

BOOK OF RESEARCH

WORLD FOOD SECURITY PROGRAM THROUGH CASSAVA PROCESSING AS A LOCAL FOOD RESOURCE In The Perspective of SDG's (Comparative Study in Indonesia & Africa)

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SBDI CENTER
SUSTAINABLE BUSINESS DEVELOPMENT
AND INNOVATION CENTER



FOREWORD

Praise be to the presence of God Almighty. Thanks to His grace and guidance, researchers from Indonesia, Nigeria, and Zambia can jointly develop a research program entitled; "THE WORLD FOOD SECURITY PROGRAM THROUGH CASSAVA AS LOCAL FOOD IN THE PERSPECTIVE OF SUSTAINABLE DEVELOPMENT GOALS (SDGs)".

This research was initiated and pioneered by the SBDI Center head office in Indonesia. As the head office that coordinates international SBDI branches, the management of the SBDI head office in Indonesia sensitively observes and studies developments in world food security which are currently increasingly chronic and urgent to follow up on their handling. We are trying to direct SBDI's resources to be able to answer this challenge. This is an important moment for SBDI as an honorary member of the UN Global Compact NGO to show its existence to the country and the world at the right time and place needed.

Indonesia, Nigeria, and Zambia are countries endowed with vast, fertile lands and high population numbers. It is even proven that these three countries are included in the top 10 largest cassava-producing countries in the world. But ironically, it is also included as a country that is vulnerable to dependence on imports of strategic food, especially wheat, and sugar. Geographically, wheat cannot grow well in these 3 (three) countries. So millions of tons of wheat must be imported from various wheat-producing countries abroad. The negative impact economically is that the country's foreign exchange reserves will be depleted, and local resources cannot be utilized and even eliminated. This is an existing condition and empirical finding that we must immediately answer through scientific studies that can be accounted for based on evidence (evidence basis).

Currently, the problem of food security is a challenge for all countries, unstable climate conditions, the impact of inflation, the weakening global economy, and the existence of war conflicts are also one of the reasons for the vulnerability of world food security. This challenge is the responsibility of multi-stakeholders in the world, they are all called to immediately be able to contribute to solving the problem of world food security. So it is necessary to identify all potential causes of food security insecurity in all countries, dependence on strategic food imports will be the main and urgent study in a country. There is a need for sustainable development efforts that can support food security based on local resources. Food diversification is one of the strategic options in the solution to food security insecurity and dependence on foreign food imports.

Some of the findings of previous researchers provide empirical evidence that cassava is a type of food crop that occupies a strategic position, has good nutritional content, and is easy to grow in tropical areas such as Indonesia, Nigeria, and Zambia. Several researchers in Indonesia have found technological innovations that can turn cassava into flour that can replace wheat flour, even cassava can be processed into low-calorie and gluten-free. Real cassava waste can be processed into organic bioplastics that are environmentally friendly. This is a competitive advantage possessed by cassava food crops.

From what has been described above, it is appropriate for cassava to be a study in more depth. It is necessary to make joint research and serious comparative studies between cassava-producing countries in the world. This research will be a useful initial study for cassava-producing countries in overcoming the problem of food security and vulnerability to dependence on strategic food imports, especially wheat, and sugar.

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This is a research program for countries in Indonesia, Nigeria, and Zambia, this research program was initiated by the SBDI Center Indonesia in order to support the United Nations program on World Food Security, contributing to supporting ASIA – Africa continent countries in achieving SDGs (17 Goals) . The practical implications of this research are based on a study of business governance in accordance with the 10 pillars of provisions in the UN.Global Compact.

The names mentioned above are a team of researchers who are involved in and support the United Nations program in world food security. And support Asian-African Countries in Achieving Sustainable Development Goals (SDGs).

Indonesia,2023

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ACKNOWLEDGMENTS

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ABSTRACT

(JOINT RESEARCH AND COMPARATIVE STUDY: INDONESIA AND AFRICA)

WORD FOOD SECURITY PROGRAM THROUGH CASSAVA AS LOCAL FOOD IN THE PERSPECTIVE OF SUSTAINABLE DEVELOPMENT (SDG's)



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Temporary Abstract

The purpose of this study is to analyze and describe the country's strategy for reducing dependence on imports of wheat flour with alternatives to cassava in Indonesia and Nigeria from the perspective of world food security and sustainable development goals (SDGs). Nigeria is the No.1 largest cassava-producing country in the world, and Indonesia is ranked No.5 of the top 10 cassava-producing countries in the world. Currently, the world is starting to be faced with a scarcity of wheat flour and skyrocketing prices, this condition is caused by the global political impact of the war between Ukraine and Russia, including climate symptoms that are getting worse so that it disrupts the world's supply of wheat flour.

Indonesia has succeeded in finding technological innovations that turn cassava into modified flour which has characteristics that have the potential to replace wheat flour. From the research results, Mocaf (Modification Cassava Flour) has just been applied in Indonesia, it is still not found in several other cassava-producing countries. In terms of food technology, Mocaf can be said to exceed the quality of wheat flour, because it contains Low Protein and Free Gluten, several doctors in Indonesia recommend Mocaf for consumption by children with autism, besides that Mocaf has a very long shelf life (1 to 5 years) without change in color and taste. This is an interesting study for researchers to analyze the country's strategy for reducing dependence on wheat flour at this time. With the scarcity of wheat in the world, Mocaf will be a strategic alternative as a substitute for wheat flour.

In the context of the Sustainable Development Goals (SDGs), the world is currently facing a food crisis and hunger in several countries. In SDGs, number 2 is "end hunger, achieve food security, improve nutrition and promote sustainable agriculture". Hunger is defined as a condition resulting from chronic food consumption in PBC. In the long run, chronic hunger has a negative impact on public health and causes high public expenditure on health.

Not all countries have access to the food they need, and this is leading to hunger and malnutrition on a large scale in the world. A portion of the world's population is currently chronically food insecure and unable to obtain sufficient food to meet their minimum energy requirements. Millions of children under five years old (toddlers) suffer from chronic or acute malnutrition during seasons of food insecurity, hunger, and social unrest, this number continues to increase.

Many factors cause hunger such as poverty, instability of the government system, use of the environment that exceeds capacity, discrimination, and powerlessness such as children, women, and the elderly. Likewise, limited food subsidies, rising food prices, declining real incomes, and high levels of unemployment are the main factors causing hunger. This is a type of comparative study research with a descriptive qualitative approach method which is supported by literature reviews and studies of previous researchers.

Keyword: Food Security, Hunger, social, economy, agriculture, SDGs, Cassava, Government

CHAPTER I

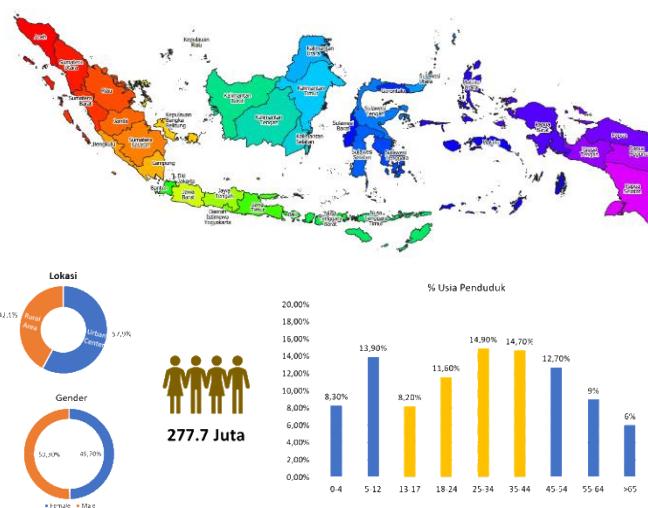
INTRODUCTION

1.1. Indonesia

1.1.1. Profile

Indonesia, known by the official name of the Republic of Indonesia or more fully the Unitary State of the Republic of Indonesia, is an archipelago country in Southeast Asia that is crossed by the equator and is located between the continents of Asia and Oceania, so it is known as a transcontinental country, as well as between the Pacific Ocean and the Indian Ocean.

Indonesia is the 14th largest country as well as the largest archipelagic country in the world with an area of 1,910,931 km², and the 6th largest island country in the world, with a total of 17,504 islands. The alternative name used for the Indonesian archipelago is called Nusantara. In addition, Indonesia is also the 4th most populous country in the world with a population reaching 274,790,244 people in 2022, as well as the country with the largest Muslim population in the world, with adherents of more than 238,875,159 people or around 86.9%. Indonesia is a multiracial, multiethnic, and multicultural country in the world.



Indonesia is a member of the United Nations (UN) and the only member that has ever left the UN, namely on January 7, 1965, and rejoined on September 28, 1966. Indonesia is still declared as the 60th member, the membership since Indonesia joined on September 28, 1950. Apart from the United Nations, Indonesia is also a member of the Association of Southeast Asian Nations (ASEAN), Non-Aligned Movement (NAM), Asia-Africa Conference (KAA), Asia Pacific Economic Cooperation (APEC), Organization of Islamic Cooperation (OIC), and G20.

As a tropical country with two seasons, Indonesia is blessed with soil fertility that supports the growth of various types of plants. In addition, with the extent of mastery of the sea, the abundance of fishery products cannot be denied. In fact, some of the agricultural products produced have a comparative advantage and are the prima donna of exports. Not only as a source of food and a source of foreign exchange, the agricultural sector is a support for the economic activities of most people. Most Indonesian people in rural areas depend on this sector. Unfortunately, most of them live below the poverty line. The low Farmer Exchange Rate illustrates the low welfare of farmers..

1.1.2. Indonesian Food Security

Population growth and high economic growth will increase the demand for food, energy, and water. Meeting the needs for these requests needs to get joint attention so that security for food, energy, and water is a necessity. As one of the important roles in human life, food security is an absolute prerequisite (Datin, 2011).

Food security is a condition of fulfilling food needs for households which is reflected in the availability of sufficient food, both in quantity and quality, safe, equitable, and affordable. As explained in Government Regulation (PP) Number 20 of 2006 concerning Irrigation, food security is realized through the sustainability of irrigation systems, through development to operation, and maintenance of irrigation networks

According to the Global Food Security Index (GFSI), Indonesia's food security index in 2022 will be at the level of 60.2, higher than the 2020-2021 period as shown in the chart. However, Indonesia's food security this year is still below the global average with an index of 62.2, and lower than the Asia Pacific average with an index of 63.4. The 2022 GFSI food security index is measured based on four indicators, namely food affordability, availability, quality, and safety, as well as sustainability and adaptation ([Ahdiat, 2022](#)).

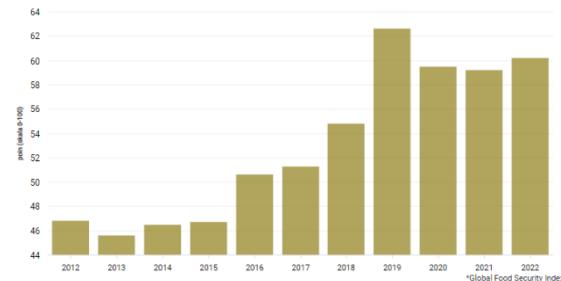


Figure 1.1 Index Ketahanan Pangan Indonesia 2022

In indicators of sustainability and adaptation, GFSI assesses state policies in adapting to climate change, protecting the environment, and managing disasters that can affect food security. The results of the assessment of all these indicators are expressed in scores on a scale of 0-100. The higher the score, the better the condition of food security. In general, GFSI assesses that food prices in Indonesia are quite affordable compared to other countries. This can be seen from Indonesia's affordability score which reached 81.4, far above the Asia-Pacific average which reached 73.4. However, the availability of Indonesia's food supply is considered not good with a score of 50.9. Nutritional quality also only got a score of 56.2, while sustainability and adaptation scored 46.3. In these three indicators, Indonesia's resilience is considered worse than the average Asia Pacific country.

Indonesia has been very successful in building agricultural infrastructure, enabling an affordable and stable supply of food," said the GFSI drafting team in their report. However, to advance food security, Indonesia needs to strengthen policies to ensure agricultural production is protected from the risks of climate change. This will help Indonesia to maintain an adequate food supply in the coming years," they continued. Indonesia must also improve food quality by increasing food diversity and nutritional standards.

The availability of food that can be accessed by various parties can help maintain national economic stability in the midst of global dynamics. Therefore, food security needs to be the focus to be improved by realizing food sovereignty and self-sufficiency.

Food security is not only a priority but also a target for community welfare and welfare distribution. The government has formulated and implemented policies to strengthen national food security. only 3 percent until the end of 2022.

In addition, the PBC credit ceiling for 2022 has also been increased to IDR 373.17 trillion and the Micro PBC ceiling (without additional collateral), which was previously above IDR 10 million to IDR 50 million, has been raised to above IDR 10 million to IDR 100 million. The government increased the PBC ceiling to IDR 373.17 trillion in 2022 so that local governments or ministries can use it both for the procurement of AEM (Agricultural Equipment and Machinery) and corporatization rather than agriculture.

