years (62%), followed by 32 % between 40 and 55 years and 6% over 55 years. The education level of the members are quite good, 12.5 % were graduates, 39.5 % were educated up to 10th grade and the rest of 48% members were primary school educated. Most members belonged to joint family structure and they are having active participation in Panchayat level activities.

### **Economics of Technology**

The result shows that community vegetable farming generates 8187 man days employment to the SHG members within one season and also earn Gross income of Rs.5, 10,000 and Net profit of Rs. 3, 75,670 by growing different types of crops that helps to provide them sustainable source of income by vegetable farming as well as prevent the migration of labour to the other states.

### **SHG Members Perception**

Before intervention of Community Vegetable farming, the group members are mainly engaged in

labour works, facing the problem of unemployment and nutritional scarcity. After demonstration of Zaid vegetable crops at Multiutility centre, the lives of the SHG members has been now transformed. Focus was made on off season vegetable cultivation with improved varieties of Okra, cowpea, Cucurbits like Bitter gourd, sponge gourd, pumpkin, bottle gourd, which helps to increase their income. Every SHG group now earn good income from same piece of land through their constant effort and adopting scientific Vegetable production technology.

### **Impact of technology**

#### **Social Benefits**

Community vegetable farming creates employment generation for SHG member, which helps to provide profit by vegetable production along with the nutritional security to the members. It fulfill their basic requirement of nutrition.

#### **Ecological Benefits**

Community vegetable farming helps to aware the group members about the knowledge of organic condition, which helps to improve organic carbon of the soil, minimize the crop damage due to insect-pest and disease attack, increase micro flora and fauna in the field, more diversified and less prone to disaster.

#### **Economic Benefits**

Through community farming the input cost is reduced, so net income increased. As income is diversified that is from different sub system, risk is reduced. The income has time wise and source wise diversified i.e. the members are getting income from different sources, which reduces the dependency on single system.

**Table.1** Basic information of the study area

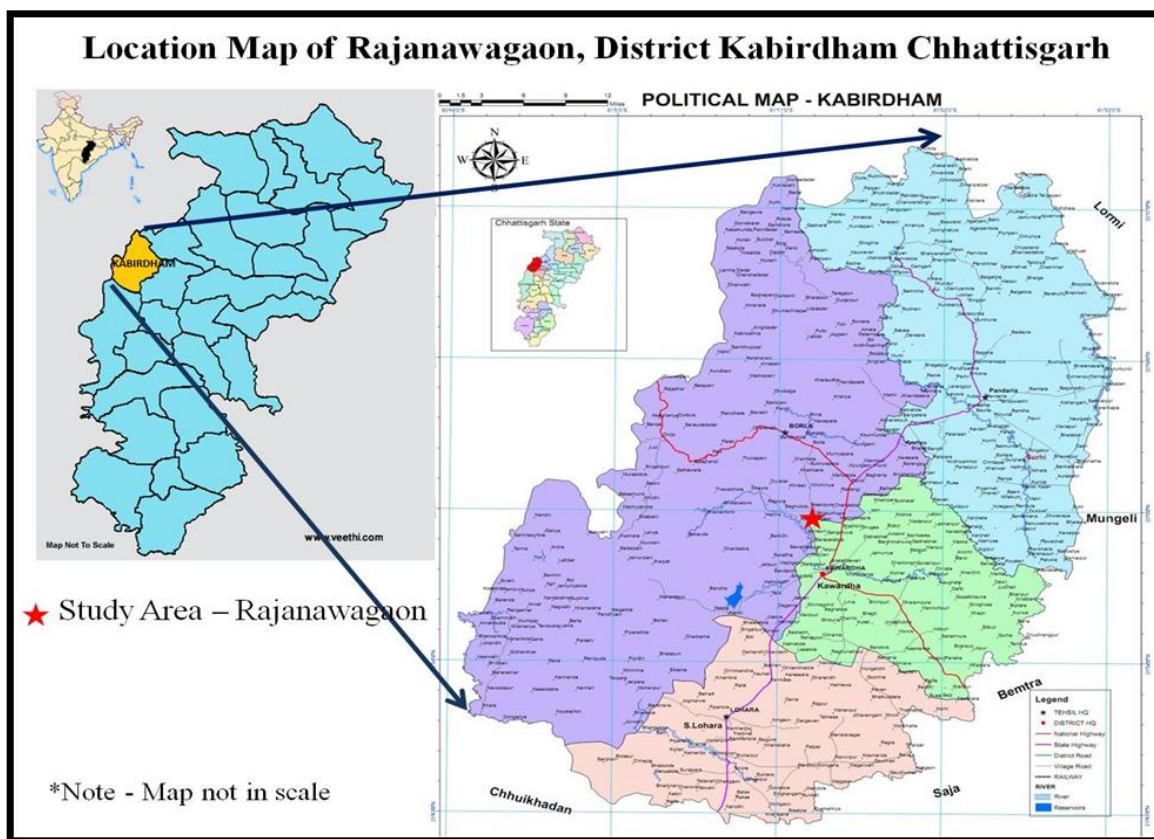
S.No	Parameters	Value
1	Name of District	Kabirdham
2	Name of Block	Bodla
3	Panchayat	Rajanawagaon
4	Village	Rajanawagaon
5	No. of Active Job Card Holders	599
6	LB budget of last 3 Years	109.74 Lakh
7	Total Geographical Area, Ha	643.12
8	Major Soil type	Sandy Soil, black cotton soil
9	Total HH	621
10	SC HH	95
11	ST HH	35
12	No. of SHG	16
13	Differently Able SHG	-
14	Major Livelihood Options	Agriculture and allied
15	Types of Works under MGNREGA in Last 3 Years	Dabri, Deepening of Pond, Open well, Nali, IAY Land development etc
16	Average Annual Rainfall, mm	870
17	Average Seasonal Rainfall, mm	750
18	Total Agriculture Land, Ha	515.91
19	Forest land (Type, Ha)	-
20	Irrigated Area, Ha	22.46
21	Drainage Pattern	Sakri River
22	Major Crops	Paddy, Sugarcane, Gram

