Turning Waste into Gold- A Success Story on Mushroom Cultivation and Vermicomposting

Introduction: Mrs. Bonchi R. Sangma, a dedicated homemaker hailing from Chokpotgre village in the Chokpot Civil Sub Division of South Garo Hills, Meghalaya, embarked on a remarkable journey of empowerment through sustainable agriculture. In the year 2022, she participated in a training program on mushroom cultivation and vermicomposting, facilitated by the Farm Sector Promotion Fund (FSPF) project entitled "Mushroom Cultivation and Recycling of Mushroom Wastes into Valuable Organic Fertilizer-Vermicomposting," funded by NABARD. Inspired by newfound knowledge and armed with determination, Mrs. Sangma took decisive action. She set about constructing a modest yet efficient low-cost mushroom shed and a vermicomposting unit on her premises. With unwavering dedication, she tended to her endeavours.

Background/Exiting problem: The agricultural residues, particularly paddy straw, were left neglected in the fields overlooking their inherent potential. Yet, these remnants harbour immense opportunities for mushroom cultivation, with the subsequent spent mushroom substrates serving as valuable resources for vermicomposting initiatives. Moreover, the lack of quality spawn for round the year mushroom cultivation and earthworm species for vermicomposting only intensify the challenge at hand.

Intervention of the KVK to address the problem: KVK, South Garo Hills implemented the project entitled "Mushroom Cultivation and Recycling of Mushroom Wastes into Valuable Organic Fertilizer-Vermicomposting," funded by NABARD. Mrs. Bonchi R. Sangma is one of the beneficiaries out of 25 farm women selected for the project. Skill development training programmes and method demonstrations on vermicomposting and mushroom cultivation techniques were conducted.

Input: With the support of NABARD, Baghmara, Krishi Vigyan Kendra, South Garo Hills has successfully implemented an innovative project for supporting the livelihoods of mushroom and vermicomposting farmers by enhancing their income. The project was implemented to uplift the social and economic status of the farm women and to meet the demand of protein source through mushroom cultivation and organic fertilizer through vermicomposting. Some of the interventions are as follows:

- Establishing low-cost vermicomposting infrastructure
- Construction of low-cost mushroom house
- Providing vermibeds and earthworms for vermicomposting
- Supplying quality mushroom spawn, polythene, rope, and paddy straw for mushroom cultivation
- Conducting skill development training programmes and method demonstrations on vermicomposting techniques and mushroom cultivation.

Output: The establishment of low-cost vermicomposting infrastructure and mushroom cultivation facilities resulted in a significant increase in agricultural output. Mrs. Sangma could harvest larger quantities of mushrooms and use spent mushroom substrates to produce substantial amounts of nutrient-rich vermicompost. The adoption of vermicomposting and mushroom cultivation contributed to environmental sustainability. Organic waste materials were repurposed into valuable resources, reducing waste and mitigating environmental

pollution. She achieved a harvest of 450 kg of mushrooms in 6 cycles and produced 1800 kg of vermicompost within a year.

Outcome: The fruits of her labour were nothing short of astounding. In just one year, Mrs. Sangma harvested an impressive 450 kg of mushrooms and produced a substantial 1800 kg of vermicompost. This remarkable achievement translated into tangible returns, as she earned a net profit of approximately Rs 1,26,000/- from her combined efforts in mushroom cultivation and vermicomposting. The overall outcomes demonstrate its effectiveness in transforming waste into valuable resources, improving livelihoods, and promoting sustainable development in rural areas.

Economics:

	Yield	**Gross Cost (Rs)**	**Gross Return (Rs)**	**Net Return (Rs)**	**BC**
Mushroom	450 kg/6 cycles	40000	135000	95000	3.4
Vermicompost	1800 kg	5000	36000	31000	7.2
Total		**45000**	**171000**	**126000**	**3.8**

Impact of the intervention: The impact of Mrs. Sangma's initiative rippled far beyond her own household. The increased income significantly improved the living conditions of her family, providing greater financial stability and access to essential resources. Buoyed by her success, Mrs. Sangma harbours ambitious aspirations for the future. Mrs. Bonchi Sangma's story serves as a shining example of the transformative power of knowledge, perseverance, and sustainable agriculture. Through her efforts, she has not only empowered herself but has also become a beacon of hope and inspiration for others in her village and beyond.

Conclusion: With a vision for expansion and prosperity, Mrs. Sangma aims to establish additional vermicomposting units and scale up her mushroom production operations. By venturing into larger-scale mushroom cultivation, she seeks to not only enhance her own livelihood but also contribute to the economic growth and development of her community.

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Photographs

Mrs Bonchi R. Sangma with Project Monitoring team

Harvested *Pleurotus djamor*

Distribution of vermibeds, mushroom spawn, *etc* before implementing the project

Mrs Bonchi R. Sangma selling her produce

Harvesting of vermicompost by Mrs Bonchi's husband

Packing of harvested vermicompost

Harvested mushrooms var *Pleurotus sp*

Method demonstration on mushroom cultivation