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# Optimization of superior banana product diversification: empowerment of poor communities

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**Abstract.** This paper deals with the empowerment of the poor by optimizing the Diversification of Featured Banana Products. The selections of banana products are because one of the superior products of Indonesia in the world. Indonesia is a famous country for the central region of the origin of bananas in the world. In terms of type, Indonesia is also superior to other countries, but in terms of banana processing Indonesia is still ranked seventh in the world as a producer of bananas. This research was an investigative descriptive study to obtain some descriptions of the problems that are always faced by the public, especially regarding food security. The output of this research activity was the establishment of strategic programs and activities (strategic plan) integrally and comprehensive manner in order to improve the economic empowerment and food security of the Lumajang community through the optimization of superior banana products. This research had the value and strategic objectives of providing important information to improve food security for the common people in particular and the people in Indonesia in general.

## 1. Introduction

The problem of poverty in Indonesia is very complex. Solution to overcome not only supports one factor, but from several interrelated factors. Government is a very multidimensional and multi-sector problem that must be addressed immediately because of all human dignity [1]. Based on the profile of poverty in Indonesia in March 2018, the percentage of poverty is 9.82%. Government succeeded in reducing the number of poverty, but from the quality aspect (social, cultural and political) the community was still shackled from the cycle of poverty [2]. Therefore, poverty reduction is a long process that requires integrated, sustainable handling by involving all elements of society, starting from the central government to the lower level government, so that poverty alleviation programs that aim to improve people's lives will be realized [3].

Community empowerment is a development process in which people take the initiative to begin the process of social activities to improve their own situation and condition [4]. Empowerment or empowerment, comes from the word 'Power' (power or empowerment). Empowerment refers to the ability of people, especially vulnerable and weak groups, so that they have the strength or ability to fulfill their basic needs, have freedom, and reach productive resources that enable them to increase their income and obtain the goods and services they need [5].

Empowering the community can be achieved by; first, creating an atmosphere or climate that enables the potential of the enabling community [6]. Community empowerment starts from the introduction that every human being, every society, has potential that can be developed. That is, there is no society at all without power, because if so it will be extinct. Empowerment is an effort to build that power, by encouraging, motivating, and raising



awareness of its potential and trying to develop it [7]. Second, strengthen the potential of power that is owned by the community [8]. In this framework, more positive steps are needed, aside from only creating a climate and atmosphere. This strengthening includes concrete steps, and involves the provision of various inputs, as well as opening up access to various opportunities that will make people become empowered. Empowerment not only includes strengthening individual members of the community, but also the institutions. Instilling modern cultural values, such as hard work, frugality, openness, and accountability are the main parts of this empowerment effort [9].

Similarly, the renewal of social institutions and their integration into development activities and the role of the community in them. The most important thing here is increasing people's participation in the decision-making process that concerns themselves and their communities [10]. Therefore, community empowerment is very closely related to strengthening, civilizing, practicing democracy. Third, empowering also means protecting [11]. In the empowerment process, the weak must be prevented from becoming weaker, because of lack of power in the face of the strong. Therefore, the protection and partiality of the weak is very basic in the concept of community empowerment. Protecting does not mean isolating or covering up from interaction, because it will only dwarf small ones and bring out weak ones. Protecting must be seen as an effort to prevent unbalanced competition and strong exploitation of the weak. Community empowerment does not make the community more dependent on various charity programs. Because, basically everything that is enjoyed must be produced on its own business. Thus the ultimate goal is to empower the community, enable and build the ability to advance towards a better life [12].

## 2. Methods

This study uses descriptive qualitative research methods by conducting literature studies. The data collected and used in this case study are secondary data which are supporting data sourced from the literature as well as existing references regarding constraints that often occur in the process of community empowerment. The data sources used are books, journals, and government regulations that discuss community empowerment.