Meanwhile, from an institutional aspect, the efforts made by the Government are to form the National Food Agency through the issuance of Presidential Regulation Number 66 of 2021. This institution is given authority related to the management of the Government's food reserves, the implementation of stabilizing supply and prices, strengthening the food logistics system, alleviating vulnerable food insecure areas, developing food diversification, and developing local food potential.

In addition, the government is also diversifying local food by increasing the production of corn, sorghum, sago, and cassava through land expansion and opening of new areas in order to increase production as an alternative to imported food.

The government is also developing various self-sufficient food center areas based on farmer corporations to increase efficiency and economies of scale in agricultural production through the Food Estate Program in several regions, namely Central Kalimantan, North Sumatra, East Nusa Tenggara, Central Java, Central Sulawesi, Papua, as well as the Closed Loop Program which have been developed in Sukabumi, Garut, and Sikka ([kemenkeu Dept, 2022](#)).



1.1.3. Sustainable Development Goals (SDGs) Indonesia 2022

Before the implementation of the Millennium Development Goals (MDGs) ended, the 2010 UN Summit on MDGs had formulated a post-2015 world development agenda. This was reinforced by the agreement on the document "The Future We Want" at the 2012 UN Conference on Sustainable Development. These two things were the main driver's preparation of the post-2015 development agenda agreed upon at the UN General Assembly in September 2015, namely the 2030 Agenda for Sustainable Development Goals (SDGs). The TPB/SDGs aim to maintain an increase in the community's economic welfare on an ongoing basis, maintain the sustainability of the community's social life, maintain the quality of the environment and inclusive development, and implement governance that is able to maintain an increase in the quality of life from one generation to the next.

Some of the MDG's agendas that have not been achieved will be continued in the implementation of achieving the SDGs until 2030. The SDGs are a refinement of the MDGs because:

1. The SDGs are more comprehensive, and prepared by involving more countries with universal goals for developed and developing countries.
2. Expanding sources of funding, in addition to assistance from developed countries as well as sources from the private sector.
3. Emphasize human rights so that discrimination does not occur in alleviating poverty in all its dimensions.
4. Inclusive, specifically targeting vulnerable groups (No one left behind).
5. Involvement of all stakeholders: government and parliament, philanthropists and business actors, experts and academics, as well as social organizations and the media.
6. The MDGs only target a "half" reduction while the SDGs target completing all of the goals (Zero Goals).
7. SDGs contain not only the Goals but also the Means of Implementation.

The Sustainable Development Goals (SDGs) are development that maintains an increase in the community's economic welfare on an ongoing basis, a development that maintains the sustainability of people's social life, a development that maintains the quality of the environment, and development that guarantees justice and the implementation of governance that is able to maintain an increase in the quality of life from one generation to the next. next generation. TPB/SDGs are global and national commitments in an effort to improve the welfare of society which include 17 goals, namely (1) No Poverty; (2) No Hunger; (3) Healthy and Prosperous Life; (4) Quality Education; (5) Gender Equality; (6) Clean Water and Adequate Sanitation; (7) Clean and Affordable Energy; (8) Decent Work and Economic Growth; (9) Industry, Innovation, and Infrastructure; (10) Reduced Gaps; (11) Sustainable Cities and Settlements; (12) Responsible Consumption and Production; (13) Climate Change Handling; (14) Ocean

Ecosystems; (15) Mainland Ecosystems; (16) Peace, Justice, and Strong Institutions; (17) Partnership to Achieve Goals.

Efforts to achieve the TPB/SDGs targets are a national development priority, which requires a synergy of planning policies at the national level and at the provincial and district/city levels. The TPB/SDGs targets at the national level are in line with the 2015-2019 National Medium-Term Development Plan (RPJMN) in the form of measurable programs, activities, and indicators as well as indications of financial support. TPB/SDGs are a refinement of the Millennium Development Goals (MDGs) which are more comprehensive by involving more countries, both developed and developing countries, expanding funding sources, emphasizing human rights, inclusive with the involvement of Community Organizations (CSOs), and the media, Philanthropy, and Entrepreneurs, as well as Academics and Experts.

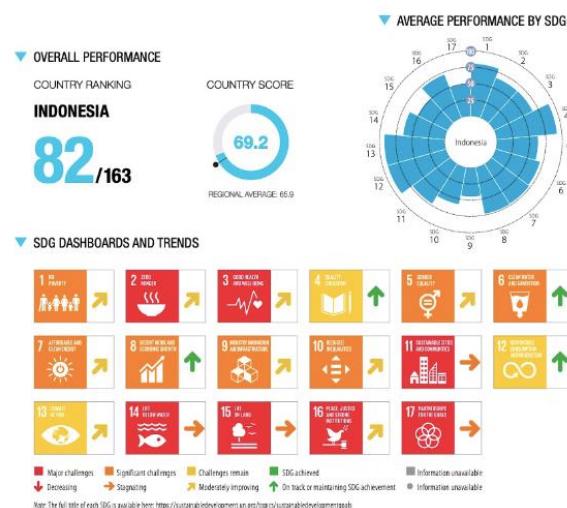
Indonesia has succeeded in achieving most of Indonesia's MDGs targets, namely 49 of the 67 MDGs indicators, however, there are still several indicators that must be continued in the implementation of the SDGs/TPBs. Some of the indicators that must be continued include reducing the poverty rate based on the national poverty line, increasing minimum consumption below 1,400 kcal/capita/day, reducing the maternal mortality rate (MMR), HIV/AIDS prevention, providing clean water and sanitation in rural areas and wide disparity in target achievement among provinces.

The Ministry of PPN/Bappenas in implementing the TPB/SDGs together with the Ministries/Institutions, Mass Organizations, Media, Philanthropy, and Business Actors as well as Academics and Experts need to formulate a TPB/SDGs Action Plan (Renaksi) as a reference for all stakeholders both at the national level (Action Plan National Action Plan/RAN) as well as at the regional level (Regional Action Plan/RAD). The TPB/SDGs Action Plan is a 5 (five) yearly work plan document for the implementation of various activities that directly and indirectly support the achievement of national and regional targets. With this action plan, it is hoped that relevant parties at the national and regional levels will have commitment and clarity in program planning and budgeting, as well as activities to achieve the SDGs/TPB targets.

To facilitate implementation and monitoring, the 17 Goals and 169 targets of TPB/SDGs are grouped into four pillars namely;

1. Pillars of social development: includes Goals 1, 2, 3, 4 and 5
2. Pillars of economic development: includes Goals 7, 8, 9, 10 and 17
3. Environmental development pillar: includes Goals 6, 11, 12, 13, 14 and 15
4. Legal and governance development pillar: includes Goal 16

Although divided into each pillar, the implementation of the four pillars is interrelated and mutually supportive.



1.1.4. Dependence On Imports Of Strategic Foodstuffs

Currently, Indonesian agriculture is still facing obstacles both from within and from outside. From within, the constraints faced are related to optimization, quality of human resources, business scale, regeneration, and dependence on imports. In addition, along with the increasing exploration of agricultural products, various natural phenomena have also disrupted the productivity of agricultural products. From the outside, the flood of imported products is a challenge for local commodities. Facing these various challenges, comprehensive and innovative development policies are urgently needed ([S. Indonesia, n.d.](#)).

Until now, Indonesia is still not free from the problem of food security. One of the root causes of the problem is the food deficit which has not been addressed. Over the past five years, the value of imports of Indonesian agricultural products has more than doubled the value of exports. However, there is good news from national agriculture. The production of a number of major food crops has increased at a higher rate than the increase in Indonesia's population ([S. Indonesia, n.d.](#)).

The Central Statistics Agency (BPS) noted that during January-November 2022, Indonesia had imported 8.43 million tons of wheat. Compared to the import volume of other strategic food commodities, Indonesia's wheat import volume is the largest ([Kahfi, 2022](#)). Indonesia depends on wheat imports from Ukraine as much as 3 million tonnes or 36 percent of its contribution to the total domestic demand ([Nurhad, 2022](#)). This data shows that the dependence value of Indonesian consumers on Wheat Flour is still relatively high.

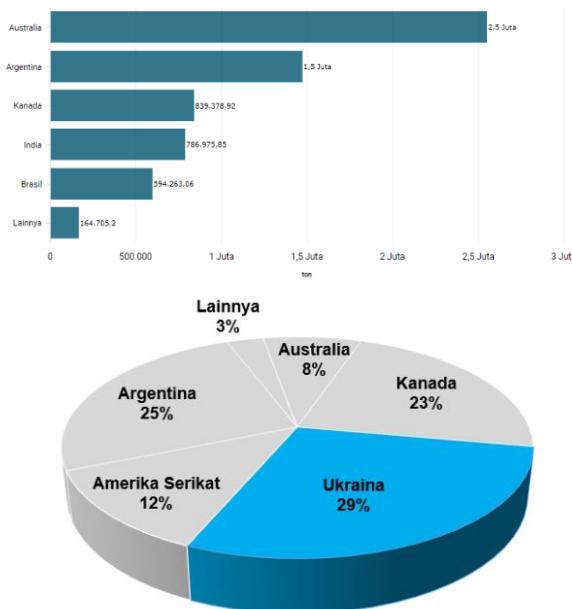
Importing food needs through international trade mechanisms is a common thing for countries in the world. It is very rare for a country to be able to meet all of its food needs independently, without supplies from other countries. Globalization and urbanization have changed the consumption patterns of people in the world.

The free trade regime has broken down trade barriers and made it easier for consumers to access imported food. The insufficiency of the local food ingredients needed is also a consideration for importing. The state argues that food imports are needed to guarantee national supply while at the same time maintaining food security.

Food imports are sensitive, especially with regard to staple foods such as wheat, rice, and corn which are the basic needs of the people. Wheat (*Triticum Aestivum*) together with corn, and rice are the most traded food commodities in the world and have strategic value. Riots and instability often occur in developing countries that have not been able to meet food needs, because people are unable to access basic needs ([Soesilowati, 2020](#)).

Food imports help national food availability but are also detrimental to local food production. Changes in the diet of Indonesian people who switch to wheat products have pushed aside local food. Concerns about the quality of imported products with dangerous ingredients, for example, because Indonesia does not have the authority to process wheat production outside the territory of the Republic of Indonesia. Indonesian authorities are lax in this oversight.

Therefore, to overcome this, it is necessary for the Government to intervene in reducing the amount of domestic wheat imports. One of the Government's efforts that can be carried out is to make food development policies in achieving food security, namely by carry out food diversification as an



alternative food ingredient that will reduce dependence on wheat consumption. Diversification or diversification of products is important to do. Especially the diversification of agricultural products to local food products to divert wheat consumption to local food consumption and reduce demand for imported wheat which has an impact on achieving food security and fulfilling nutrition based on food resources and local wisdom by developing local food in various regions in Indonesia. Therefore, the government needs to diversify local food as an alternative source of carbohydrates besides rice and wheat.

One of the local food products that can be diversified to reduce wheat imports is corn, sago, cassava, sweet potatoes, taro, and other local food products. According to Winny in the Food Security and Livestock Service Office of West Java Province (2015) said that food diversification is not just to replace rice, but how to change consumption patterns, so that people consume more and more diverse types of food.

In practice, the government is expected to be able to facilitate business diversification and food consumption through the development of food technology and industry in accordance with local resources, institutions, and culture. The development of local food diversification needs to get support from the provision of appropriate technology and information, the existence of adequate operational policy tools, and the functioning of supporting institutions such as research, counseling, and marketing, and also what is very important is the establishment of coordination among related agencies because institutionally it is not the task of the Ministry of Agriculture alone.

Formulation of Research Problems:

1. How is the practice of cassava production farming and marketing systems in the perspective of sustainable development (SDGs) in Indonesia, Nigeria, and Zambia?
2. What is the practice of village development as a center for food production in the perspective of sustainable development (SDGs) in Indonesia, Nigeria, and Zambia?
3. What are the practices and strategies for overcoming dependence on strategic food imports, especially wheat and sugar in Indonesia, Nigeria, and Zambia?
4. What is the empirical model for utilizing cassava products in building food security and reducing dependence on imported strategic food from the perspective of Sustainable Development Goals (SDGs) in Indonesia, Nigeria, and Zambia?
5. What is the recommended model for utilizing cassava products in building food security and reducing dependence on imported strategic food ingredients from the perspective of Sustainable Development Goals (SDGs) in Indonesia, Nigeria, and Zambia?

