

# **SKILL DEVELOPMENT OF COMMUNITIES IN COMPOST MAKING AND OTHER GREEN TECHNOLOGIES (SGTs)**

## **BACKGROUND**

Farming in Meghalaya is organic by tradition and has been practiced by the farmers and the farming community for ages. The economy of the State is basically agrarian as it is rural based with agriculture playing a predominant role in the State's economy. Since, 81% of the state's population depends on Agriculture, employment and income generation also depends on agricultural developmental activities to a great extent. With the advent of the green revolution, farming practices in the state had been shifted towards the conventional method in which chemical inputs are being used.

Green Agricultural Technologies initiated by Bio-resources Development Centre (BRDC) involves customized and affordable green technologies which seeks to provide required knowledge to farming communities on sustainable integrated conservation technologies, green inputs production and management practices to address sustained productivity, improved soil health, promotion of indigenous/ traditional crops biodiversity and environmental sustainability in their pursuits/endeavours of access to basic and improved multiple livelihood needs. Green agriculture also aims to improve livelihood as the organic products are nutritious compared to conventional ones and fetches more prices in the national and international market. In sustainable agriculture more emphasis is given on ecosystem conservation, maintenance and sustainable development. The biomass, manure, animal waste that has the potential to create environmental pollution are composted and recycled in organic crop production. It also encompasses a conglomeration of various techniques and practices like intercropping, mulching, cover cropping, trap cropping etc.

## **PROBLEM STATEMENT AND BASELINE INDICATORS**

In the year 2015, upon observing the detrimental effect of chemicals on the health and environment, the Government of Meghalaya withdrew all subsidies on chemical inputs-fertilizers and pesticides without providing suitable alternatives. This move had greatly affected the farming communities who were solely dependent on these inputs. As a result of this, Bio-Resources Development Centre (BRDC) took upon the responsibility of addressing this issue by developing and disseminating affordable green technologies or Sustainable Green technologies (SGT) comprising of various low-cost technologies for input production and improved crop production namely Composting, Nutrient supplements such as Organic Growth Promoter (OGP) and Vermi-wash, Pest control measures using Botanical extracts, Bait traps, etc.

## **BEST PRACTICES**

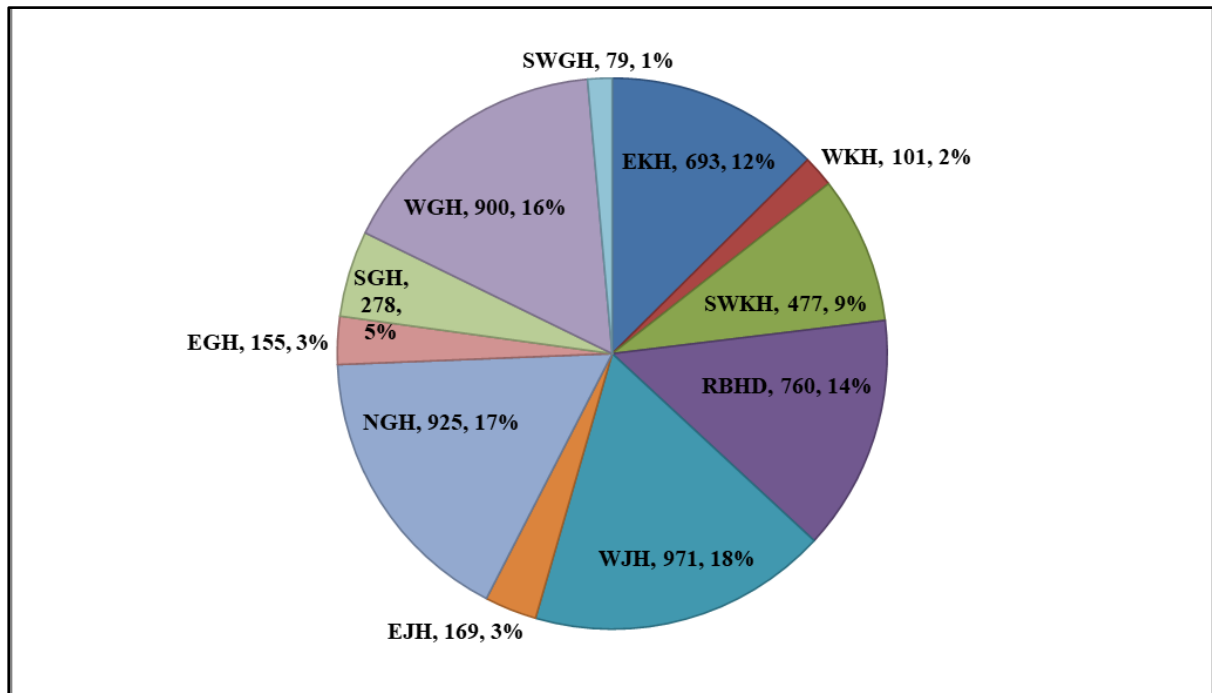
The strategy of disseminating these green technologies is through awareness, trainings and hands-on demonstration of these green technologies to the rural farming communities across the State through trained Master Farmers. Field trials on the use of these inputs were also conducted for validation of their efficacies in enhancing crop productivity.

