ECONOMIC EMPOWERMENT MODEL WITH INDUSTRIALIZATION APPROACH USING RAW MATERIAL WASTE OF BANANA PLANT IN NANGGROE ACEH DARUSSALAM (NAD)

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ABSTRACT

The economic empowerment model with industrialization approach is aimed at achieving, namely: Providing economic value added to banana grower farmers, increasing productivity is achieved by improving banana tree cultivation techniques that have superior quality, improving product quality through handling factors that cause banana quality degradation (viruses / pests / diseases banana stem rot, Use of post-harvest technology with an industrialization approach so that banana plant waste has good quality and raises economic added value from the waste with the support of various parties / industries and can reduce environmental pollution. In the second year research conducted a comparative study on handicrafts from banana stem waste craftsmen in Bojonegoro and Gresik Regencies and a socialization will be held on banana plant farmers in Nangroe Aceh Darussalam, so that it can increase the income of banana planters and can help the government create jobs. The research method used is action research methods, aiming to develop new skills or new approaches and be applied directly and reviewed the results. Has disseminated ways to process banana stem waste into semi-finished products and finished goods in Bireun and Aceh Besar Districts. Coordinate with the business world to market products produced from banana stem waste.

Keywords: Economic empowerment, waste management techniques, improve the economy of banana plant farmers.

Introduction

In the first phase of the study, it was found that banana crop farmers in three districts: Jantho City, Aceh Besar, Muara Tiga Village, Pidie District, and Juli Village, Bireun District, Nanggroe Aceh Darussalam (NAD) did not know that banana stem waste could be used as a commodity for semi-finished goods. and finished goods. The results of data processing found that the quality of banana trees negatively affected the banana tree waste, meaning that the high and low waste of banana stems was not affected by the quality of banana stem products. The hypothesis proposed is opposite in direction, so that to overcome the waste of banana stems can be done by efforts to improve the quality of products from harvested banana plants, so that if the quality of the banana stems is good, then the banana fruit yields well and the quality of banana stems as waste will also be good, so it can processed into products that have high economic value.

The economic empowerment model with an industrialization approach is aimed at achieving, such as providing economic value added to banana growers through an industrialization approach with efforts to increase productivity and product quality, increased productivity is achieved by improving banana tree cultivation techniques that have superior quality, improving product quality through handling factors that cause the decline in the quality of bananas (viruses / pests / banana stem rot), the use of post-harvest technology with an industrialization approach so that the waste of banana plants has good quality and increases the economic added value of the waste with the support of various parties / industries and can reduce environmental pollution. There are actually many types of banana plants that grow in Indonesia and all types of banana plants can be used as banana gedebog crafts, there are several types that are commonly used as materials for crafts. Banana plants that are often used for crafts are banana kepok (Musa acuminata balbisiana colla) and plantain (Musa textilia). This is because this type of banana is found in Indonesia and also because it has a long and wide stem.(Http://psmjogja.blogspot.co.id/2015/12/kerahlian-debog-pisang.html).

To make a good banana gedebog craft, the main thing to pay attention to is handling the basic ingredients of banana gedebog properly so that the results obtained are in accordance with the request. The things that we must pay attention to in crafting banana gedebog are as follows for the types of bananas used for crafts such as logging and drying techniques (drying), technical cleavage and sweeping, technique for making rope for slapping banana gedebog, technical manufacture of banana gedebog craft products. Business opportunities by utilizing plants that are found in the natural surroundings seems quite extensive, provided that in producing them is based on creativity and innovation in order to produce neat products, whether in the form of used goods or decorative items. Banana plants, and parts of these plants that can be used are the midrib or the term in Javanese gedebog. In order to be produced into various goods, the gedebog raw material is first dried in the form of sheets or ropes.

Theoritical Frameworks

2.1 Banana Waste Processing Techniques

The effort that seems quite simple is done by Suci Luarni, a craftsman domiciled in Gresik. The creative woman started the business since 2008 and so far has produced at least 20 product items in the form of tissue places, lamp shades, fruit stands, flower pots, wall hangings and more. The technique for making banana midrib crafts that is done by Suci is to place banana leaf sheets using media such as cardboard, pottery, iron frames and others. So, the media is formed first according to the desired product type, then pasted with banana midribs that have been dried using glue.