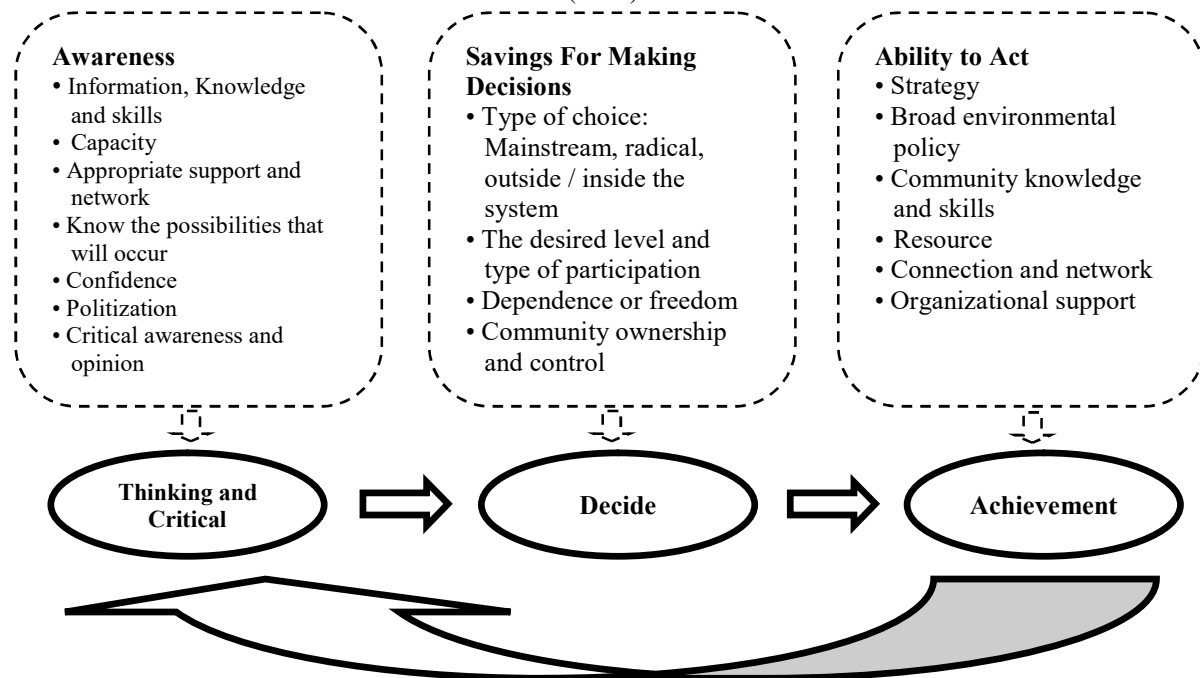
The data analysis that will be carried out in this study are: First, Conducting literature studies and collecting data on community empowerment and the potential of banana commodities. Second, carry out data processing. Data processing aims to simplify data analysis. Third, compile the methodology of implementing work on the method. Fourth, compile research results based on available data.

## 3. Results and Discussion

### 3.1 Community Empowerment Models To Reduce Poverty Numbers

Community empowerment arises because of a form of defeat and powerlessness [13]. Therefore a community empowerment model is developed which refers to the theory of power. Communities only have the potential to do so and the ability of the community to be an influence that can fluctuate depends on various factors, namely capacity, trust, resources and organizational context as a support. To be empowered, the community needs to increase critical awareness, have the opportunity to make choices and the ability to act [14].

The first component in this model is about developing awareness so that people are able to be critical and reflective about what they want and how they achieve their goals. Developing awareness can build practical in terms of training and capacity building to obtain specific knowledge and skills for various needs. Other factors such as appropriate support (local and organizational), experience, networking and connections, or more significant in terms of increasing or developing awareness. A further dimension in terms of developing awareness comes from community development and deals with critical thinking and reflection [15]. This requires an "awareness" process whereby people take an analytical view of their situation in order to determine social, political and economic reasons for their helplessness. The community empowerment model is divided into three parts [16].