Consequently, with effective results of field trials, these technologies have been adopted by many farmers in the rural communities of the state resulting in reduced cost of inputs, improved crop productivity and ultimately improving the livelihood of the people.

1. **Composting:** Four types of composting methods are used to enrich the soil's nutritive value: Vermicompost, NADEP, Non-soil compost, and Hot Berkeley compost.
2. **Vermi-wash:** It is utilized as a liquid fertilizer and acts as a pest repellent when combined with cow urine for crops.
3. **Organic Growth Promoter:** Used as a liquid fertilizer for young plant saplings to promote growth.
4. **Biopesticide:** Broad Spectrum Biopesticide made from botanical extracts, along with bait traps and light traps, is employed for pest management.
5. **Vertical Farming:** Utilized to maximize vegetable yields from a small land plot such as from 1 square foot of Vertical Farming unit can yield 5-6 Kg of Leafy vegetables (Lettuce, Mustard etc).
6. **Energy Pillars Technology (EPT):** Used for rejuvenating Citrus trees.
7. **Biofertilizer Production:** Implemented to enhance soil microbial activity.
8. **Green Technologies Efficacies:** Field trials conducted on crops to test the effectiveness of green technologies in agricultural practices.

## BENEFICIARIES AND IMPACT

Over 5508 farmers have been trained on these Sustainable Green Technologies including the Master farmers. Simple field trials have been conducted on crops like French beans & Rice. Results have shown that the use of these green technologies on crops significantly increase the yield of crops.



**Fig.** District wise number of Master Trainers/ Master Farmers trained

- Adoption of disseminated green technologies by Farmers for improving their Livelihood:



*Fig. 1: Smt Elbilty Marwein of Mawshynrut Village*



*Fig. 2: Smt Baiamonlang Snaitang of Mawkadiang Village*



*Fig. 3: Smt Filicia lawphniaw of Banglaphuh Village under Mawshynrut C&RD Block, West Khasi Hills*



*Fig. 4: Smt Smida Shangpliang of Laitlawsnai Village under Mawkyrwat C&RD Block, South West Khasi Hills*



**Fig. 5: Smt Baiamonlang Snaitang of Mawkadiang Village**



**Fig. 6: Smt Angel of Neriang Village under Thadlaskein C&RD Block, West Jaintia Hills**



**Fig. 7: Shri Helpme Laloo of Moodymmai Village under Thadlaskein C&RD Block, West Jaintia Hills**



**Fig. 8: Smt Angel of Neriang Village under Thadlaskein C&RD Block, West Jaintia Hills**

## KEY LEARNING AND TAKEAWAYS

Skill development in compost making and using bio inputs can greatly benefit rural communities by increasing crop production. Here are some key learning and takeaways from this initiative:

1. **Sustainable Agriculture:** Teaching rural communities how to make compost and utilize bio inputs promotes sustainable agriculture practices. They learn to use organic materials to improve soil fertility and crop yields, reducing the dependency on chemical fertilizers.
2. **Cost-Effective Farming:** By learning how to create their own compost and bio inputs, rural farmers can reduce their production costs. This helps in making farming more financially sustainable in the long run.
3. **Environmental Benefits:** Composting organic waste materials helps in reducing greenhouse gas emissions and contributes to environmental conservation. It also promotes recycling and reduces the amount of waste being sent to landfills.
4. **Increased Crop Yields:** Utilizing compost and bio inputs rich in nutrients enhances soil health, leading to increased crop productivity and better-quality produce. This, in turn, can improve food security and income for rural communities.
5. **Empowerment:** Providing skill development opportunities empowers rural communities to take charge of their agricultural practices. They become more self-reliant and can make informed decisions regarding their farming techniques.

Overall, skill development in compost making and bio inputs equips rural communities with the knowledge and tools necessary to improve their agricultural practices, leading to a more sustainable and productive farming system.



Figure. Hands on Demonstration on composting and other green technologies to the rural communities

## **IMPLEMENTATION CHALLENGES FACED:**

- 1. Limited Adoption of Green Technologies by Farmers:** Farmers are adopting green technologies at a slower rate than anticipated, which may be due to factors such as lack of awareness, high costs, or inadequate support. Overcoming these challenges is essential for advancing sustainable agriculture.
- 2. Gender Disparity in Training Participation:** Training programs in agriculture see a higher participation rate among women compared to men. Addressing this gender imbalance is important to ensure that both women and men can equally benefit from these educational opportunities.