1.2. Research Purposes

In accordance with the formulation of the research problem, the following research objectives are stated as follows:

1. This study aims to analyze and describe the practices of using cassava in Indonesia, Nigeria, and Zambia as a local food crop in the face of vulnerability to food security at the domestic and world levels from the SGD's perspective. The results of the research findings will be used as study material that is useful for each country in its strategies for dealing with food security. Cassava has been proven to have a comparative advantage compared to several other types of food crops. However, in practice, the use of cassava is faced with complex challenges related to technical and non-technical issues involving policies and bureaucracy within a country, including the limitations of society as farmers and processed cassava production actors in terms of; skills, technological innovation, marketing, and sales. For Indonesia, Nigeria, and Zambia, cassava has a strategic role in creating local resource-based food security. The strength of food security will have leverage on food self-sufficiency, where a country can live independently and not depend on the outside world. This is part of the United Nations Sustainable Development Goals (SDGs) program. How sustainable village development can support cassava-based agriculture and food processing

industries so that they can contribute to the socio-economics of village communities in a fair and equitable manner is the main study in this research. This study places community-based economic studies as the main objective of village development. As well as degrading the business economic system from the perspective of capitalism and oligarchy which is no longer in accordance with the UN SDGs program.

2. This study aims to analyze and describe village development as food production centers from the perspective of sustainable development (SDGs) in Indonesia, Nigeria, and Zambia. It is undeniable that the village plays a role as the main producer of food products in a country. However, the socio-economic community has not been able to develop as expected. It is even more ironic that the village is the main contributor to the poverty rate, especially in areas that have marginal agricultural land resources, even though the village is a center for food production, the presence of dry (marginal) land is utilized as a cassava production plant with a harvest period of -+ 10 months. However, farmers do not have sufficient knowledge of cassava farming technology, which results in low yields and low per capita income of farmers. Moreover, farmers in village communities have not been equipped with knowledge of cassava-based food processing technology which has economic value. Field findings show that almost all cassava yields are purchased by middlemen and deposited in large industrial factories that process tapioca or bioethanol. Because the village community does not have the ability to process their cassava crops. With the innovation of cassava-based food technology and the involvement of stakeholders, rural communities can play a role as producers of cassava-based food industries. This condition will degrade the dominance of large industries towards empowering small communities as actors in MSME production at the village level. This research has determined the driven-by-development hypothesis, placing the position of the village as a center for food production, prioritizing SDG's village development, and placing social capital as the key to success in building a just and equitable people's economy. Village community involvement is not only in the agricultural sector but also in the food processing industry sector. So it can significantly reduce the poverty rate in the village. The dual role of society in agriculture and the food processing industry will help strengthen a country's food security. It is certain that the village will be the main support in a country's food security.
3. This study aims to analyze and describe practices and strategies in dealing with vulnerabilities to food security in Indonesia, Nigeria, and Zambia, especially in dealing with dependence on strategic food imports, namely wheat, and sugar. Currently, the world is facing a complicated problem with war between countries (Russia-Africa). Of course, this will have an extraordinary effect on countries that depend on wheat for food, especially Indonesia, Nigeria, and Zambia as countries that have a high dependence on wheat imports. This condition needs to get special and serious study. This research provides a study of solutions to these problems. A food diversification strategy based on local resources is a reference for countries to be able to escape dependence on wheat imports. Cassava is a strategic commodity and mainstay in the wheat substitute food diversification strategy. Various studies and empirical findings have proven that Bio-Fermented Cassava (BFC) in cassava flour is able to shift the function and presence of wheat flour, has a high comparative advantage, and can act as a food that produces healthy and nutritious nutrition for consumers. Land resources and tropical climates in Indonesia and countries in Africa are very compatible with various superior varieties of cassava plants. This is a natural potential that must be managed properly and correctly. Through a sustainable agricultural governance system and innovation in cassava-based food processing technology, cassava will become a major source of food security in Indonesia, Nigeria, and Zambia. Cassava can be converted as a strategic food derivative, namely; 1. BFC (Bio fermented Cassava) flour which has almost the same function and uses as wheat flour, in several ways has significant advantages compared to wheat flour, namely gluten-free and low protein, can be produced in a simple or large industrial way; 2. Liquid or dry sugar as a substitute for cane sugar, has a sweetness of 2.5 compared to cane sugar, dissolves easily in water, is low in carbohydrates, and is free of gluten. It can also be produced in a simple traditional way or in a large industrial way; 3. Cassava peel waste can be used as the main raw material for environmentally friendly bioplastics. This study makes cassava a strategic alternative as the main antidote to the country's dependence on wheat.

4. This study aims to analyze and describe an empirical model of using cassava products in building food security and reducing dependence on imports of strategic food ingredients from the perspective of Sustainable Development Goals (SDGs) in Indonesia, Nigeria, and Zambia. The results of this study are the results of empirical findings in each country involved in this study. Furthermore, it will be used as a theoretical and practical study in this research. This empirical model is an actual projection of how a country implementing cassava production and marketing management can support the SDGs program. As well as showing how much governance that runs can contribute to socioeconomic development that is equitable and just in a country.
5. This study aims to recommend a model for building food security and reducing dependence on imports of strategic food ingredients from the perspective of Sustainable Development Goals (SDGs) in Indonesia, Nigeria, and Zambia.

1.3. Research Benefits

This research was carried out on the basis of the consideration that there is a value that is beneficial to all parties in all circles. As we know that the world is currently facing a global food security crisis. This is a call for all food-producing countries to be able to play an active role and contribute to the country and the world.

In the context of food security initiated by the United Nations (UN) Secretary-General António Guterres called for strong action and investment to enhance local food systems. The message comes when nearly a billion people in the world do not have enough food. The United Nations warns that hunger is on the rise in the world driven by conflict, displacement, climate change, and the economic impact of COVID-19. Among those most at risk are refugees and those forced to flee within their own countries of conflict ([V. Indonesia, 2021](#)).

The United Nations admits the goal of eliminating world hunger by 2030 is unlikely to be achieved. Guterres said that almost 40 percent of the world's population, namely 3 billion people, are unable to meet their needs for healthy food. This, he said, causes malnutrition, both in the form of malnutrition and obesity which is growing widely in the world.

"The pandemic has left an additional 140 million people without the food they need. At the same time, the way we produce, eat, and dispose of food is taking a toll on our planet. It puts pressure on our natural resources, climate, and natural environment, and costs us trillions of dollars a year."

With a growing population, expected to reach 10 billion by 2050, we need to feed the world's population and nourish the planet. It is not limited to emergency response, but also builds long-term resilience and transforms the way we produce and consume food.

To accelerate efforts to achieve the SDGs, Indonesia is committed to supporting joint efforts to transform the global food system." In this regard, there are at least three main strategies that are a priority for the Government of Indonesia. First, creating a sustainable agricultural sector that is inclusive, resilient, and sustainable. Second, provide special support for small-scale farmers. Third, increasing international cooperation and multi-stakeholder partnerships.

The United Nations (UN) in Indonesia, in particular the Food Security and Nutrition Working Group, which consists of FAO, IFAD, UNFPA, WFP, WHO, and UNICEF, is concerned about the impact of the COVID-19 pandemic on the nutritional status of those most affected, especially those from poor and vulnerable families. This Joint Statement was issued by the United Nations Leaders in Indonesia and is intended to provide recommendations on a series of prioritized actions and policy guidelines to support food security and nutrition in the context of the COVID-19 pandemic. The actions described in this statement cover six themes: healthy food; mother, infant, and toddler nutrition; management of malnutrition; micro nutrition supplementation; provision of nutritious food for school children, and nutritional surveillance ([UNICEF - Noorani, 2020](#)).

This research has implications for the usefulness of supporting the United Nations in the world food security program. Demonstrate empirical findings to the countries involved in this study. Providing the best recommendations for the ongoing noble goals in efforts to world food security which have implications for humanity. This has implications for the establishment of sustainable harmonious cooperation among food-producing countries that can contribute to the development of world food security. As well as supporting the realization of SDGs in accordance with the expectations of each country.

CHAPTER II

LITERATUR REVIEW

2.1. Previous research

Previous research presented in this section aims to compare the research that will be carried out with a number of studies that have been carried out by other people or parties. Things emphasized in previous research include: the concepts used; research approaches and methods; research results and their relevance to the research to be conducted.

1. **Abass (2008)**, Coordinator, East and Southern Africa Cassava Value ChainInternational Institute of Tropical Agriculture, Carolyn House, 26 Dingwall Road, Croydon CR9 3EE, UK. Conducted a study entitled Recent Developments In Cassava Processing, Utilization And Marketing In East And Southern Africa And Lessons Learned; Cassava is one of the most important food crops in ESA. Traditionally used in many forms of preparation, the most common are chips and flour. Traditional processing methods produce poor-quality products; thus creating major challenges for the utilization and marketing of cassava. Recently, national agencies, NGOs, and development agencies have given priority to small-scale agricultural processing and value addition of cassava. New processing technologies to convert cassava into medium-shelf staple industrial raw materials such as high-quality cassava flour, chips, and starch were introduced at the project level. Acceptance of cassava starch, chips, and high-quality cassava flour (HQCF) as a substitute for imported raw materials in domestic industries has begun to emerge. Although there is some expression of interest in investment by the private sector, their involvement in small to medium-scale processing and value addition is highly dependent on significant institutional support or donor financing of processing projects. There is still a lack of private sector investment in large-scale processing plants of the type that are being developed in West Africa.
2. **Lamboll et al., (2018)**, Natural Resources Institute of the University of Greenwich, Chatham, UK, Federal University of Agriculture Abeokuta, Abeokuta, Nigeria, Natural Resources Institute of the University of Greenwich, Chatham, UK. Conducted a study entitled: Shaping, Adapting and Reserving the Right to Play Responding to uncertainty in high-quality cassava flour value chains in Nigeria: The purpose of this research: is to explain why the high-quality cassava flour value chain (HQCF) in Nigeria has not performed as well as which are expected. The specific objectives are to: analyze the important sources of uncertainty affecting the HQCF value chain; explore stakeholder strategies for responding to uncertainty; and highlight the implications of various adaptation strategies for equity and the environment in value chain development. Design/methodology /approach: The author uses a conceptual framework based on complex adaptive systems to analyze the slow development of the HQCF value chain in Nigeria, with a particular focus on how key stakeholders have adapted to uncertainty. This paper is based on information from secondary sources and gray literature. In particular, the authors draw heavily on project documents from the Cassava: Adding Value for Africa Project (2008 to present), which was funded by the Bill & Melinda Gates Foundation, and on the author's experience with this project. Findings: Policy changes; HQCF demand and supply; availability and price of cassava; Energy supply and cost are major sources of uncertainty in the chain. Researchers and governments have formed the chain through technology development and policy initiatives. Farmers adapt by selling cassava to rival chains, while processors adapt by switching to rival cassava products, reducing energy costs and vertical integration. However, with the supply uncertainty of HQCF, the milling industry has the right to play. Vertical integration offers manufacturers a potential solution to HQCF supply uncertainties but raises questions about the social and environmental outcomes in the chain. Research limitations/implications – The use of a complex adaptive systems framework helps to explain the development of the HQCF value chain in Nigeria. The authors identify sources of uncertainty that are critical in constraining value chain development, including changes in the policy environment, supply and demand for HQCF, availability and price of cassava, and availability and price of energy

for flour processing. Value chain actors have responded to this uncertainty in different ways. Analyzing these responses in terms of adaptation provides useful insight into why value chains for HQCF in Nigeria have been so slow to develop. Social implications: Recent developments show that the most effective strategy for industrial milling to reduce uncertainty in the HQCF value chain is through vertical integration, producing cassava root and flour itself. This raises concerns about equity. Until recently, it had been assumed that value chain development for HQCF could combine growth and equity objectives. The validity of this assumption now seems open to question. How far is the development of this HQCF value.

