

## Vermicomposting: A Catalyst for Entrepreneurial Growth in the Char areas of Assam

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With its diversified microbial populations and high nutritional content, vermicompost is regarded as a high-yield biofertilizer that can significantly increase the growth and yield of many field crops, vegetables, flowers, and fruits. Vermicomposting is an alternate form of waste management that produces vermicompost with a considerably higher nutritional content than compost and manures. It involves utilizing earthworms to break down organic waste materials into finely degraded compounds that resemble peat (Pilli and Sridhar, 2019).

The char chapori of Assam covers almost 3,608 km<sup>2</sup> and there were altogether 2251 char villages in 14 districts of the Brahmaputra basin. Under the Department of Soil Science at Assam Agricultural University, a government-sponsored project titled "GIS mapping of Char areas of Assam using Geospatial Techniques for planning strategies of crop management and improving livelihood security" is under underway. The primary goal of this project was to encourage vermicompost production technology among farmers in remote regions, giving them a solid basis for a sustainable and fulfilling career in agriculture. In Jorhat district of Assam vermicomposting is gaining popularity among farmers due to its diverse benefits. Villagers primarily rely on farming, cultivating crops like paddy, vegetables like cabbage, cauliflower, broccoli, tomato, toria and Assam lemon. Livestock management is also integral, with ample cow by-products. The area's natural water bodies and abundant water hyacinth create ideal conditions for vermicompost units across villages, producing approximately value in quintal of vermicompost annually.

Various skill-based training programs conducted on "Vermicomposting and composting technology" by department of soil science in time to time to encourage farmers so that they acquire knowledge and gain skills in vermiculture as well as vermicomposting. With assistance from the Department of Soil Science (AAU), Jorhat, Mr. Bharat Chandra Das, a

farmer from Hatishal village in the Jorhat District of Assam, started this project in 2023 using low cost plastic vermin beds. He started producing vermicompost under the assistance of soil science department. He made compost by using farm remnants, kitchen scraps, and crop leftovers from his own farmland. Every three months throughout the year, Bharat Das get a net yield of two quintals of vermicompost. He charged Rs. 15 per kilogramme for his vermin compost and sold in the local market of Jorhat district. The inexpensive vermin bed unit has an almost three-year lifespan. Thus, farmers in this field, such as Bharat Das, receive a respectable yield with a B:C ratio of 3.15 (Table 1 shows specifics of the cost, profit, and expenditure.)



**Fig.1. Training & demonstration**



**Fig.2. Low-cost vermin-bed installed**

Bharat Chandra Das's diversified income streams showcase his entrepreneurial prowess. His entrepreneurial spirit extends to value-added fruit and vegetable products, such as pickles, jams etc. His aspirations extend beyond personal success to benefiting the society as well. Through his innovative thinking and a constructive mindset, He has carved out a prominent position for himself in the realm of agriculture and the production of organic goods. Additionally, His wife adds to their family income through the handloom sector, earning approximately Rs 6000 annually. Witnessing his unwavering spirit, other farmers in the village found inspiration and embarked on their own vermicomposting enterprises. In doing so, they not only supported their families but also became the cornerstone of their livelihoods. Among 30 families residing in the village, 10 have found success and prosperity in vermicomposting.



**Fig.3. Vermicompost ready for selling**



**Fig.4. Vermicompost ready for selling**



**Fig.5. Vermicompost applied in crop**

The empowerment of farmers can be exemplified through various avenues, and vermicomposting stands as one of the most compelling illustrations. Vermicomposting, being a relatively low-labor enterprise, offers an accessible avenue for adoption by rural and marginalized farmers. By participating in vermicomposting, these farmers not only contribute to their household income but also gain financial independence, thus playing a pivotal role in shaping their families' economic well-being. This empowerment through vermicomposting fosters self - sufficiency in rural communities.

**Table 1. Expenditure and returns of Mr. Bharat Das vermicomposting enterprise**

Items	Quantity and Price	Expenditure Incurred (Rs) in a season	Total return from one season (3 months)
Low cost vermicompost unit (Unit size: 6 x 4 x 2 ft)			
<b>1<sup>st</sup> Year</b>			
Plastic sheet (Low cost vermibed)	One bed in each unit @Rs 2000/-	2000.00/-	Vermicompost: 2q sold @Rs 15/- per kg Total returns = Rs 3 000.00/-
Earthworm	1000 pieces for each bed @Rs 2/- per piece	2000.00/-	
Miscellaneous (Thatchs, bamboo etc.)	-	550.00/-	-

Total expenditure and return in a season (3 months)		4550.00/-	3000.00/-
Total expenditure and return in a year (3 season)		<b>13650.00/-</b>	<b>9000.00/-</b>
<b>2<sup>nd</sup> Year</b>			
	-	- (No expenditure was required in second year)	9000.00
<b>3<sup>rd</sup> year</b>	-	- (No expenditure was required in second year)	9000.00
	Additionally Farmers sold vermiworm after 1 <sup>st</sup> season He earn around 16,000.00		<b>16,000.00</b>
<b>Total</b>		<b>13650.00</b>	<b>43,000.00</b>
<b>B:C</b>			<b>3.15</b>

(\*Farmers used his own raw material from the farm (like cowdung, crop residue, paddy straw, kitchen waste)

#### References

Pilli, K., & Sridhar, D. (2019). Vermicomposting and its uses in sustainable agriculture. Retrieved from <https://www.researchgate.net/publication/335378138>.