To produce certain products, the banana midrib must be sewn or used as a rope. According to Suci, not all types of bananas whose midribs can be processed to produce good products. "If it's just for sticking, any kind of banana midrib. But what can be sewn is the midrib of banana milk, king and kepok, "The raw material is absorbed from farmers in Bojonegoro, with prices ranging from Rp. 6,000 - Rp. 20,000 per kg in the form of a rope. While the sheets range from IDR 2,000 - IDR 2,500 per kg. The supply of raw material for banana midrib was sorted, then processed with chemicals to remove mold and black stains. Of course the processing of using these chemicals is also able to make the banana coating durable. (http://pemimpi.weebly.com/kerrakt-pelepah-pohon-pisang.html).

Research conducted by Nurrani (2012), agricultural waste is one of the fiber-producing materials that have the potential to replace wood. The research was conducted to explore the potential of banana stems as a raw material for fiberboard through physical properties and mechanical fiberboard. Fiber separation is carried out by thermo-mechanical treatment at 60 ° C, 80 ° C and 100 ° C, and the addition of adhesive 4% and 0% of the dry weight of the furnace. Formation of the sheet with a wet process, followed by a hydraulic press then heat press at a temperature of 185 ° C, a pressure of 50 kg / cm2 for 10 minutes. The results showed pulp yield of 35.76% where the physical and mechanical properties of fiber board met FAO 1966 and JIS A 5908-2003 standards except for very high water absorption. The addition of 4% adhesive does not have a significant effect on improving the quality of the fiberboard. The temperature treatment of shale boiling, gives a real effect, where the higher the temperature the quality of the board the better. The best fiber board quality is obtained from the shale temperature boiling treatment 100 ° C.

Maisir, head of the BTC (Balen Team Creative) in Balen Rejo village, Bojonegoro district, has motivated the community to use banana stalks to become handicrafts. There were residents who made rope from banana stem petals that had been dried in the sun, there were people who dried the banana petals after being dried, they were deposited to the btc and the residents got extra income. Maisir teaches people how to make handicraft products that have economic value. (https://www.youtube.com/watch?v=4FUOg-82i8A). Ade Royali, the owner of a Creative Workshop in Bogor, creates jobs by utilizing banana stems (https://www.youtube.com/watch?v=fyvGryOmfV0).

2.2 Banana Trunks as Recycled Paper Base Material

Banana stems can also be processed into paper, which is after experiencing a process of drying and further processing. the process of making paper from banana stem material, first thing to do is, the banana stems are cut into small pieces with a size of about 25 cm, then dried in the sun to dry. After the banana stem is dry the next process is by boiling it until it becomes soft, but during the boiling process it should be added with formalin or soda kostik which means in addition to speeding up the repayment process also to remove the sap that is still attached to the banana stem, in the next process the banana stems that have been softly filtered and cleaned from these chemicals are then made into pulp in a blender. New then printed into sheets of paper.

Dalika, T, (2011). The aim of this study was to evaluate the nutritional value of banana stems, bioprocess (ensilage) products, mix banana stems, cassava tubers and corn kernels as a complete food to increase sheep production. The study was conducted using an experimental method using a completely randomized design (CRD) experimental design, the treatment tested in this experiment was the effect of a mixture of banana stems, cassava tubers and corn kernels as a complete food on the nutritional value of bioprocess products, namely TA (a mixture of 70% banana stems , 15% cassava tubers and 15% corn kernels), TB (a mixture of 60% banana stems, 20% cassava tubers and 20% corn kernels), TC (a mixture of 50% banana stems, 25% cassava tubers and 25% corn kernels), TD (a mixture of 40% banana stems, 30% cassava tubers and 30% corn kernels), TE (a mixture of 30% banana stems, 35% cassava tubers and 35% corn kernels), each treatment was repeated 4 (four) times. The variables observed included pH value, water content, dry matter, ash, crude protein, crude fiber, extract material without nitrogen (BETN), and crude fat. The results showed that bioprocess (ensilage) mixture of banana stems, cassava tubers and corn kernels as a complete food did not reduce the nutritional value of banana stems, and there was an increase in the dry matter content of stems, bananas. The best combination mixture for banana stems as a complete ration is 30% banana stems, 35% cassava tubers and 35% corn kernels.