3. **Mojono et al., (2020). Program Studi Teknologi Industri Pertanian, Fakultas Pertanian, Universitas Trunojoyo Madura.** Conducted a research study entitled: Local Food Education Based on Alternative Carbohydrates in Tanjung and Sawahan Villages. Cassava is one of the leading local agricultural products in Lembang District, West Java. However, this great potential has not been utilized optimally due to the lack of skills and knowledge of the local population to produce higher economic products made from cassava. Most of the population only uses it as a raw material for making traditional food with relatively low economic value. One alternative to cassava processing that can increase higher profits is producing modified cassava flour, best known as mocaf (modification of cassava flour). This training aims to provide information and skills to residents about mocaf and its process, as well as offer alternatives to using cassava to get higher profits. The target of this training is a number of housewives who are members of the Sharia Microfinance group are domiciled in the Lembang sub-district. This training is organized into two sections, the first section provides general information about mocaf, and the second section demonstrates and practices how to make fresh cassava mocaf and some foods made from mocaf. The results show that the audience responds very well to the training. Making mocaf from cassava is new information for them. All the spectators succeeded in practicing how to make mocaf. In conclusion, processing cassava into mocaf can be an alternative and potential business for local residents in the Lembang sub-district.
4. **Cahyanto et al., (2018). Fakultas Sains Dan Teknologi, UIN Sunan Gunung Djati Bandung.** Conducted a research study entitled: Cassava is one of the leading local agricultural products in Lembang District, West Java. However, this great potential has not been utilized optimally due to the lack of skills and knowledge of the local population to produce higher economic products made from cassava. Most of the population only uses it as a raw material for making traditional food with relatively low economic value. One alternative to cassava processing that can increase higher profits is producing modified cassava flour, best known as mocaf. This training aims to provide information and skills to residents about mocaf and its process, as well as offer alternatives to using cassava to get higher profits. The target of this training is a number of housewives who are members of the Sharia Microfinance group and are domiciled in the Lembang sub-district. This training is organized into two sections, the first section provides general information about mocaf, and the second section demonstrates and practices how to make fresh cassava mocaf and some foods made from mocaf. The results show that the audience responds very well to the training. Making mocaf from cassava is new information for them. All the spectators succeeded in practicing how to make mocaf. In conclusion, processing cassava into mocaf can be an alternative and potential business for local residents in the Lembang sub-district.
5. **Pitaloka et al., (2022). Program Studi Manajemen Pertahanan, Universitas Pertahanan.** Conducted a research study entitled: Management of Food Security Through the Food Diversification Program in North Sumatra in the Context of Supporting National Defence. The problem of food security is a very important issue, where food security indicates the availability of access to food sources to be able to meet people's food needs. Diversification of food consumption is an alternative way that can be done by the community to obtain various sources of carbohydrates from plant species other than rice. This paper was written with the aim of analyzing food security management through a food diversification program carried out by the North Sumatra Food Security and Animal Husbandry Office, and at the North Sumatra Bulog Perum as additional information regarding its readiness to record locally owned food and modify its warehouses so that it can store various types of food.

local food. This paper was written based on the results of qualitative research using a phenomenological research design. In this study, the data collection process was carried out using interviews, observation, and documentation studies. The data obtained were then analyzed through four stages, namely data collection, data condensation, data presentation, and drawing conclusions or verification. The results showed that the North Sumatra Regional Government's management of food security in meeting the food needs of the people consisted of 4 functions, namely planning food security by means of local food processing in increasing public interest in local food consumption, organizing food security by means of the government and the community together in increasing local food production and consumption, implementing food security by increasing the availability of food sources of non-rice carbohydrates and developing technology, as well as monitoring food security by preparing maps of food security and vulnerability. Constraints faced by the food diversification program in North Sumatra, namely the conversion of agricultural land to non-agriculture, irrigation problems, and the community's dependence on rice is still very high.

6. **Apriliyanto et al., (2022), Program Studi Agroindustri, Politeknik Banjarnegara, Indonesia.** Conducted a research study entitled: Application of Cassava Processing Technology into Mocaf Flour as an Effort to Support Mocaf Independent Village, Pesangkalan Village, Banjarnegara Regency. The Karunia Karunia Village of Pesangkalan Banjarnegara MSME group is an industrial partner that has great cassava potential to be developed into mocaf flour. Limitations of technology, knowledge, and skills are one of the problems faced. The aim of the activity is to help improve the welfare of cassava farmers through the application of appropriate technology, increase knowledge and skills about processing mocaf flour and its derivatives, and strengthen startup development cooperation (strengthening MSMEs) with competitiveness. The methods used are community education, training, and mentoring. The results of the activities are as follows; (a) application of appropriate technology in the form of Food Grade Dehydration machines, sieving machines, chopper machines, kneading machines, and steam mocaf noodle machines, (b) flour products and mocaf noodles, (c) packaging innovations for mocaf noodle products, (d) standard documents mocaf processing operational procedures. The conclusion of the activity has an impact on increasing the knowledge and skills of cassava farmers by 85% from the previous condition, increasing the selling value of mocaf noodle products, and strengthening university cooperation with industrial partners.
7. **Ikhram & Chotimah, (2022), Program Studi Kesehatan Masyarakat Fakultas Ilmu Kesehatan Universitas Ibn Khaldun Bogor.** Conducting a research study entitled: The government is starting to look at local food product innovation as an alternative to driving the economy and diversifying local food. The value of an innovative product in this era is no longer determined by raw materials or production systems like in the industrial era but by the use of creativity and innovation. Management of cassava is very appropriate for processing innovation and diversification of local food, considering that the uses and benefits of cassava are quite extensive and because of the potential in the village of Gunung Bunder 2 there are many cassava plants that are not well developed. There are many benefits and uses of cassava to be further developed in cassava production center areas. Community empowerment activities in Gunung Bunder 2 village, namely making food innovations from cassava to cassava noodles for community food diversification. The activity started with the introduction of food innovation products to demonstrations of the manufacture of processed food innovation products.
8. **Partini & Sari, (2022), Program Studi Agribisnis Universitas Islam Indragiri.** The research was carried out with the title: Regional Food Security Development Policy. Food security is a condition of fulfilling food from the aspects of availability, affordability, quality, and safety as well as sustainability. The writing of this article was done by conducting a literature study. Local food is a solution to the food problem because (a) in terms of production, local food grows scattered and is quite abundant throughout Indonesia so that its availability can be guaranteed, (b) the local food system is more accessible because of the short distribution system, (3) short distribution, the quality of local food ingredients are proven to have nutritional content that is not inferior to rice or wheat, (d) local food grows according to local agroecology so that its sustainability is guaranteed.

Several local foods that have the potential to be developed include sago, corn, and cassava. Conclusion: Aspects of food security can be fulfilled by local food. From the production side, local food ingredients grow scattered and are quite abundant in all parts of Indonesia so that their availability can be guaranteed, local food systems are easier to reach because of the short distribution system, and local food ingredients are of good quality because they have good nutritional content. content that is not inferior to rice or wheat, local food grows in accordance with local agroecology so that its sustainability is more guaranteed. Several local foods that have the potential to be developed include sago, corn, and cassava.

9. **Rahman & Awerije, (2016). School of Geography, Earth and Environmental Sciences, University of Plymouth, Drake Circus, Plymouth, United Kingdom.** Conducted a research study entitled: Exploring the Potential of cassava in promoting agricultural growth in Nigeria. Cassava is one of the main food crops in Nigeria, with many uses ranging from human consumption to industrial applications. This study explores the potential of cassava in Nigerian agriculture based on an overview of cassava policy developments; analyzes trends in planted area, production, productivity, and real prices of cassava and other competing crops for the period 1961–2013; identifies sources of production growth; and checking production constraints at the local level based on a survey of 315 farmers/processors and 105 marketers from Delta Negara. The research results show that several policies and programs have been implemented to jointly develop the mixed-yield cassava sector. Although cassava productivity grew by 1.5 % pa (p.a.) during the program's post-structural adjustment period (1993–2013), the real price fell by 3.5% p.a. Yield effect is the main source of production growth, contributing 76.4% of total growth followed by area effect (28.2%). The cassava sector is constrained by inadequate market infrastructure, processing facilities, lack of information, and local price volatility. Broad technological diffusion for better selection of tropical cassava and investments in market and marketing infrastructure, processing technology, irrigation/water supply, and information dissemination are recommended to enhance the potential of the cassava sector to support agricultural growth in Nigeria.
10. **Gayatri et al., (2022). Universitas Indraprasta PGRI, Jakarta.** Conducted a research study entitled: Poverty Alleviation Strategies in Increasing Community Income Through Potential Local Food Security in the Karanggulung-Karangbolong Geopark Area, Kebumen Regency. By exploring the potential for local food security, namely cassava or cassava which is used as food diversification, namely as a substitute for the staple ingredient rice which is processed so that it has more economic value, it can help alleviate poverty because it increases people's income. The purpose of this study was to analyze poverty alleviation strategies in increasing people's income through the potential for local food security in the Karanggulung-Karangbolong Geopark area, Kebumen Regency in a qualitative research type with a descriptive approach method. Observations and surveys using an integrative approach and direct interviews with cassava-processed business actors as informants in six regions (villages) of four districts, namely: 1) Buayan District in Banyumudal Village (ranging cassava/ eyek-eyek); 2) Kuwarasan District in Lemahduwur Village (lanting) and Tambaksari Village (lanting); 3) Sempor District, namely in Pokembang Village (brekele) and Kenteng Village (brekele); and 4) Kebumen District in Panjer Village (leper). The results of the research by drawing conclusions so as to get a strategy for poverty alleviation in increasing people's income through the Community Empowerment Program and Strengthening MSME Actors, in the form of 1) Skills-based HR development; 2) Development of local food security potential through processed cassava; and 3) Development of processed cassava products.
11. **A. B. Abass et al., (2018), International Institute of Tropical Agriculture, Mikocheni B, Dar es Salaam, Tanzania; bInternational Institute of Tropical Agriculture, Ibadan, Oyo State, Nigeria; cDepartment of Food, Agriculture and Bioengineering, Kwara State University Malete, Ilorin, Kwara State, Nigeria; dProgramme Management Department, International Fund for Agricultural Development, Rome, Italy; eEngineering Department, Federal Institute of Industrial Research, Oshodi, Lagos, Nigeria.** Conducted a research study entitled: Can food technology innovation change the status of a food security crop? A review of cassava transformation into "bread" in Africa. The countries of Africa had hitherto been heavily dependent on food imports seeking new

approaches to increasing the utilization of local crops. This study uses the case of cassava to advance scientific and technological innovation, supported by public investment and appropriate policies, offers opportunities for better utilization of local crops, promotes agro-industrial development, reduces import expenditures, and provides much-needed (bread) income for small farmers. This review highlights areas that require further research to achieve sustainable development of processing raw cassava tubers into cassava flour for bread making. The added value of perishable crops such as cassava, through processing, has great potential to spur industrialization, improve household food security, increase incomes, create healthy jobs, and reduce poverty. Case studies of cassava flour processing technology in Africa, particularly in Ghana, Nigeria, Tanzania, and Uganda, provide evidence of how scientific innovation can change African agriculture and change the sub-trade status of a systemic crop to a commercial one. Collaborative research in food science, engineering, and economics can generate technology and market innovations that can serve as springboards for the commercialization and development of agro-industries. However, an additional lesson from his case studies is that simply coming up with a promising technology is not enough to change African agriculture or crop status. Researchers must continue to address emerging constraints that may be faced by the next generation of technology users, build capacity, and continue to provide technical support until the technology matures and can attract private sector investment. Perhaps the most important lesson to be learned is the influence of policy innovations and other financial incentives as catalysts for agro-industrial development. This is well exemplified in the case of Nigeria, where innovative policies and strategic institutional arrangements were used to increase private sector investment, leading to a rapid increase in demand for cassava flour resulting from the adoption of cassava processing innovations. This contrasts with the case of cassava flour in Uganda, Zambia, Mozambique, and Madagascar, despite the introduction of technological innovations, there have been little or no policy innovations and other incentives aimed at supporting the uptake of cassava flour on a large scale. Evidently, appropriate policies are needed to link national agricultural research and extension systems with private sector participants to support the commercialization of technologies generated through research. Finally, there may be a reduction in import spending on a national scale through the substitution of imported food and raw materials with locally-grown crops.

12. Otekunrin & Sawicka, (2019). Department of Agricultural Economics and Farm Management, Federal University of Agriculture, Abeokuta (FUNAAB), Nigeria 2Department of Plant Production Technology and Commodity science, University of Life Sciences in Lublin, Lublin, Poland. Conducted a research study entitled: Cassava, A 21st Century Staple Crop: How can Nigeria Harness its Enormous Trade Potentials? Nigeria has enormous potential in the agricultural sector, particularly in the cassava sub-sector. This paper examines the case of production, consumption, and utilization of sava along its global value chain. This paper focuses on the trade prospects of Nigeria and cassava and how it can compete well with other exporting countries while examining its prospects, development strategy, and challenges faced by the cassava subsector recently. Cassava production in Nigeria is at its highest level based on an estimated value of 59 million and accounted for 20.4% of the world's share in 2017. Egypt is the only African country ranked in the top ten exporting countries. the world's largest cassava exporter with an export value of \$20.7 million and also the highest cassava exporter in Africa although it is not among the highest cassava producers in Africa and the world. Cassava is undeniably the most important root crop in Nigeria when it comes to guesswork. As the world's largest producer of cassava, Nigeria recorded a small total export value (\$1.25 million) in comparison to other leading producers such as Thailand with the highest export value of \$1.19 billion in 2017. Nigeria and other African countries are yet to capitalize on great trade opportunities in the cassava sub-sector when compared to other regions (such as Asia and North America) in the world. Cassava is considered the second most important staple crop in Nigeria after Corn. Nigeria as the number one producer of cassava in the world has enormous export potential to compete profitably in the cassava export market. There is no doubt that reduced cassava products in Nigeria witnessed continuous growth for about 10 years, recording a total production of 59 million tons with a 20.4% share of world cassava production in 2017. Reducing Nigerian cassava exports with other producing countries in Africa and globally, It

is sad to know that Nigeria has not capitalized on the export potential of the cassava sub-sector (starch, flour, ethanol, and animal feed) like other leading countries as Egypt (ranked among the top 10 cassava exporters in 2017) and Thailand ranked number one with estimated total value export \$1.19 billion while Nigeria had a meager \$1.25 million in 2017 export value.

