



DIVERSIFIED SUSTAINABLE INCOME GENERATION OPTIONS FOR RURAL WOMEN IN ODISHA

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Rural prosperity and women empowerment are the two sides of a coin. Promoting aquaculture and related enterprises among women holds immense potential for ensuring their livelihood and socio-economic empowerment. A study was undertaken in three villages namely Jaipur, Fakirpada and Paribasudeipur of Puri and Khordha districts of Odisha during the period 2012-13 to 2015-16. A random sample of 161 women from 10 Women Self-Help Groups (WSHGs) were selected as beneficiaries for disseminating ICAR-CIFA's aquaculture technologies like carp seed rearing, carp culture (grow out), integrated fish farming, post-harvest technologies with value addition of fish and fish hydrolysate. The women were empowered with skill development in aquaculture and related enterprises. Due to frequent occurrence of natural calamities and environmental hazards, the women are forced to diversify their group activities in order to sustain their livelihoods. In the study area, women SHGs were encouraged to diversify their activities to mushroom cultivation, rice and vegetable cultivation, floriculture, mini-dairy, backyard poultry, mid-day meal preparation, coir work, etc. in order to strengthen their livelihood in a sustainable way. On the whole, the present paper explores different pathways for rural women to avail various opportunities in terms of multiple diversifications as Sustainable Livelihood (SL) options based on available natural resources, financial and human capital. Socio-economic impact of such changes on the beneficiaries was assessed and emerging issues were identified.

INTRODUCTION

Concept of Sustainable Livelihood (SL) attempts to go beyond the conventional definitions and approaches to poverty eradication, rural development and environmental management. Structural transformation and development of traditional theories raises, when the positive impact on rural society is required for non-traditional, non-agricultural and often multiple livelihood options. Diversification is a strategic approach to an expanded horizon for new economic activities, which provide better opportunities than the existed before. Several studies have emphasised 'multiple livelihoods' (Bryceson, 2000; Francis, 2000) or 'occupational multiplicity' (Breman, 1996). Diversification can either refer to an increasing multiplicity of activities (regardless of the sector), or it can refer to a shift away from traditional rural sectors to non-traditional activities in either rural or urban space (Anon, 2004). An individual has a diversified livelihood, where he/she has multiple jobs or incomes, but a household can have



multiple livelihoods, even though each member is in fact specialising in one activity (Ellis, 2000). It is now recognized that more attention must be paid to the various factors and processes, which either constrain or enhance poor people's ability to make a living in an economically, ecologically, and socially sustainable manner. The SL concept offers the prospects of a more coherent and integrated approach to poverty (Krantz, 2001).

The objective of the study is to make an attempt to demonstrate different pathways for rural women to avail various opportunities in terms of multiple diversifications as SL approaches based on physical, natural resources and human capital. Besides the impact of such changes on their social and economic development, emerging issues and its solutions are discussed in the present paper.

MATERIAL AND METHODS

A total of 161 women from 10 Women Self-Help Groups (WSHGs) were selected in a Simple Random Sampling method from Jaipur village in Puri district and Paribasudeipur and Fakirpada villages from Khordha districts of Odisha. ICAR-CIFA disseminated different aquaculture technologies like carp seed rearing, carp culture (grow out), post-harvest technology i.e. fish processing, packaging, preparation of fish pickle, fish papad and fish hydrolysate to these women. The women have eight ponds with total water area of five acres in three villages.

RESULTS AND DISCUSSION

Equitable access to more and better jobs in rural areas has enabled rural women to become effective economic actors and engines of growth; as well as to produce or acquire food, water, fuel and social services their families need (Anon, 2010). To be able to leverage agriculture as an engine of inclusive growth, there was a need to expand the horizon into many diversified areas such as horticulture (mushroom cultivation, nursery management and floriculture), animal husbandry (backyard poultry and mini dairy) and other allied sectors like coir making (door mat and rope making) and plastic flower for cycle decoration, etc. Due to ICAR-CIFA's intervention, the women could learn carp seed rearing, carp culture and value addition of fish. The women were sincerely involved in all aquaculture activities throughout the year starting from pond management, manuring, fertilization, feeding, fish health management, harvesting and marketing. They expressed their keen interest to adopt aquaculture as their group activity and continue it in scientific manner. Due to some natural calamities and adverse situations, the members of the WSHGs face various constraints in doing aquaculture and therefore they add up some other income generating activities along with aquaculture. Thus they can earn steady income throughout the year and sustain their livelihoods.



A) Jaipur village

Due to non-availability of pond on lease, the women of the self-help groups could not do aquaculture and hence, they started rice cultivation during 2014-15. Some of the group members were involved in other group activities like coir work (making rope and door mat) and mushroom cultivation.