The USM University of Science has researched banana stems that can be used as high-quality paper-making raw materials. From the findings of the USM research, in Kg. Perlis. Behind the island. Pinang Island through cooperatives has made paper from waste banana stems which can be used as a variety of quality products that have a high selling value. banana stem waste is processed into various products that can conserve the forest (not used as paper from wood fiber) and the environment. (https://www.youtube.com/watch?v=F3hTW_aBM_I).

2.3 Processed Banana Stems

Material requirements for making banana weevil chips consist of banana weevil, sodium bisulfite, salt, onion, garlic, cooking oil, pepper and water. While the tools that must be prepared are knives, basins, pans, buckets, stoves, cutting boards, and other supporting tools. How to make it, take a banana hump, then peel the outer skin, and wash it with clean water. The hump is sliced into thin slices of about 0.5 cm. The cork slices are soaked in one percent sodium bisulfite solution for 2-3 minutes (Guidelines: 1 gram of sodium bisulfite is thawed into 1 liter of water). After soaking, the slices of slices are drained. Next, the spices are ground until smooth, then put into a basin and add a little water. Soak the weevil slices in a basin containing spices, then stir until blended, and leave for about 5-10 minutes so that the marinade is absorbed. The spiced slices of the hump are fried, while flipping until evenness is evenly distributed. Lift and drain. Finally, be a banana cork chip packaged in a plastic bag. (Http. // jnfus.blogspot.co.id/2013/11/benefits of tree-banana-waste.html).

Methodology

The research method used is action research methods, aiming to develop new skills or new approaches and be applied directly and reviewed the results.

Result
Until this report was made, the research team conducted a comparative study on how to process banana stem waste into handicrafts with high economic value in Bojonenoro and Gersik Regencies, East Java Province. Research was carried out in Nanggroe Aceh Darussalam (NAD) in two districts, namely Bireun District and Aceh Besar District.

Dissemination of ways to treat banana stem waste in two districts
Bireun District, July sub-district, Seuneubok Gunci village was attended by 19 people consisting of mothers and teenagers. The participants of the socialization were processing and making semi-finished products and the items became very enthusiastic and many questions included how to market the products produced. Aceh Besar District, Jantho Subdistrict, Jantho Baru Village was attended by 26 people consisting of fathers, mothers and young men and women. The participants of the socialization were processing and making semi-finished products and the items became very enthusiastic and many questions included how to market the products produced. The participants expect not only socialization at this time but it is expected that there will be ongoing coaching until they can be independent.

The Chair and the research team have disseminated ways to process banana stem midribs to make semi-finished goods and finished goods. How to process banana stem waste into products and can be seen in Figure 1. Firstly, the banana tree that has been harvested is cut to the size needed and opened the petal or gedebog petals and then dried by the sun for 10 days. Drying process that is done affects the texture (quality) results of the gedebog. Secondly, the dried gedebog can be used as semi-finished goods, in the form of a rope, the gedebog is twisted in a certain way will produce a quality rope. Thirdly, the dried gedebogs are separated from the outer skin by deep skin, then paste using wood glue on the cardboard media that has been patterned and has formed on the varnish to avoid mold, dried and ready to be marketed.

The results are obtained from socialization "Participants in the two districts were very enthusiastic in following how to make semi-finished goods and finished goods, they will design handicrafts that do not yet exist and will attend the existing exhibitions"

Figure 1. Processing of Banana Trunk into Products

Conclusion
Based on the results of research and conducting socialization to the community in the two districts of Bireun and Aceh Besar can be concluded. Solid waste of banana stems can be processed into a variety of products and in this study used as a craft product in various shapes and patterns according to the skills of the craftsmen. By processing solid waste banana stems can create jobs that can be done after a busy life for fathers as household leaders, for mothers can earn extra income without having to leave the house and for teenagers can generate income to buy school supplies .

Suggestion
Based on the conclusions can be suggested for related parties such as there needs to be counseling and coaching regularly to people who have creativity, motivate and inform them to participate in the bazaar and it is expected that entrepreneurs can partner in both capital and marketing support. Requests from the participants of the socialization so that learning activities to make products from banana stem waste are not stopped here but there are regular coaching.

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