**Figure 1.** Model of Community Empowerment according

There are several steps that need to be taken into account in empowering the poor [17], [18], namely: (1). Community empowerment is an absolute prerequisite for poverty alleviation efforts. This empowerment aims to suppress feelings of powerlessness (impotence) of the poor if faced with social and political structures. After critical awareness arises, efforts to cut off exploitative relations to the layers of the poor need to be done. (3). Cultivate a sense of equality and give an idea that poverty is not destiny, but as an incarnation of social construction. (4). Realizing the formulation of development by involving the poor in full. (5). Need social and cultural development for the poor. (6). A more equitable redistribution of development infrastructure.

This community empowerment process is aimed at empowering communities to improve their own living standards by using and accessing local resources as best they can. The main target of community empowerment is the poor. The approach used in community empowerment has the intention of increasing public awareness and capacity to be able to influence policy changes that are more pro-people. Community empowerment encourages internalization of development for the poor and marginalized job creation, as well as the participation of the poor in building, forming social capital and good governance [17]. In order to be able to better strengthen and succeed the regional development planning programs carried out by the regional government, it is very necessary to include and empower all levels of society as law number 25 of 2004 concerning the national development planning system, which in its mandate is a pattern of community-based development planning, so that it is expected that the process and results of development that have been produced can be enjoyed by the community [8].

### 3.2 Banana-Based Innovation Role In Improving Economy

From the previous explanation, we can see that innovation has a large role in increasing the production capacity of goods and services in a country. This capability will then lead the country to get relatively high GDP, so that the ability to innovate is very important for all countries, especially developing countries, to have. Developing countries that have the ability to innovate will be able to accelerate their economic growth and catch up with developing countries [19]. Many doubt that innovation can only be done by countries that have large companies with abundant working capital to carry out research and development with

advanced technology. However, there have been many examples of developing countries that are able to create innovations from all the limitations they have. In creating innovation, developing countries have the advantage when compared to developed countries, namely developing countries can make innovations that have been created by developed countries as their initial capital to create innovation [20].

Indonesia is one of the developing countries that is famous for the central region of the origin of bananas in the world. In terms of its type, Indonesia is also superior to other countries, but in terms of processing bananas Indonesia is still ranked seventh in the world as a country producing bananas [21]. In Asia, Indonesia is also a producer of bananas and meets the needs of 50% of bananas in Asia. But, even so, according to James Dale in his paper, "Banana for the 21st Centuries: Pushing Back the Threat of Extinction", said: Indonesian banana production is still inferior to banana production in India which reaches 26.2 million tons per year and Uganda reaches 10.5 million tons. In 1995, banana production in Indonesia was only 3.8 million tons and in 2012 it increased to 6.1 million tons. Banana is the most consumed commodity by the Indonesian people, because around 45% of the consumption of fruits is banana. Bananas, from raw ones, to processed ones can enhance their economic value. Based on data from the Ministry of Agriculture of the Republic of Indonesia, the balance of the banana trade in Indonesia reaches US \$ 10,000 million, or approximately 240,000 tons.

Projections of banana production are calculated using fresh banana production series data from 1980-2015. Due to the limited availability of banana data, the projections of banana production in Indonesia are calculated using the Autoregressive Integrated Moving Average (ARIMA) model taking into account that the model is best statistically where the value of Mean Absolute Percentage Error (MAPE) is the lowest compared to other models of 6, 6. Based on the projection results, banana production in Indonesia during the 2016-2020 period is projected to increase by 1.98% per year, although each year the production growth rate decreases against bananas. The highest increase in banana production is predicted to occur in 2017 at 2.04%, while the lowest projection for banana production occurs in 2020 (Table 1). With these results, efforts need to be made to increase banana production through the intensification and extensification of sreta innovation [22].

**Table 1.** Projection of Banana Production in Indonesia 2016-2020

Year	Production (Ton)	Growth (%)
2016	7.451.336	-
2017	7.603.405	2.04
2018	7.755.475	2.00
2019	7.907.545	1.96
2020	8.059.615	1.92
Average growth (%/year)		1.98

Source: M. Alif, et al, 2015.