1. Rice cultivation

Ten members of a WSHG named 'Maa Kalijai' do rice ('Sarala' and 'Pooja' variety) cultivation in one acre land area, which is leased to them every year. In Khariff season only they do rice cultivation. They sow the seeds in July and transplant in August and harvest rice in December. All these work are carried out by them without hiring any labour from outside. An amount of Rs. 1,300/- is spent, which includes the cost of 20 kg of seeds, fertilizers and pesticides. A total of 3.50 quintal of rice is harvested and half of which is given to the lessor. Remaining 1.75 kg of rice is distributed equally among the 10 members of the group of which the sale price would be approximately Rs. 2,500/-.



Fig. 1 & 2. Paddy culture by the women in Jaipur village, Satyabadi block, Puri district

2. Coir work

The members of two WSHGs comprising 23 women make ropes and door mats from the coir they purchase from the local vendor. The cost of coir for 50 kg is Rs. 3,200/- including transportation charge and out of which 2,500 ropes of 40 ft each are prepared. Labour charge for one rope making is Rs. 1/- and hence total Rs. 2500/- is spent for making 2,500 ropes. One door mat is made of three ropes and one door mat is sold for Rs. 50/- thus making profit of Rs. 20/- per mat. In total, profit of Rs. 18,000 is earned from 50 kg of coir. The profit is equally distributed (approx. Rs. 783/-) among the members.



Fig. 3 & 4. Coir work by the WSHGs in Jaipur village, Satyabadi Block, Puri district

3. Flower making for cycle decoration

In the leisure time, some women make plastic flowers for cycle decoration and earn Rs. 1,000-2,000 annually. They distribute the money among themselves (Rs 100-200 per person) which is used for their family expenses.



Fig. 5 & 6. Plastic flower making by the members of one WSHG for cycle decoration

4. Backyard poultry

In the lean period, the women of 8 WSHGs in Jaipur village add poultry with their group activities. They rear the indigenous and improved varieties of poultry bird (Vanaraja) on an average of five birds per WSHG in scientific and hygienic manner. They spend Rs. 189/- per Vanaraja bird to grow 3.8 kg of body weight and sell the meat at Rs. 90/- per kg. In case of indigenous species, in total, Rs. 80/- was spent per bird to grow up to 1.5 kg of body weight and the selling price was Rs. 90/- per kg. Out of meat sale, Rs. 55/- and Rs. 153/- per bird was the net



return from these two species respectively. Thus, in total, 8 WSHGs earn Rs. 4160/- in a year. By selling eggs, they also earn an extra income of Rs. 2,700/- per year.

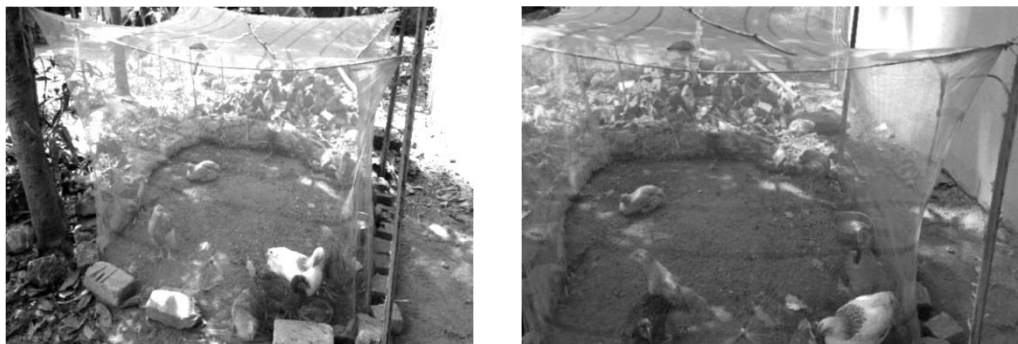


Fig. 7 & 8. Backyard poultry by the WSHGs in Jaipur village, Puri district

B) Fakirpada village

As seasonal routine work, the women are engaged in transplanting of paddy and harvesting in Kharif and Rabi season and earn Rs. 250/ as daily wages. This is an additional livelihood option along with regular aquaculture activities. Scarcity of water in ponds during summer is one of the major constraints, which inhibit the group for doing fish farming. Hence, in the lean period, the WSHGs do dairy and poultry as their alternative livelihood options.

1. Mid-day meal (MDM) preparation

Two members of the Maa Mangala WSHG in Fakirpada village are involved in mid-day meal preparation i.e. cooking and supply of cooked meal in the adjacent government primary school. They work with a spirit of social welfare and not merely for income generation. They are paid Rs. 4.80 each per student with a total of 26 students available in the school. Thus they generate additional family income of Rs 125/- per day and 3,750/- per month.

2. Mini-dairy

Ninety per cent of three self-help groups have reared jersey and indigenous varieties of cows. The women buy cows and buffaloes by taking loan from the group savings. They sell milk at Rs 25 per litre and get an average monthly income in a range of Rs. 3,000/- to 5,000/- per household. Out of this amount, they pay the loan partially and rest they spend for their family expenses.



