

Sunita Kushwah

Senior Scientist & Head
Krishi Vigyan Kendra
Vaishali
RPCAU, Pusa, India

Srivastava R.C

Vice Chancellor
DRPCAU, Pusa
Samastipur, India

MadhuSudan Kundu

Director Extension Education
RPCAU, Pusa, India

Varsha Kumari

Subject Matter Specialist
Home Science
Krishi Vigyan Kendra
Vaishali, DRPCAU
Pusa, India

Sunita Kumari

Subject Matter Specialist (Agronomy)
Krishi Vigyan Kendra, Vaishali
DRPCAU, Pusa
India

Gautam P.P

Subject Matter Specialist
Plant Protection
Krishi Vigyan Kendra, Vaishali,
DRPCAU, Pusa
India

Corresponding Author

Sunita Kushwah
Sunita17kk@rediffmail.com

Banana Fibre Extraction - The Best Way for Village Waste Management and Livelihood Promotion of Poor Marginal Farmers

Banana fiber extraction technique can give a boost for rural economy. From the waste farmer can make money and variable product in the form of fiber, paper, clothes etc., can be made. This technique can provide social as well as economical security to lesser privileged people of society. Mostly in the banana growing areas waste management through banana fiber creating a new scenario for the rural poor women farmers.

INTRODUCTION

District Vaishali comes under North-West-Alluvial Plains (Non-canal irrigated sandy loam soil) of Bihar. The land holding of farmers is decreasing day by day. Presently, about 90% are marginal, 7% small and 3% farmers comes under large category. Main source of income is Agriculture, Horticultural crops and Animal husbandry. Vaishali is mainly predominated by horticultural crops like Banana, Mango, Litchi, Guava & Cauliflower etc. Vaishali being in Gangetic and Gandak plains (Doab), it has rich fertility in the land and hence farmers almost take 3 times agricultural use. Banana is grown on over 27,000 hectares in the state and annual production of the fruit comes to

around 5.5 lakh tonnes with an average productivity of 20 tonnes per hectare, which is less in comparison to the national average of 34.1 tonnes per hectare. Banana cultivation is a major source of income for the farmers in Vaishali district. Vaishali is famous for

variety of banana like Malbhog, China, Kothia, Alpan etc. Banana cultivation is more popular among farmers due to more return on investment, but there is a problem of disposal of banana stem after harvesting of fruit. Generally farmer offer stem to animals as a



Figure 1. Entrepreneur Vaishali Priya Provide Training to the Rural Youth at KVK, Vaishali



Figure 2. Govt. Officials Visited Vaishali Priya Production Unit



Figure 3. Training for the Farmers



Figure 4. Banana Craft by Vaishali Priya



Figure 5. Banana Craft

feed but still there is problem for disposal of stem. Stem is waste to the farmer and no income from stem. Every year 2160000 tones banana stem got in waste

more than Rs. 3.00 lakh per year from this machine and Rs. 17500 from the wastage of banana after extraction of banana fiber. That waste again reused in

Table 1: Impact Analysis

Impact factor	Before Adoption	After Adoption
Farmer Practice	No commercial use of Banana stem	Commercial use of Banana stem
Yield of Product	-	Handicrafts, fibre
Fixed Cost	-	Rs 150,000
Recurring Cost	-	60,000
Gross Income	-	3,81,000
Net Profit	-	2,01360
B:C Ratio	-	3.3
Marketing	-	Local as well as Patna
Dissemination of knowledge in the locality	-	Producing in group for marketing
Knowledge gain based on 1- 5 scale*	1	4
Feeling of economic security based on 1- 5 scale*	1	4
Ability to understand and solve problems based on 1- 5 scale*	1	4
Self-image in community based on 1- 5 scale*	1	4
Self-confidence based on 1- 5 scale*	1	5

not in use. So that there is huge scope for banana fiber extraction and use of banana stem in Vaishali district through fiber extraction and their craft.

PROPOSED SOLUTION

In district Vaishali Banana is 3rd major fruit crop. Farmers are growing banana with recent technologies now. Being a banana growing district so that its waste management only if farmers can be use banana stem in craft making, compost making. Value added products may change the scenario of the poor marginal farmers of the district. Banana is one of the important cash crops of Vaishali district and there are many farmers trained by KVK Vaishali for banana fiber extraction techniques. Vaishali Priya a young women farmer trained to the other women to make cloth using banana stem from Machine. Vaishali aged 30 years of village -Malaypakadi, Block- Bidupur took the training on Banana fiber machine at KVK, Vaishali in the year 2019 then she formed a group of 30 farmers who were interested in Banana fiber production and all the members of his group were trained by KVK, Vaishali. She is graduated from NIFT, Delhi and well trained in fashion designing so that execution of project with her was easy. Being Graduate so there was not a problem for motivation and she made her mind very clear and made her continuous effort with the KVK Scientist for processing of the Banana fiber by machine and is getting the banana fiber from their machine. Now she is earning

compost making which is rich in potash. She is earning Rs. 20000/yr. from handicraft product of Banana stem. Her income is an example of the area and there are many persons who have taken interest in her work. She is supplying her Banana fiber to different textiles and paper industry. She is a young icon of the Vaishali district besides fiber product, she is also doing fashion designing in textiles.

CONCLUSION

Banana fiber extraction technique has enormous scope for employment and resource generation for unemployed rural youth. It can give lot of employment for farm women for making handicraft items like Goddess crafts, hand purse, tea caster etc. The product made from banana fiber economical, environmentally safe and bio degradable. So there is no harm on eco system of the nature.

REFERENCES

- Lightsey, G.R. (1983). Polymer Application of Renewable Resource Materials - Characteristic of Sisal Fiber, Plenum Press, New York. banana fiber, structure, mechanical properties, polymers.
- Subhalakshmi Shijagurumayum.2015. Fiber yielding plants with reference to banana fibre extraction in Manipur. Conference: Plant science. At: Life Science department , Manipur University, Canchipur.

S.K. Bhaduri. 2018. Sustainable rural livelihood through utilization and value addition of banana fibre. https://www.researchgate.net/publication/322656483_Sustainable_Rural_Livelihood_Through_Utilization_and_Value_Addition_of_Banana_Fibre.