13. **Halake & Chinthapalli, (2020)**, Department of Biology, College of Natural and Computational Sciences, Bule Hora University, Bule Hora, P.O. Box 144, Ethiopia. 2Department of Biology, Biotechnology Unit, College of Natural Sciences, Arba Minch University, Arba Minch, P.O. Box 21, Ethiopia. Conducted a research study entitled: Fermentation of Traditional African Cassava Based Foods: Microorganisms' Role in Nutritional and Safety Value. Cassava is a drought-tolerant plant that grows in tropical and subtropical regions. Over the decades African communities have developed their processes for fermenting and using cassava. Ikivunde, Inyange, kivunde, Mokopa, Chikwangue, Meduame-M-bong, Cossette, Gari, Attiéché, and Agbelima are mainly fermented cassava-based food products from east, west and central Africa respectively. Lactic acid bacteria, yeast, and fungi are the main microorganisms involved in the fermentation of cassava-based food products and contribute to the production of biochemical compounds such as folate, several organic acids, volatile organic compounds, and other compounds. The role of various microorganisms in food preservation, increasing protein content, aroma, increasing taste, decreasing anti-nutrients, and reducing cyanogens is an increase in the impact of the fermentation process. The African community has developed several cassava-based food production processes. There are differences in the production of cassava-based foods from region to region and also diversity in the associated microorganisms in fermented cassava. These microorganisms are involved in fermented cassava in food preservation, development of taste and aroma, protein enrichment, antinutrients, and cyanide content reduction. In the future, to maintain its quality, it is important to standardize cassava fermentation process methods.
14. **Bayata, (2019)**. Ethiopian Institute of Agricultural Research, Jimma Agricultural Research Center, Department of Natural Resource Management, Jimma, Ethiopia. Undertook a research study entitled: Cassava is emerging as a dominant staple food, especially in the humid and sub-humid tropics of many African countries. It has high nutritional value and is used by people where food scarcity is detrimental and people suffer from nutritional deficiencies. Cassava roots and leaves are used as a source of carbohydrates, proteins, vitamins, and minerals. Cassava also contains several anti-nutrients which affect human health when ingested in high amounts. However, proper cooking and soaking overnight can detoxify anti-nutrients before they are used for nutritional purposes. Biofortification, which increases the protein, mineral, and vitamin content of cassava, is also used to minimize the anti-nutritional and carcinogenic content of the plant. The protein content of cassava can be increased by fortifying the flour with other plants that have a high protein content. This review was conducted to investigate the importance and contribution of cassava in securing food scarcity and its surroundings and mineral composition because it is enriched with other ingredients that are different from flour. Cassava is a source of carbohydrates, vitamins, and protein. Minerals (micro minerals and macro minerals) are not evenly distributed throughout the plant. Some valuable nutrients accumulated in plant roots, carbohydrates, and others accumulated in plant leaves, proteins, and vitamins. Cassava produces cyanogen, which is toxic to humans and animals when consumed in high quantities and processing removes the cyanogen and anti-nutrients. However, processing systems can reduce some of their valuable nutritional value. Different processing methods reduce cassava's nutritional value and cyanide content, especially when the skin is removed.
15. **Alamu et al., (2019)**. International Institute of Tropical Agriculture (IITA), Southern AfricaHub, P.O. Box 310142, Lusaka, Chelstone, Zambia International Institute of Tropical Agriculture (IITA), 7th Floor,Grosvenor House, 125 High Street, Croydon CR0 9XP, England Zambia Agriculture Research Institute (ZARI), Mt Makulu, PMB 7, Chilanga, Lusaka, Zambia.Zambia Agriculture Research Institute (ZARI), PO Box 710129, Mansa, Zambia. Conducted a research study entitled: Evaluation of cassava processing and utilization at household level in Zambia. Cassava (*Manihot esculenta* Crantz) is the second most consumed staple food crop after maize in Africa and is the main food

security crop after maize in Zambia. A study aimed at analyzing the processing and utilization of cassava at the household level in Zambia has been carried out. The survey was conducted in five districts (Kasama, Samfya, Mansa, Serenje, and Kaoma). Naaire structured questions were administered to a total of 300 randomly selected households. The percentage of households involved in processing is 4.3% for income, 34% for consumption, and 58% for both income and consumption. Levels of awareness and use of better cassava processing methods across districts are still low, ranging between 20% and 26%. The only better processing equipment that farmers (69%) often use is the hammer mill. Product development and utilization are still at a low level (range between 9% and 18%) in Zambia. Cassava is mostly consumed in its traditional form as a leaf, as a snack, and to prepare nshima (cassava flour alone or a mixture of cassava flour and corn, called corn-cassava nshima). Limited knowledge about the diversity of cassava products and the low use of better equipment is a challenge for companies producing confectionery products which can lead to an increase in cassava consumption. There have been no significant changes over the last two decades in the processing and development of cassava products, which could spur cassava development. This calls for more efforts to support Government policies in diversifying the use of crops and diversifying crops in order to create wealth.

16. (Ogunyinka & Oguntuase, 2020). [Natural Resources Institute, University of Greenwich, Medway Campus, Chatham, Kent ME4 4TB, United Kingdom](#). [2CAVA2, Federal University of Agriculture, Abeokuta, Ogun State, Nigeria](#). Conducted a research study entitled: Analysis of cassava production and processing by various groups in support of the cassava value chain in the southwest of Nigeria. The aim of this study was to analyze cassava production and processing in the 5 highest cassava-producing states in southwest Nigeria. The multistage sampling procedure was used to select 136 smallholder cassava producers in the study area. Primary data was collected using a structured questionnaire and scheduled interviews while data were analyzed by descriptive and inferential statistics. The findings reveal that, in the study area, male family heads dominate (67%), the average household size is six while the main occupation of the household head is agriculture. The average yield per hectare for superior varieties is around 18 tonnes and for local varieties is around 10 tonnes. The average price of one tonne of fresh cassava (FCR) is US\$55.5. There is no significant relationship between the socio-economic characteristics of smallholder farmers and the varieties planted but there is a significant relationship between the varieties planted and processed products. It is therefore suggested that while farmers continue to grow cassava for food locally, they should grow better varieties to increase yields while also targeting the industrial use market to increase revenue from selling fresh cassava tubers.
17. (Masamha et al., 2018). [University of Pretoria, Department of Anthropology & Archaeology, P Bag X20, Hatfield, Pretoria, South Africa](#) b [International Institute of Tropical Agriculture, East Africa Regional Hub, Plot No. 25, Mikocheni Light Industry Area, Mwenge-Coca Cola Road, Mikocheni B.P.O. Box 34441, Dar es Salaam, Tanzania](#) c [Bindura University of Science Education, Department of Environmental Science, P. Bag 1020, Bindura, Zimbabwe](#). Conducted a research study entitled: Mapping cassava food value chains in Tanzania's smallholder farming sector: The implications of intra-household gender dynamics. Gender-based mapping of the structure and coordination (function) of the traditional cassava value chain is very important for marginalized groups such as women in rural development. In contrast to global high-value chains, traditional food value chains and their associated gender relations and power dynamics within households have received little attention. We conducted a cross-sectional study in Kigoma, Mwanza, the coastal region, and Zanzibar Island in Tanzania. Data was collected through structured interviews conducted with 228 farmers, combined with key informant interviews, direct observation, repeated household visits, and a literature review. The results of the study revealed that there is a weak link in the cassava value chain, which is very high based on gender. While the production and processing chain nodes that start from the villages are dominated by women and children, women are not well integrated into high-value nodes such as urban marketing and cross-border trade which are dominated by men. The transportation of cassava to countries with highly creative markets is also dominated by men. Cassava processing is also carried out at the household level in small-scale cooperatives, with most of this work being done by women. Supporting agencies were found to be involved in

supplying planting material, training, and providing processing equipment. In general, men play an important role in resource control, marketing, and revenue. In conclusion, mapping the cassava value chain can help identify pathways to understanding poverty, improving food security, building capacity, reducing gender inequality, and increasing women's participation in marketing and income control in the cassava value chain.

18. Reincke et al., (2018), Leibniz Centre for Agricultural Landscape Research (ZALF), Eberswalder Strasse 84, 15374 Müncheberg, Germany 2 TU Munich Campus Straubing for Biotechnology and Sustainability, Petersgasse 18, 94315 Straubing, Germany 3 Crop Production Ecology, Swedish University of Agricultural Sciences (SLU), Ulls väg 16, 75007 Uppsala, Sweden. Conducted a research study entitled: Due to cassava's beneficial characteristics such as robustness and versatility for various uses, cassava can have a major role in contributing to local food security. The aim of this study was to find out whether and how cassava cultivation benefits smallholder farmers in the Dodoma and Morogoro regions, in Tanzania. In addition, this study assesses the main factors that support or threaten the food security of smallholder households in the survey area and analyzes how cassava cultivation can work against them. We apply a mixed methods approach. Quantitative data was provided by the Trans-SEC project's comprehensive household survey, and qualitative data was collected by conducting semi-structured interviews. To approximate the complexity of our selected definition of food security, three approaches to measuring household food security are applied. These components include food availability, food access, and food utilization. In addition, the dependent variables for the regression model were constructed and multivariate analysis was run. The results show that cassava contributes to food security in households, but achieving food security through cassava cultivation is constrained by several factors, including pests, lost markets, poor processing, social perceptions, and lack of knowledge. In addition, other factors affecting food safety in the study area were discovered, uncovering some of the local roots of food insecurity and becoming the basis for further research and action on how to improve food security.
19. (Mahdiyah et al., 2022). Program Studi Tata Boga, Fakultas Teknik Universitas Negeri Jakarta Program Studi Psikologi, Fakultas Pendidikan Psikologi Universitas Negeri Jakarta. Conducted a research study entitled: Community Empowerment Based on Local Cassava Food Processing Technology in Churros and Éclair Products (Community Empowerment Based on Food Processing Technology Local Cassava on Churros and Éclair Products). Churros and éclairs have almost the same type of dough and are easy to work with. Currently, churros and éclair are snacks that are trending and much-loved by the public, especially teenagers and children. Thus, churros and éclair are snacks that have a great opportunity to be featured as business products with great potential. Both use the main ingredient in the form of wheat flour, which until now is still an imported product. Optimum utilization of local food ingredients to substitute imported food is a government program that we must support and assist in its realization. Meanwhile, cassava is one of the local food ingredients found in almost all parts of Indonesia. In this case, by using science and technology, cassava can be more advanced and processed into flour which can later function as a substitute for wheat flour. Through Community Service activities, the use of cassava as a substitute for wheat flour in making churros and éclairs is socialized to the wider community. The activities carried out consist of stages 1) Submission of information material; 2) Formula preparation and preparation; 3) Implementation of entrepreneurship training in the practice of making churros and éclairs; and 4) Product evaluation and discussion. The purpose of this community service activity (PKM) is to help improve the family's economy through the production of churros and éclairs to replace cassava flour. The results of this PKM activity were assessed by the participants, namely the method of delivery and suitability of materials, the process of making Churros and Eclairs, and the duration generally described a positive value and provided a high level of satisfaction. So there is a desire to do similar activities again.
20. (Fermont, 2009), Promotor Prof. dr. K.E. Giller Hoogleraar Plantaardige Productiesystemen Wageningen Universiteit. Undertook a thesis research study entitled: Cassava and soil fertility in intensifying smallholder farming systems of East Africa. Cassava is an important crop in Africa.