Fig. 9 & 10. Dairy development by the group members in Fakirpada village

3. Nursery management

The women SHG members comprising 27 women of Fakirpada have initiated nursery rearing of various decorative plants (ornamental plants); flowering plants viz., rose, China rose, Chrysanthemum, Marigold, white tulip, Moon beam, Ashoka, etc.; vegetable saplings like papaya, capsicum, tomato, chilly, etc. They buy seeds/planting material and grow them upto standard size. Then they sell the plants in Bhubaneswar, Odisha market at a good price to the tune of Rs. 2,000-3,000/- per month.



Fig. 11. Nursery management

4. Horticulture and floriculture

Members of one WSHG grow horticultural crops like lady's finger and sweet gourd on pond embankment. They sell lady's finger at Rs. 20/- per kg and Rs 10/- per sweet guard. On an average they get Rs. 200/- per month. They also sell chrysanthemum and marigold to nearby



market and earn a net income of Rs. 500/- per month during winter. They do sun flower cultivation around their pond and sell these in nearby market and fetch about 1,500/- in a year.



Fig. 12. Sunflower cultivation



Fig. 13. Lady's finger cultivation

5. Mushroom cultivation

Mushroom (straw mushroom) (*Volvariella* sp.) cultivation is one of the most profitable income generating activities of the self-help groups in Fakirpada village. The women spend Rs. 40/- in total per bed which includes mushroom spawn, straw, rice bran. They sell at Rs.110/- per kg of mushroom, thereby making profit of 50/- per kg in one cycle. Thus, they cultivate 400 mushroom beds in one season. In total, an amount of Rs. 20,000/- is earned by the group annually.



Fig. 14 & 15. Mushroom cultivation

6. Fish pickle preparation

The ICAR-CIFA imparted training to the women beneficiaries of Jaipur, Fakirpada and Paribasudeipur on value addition of fish i.e., fish pickle preparation. The women acquired the



skill and started fish pickle preparation by themselves. For 1 kg of rohu fish pickle they spend Rs.200/- which includes the cost of fish, spices and bottle for packaging. They sell the pickle @ Rs.400/- per kg in the nearby market and earn good profit to the tune of Rs.200/-. In total, 10 kg of fish pickle is prepared by the women of three villages and earn Rs.2,000/- in a year



Fig. 16 & 17. Fish pickle preparation by the group members

C) Paribasudeipur village

The ponds in this village are seasonal and dry up by the end of January. Many ponds are having weak embankments that allow predatory animals like snake etc. to enter and as a consequence the productivity suffers. They have to completely harvest the ponds by December and engage in floriculture activities. They grow flowers like marigold in leased land and earn approximately Rs. 500/- per month.



Fig. 18. Marigold saplings planted in Paribasudeipur village



Major issues

Rural women encounter several socio-economic constraints in adopting any income generating activity. Absence of ownership title in favour of women; poor access to other production resources; no role in decision making etc. prevent women from participating in those activities. Mainstreaming gender concerns in agriculture in general and aquaculture in particular has not happened to the desired extent. In the process of adoption of diversified and sustainable livelihood options, following issues emerged:

1. Poor adoption of scientific technologies
2. Non-availability of quality seeds
3. No supplementary feeding in aquaculture
4. Absence of marketing outlets
5. Non-cohesiveness in the group
6. Inadequate capacity building (training, extension support and exposure visit)
7. Disorganized way of functioning WSHGs

Addressing the issues through intervention of ICAR-CIFA

1. Promotion of scientific agricultural practices of ICAR and particularly of ICAR-CIFA for aquaculture technologies – carp seed production, composite carp culture and integrated fish farming. Technologies were demonstrated in SHG pond and skill training provided to the women at the pond site. Training was also imparted at ICAR-CIFA, Bhubaneswar to selected members and exposure visits organised.
2. Demonstration of fish hydrolysate preparation was conducted in the village level and imparted skill development training to women of the WSHGs for use in their fields.
3. Motivated and trained the women for preparing fish pickle, fish cutlet and fish papad as small scale enterprises.
4. Liaisoning made with the state government line departments for disseminating the technologies and proper monitoring of the progress in respective fields.
5. Stakeholder's meet was conducted at the village level for convergence for integrated development.
6. Facilitated marketing of the produce and fish products in nearby markets and different fairs and exhibitions.
7. In order to have dynamic functioning of the women SHGs, the ICAR-CIFA motivated the women for regular conduct of meeting of the groups with updating of pass books and ledgers.



CONCLUSION

In order to utilize spare time and add to their annual income, the women involve in various diversified income generating activities. These activities not only improve their socio-economic conditions but also empower them economically and socially which inspires other women and even their counterparts to follow up. Several approaches i.e. institutional mechanisms such as technology transfer through Agricultural Technology Management Agency (ATMA), Krishi Vigyan Kendras (KVK) and Government's incentive schemes, innovative e-models of many institutions, tele-marketing and e-marketing (future's marketing), initiatives of nongovernmental organizations (NGOs), public-private partnership in agriculture and NABARD's Rural Infrastructure Development Fund (RIDF) can enhance various diversified activities of the farm women and thereby sustain and strengthen their livelihood and food security.

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