Based on the projection of banana production and consumption in Indonesia, banana surplus/deficit will be obtained. Along with the decreasing projection of banana consumption but banana production is predicted to continue to rise, in 2016-2020 it is estimated that a surplus of bananas is expected to increase each year with a growth of 2.60% per year (Table 2.). The results of this projection are in line with the conditions of Indonesian banana imports where in 2015 it was noted that there were no imports. With the surplus of bananas, it is expected to be able to encourage an increase in Indonesian banana exports to several emerging market countries [22].

**Table 2.** Projections of Banana Surplus/Deficit in Indonesia 2016-2020

Year	Offer (Ton)	Request (Ton)	Surplus / Deficit (Ton)
2016	7.451.336	1.537.665	5.913.671

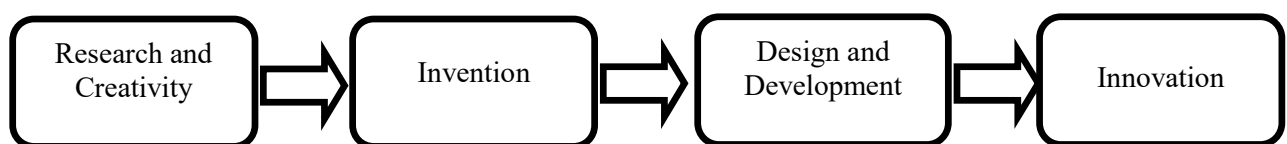
2017	7.603.405	1.529.787	6.073.618
2018	7.755.475	1.521.909	6.233.566
2019	7.907.545	1.514.031	6.393.514
2020	8.059.615	1.506.153	6.553.462
Average growth (%/year)	1.98	0.52	2.60

Source: M. Alif, et al, 2015.

Based on the development of the area of banana harvest in Indonesia over the past five years (2011-2015) there was a decline with an average growth of 1.43% per year. However, in terms of production, bananas in Indonesia in the same period increased by an average of 4.92% per year. Whereas banana consumption in 2011-2015 experienced a gradual increase in the range of 1.32% per year. Java is still the main contributor to the national harvest and production area compared to Outer Java. Banana production centers are in East Java Province (21.82%), West Java (19.22%), and Lampung (18.20%). Banana export commodity import activities during 2011-2015 were very encouraging where exports experienced an increase of 2,583% per year, while imports decreased by 21.30% per year, even in 2015 did not import.

At the world level, Indonesia is one of the producing countries both in terms of harvest and production. During the 2009-2013 period Indonesia ranked 12th as the world's largest banana harvest center with a contribution of 2.07%, and was in the sixth position of the world banana production center with a contribution of 5.67%. The projection results for 2016-2020 show that consumption of bananas in Indonesia is predicted to decline even though on the production side it increases every year. So that in that period, Indonesia is expected to experience a surplus of bananas. The 2016 surplus is estimated at 5.91 million tons and is expected to continue to increase to reach 6.55 million tons by 2020.