This thesis focuses on cassava production in the mid-altitude zone of East Africa, an area characterized by high population density, bimodal rainfall patterns, and relatively poor soils. The overall aim is to better understand the role and constraints of cassava production in order to explore opportunities to increase the productivity and sustainability of cassava-based intensification of smallholder farming systems in East Africa. Increasing soil pressure has changed the agricultural landscape from the traditional millet-, cotton-, sugarcane- or banana-based systems with an important fallow component to continuously cultivated cassava-based systems. Cultivation of cassava in cropland increased from 1-11 to 16-55% in three to four decades as farmers believed that cassava increased soil fertility for subsequent crops and increasingly targeted cassava on soils with low fertility levels of increased pressure. Substantial increases in cassava cultivation have allowed farmers to delay the intensification of crop management, but it appears that the elasticity of traditional low-input systems is coming to an end as production of the two most important crops (cassava and maize) is limited by nutrients. Farmers in areas of high soil pressure have started to adopt fertilizers and manure to improve yield management. Contrary to prevailing generalizations, cassava is not a food security crop for poor East African farmers but is an important food and cash crop for farmers of all wealth classes. The average farm income is not less than other farming systems in the region, while the average food security is higher (>10 months year-1) than corn-based systems. Cassava is also not predominantly grown as an intercrop, as is often thought, nor is it grown without input, because farmers usually use hired labor and better genotypes. In addition, the labor requirement is higher than usually assumed (287 workdays ha⁻¹), due to the greater need for weed control. Existing generalizations about cassava are therefore wrong or half right and a continued belief in them will hinder the effectiveness of policies and development efforts aimed at increasing cassava production. Efforts to increase cassava production in cassava-based farming systems will, for example, increase the scope of commercialization, but will not significantly increase food security. Farmer average yields for cassava (7-12 t ha⁻¹) are far below those that can be achieved in gardens (30-50 t ha⁻¹). However, agricultural yields vary widely. The greatest yields are obtained on farms with high labor availability, fertile soil, good weed management, and timely (not too early) harvest. The improved technology package more than doubled the average yield in farmers' fields, where the largest yield increase for one technology was observed with 100-22-83 kg ha⁻¹ of N-P-K fertilizer. Multivariate analysis identified soil fertility, rainfall, and weed management as the most important production constraints, while biotic factors were less important. Many fields are affected by various production and interaction constraints. Fertilizer response is governed by the same interacting factors that influence unfertilized cassava production. Genotypic and biotic factors did not affect fertilization response. Closing the sizeable yield gap between actual and achievable cassava yields at the farm level, cannot be achieved with integrated pest management and breeding alone. Instead, research and development organizations should focus on addressing a whole range of interacting production constraints through the development and evaluation of an integrated management package. Increasing cassava production will be more difficult for poorer farmers than for wealthier farmers because the former have less social and financial capital and less fertile soil and are therefore more likely to face multiple production constraints. The positive impact of cassava on soil fertility felt by farmers is supported by model simulations and nutrient balances which show that cassava can increase the SOC content of low fertility soils compared to maize and contributes a higher N recycled through crop residues. Adoption of higher-yielding genotypes and improved production practices will increase yields and increase nutrient removal rates, but may simultaneously have a positive effect on SOC content and nutrient recycling rates. Improving post-harvest management of cassava stems appears to be an attractive option to increase the sustainability of the system. This thesis concludes that there is an urgent need to invest in agronomy and ISFM research and to reform existing research for development programs with a strong emphasis on breeding and IPM into an integrated program that is able to overcome some of the constraints of cassava production and thereby contribute to significantly improving living standards. small cassava farmer.

2.2.1. Analysis of Conclusions from Previous Researchers

An analysis of past research conclusions was created to support the comprehensive design of this research, providing a brief overview of earlier studies as scientific study literature and in particular, academic papers, which are the main way in which new ideas, theories, and evidence are presented to experts in various fields of knowledge. . With research summaries researchers can synthesize complex research papers into informative and clear snapshots.

Analysis of previous research is the essence of scientific papers written by previous researchers, which focus on the topics, methods, and findings described in the previous research matrix. Previous Studies are one of the most important parts of Scientific Research, and no Scientific Research is complete without including previous studies. This is one thing that is important for every researcher.

Previous studies are identified as previous research that has addressed the topic that the researcher explored through discussion and review. Whenever a researcher deals with a particular subject, it is definitely necessary to go back to previous studies, analyze them, study them properly and then identify similarities and differences between them and his research. Previous studies contribute to the enhancement and enrichment of scientific research and provide researchers with a solid foundation and substantial information about the research being carried out. In addition, previous research also helps researchers not to repeat what has been studied and never fall into the same mistakes made by other researchers. Researchers sometimes rely on previous studies to emphasize the importance of the current study. Some researchers sometimes focus too much on the existing literature, so their research papers don't end up providing many new insights. Engagement with the literature serves primarily to set the tone and contextualize current research.

The results analysis and conclusions from 20 previous researchers conducted in Indonesia and several countries in Africa show the findings:

1. Cassava is a strategic food product in Indonesia, Nigeria, and Zambia as well as several other African countries. Cassava is the preferred source of cheap carbohydrates in rural areas and will also continue to function as a food security crop. In addition, as urbanization continues, more people in cities and towns will buy their food rather than grow it themselves. This will continue to provide smallholder farmers with a source of cash income from cassava; some will reach the market in processed form. The resulting gains in poverty reduction and greater food security will depend in part on an integrated set of research and development outcomes covering high-yielding and pest-resistant varieties; improved integrated crop management and protection measures and processing equipment and procedures; better relations between producers, processors, and consumers through capacity building in market analysis and business development; and policy improvements that facilitate the development and adoption of these innovations.
2. If the cassava food system can be improved, it will increase rural industrial development and increase income for producers, processors, and traders. Cassava will contribute more to the food security status of producing and consuming households and will become an even more important cash crop that can drive rural development.
3. There is a need for a global cassava development strategy formulated with the participation of a large number of stakeholders and with support from FAO and IFAD. The essence of this Strategy is to use a demand/market-based and commodity chain approach to promote and develop cassava-based industries with the help of a coalition of stakeholders including cassava producers and their organizations, governments and policymakers, donors, technical and research institutes and their networks, NGOs and the private sector. Local, national, and international strategies, support, and initiatives are needed through public-private partnerships and multi-donor programs on cassava in Indonesia and African countries.

4. As a contribution to the development of the Global Cassava Strategy, financial assistance from the cooperation of private institutions and donors, as well as supporting the role of the government in determining regional, national, and international policies.
5. World researchers from universities/academics, NGOs from various countries have compiled research documents to disseminate information to stakeholders, cassava producers and their organizations, governments and policymakers, donors, technical and research institutions and their networks, NGOs and their network, the private sector, and interested scholars, experts, and individuals.
6. It is hoped that this information will help strengthen institutional and technical capacities in support of sustainable development and management of the cassava sub-sector, and increase the added value of agro-enterprises, to contribute to increased food availability, poverty alleviation, employment, more economic opportunities well-being and wealth creation for a better life for the people of India and Neagra-countries in Africa.

2.2.2. Analysis Of Research Gaps From Previous Research Matrices

This research certainly cannot be separated from previous studies that have been carried out by other researchers so that the research to be carried out has the same linkages as well as similarities and differences in the objects to be studied. With the Research Matrix, it can be used as an analysis of some of the findings from previous studies comparatively including; The title of the research, the methods used in the research, the findings, and the differences and similarities between previous researchers and the current research being carried out.

This research matrix places 20 previous researchers conducted in Indonesia and several countries in Africa, involving various kinds of universities from Indonesia, African countries, the Netherlands, the United Kingdom, and several other countries. The results of previous researchers can be used as a study that can support current research.

This research matrix is used by researchers to analyze the existence of a Research Gap from previous studies. A research gap is a condition that shows the occurrence of inconsistencies between research results that have been formulated with all the supporting data. Usually, research gaps occur because there are parts that are missed when doing research and then provide a different answer. A research gap can also be interpreted as a research gap that comes from differences in the results of previous research, starting from concepts, theories, data, or problems that occur in the field, which will become gaps for further research. When there is an inconsistency in research, an evaluation must be carried out. In research activities, research gaps are events that can arise due to discrepancies in the data. Usually, this can be seen from the inconsistency between the data and the findings.

A research gap is a phenomenon where there is a gap in the results of research due to a missing part during the analysis process. In general, this can happen when there are new concepts that have never been learned before. A research gap is a gap or research gap that can be entered by a researcher based on experience or previous research. Scientific research basically aims to get a new answer to something that is considered a problem. That is why, researchers must deal with something that is a problem and is supported by justification or good research justification. This is done to find new answers to problems that are considered important for research.

In the academic sphere, the research gap is something that is considered important for developing research in certain fields. Gaps from the results of previous research can be a tool for future research. By applying this method, research can be continued and developed so that new insights can be revealed.

The purpose of searching for research gaps is to identify problems and solve them with appropriate theories. The ways to find research gaps in research are: 1). Choose an Interesting Topic; 2). Looking for Discussion Missed by Preliminary Researchers; 3). Spot Inconsistencies and Shortcomings of Prior Research.

Table 2.1. Previous Research Matrix

| No | Researcher, Year and Research Title | Country and Focus Study | Research methods | Results and Research Findings | Research Differences and Similarities |
|----|--|--|-----------------------------|---|---|
| 1 | Abass (2008), Coordinator, East and Southern Africa Cassava Value ChainInternational Institute of Tropical Agriculture, Carolyn House, 26 Dingwall Road, Croydon CR9 3EE, UK. Judul Penelitian: Recent Developments In Cassava Processing, Utilization And Marketing In East And Southern Africa And Lessons Learned | Research location: West African country. Conducting research studies on the use of cassava and cassava product derivatives in Africa. | Qualitatif, Studi survei | Priority development on agricultural product processing technology and adding value to cassava. It needs support and investment involvement by the private sector and donor agencies in small to medium scale processing. | <u>Similarity:</u> Both examine the usability and utilization of cassava. <u>Difference:</u> This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national, and international socio-economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the village as a production center for food security and sustainable community social-economic development that is fair and equitable in the perspective of the SDGs. |
| 2 | Lamboll et al., (2018), Natural Resources Institute of the University of Greenwich, Chatham, UK, Federal University of Agriculture Abeokuta, | Research location: Country Nigeria . | Qualitatif, Studi survei | Sources of uncertainty that are critical in constraining value chain development include changes in the policy | <u>Similarity:</u> Both examine the usability and utilization of cassava. |

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| | Abeokuta, Nigeria, Natural Resources Institute of the University of Greenwich, Chatham, UK. Judul Penelitian: Shaping, adapting and reserving the right to play Responding to uncertainty in high quality cassava flour value chains in Nigeria | This research examines the value chain of high quality cassava flour. explore stakeholder strategies for responding to uncertainty; and highlighting the implications of various adaptation strategies for equity and the environment in value chain development. | | environment, supply and demand for HQCF, availability and price of cassava, and availability and price of energy for flour processing. the most effective strategy for the cassava flour milling industry to reduce uncertainty in the HQCF value chain is through vertical integration. | Difference: This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national, and international socio-economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the Village as a production center for Food security and sustainable community social-economic development that is fair and equitable in the perspective of SDGs. |
| 3 | Mojiono et al., (2020). Agricultural Industry Technology Study Program, Faculty of Agriculture, Trunojoyo University, Madura. entitled: Alternative Carbohydrate-Based Local Food Education in Tanjung and Sawahan Villages. | Research Location : Indonesia Offering great potential of cassava, optimal utilization of processed cassava products | Qualitative Research. Community service | Processing cassava into mocaf (Modification cassava flour) can be an alternative and a potential business for local residents in Lembang district. | Similarity: Both examine the usability and utilization of cassava. Difference: This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio-economic impacts within |

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| | | | | | the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the village as a production center for food security and sustainable community social economic development that is fair and equitable in the perspective of the SDGs. |
| 4 | Cahyanto et al., (2018). Faculty of Science and Technology, UIN Sunan Gunung Djati Bandung. Conducted a research study entitled: Cassava is one of the leading local agricultural products in Lembang District, West Java. | Research Location : Indonesia Offering cassava great potential options, optimally utilizing processed cassava products. Offering the option of Sharia Microfinance for MSME business actors | Qualitative Research. Community service | processing cassava into mocaf can be an alternative and a potential business for local residents in the Lembang sub-district | <p><u>Similarity:</u> Both examine the usability and utilization of cassava.</p> <p><u>Difference:</u> This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio-economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the Village as a production center Food security and sustainable</p> |

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| | | | | | community social economic development that is fair and equitable in the perspective of SDGs. |
| 5 | Pitaloka et al., (2022). Defense Management Study Program, Defense University. Conducted a research study entitled: Management of Food Security Through the Food Diversification Program in North Sumatra in the Context of Supporting National Defence. | This paper was written with the aim of analyzing food security management through food diversification programs | Qualitatif Research | Diversification of food consumption is an alternative way that can be done by the community to obtain various sources of carbohydrates from plant species other than rice. | <p><u>Similarity:</u> Both examine the usability and utilization of cassava. And Food Security</p> <p><u>Difference:</u> This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio-economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the village as a production center for food security and sustainable community social economic development that is fair and equitable in the perspective of the SDGs.</p> |
| 6 | Apriliyanto et al., (2022). Agroindustry Study Program, Banjarnegara Polytechnic, Indonesia. | Research location: Indonesia | Qualitatif Research | The conclusion of the Ministry of Education and Culture's | <u>Similarity:</u> |