Source- DPR Rajanawagaon, 2017-18

**Table.2** Activities done in Study Area

S.No	Date	Activities Done	No. of Beneficiary
1	16 February 2020	Field preparation and package of practices of different vegetable crops.	50
2	17 February 2020	Prospects and method of Organic cultivation of Vegetable cultivation.	50
3	04 March 2020	Sowing techniques of Okra, Cluster bean, Cowpea.	50
4	05 March 2020	Sowing technique of Cucurbitaceous crops in Ridge and Furrow method.	50
5	12 March 2020	Method of PGR application in Cucurbitaceous crops	50
6	17 March 2020	Importance of irrigation and Fertigation scheduling in Okra, cluster bean, Cowpea and cucurbitaceous crops.	50

**Fig.1** Location of Study Area in Kabirdham District



**Table.3** Vegetable Crops taken In Multiutility Centre, Rajanawagaon

S. No	Crop	Variety	Area (ha)	Name of SHG grown
1	Cowpea	Pusa Sukomal	0.4	Radha Rani SHG
2	Okra	Arka Anamika	0.4	Maa Durga SHG, Sai Ram SHG
3	Bitter gourd	Pusa Aushadhi	0.4	Bharat Mata SHG, Kumkum Bhagya SHG
4	Pumpkin	Pusa Vishwas	0.2	Kumkum Bhagya SHG
5.	Bottle gourd	Pusa Naveen	0.2	Kumkum Bhagya SHG
6.	Cucumber	Hybrid	0.4	Kumkum Bhagya SHG, Radha Rani SHG
7	Cluster bean	Hybrid	0.8	Bharat Mata SHG, Maa Durga SHG, Sai Ram SHG
8	Sponge Gourd	Pusa Sneha	0.4	Kumkum Bhagya SHG