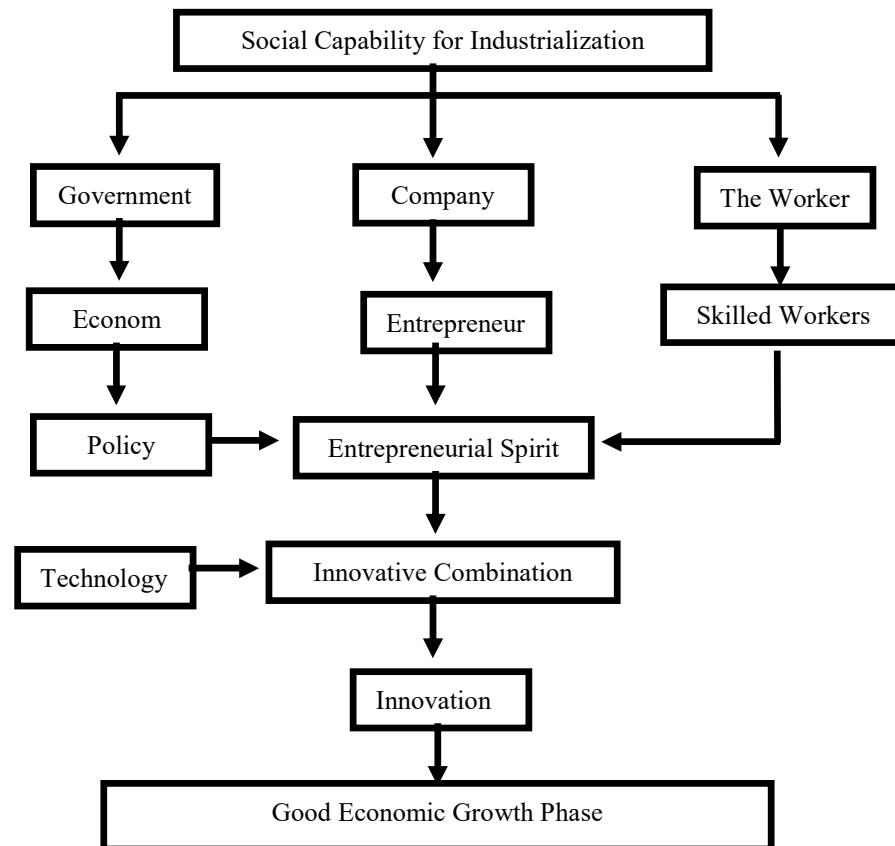
Based on the data above, banana products are one of the superior products in Indonesia. To increase bargaining power, it is necessary to innovate banana-based products. States that innovation is a process whereby new and developed products, processes, materials and services are transferred to a factory and / or market that has been able to accommodate them. Innovation is an invention that is applied and marketed. Describes innovation as a commercial use of invention. These three opinions have similarities in seeing innovation as something that must be marketed or have a commercial function. Relationship between creativity, invention, and innovation as follows:



**Figure 2.** Simple Model of Innovation

Through a process, creativity supported by research will produce inventions. The resulting invention cannot then immediately become an innovation. The key word of innovation is that it must have a commercial value, so inventions that are the raw material of innovation must then go through a development and design process so that commercial potential in an invention can be exploited to the full.

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 The success of companies in developing countries using technology that has been discovered in advance by developed countries [23]. The description of the process is as follows:



**Figure 3.** Social Capability for Industrialization

From the chart it can be seen that the process of innovation can be carried out by developing countries by conducting innovative combinations to then match the technologies that have been discovered by developed countries with the characteristics of the country. Also provides several examples of countries that are able to create innovative combinations using these patterns. One of the countries exemplified is Charoen Pokphand (CP) from Thailand. The company was able to adopt technology that had been created by Japan and western countries so that the company had very good competitiveness. The growing number of companies such as CP in a country will be able to boost the competitiveness of the country as a whole. This good competitiveness will then produce high GDP and increase welfare and ultimately reduce poverty.

#### 4. Conclusion

Community empowerment is a development process in which people take the initiative to begin the process of social activities to improve their own situation and condition [24]. Efforts to empower the community can be seen from three sides, namely; first, creating an atmosphere or climate that enables the potential of the enabling community. Second, strengthen the potential or power that is owned by the community. Third, empowering also means protecting.

One way to empower the community is through innovation in superior products [25]. Indonesia is one of the developing countries that is famous for the central region of the origin of bananas in the world. In terms of its type, Indonesia is also superior to other countries, but in terms of processing bananas Indonesia is still ranked seventh in the world as a country

Economic empowerment by developing the potential of bananas for the people in Lumajang Regency is first a source of income for the community to depend on their lives. Secondly as a means of absorption of labor so that it has an impact on reducing unemployment. Third, as a means to improve public education. Increasing income from the community further increases their awareness of the importance of education for improving the quality of human resources. Fourth as a means to promote food products made from bananas that utilize tourism activities there.

Suggestions that can be proposed in the presence of this research are: First, the Government needs to be responsive to the empowerment program that comes from citizen initiatives, where residents devote their energy, time, mind and funds to running community empowerment programs through training in processing local food. Second, the need for intensive assistance in banana processing business in order to have a higher economic value. Third, the preparation of local government policies in accordance with existing local potential.

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