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| | <p>Conducted a research study entitled: Application of Cassava Processing Technology into Mocaf Flour as an Effort to Support Mocaf Independent Village, Pesangkalan Village, Banjarnegara Regency.</p> | <p>Conduct research studies on the utilization of cassava and cassava product derivatives. As an effort to support the Independent Village.</p> | <p>Pengabdian Universitas kepada Masyarakat</p> | <p>vocational matching fund activity Banjarnegara Polytechnic and Banjarnegara Pesangkalan Village Gift industry partner are as follows ; (a) strengthen cooperation in higher education institutions startup development (strengthening MSME) that is competitive, (b) implementation appropriate technology in processing cassava into mocaf flour brings impact on increasing the welfare of the people of Pesangkalan Village, (c) bringing the impact of increasing the skills and knowledge of members of the MSME group A gift of 85% of the previous condition, (d) increasing added value and selling value of cassava into mocaf flour and its derivative products.</p> | <p>Both examine the usability and utilization of cassava. Food Security, Startup</p> <p>Difference: This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national, and international socio-economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the village as a production center for food security and sustainable community social-economic development that is fair and equitable in the perspective of the SDGs.</p> |
| 7 | <p>Ikhram & Chotimah, (2022), Public Health Study Program, Faculty of Health Sciences, University of Ibn Khaldun, Bogor. Conducting a research study entitled: The government is starting to look at local food product innovation as an alternative to driving the economy and diversifying local food.</p> | <p>Research location: Indonesia Conducting research studies on the use of cassava into noodle products. As an effort to support community food diversification</p> | <p>Qualitative Research University community service program</p> | <p>Making food innovation from cassava into cassava noodles for community food diversification. Potential availability of local food Indonesia is indeed very</p> | <p>Similarity: Both examine the usability and utilization of cassava. Food diversification.</p> <p>Difference: This research is an international scope between the continents of</p> |

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| | | | | overflow. However, until now its contribution to food diversification is still very low. | ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio-economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the village as a production center for food security and sustainable community social economic development that is fair and equitable in the perspective of the SDGs. |
| 8 | Partini & Sari, (2022), Indragiri Islamic University Agribusiness Study Program. Conducted a research study entitled: Local Food Security Development Policy. Food security is a condition of fulfilling food from the aspects of availability, affordability, quality and safety as well as sustainability. | Research location: Indonesia Conducting studies on food diversification through the use of cassava as a local resource | Qualitatif Research Studi Literatur Review (SLR) | Local food is a solution to food problems because (a) from a production standpoint, local food grows scattered and is quite abundant in all parts of Indonesia So that can guarantee availability, (b) system local food has easier affordability due to a short distribution system, (3) in terms of quality it is proven that local food ingredients have nutritional content not inferior to rice or wheat, (d) local food grows according to the local | <u>Similarity:</u> Both examine the usability and utilization of cassava. Food diversification. <u>Difference:</u> This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio-economic impacts within the scope of world food security. Analyzing management governance |

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| | | | | agro-ecology so that it guarantees more continuity. | systems and strategies for achieving food security based on local food. Involve the village as a production center for food security and sustainable community social economic development that is fair and equitable in the perspective of the SDGs. |
| 9 | Rahman & Awerije, (2016). School of Geography, Earth and Environmental Sciences, University of Plymouth, Drake Circus, Plymouth, United Kingdom. Conducted a research study entitled: Exploring the potential of cassava in promoting agricultural growth in Nigeria. | Research Location: Nigeria Conducted a research study on cassava as Nigeria's main food ingredient. | Qualitatif Research | The cassava sector is constrained by inadequate market infrastructure, processing facilities, PBCang information, and local price volatility. Broad technological diffusion for better selection of tropical cassava and investments in market and marketing infrastructure, processing technology, irrigation/water supply, and information dissemination are recommended to enhance the potential of the cassava sector to support agricultural growth in Nigeria | <p>Similarity: Both examine the usability and utilization of cassava.</p> <p>Difference: This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio-economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the village as a production center for food security and sustainable community social economic development that is fair and equitable in</p> |

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| 10 | Gayatri et al., (2022). Indraprasta University PGRI, Jakarta. Conducted a research study entitled: Poverty Alleviation Strategies in Increasing Community Income Through Potential Local Food Security in the Karanggulung-Karangbolong Geopark Area, Kebumen Regency. | Research Location : Indonesia Assess the potential for local food security as a poverty alleviation strategy | Qualitatif Research | Research results with conclusion: get the deep strategy poverty alleviation in increasing people's income through Community Empowerment Program and Strengthening MSME Actors, in the form of: 1) Skills-based HR development; 2) Potential development local food security through processed cassava; and 3) Product development processed cassava. | <u>Similarity:</u> Both examine the usability and utilization of cassava. Poverty alleviation <u>Difference:</u> This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio-economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the Village as a production center Food security and sustainable community social economic development that is fair and equitable in the perspective of SDGs. |
| 11 | A. B. Abass et al., (2018), International Institute of Tropical Agriculture, Mikocheni B, Dar es Salaam, Tanzania; bInternational Institute of Tropical Agriculture, | Research Location : Nigeria Review technological innovations, support public investment and appropriate | Qualitatif Research | It is necessary to introduce technological innovations, policy innovations and other incentives aimed at supporting the absorption of cassava flour on a | <u>Similarity:</u> Both examine the usability and utilization of cassava. Poverty alleviation |

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| | Ibadan, Oyo State, Nigeria; cDepartment of Food, Agriculture and Bioengineering, Kwara State University Malete, Ilorin, Kwara State, Nigeria; dProgramme Management Department, International Fund for Agricultural Development, Rome, Italy; eEngineering Department, Federal Institute of Industrial Research, Oshodi, Lagos, Nigeria. | policies, encourage the development of agro-industry, reduce import spending, and provide much-needed income (bread) to small farmers. | | large scale. Appropriate policies are needed to link national agricultural research and extension systems with private sector participants to support the commercialization of technologies generated through research. reducing import spending on a national scale through substitution of imported food and raw materials with local food plant resources. | Difference: This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio-economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the village as a production center for food security and sustainable community social economic development that is fair and equitable in the perspective of the SDGs. |
| 12 | Otekunrin & Sawicka, (2019). Department of Agricultural Economics and Farm Management, Federal University of Agriculture, Abeokuta (FUNAAB), Nigeria 2Department of Plant Production Technology and Commodity science, University of Life Sciences in Lublin, Lublin, Poland. Conducted a research study entitled: Cassava, A 21st Century Staple Crop: How can Nigeria Harness its Enormous Trade Potentials? | Research Location : Nigeria This study examines the prospects for the Nigerian cassava trade. development strategy, and the challenges faced by the cassava sub-sector | Qualitatif Research | Nigeria as the number one producer of cassava in the world has enormous export potential to compete profitably in the cassava export market. | <u>Similarity:</u> Both examine the usability and utilization of cassava. Poverty alleviation <u>Difference:</u> This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio- |

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| | | | | | economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the village as a production center for food security and sustainable community social economic development that is fair and equitable in the perspective of the SDGs. |
| 13 | Halake & Chinthapalli, (2020), Department of Biology, College of Natural and Computational Sciences, Bule Hora University, Bule Hora, P.O. Box 144, Ethiopia. 2Department of Biology, Biotechnology Unit, College of Natural Sciences, Arba Minch University, Arba Minch, P.O. Box 21, Ethiopia. | Research Location : Ethiopia This study examines cassava-based food products for fermentation. | Qualitative Research | There needs to be togetherness to standardize cassava fermentation process methods in maintaining the quality of processed products made from fermented cassava. | <u>Similarity:</u> Both examine the usability and utilization of cassava. Poverty alleviation <u>Difference:</u> This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio-economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the Village as a |

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| | | | | | production center Food security and sustainable community social economic development that is fair and equitable in the perspective of SDGs. |
| 14 | Bayata, (2019). Ethiopian Institute of Agricultural Research, Jimma Agricultural Research Center, Department of Natural Resource Management, Jimma, Ethiopia. Undertook a research study entitled : Cassava is emerging as a dominant staple food, especially in the humid and sub-humid tropics of many African countries. | Research Location: Nigeria Conducting research studies on cassava as the dominant food product of African society | | The importance and contribution of cassava in securing food scarcity and its surroundings and mineral composition because it is enriched with other ingredients that are different from flour. Cassava is a source of carbohydrates, vitamins and protein. | <u>Similarity:</u> Both examine the usability and utilization of cassava. Poverty alleviation <u>Difference:</u> This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio-economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the village as a production center for food security and sustainable community social economic development that is fair and equitable in the perspective of the SDGs. |
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| 15 | <p>Alamu et al., (2019). International Institute of Tropical Agriculture (IITA), Southern AfricaHub, P.O. Box 310142, Lusaka, Chelstone, Zambia</p> <p>International Institute of Tropical Agriculture (IITA), 7th Floor,Grosvenor House, 125 High Street, Croydon CR0 9XP, England</p> <p>Zambia Agriculture Research Institute (ZARI), Mt Makulu, PMB 7, Chilanga, Lusaka, Zambia.</p> <p>Agriculture Research Institute (ZARI), PO Box 710129, Mansa, Zambia.</p> | <p>Research Location: Zambia</p> <p>This research examines the development and utilization of cassava</p> | <p>Qualitaif Research</p> | <p>Product development and utilization is still at a low level (range between 9% and 18%) in Zambia. Cassava is mostly consumed in its traditional form as a leaf, as a snack, and to prepare nshima (cassava flour alone or a mixture of cassava flour and corn, called corn-cassava nshima). Limited knowledge about the diversity of cassava products and the low use of better equipment is a challenge for companies producing confectionery products which can lead to an increase in cassava consumption.</p> | <p>Similarity: Both examine the usability and utilization of cassava. Poverty alleviation</p> <p>Difference: This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio-economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the village as a production center for food security and sustainable community social economic development that is fair and equitable in the perspective of the SDGs.</p> |
| 16 | <p>(Ogunyinka & Oguntuase, 2020).</p> <p>Natural Resources Institute, University of Greenwich, Medway Campus, Chatham, Kent ME4 4TB, United Kingdom.</p> <p>2CAVA2, Federal University of Agriculture, Abeokuta, Ogun State, Nigeria.</p> | <p>Research Location : Nigeria</p> <p>This study examines the productivity of cassava farming, as well as the socio-economic results of cassava production</p> | <p>Qualitatif Research</p> | <p>in the study area, male family heads dominate (67%), the average household uPBCan is six while the main occupation of the household head is agriculture. The average yield per hectare for superior varieties is around 18 tonnes and for</p> | <p>Similarity: Both examine the usability and utilization of cassava. Poverty alleviation</p> <p>Difference: This research is an international scope</p> |

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| | | | | local varieties is around 10 tonnes. The average price of one tonne of fresh cassava (FCR) is US\$55.5. There is no significant relationship between the socio-economic characteristics of smallholder farmers and the varieties planted but there is a significant relationship between the varieties planted and processed products. | between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio-economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the Village as a production center Food security and sustainable community social economic development that is fair and equitable in the perspective of SDGs. |
| 17 | (Masamha et al., 2018). University of Pretoria, Department of Anthropology & Archaeology, P Bag X20, Hatfield, Pretoria, South Africa b International Institute of Tropical Agriculture, East Africa Regional Hub, Plot No. 25, Mikocheni Light Industry Area, Mwenge-Coca Cola Road, Mikocheni B.P.O. Box 34441, Dar es Salaam, Tanzania c Bindura University of Science Education, Department of Environmental Science, P. Bag 1020, Bindura, Zimbabwe. | <p>Research Location : Zimbabwe</p> <p>This research examines traditional food value chains and associated gender relations and power dynamics within households has received little attention</p> | Qualitative Research | Cassava processing is carried out at the household level in small-scale cooperatives, with most of this work being done by women. In general, men play an important role in resource control, marketing and revenue. In conclusion, mapping the cassava value chain can help identify pathways to understanding poverty, improve food security, build capacity, reduce gender inequality, and increase women's participation in marketing and income control in the cassava value chain. | <p><u>Similarity:</u> Both examine the usability and utilization of cassava. Poverty alleviation</p> <p><u>Difference:</u> This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio-economic impacts within the scope of world food security. Analyzing</p> |

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| | | | | | management governance systems and strategies for achieving food security based on local food. Involve the Village as a production center Food security and sustainable community social economic development that is fair and equitable in the perspective of SDGs. |
| 18 | Reincke et al., (2018), Leibniz Center for Agricultural Landscape Research (ZALF), Eberswalder Strasse 84, 15374 Müncheberg, Germany 2 TU Munich Campus Straubing for Biotechnology and Sustainability, Petersgasse 18, 94315 Straubing, Germany 3 Crop Production Ecology, Swedish University of Agricultural Sciences (SLU), Ulls väg 16, 75007 Uppsala, Sweden. Conducted a research study entitled : Due to cassava's beneficial characteristics such as robustness and versatility for various uses, cassava can have a major role in contributing to local food security. | <p>Research Location : Africa (Dodoma and Morogoro, Tanzania)</p> <p>The research examines whether and how cassava cultivation benefits smallholder farmers in the Dodoma and Morogoro regions of Tanzania. In addition, this study assesses the main factors that support or threaten the food security of smallholder households in the survey area and analyze cassava cultivation.</p> | <p>Metode Research Campuran : (Qulitatif dan Kuantitatif Research)</p> | <p>cassava contributes to food security in households, but achieving food security through cassava cultivation is constrained by several factors, including pests, lost markets, poor processing, social perceptions and lack of knowledge</p> | <p>Similarity: Both examine the usability and utilization of cassava. Poverty alleviation</p> <p>Difference: This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio-economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the village as a production center for food security and sustainable community social</p> |