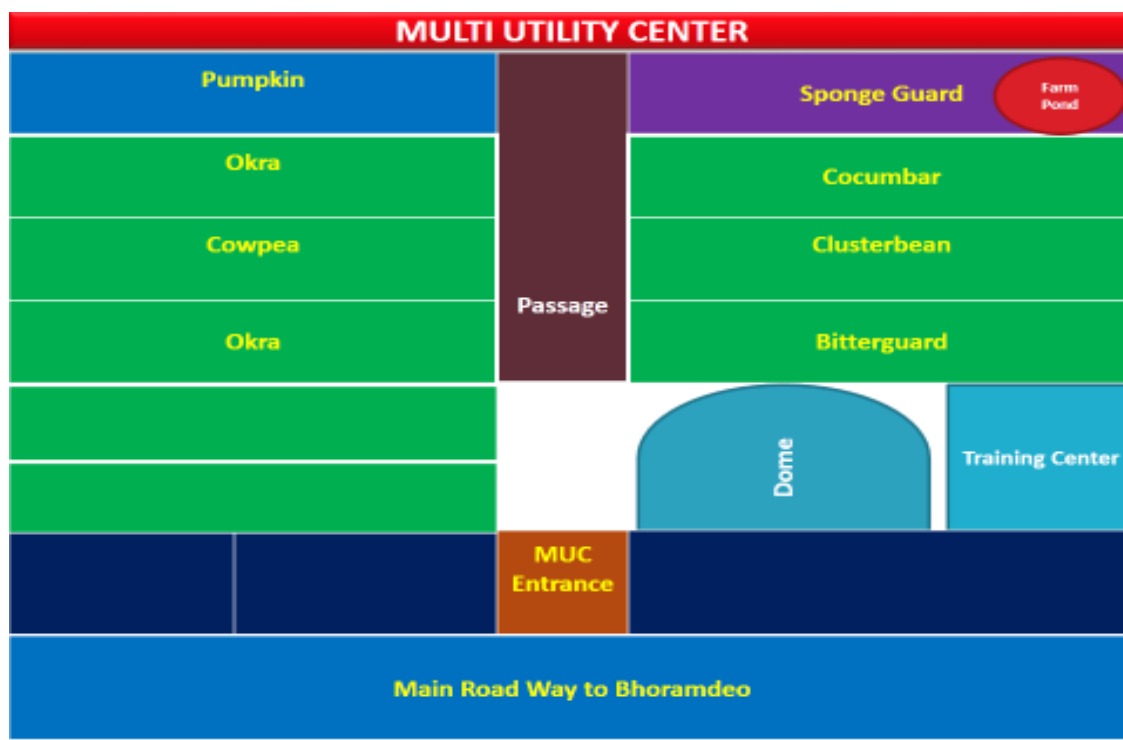
**Table.4** Demographic and Land Holding status of Self Help Group in Rajanawagaon, Kabirdham

<b>S.No</b>	<b>Name of SHG</b>	<b>General</b>	<b>OBC</b>	<b>SC</b>	<b>ST</b>	<b>Total</b>	<b>Landless</b>	<b>1-3 acres</b>	<b>More than 5 acres</b>
<b>1</b>	Bharat Mata Swa Sahayata samuh	-	06	-	04	10	08	02	-
<b>2</b>	Maa Durga Swa Sahayata Samuh	02	04	03	01	10	04	05	01
<b>3</b>	Sai Ram Swa sahayata Samuh	-	09	01	-	10	06	04	-
<b>4</b>	Radha Rani Swa Sahayata Samuh	-	09	01	-	10	09	01	-
<b>5</b>	Kumkum Bhagya Swa sahayata Samuh	-	08	01	01	10	08	02	-
	<b>Total</b>	<b>02</b>	<b>36</b>	<b>06</b>	<b>06</b>	<b>50</b>	<b>35</b>	<b>14</b>	<b>01</b>

