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Popular Article

Mushroom Farming as a Tool for Farmwomen Leadership Impacting Empowerment

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Abstract

Mushroom has been identified as one of the simple, profitable and alternative livelihood sources for farm women. It is even suitable for landless women as can be cultivated indoor and small space. It has special nutritive value and known as the 'meat of the poor'. Mushroom is a good pathway for gender equality. Therefore, ICAR-CIWA introduced mushroom farming with farm women of Nima Para, Puri, Odisha. So, created community awareness and motivation, made gender sensitization, built women's capacity, developed convergence, twisted leadership and followed collective's approach. Subsequently, studied the impact of leadership on empowerment of women. It was found that, the women had enhanced access to credit, homesteads, inputs and institutes. There was augmented income, group cohesiveness, communication ability, mobility, decision making, etc. with women. The women had freedom to spend their earned money for children's education and marriage, own relaxation, purchasing agricultural inputs and day to day family expenditure. In addition, they were technologically empowered to various machineries and to impart mushroom training to other interested women as Master Trainers. Hence, the technology of mushroom cultivation should be promoted with a focus to leadership development among farm women.

Key words: *farmwomen, livelihood, leadership, empowerment, mushroom*

Introduction: Around the world, about 15000 mushroom species are available out of which 2000 species are edible and 75 species are cultivated. In India, mostly three species are being cultivated as button mushroom (*Agaricus bisporus*), paddy straw mushroom (*Volvariella volvacea*) and oyster mushroom (*Pleurotus sogan-caju*). Mushroom cultivation is a technology which generates family income through agriprenurship and supplements nutritional security. It provides more opportunities in improving livelihood of farm families and maintaining quality life. Mushrooms are one of the most diverse organisms on earth and since primitive times have played a vital role in human welfare (Martinez –Lbarra et al., 2019). Mushroom is a popular delicious food having special nutritive value, high quality fats, cheapest sources of protein, low in carbohydrates and cholesterol, medicinal properties and a good source of vitamins (B Complex) and minerals (Iron, Potassium, Selenium,



Copper, Zinc). It contains high protein (35%), crude fiber (19%), vitamins, carbohydrates, and minerals (Thakur, 2020). Furthermore, numerous bioactive compounds present in edible mushrooms have beneficial effects on human health (Tagkouli et al., 2020; Łysakowska et al., 2023). Farmers can produce mushrooms more effectively by adopting innovative techniques and using the available space by growing them vertically in stacked layers as compared to traditional farming, where crops are cultivated horizontally in large fields (Rahmann et al., 2021). According to Ojha and Shukla (2023), mushroom is not only good for health-conscious peoples but also create the employment opportunities for rural farmers and women as well. Over the past 30 years, mushroom production increased to 42.8 million tonnes, marking a significant 13.8-fold increase from 1990 to 2020 (FAOSTAT, 2022; Okuda, 2022). At the same time, the burning of crop residue has emerged as a significant environmental concern, posing health hazards, and contributing to global warming (Jayaraman et al., 2020). Hence, mushroom farming is a possible solution for empowering women and gender equality. Keeping this in view, mushroom cultivation was intervened among farm women in Nimapara block under Puri district of Odisha where rice straw is plentifully available to improve the livelihood of farm families. For the purpose, the following steps were followed.

Awareness and Motivation

Motivation is crucial to change the attitude for adoption of new innovations. Bedi et al. (2020), said that motivational factors significantly influence farmer adoption decisions. Again, was et al. (2021) found that the farmer's awareness in Poland is associated with their economic interests. Therefore, created awareness and motivation towards mushroom farming by farm women through series of meetings and Focused Group Discussions (FGDs). Identified gender needs and formulated SHGs for intervention.

Gender Sensitization

Created community level sensitization among the farm families to make male members sensitive to gender concerns and to achieve gender equality in sharing of benefits. Bhatia and Kaur (2020) suggest that familial support and encouragement are significant predictors of participation in skill development initiatives. Vyas et al. (2019) findings about the impact of gender sensitization training programmes on adolescents, the interviewees recommended that such programmes be started at the school stage for maximum effectiveness.

Capacity Building

Built women's capacity through skill trainings, demonstrations, exposure visits of successful farms, literature in regional language, etc. for their empowerment and introduced paddy straw mushroom farming among women. According to Nadia (2022), women's empowerment is a process



of understanding and building capacity for broader participation, such as inclusiveness, accountability, decision-making and transformative acts that result in a greater degree of equality between women and men.