**Table.5** Average Yield and economics of Community farming at MUC, Rajanawagaon

S. No	Crop	Area (ha)	Yield (q)/ha	Price Rs. /kg	Gross income (Rs.)	Input cost (Rs.)	Net income (Rs.)	B:C Ratio	Employment generation (Man days)
1	Cowpea	0.4	30	20	60,000	18,000	42000	3.33	1050
2	Okra	0.4	55	10	55,000	17,500	37500	3.14	2090
3	Bitter gourd	0.4	20.0	50	1,00,000	25,400	74600	3.93	1150
4	Pumpkin	0.2	250	20	50,000	10,500	39500	4.76	523
5	Bottlegourd	0.2	100	20	20,000	4,000	16000	5.0	546
6	Cucumber	0.4	20.0	40	80,000	15,600	64400	5.12	890
7	Cluster bean	0.8	25.0	30	85,000	29,130	55870	2.91	1248
8	Sponge Gourd	0.4	15.0	40	60000	14,200	45800	4.22	690
	<b>Grand Total (Rs)</b>	<b>3.0</b>	<b>515.0</b>		<b>4,10,000</b>	<b>1,34,330</b>	<b>375670</b>		<b>8187</b>

**Fig.2** Layout of Multiutility Centre, Rajanawagaon





**Fig.3** Types of Vegetables produced at Multiutility Centre of Rajanawagaon, Kabirdham



### **Health benefits**

SHG members used to grow chemical free crops under community land, they fulfill their basic need of nutrition through vegetable firstly, then sold the surplus item to the market, which helps to makes families healthier and also provide self-satisfaction

of crop production. The present study examined five groups that formed and function through the group of members. The results of the study found that technical knowledge of Vegetable production, good quality of seed, Good agricultural practices helps to increase the income of group members. Community farming also helps to increase the emotional bond

among members and transparency in their activity, Parida and Sinha (2010) revealed that the awareness of self-help group members helps to achieve their goal as well as develop capacity to improve managerial and technical skill. Gianatti and Carmody (2007) stated that latest information and research helps group members to make the best possible decisions for their farming. It also helps to enhance group participation, increased income, greater savings, and socialization. Swanson (2006) and Panda (2009) reveals the role of group participation to boost up the economic and social benefits.

Group participation and increased socio-economic have synergistic effect on group activity. At present, this group are well versed with the scientific technique of vegetable cultivation and now in position to help other groups of the district. Especially those with members from lower socioeconomic status. The group member believes that besides their sustained hard work, linkage with Government institute and scientific knowledge gain from Krishi Vigyan Kendra helps to increase income and generate more employment resources for group members. Another main advantage of being in group is easy access to loans. The case study helps to provide some directional indicators for empowering group members through encouraging cooperation and self-initiative efforts. This study has also provided valuable insight into the working of self-help collaborative ambiance. Parida and Sinha (2010) pointed that active participation of the group members ensures cooperative involvement. Group participation enhances the lobbying capacity of members. Marketing through groups reflects clear economical benefits, through bulk purchase of inputs, access to more information and distinct markets. It also improves the bargaining capacity which helps share risk and cost. Reid (2000) said that active participation of group members helps to empower the SHGs.

However, we acknowledge that the above conclusion is based on the study of only five groups of Rajanawagaon village of Kabirdham district, state

Chhattisgarh, India. Although these suggestions have a broader perspective within India, further empirical studies would help to strengthen our arguments and suggestions.

### **Suggestions**

Community vegetable farming is a way to create employment along with fulfilling the nutritional security of SHG member's families. But in future to sustain such activities for long duration following suggestions have been made to improve the functioning of the Self Help groups and the members in turn would help the empowerment of rural women.

#### **Suggestion to Government agency**

Government should make rural people realize that the SHGs are the main medium of rural employment generation and support by the government will solve the problem of rural unemployment.

More emphasis should be given on training programme so as to create awareness about the different types of agricultural and allied activities.

Necessary step should be made to strengthen the marketing facility of their products.

The Government could make SHGs as statutory bodies and allowed to work with the local bodies to channelize women's development programme.

Seed production programme should be taken through SHG members, so that they can be benefitted directly.

#### **Suggestion to SHGs**

Self Help group must try to function independently instead of depending further on Government agency for critical inputs.

Group should be aware of all government schemes and should make use of them for their development.

The members have to select their activities keeping in mind the availability of resources, sufficient financial assistance, marketing facility and demand for their product.

There should be rotation of group leadership, so that all the members of the group can get an opportunity to play managerial role.

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