Approaches

Initially introduced mushroom technology with the approach of individual woman (one). Then, understanding the strength of women collectives in building a more equitable society, followed group approaches like SHGs (10 members), Federation (631 members) and FPO with more than 1600 women members. Waheeda *et al.*, (2019) says, in general, participation of women in groups plays a vital role in NRM and sustainable livelihood development. Pankaj (2020) found that participation in women's groups leads women to have an increased say in family affairs, reduces spousal violence and enhances solidarity among women. According to Bariya *et al.*, (2019), many approaches are employed to involve women in the planning, implementation, execution and monitoring of natural resources as well as research programmes have been initiated to implement and enhance this participatory process management

Convergence

Seerangan *et al.* (2025) says, convergency—the integration and alignment of government schemes, private sector initiatives and community efforts—emerges as a transformative best practice. So, developed strong linkage with different organizations for convergence to solve their agricultural issues. The agencies were IRRI-Bhubaneswar, local ICAR Institutes (CIWA, CIFA, IIWM and NRI), KVKs (Puri and Khordha), OUAT, Banks, Kirloskar Company, APICOL and NGOs (LOPE, PRAGATI and VJSS) to avail support of capacity building, market, technology, inputs, agri-machines, loan and approval of Business Plan under MKUY scheme.

Leadership Development

Numerous global and national gender and climate policy and programme initiatives point to the business case or rationale for increasing the proportion of women in leadership positions to generate a range of positive social, economic and environmental outcomes (e.g. 2X Global 2023, Balke and Östros 2023, Climate Investment Funds 2023, Piovesan 2023). Considering the importance of leadership, organized various training programmes related to leadership development among farm women for their empowerment with increased self-confidence and decision making. The empowerment process can be fulfilled through awareness-raising, proactive participation in public life, and mobilization for the fulfillment of rights (Sharma, 2022). According to the Consultative Group for International Agricultural Research (CGIAR), empowering women may also raise food security, decrease rural poverty and improve nutrition and health (Mwambi *et al.*, 2021).



Impact of Women Leadership: Women empowerment is the means to build a gender equitable agricultural system. Hence, after organizing many capacity building programmes for women leadership, made a study to know the impact of women leadership on empowerment as follows:

A. Social Empowerment:

- **Access to credit:** About 120 SHGs under women-led CIWANI FPC availed a credit of Rs.7.2crores (Rs.6 lakh/SHG) from Bank of Baroda and SBI in the locality with 50% subsidy for six years towards mushroom cultivation. Similar study by Babel *et al.* (2020) found that the programme increased the access of women to agricultural information and extension services and provided visibility and recognition to women.
- **Access to homestead land:** There was improved access to homesteads by women SHGs (50 nos) which was taken over from their male persons for 15 years on lease basis for mushroom farming.
- **Access to inputs:** The women members were able to contact various stakeholders/ organizations and availed improved varieties of seeds/seedlings (vegetables and fruits), breeds (poultry and duckery), tools (weeder, spade, sickle, bill hook, sprayer, tool pump, etc) and machineries (spice grinder, puffed rice maker, oil extractor, thresher, etc).
- **Access to institutions:** The women members were self-sufficient to contact different local intitutes like: local ICAR institutes (CIWA, IIWM, CIFA & NRRI, KVKs (Puri & Khordha), OUAT, APICOL, Bank, Central Coconut Board, NGOs, Government Departments, etc. to avail benefits out of various schemes/ programmes.
- **Group cohesiveness:** The women were found more organized in a united way with a strong internal understanding and trust on each other to achieve set goals.
- **Communication ability:** With the development of leadership, the women were competent enough to express their issues and demand for rights before the government officials.
- **Mobility:** They themselves hired vehicles, went out of the village without any male support, met target personnel to solve their problems.

B. Economic Empowerment:

- Majority of the groups did mushroom farming in the nethouse (75ft x 35ft) with three tier system where 1200 beds are being raised and 1200 kg mushrooms (1kg/bed) produced in a month. As a result, they invested only Rs 0.87 lakh (including labour) and got Rs 2.40 lakh (Rs 200/kg) with a profit of Rs1.53 lakh within a month. As Dsouza, (2020) found, gender equity approach leads to empowerment of women, men and local organizations to promote more equitable relations between stakeholders and reduces unwanted competition.



- Women used the earned money towards their families, children's education, purchase of agricultural inputs and household items, children's marriage, saving, etc. Sometimes also they spent a little amount of that income in the direction of their own relaxation like moving outside for picnic and taking food in hotels. Study by Mazumdar, et. al. (2020) reveals that after getting income from mushroom cultivation, they were expending more on food, health and education and made saving for future security. It also provided an opportunity to strengthen the linkage between farmers and scientist of KVK which helped in technology transfer and economic upliftment of farming community.

C. Technological Empowerment:

- With skill trainings and demonstrations, the women knew the scientific package of practices for mushroom farming, it's value addition, packaging and marketing. Therefore, as Master Trainer, the women leaders imparted training on mushroom cultivation to other women in the area and earned some money.
- They were also technologically empowered to operate the machines like spice grinder, puffed rice maker, oil extractor, power weeder, grass cutter, power tiller, battery sprayer, etc. which they kept in their Custom Hiring Centre for small scale entrepreneurship.

Conclusion: Leadership development among farm women is essential for women-led entrepreneurship to enhance productivity and to meet out the food requirement of the growing population in the country. Mushroom being one of the potential enterprises for farm women, their leadership should be developed and capacity should be built for its production and enhanced shelf life through value addition by strengthening market linkages.

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