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| | | | | | economic development that is fair and equitable in the perspective of the SDGs. |
| 19 | Mahdiyah et al., (2022). Culinary Study Program, Faculty of Engineering, Jakarta State University Psychology Study Program, Faculty of Psychology Education, Jakarta State University. | Research Location : Indonesia This research examines Community Empowerment Based on Local Cassava Food Processing Technology | Qualitatif Research Pengabdian Universitas kepada Masyarakat | Cassava can improve the family economy through the production of churros and éclairs to replace cassava flour. The results of this PKM activity were assessed by the participants, namely the method of delivery and suitability of materials, the process of making Churros and Eclairs, the duration generally described a positive value and provided a high level of satisfaction. So there is a desire to do similar activities again | <p><u>similarities:</u> Both examine the usability and utilization of cassava. Poverty alleviation</p> <p><u>Difference:</u> This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio-economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the village as a production center for food security and sustainable community social economic development that is fair and equitable in the perspective of the SDGs.</p> |
| 20 | Fermont, (2009), Promotor Prof. dr. K.E. Giller Hoogleraar Plantaardige | Research Location : East Africa | Research Thesis | This thesis concludes that there is an urgent need to invest in agronomy and ISFM research | <u>Similarity:</u> |

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| | Productiesystemen Wageningen Universiteit. | <p>This research examines cassava production in the mid-altitude zone of East Africa. to better understand the role and constraints of cassava production to explore opportunities to increase the productivity and sustainability of cassava intensification based on smallholder farming systems in East Africa</p> | | <p>and to reform existing research for development programs with a strong emphasis on breeding and IPM into an integrated program that is able to overcome some of the constraints of cassava production and thereby contribute to significantly improving living standards. small cassava farmer</p> | <p>Both examine the usability and utilization of cassava. Poverty alleviation</p> <p>Difference: This research is an international scope between the continents of ASIA-AFRICA. Assessing the utilization of cassava, the local, national and international socio-economic impacts within the scope of world food security. Analyzing management governance systems and strategies for achieving food security based on local food. Involve the village as a production center for food security and sustainable community social economic development that is fair and equitable in the perspective of the SDGs.</p> |
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2.2. Sustainable Development Goals

Sustainable development is meeting the needs of the present without compromising meeting the needs of future generations, first stated in the report Our Common Future, also called the Brundtland Report, is a report of the World Commission on Environment and Development (WCED) at the UN published in 1987. The UN SDGs began to enter into force in 2015 and were given a term of 15 years. The aim is to implement 17 goals by achieving 169 targets by 2030.

The United Nations SDGs are a global initiative and countries are expected to take ownership and build a national framework to reflect and achieve the goals. Only through international cooperation and national policies, plans, and programs will positive changes take effect. Countries will be held accountable for demonstrating the progress they have made at national, regional, and global review meetings in 2030.

The 2030 Agenda for Sustainable Development (the 2030 Agenda for Sustainable Development or SDGs) is a new development agreement that promotes shifts towards sustainable development based on human rights and equity to promote social, economic, and environmental development. SDGs/TPB are implemented with universal, integration, and inclusive principles to ensure that no one will be left behind or "No-one Left Behind". The SDGs consist of 17 Goals and 169 targets in order to continue the efforts and achievements of the Millennium Development Goals (MDGs) which ended at the end of 2015.

The most important question – but why? Why did the UN implement the sustainable development goals?

The UN SDGs have been set so that the next generation can live their lives to the fullest and not be further harmed by hurricanes, world hunger, incurable diseases, and the degradation of our planet Earth.

SDGs are global and national commitments in an effort to improve the welfare of society, covering 17 goals, namely as follows:

1. End poverty everywhere and in all its forms;
2. End hunger, achieve food security and better nutrition, and support sustainable agriculture;
3. Ensuring healthy lives and promoting well-being for all at all ages;
4. Ensure inclusive and equal quality education, as well as support lifelong learning opportunities for all;
5. Achieve gender equality and empower all women and girls;
6. Ensure availability and sustainable management of clean water and sanitation for all;
7. Ensure access to affordable, reliable, sustainable, and modern energy for all;
8. Support inclusive and sustainable economic growth, full and productive employment, and decent work for all;
9. Build durable infrastructure, support inclusive and sustainable industrialization, and foster innovation;
10. Reducing inequality within and between countries;
11. Build inclusive, safe, durable, and sustainable cities and human settlements;
12. Ensuring sustainable patterns of consumption and production;
13. Take urgent action to combat climate change and its impacts;
14. Conserve and sustainably utilize sea, ocean, and maritime resources for sustainable development;
15. Protect, restore, and promote sustainable use of terrestrial ecosystems, manage forests in a sustainable manner, combat desertification, and halt and reverse soil degradation and halt loss of biodiversity;
16. Support peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels;
17. Strengthen implementation measures and revitalize the global partnership for sustainable development.

Indonesia is committed to implementing the 2030 Agenda with the aim of promoting efforts to end poverty, tackle inequality, promote human rights, and pay attention to the linkages between social and economic progress and environmental protection. Indonesia is the largest democratic country with 250 million people distributed in 34 provinces and 514 cities/districts. Since 2000, Indonesia has implemented a decentralization policy that gives local governments autonomy to plan development in their areas.

The implementation of the MDGs has resulted in significant progress in various sectors but further efforts with strong partnerships are needed to not only increase but also expand the various achievements. Indonesia actively participates in various Post-2015 Development Agenda discussions and subsequently at SDGs/TPB meetings at the world level; and facilitates discussions at the national level. In these forums, recommendations from international and national experts and implementation of the MDGs in various countries are explored and consolidated to form national and sub-national development efforts. This complex transitional activity allows for the alignment of various national development priorities with the global SDGs/TPB agenda.

Under the leadership of the Ministry of National Development Planning (BAPPENAS) and with close cooperation from various stakeholders, Indonesia started intensive efforts to further integrate SDGs/SDGs into national and subnational development plans with the availability of budget allocations for sustainable development and consistent with the context local. TPB/SDGs localization is carried out with 3 emphases: Mainstreaming, Accelerating the achievement of TPB/SDGs and Policy support -- or Mainstreaming, Acceleration of SDGs attainment and Policy Supports (MAPS) – which can be applied simultaneously.

Indonesia's failure to achieve a number of Millennium Development Goals targets by 2012 should serve as a lesson. With longer and more thorough preparations, the ideals of the Sustainable Development Goals to realize just economic, social, and environmental welfare by 2030 can be achieved.

2.3. Sustainable Development Goals No.2

SDGs goal number 2 is to end hunger, achieve food security, improve nutrition, and promote sustainable agriculture. This goal is in line with Indonesia's development priorities which are included in the priorities of food security and job creation. Hunger is defined as a condition resulting from a chronic lack of food consumption. In the long run, chronic hunger has a negative impact on public health and causes high public expenditure on health.

Not everyone has access to the food they need, and this is leading to hunger and malnutrition on a large scale in the world. A portion of the world's population is currently chronically undernourished and unable to obtain sufficient food to meet their minimum energy requirements. Millions of children under five



years of age (toddlers) suffer from chronic or acute malnutrition during seasons of food shortages, hunger, and social unrest, this number continues to increase. ([Bappenas, 2023](#)).

SDGs target No. 2 Indonesia

- 1) By 2030, end hunger and ensure access for all, in particular the poor and those in vulnerable situations, including infants, to safe, nutritious, and sufficient food all year round.
- 2) By 2030, eliminate all forms of malnutrition, including 2025 achieving the internationally agreed targets for stunting and wasting in children under 5 years of age, and meeting the nutritional needs of adolescent girls, pregnant and lactating women, and the elderly.
- 3) By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, farming families, pastoralists, and fishers, including through secure and equal access to land, productive resources, and other inputs, knowledge, financial services, markets, and value-added opportunities, and off-farm jobs.
- 4) By 2030, ensure sustainable food production systems and adopt resilient agricultural practices that increase production and productivity, help maintain ecosystems, strengthen adaptive capacities to climate change, extreme weather, drought, floods, and other disasters, and progressively improve quality land and land.
- 5) By 2020, manage the genetic diversity of seeds, cultivated plants, and domesticated and domesticated animals and related wild species, including through well-managed and diversified seed and plant banks at national, regional, and international levels, and increase access to equitable benefit-sharing fair and equitable, the result of the use of genetic resources and related traditional knowledge, as internationally agreed.
- 6) Increase investment, including through strong international cooperation, in rural infrastructure, agricultural studies, extension services, technology development, and gene banks for crops and livestock, to increase the productive capacity of agriculture in developing countries, in particular least developed countries.
- 7) Correct and prevent restrictions and distortions in world agricultural markets, including through the simultaneous elimination of all forms of agricultural export subsidies and all export measures with equal effect, in accordance with the mandate of the Doha Development Round.
- 8) Adopt measures to ensure the proper functioning of markets for food commodities and their derivatives, and facilitate in a timely manner access to market information, including information on food reserves, to help limit extreme volatility in food prices.

Many factors cause hunger such as poverty, instability of the government system, use of the environment that exceeds capacity, discrimination, and powerlessness such as children, women, and the elderly. Likewise, limited food subsidies, rising food prices, declining real incomes, and high levels of unemployment are the main factors causing hunger.

The Right to Food as a Basic Human Right, Food is a basic need for the continuation of human life, which if not available can create conditions that threaten life, and therefore the right to adequate food is a human right. The right to food is confirmed in ICESCR Article 11 paragraph (1) as follows:

"The States Parties to the Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and the continuous improvement of living conditions. States Parties will take all necessary steps to ensure the realization of this right, and recognize the importance of voluntary international cooperation to achieve this goal."

The right to food is also stated in Article 28H of the 1945 Constitution concerning the right of every person to live in physical and spiritual prosperity. Similar rights are also mentioned in Food Law No. 18/2012, and because Indonesia is also an ICESCR participant, this is also mentioned in Law No. 11/2005 concerning the Ratification of the Social and Social Security Covenant. The right to food includes three main pillars, namely availability, access, and adequacy. Therefore, to guarantee everyone's right to food, these three pillars must be the basis.

Despite having a law on food security, Indonesia is still ranked 72nd out of 109 countries in terms of food insecurity and food security according to the Global Food Security Index.² The World Food Program encounters the following challenges:³ - Food security improved between 2009 and 2015, with 58 of the 398 rural sub-districts (districts) particularly vulnerable in 2015. However, progress could be hindered if challenges related to food access, malnutrition, and vulnerability to climate-related hazards are not addressed;

- Stunting affects 37 percent of children under five, and together with underweight it is widely experienced across all income groups; Meanwhile, the prevalence of overweight and obesity among adults has increased sharply, also for all income groups;
- Poverty and unstable food prices impede access to food, especially in remote areas. The majority of Indonesians, including 60 percent of subsistence farmers, buy their food at the market;
- Indonesia aspires to be independent in meeting its needs for rice, corn, soybeans, beef, and sugar. Efforts to increase production are underway, but climate change is leaving agriculture and livelihoods vulnerable to climate extremes;
- Indonesia is also experiencing the threat of natural disasters in high frequency. All of these challenges make the struggle to strengthen food security, end hunger and improve nutrition crucial to be prioritized in national development plans and implementation.

National Targets Related to Ending Hunger At the global level, the SDG Agenda has included the right to food as a separate goal, namely Goal 2: "Eradicate hunger, achieve food security and improve nutrition and promote sustainable agriculture." The goal consists of eight targets that range from ending hunger and malnutrition to agricultural productivity. Meanwhile, at the national level, the Government of Indonesia has included five of the eight global targets to be achieved by 2023.

Gap Analysis

The national targets set reflect a high commitment to ensure food availability, including by facilitating agricultural equipment, animal husbandry, and fisheries, although it is also important to clarify the target groups in order to ensure that small and poor-scale farmers, fishermen, and sharecroppers (farming workers) are prioritized as the recipient of the facility.

In addition, these efforts must be focused on building the capacity of poor farmers, sharecroppers, and fishermen to sustain their lives, because this will also affect their ability to produce agricultural, livestock, and fishery products to encourage greater food consumption. In Agenda 6.7.1 of the RPJMN, the government plans to open up greater access to agricultural finance for farmers.

However, regardless of the ability of small-scale farmers to meet their basic needs, it will be difficult for them to access this assistance or maintain good credit performance. To overcome this, we need an indicator of the average income of producers

Accessibility and Adequacy of Food

A person's ability to obtain food both physically and economically is an important indicator to assess the government's fulfillment of the right to adequate food. FAO shows that the majority of people who experience hunger are found among poor consumers who spend an average of 40% of their income on buying food,⁴ while in Indonesia, the average spending on food is still at 46.45%,⁵ which means the majority of Indonesian people, not food safe.

Considering that food price volatility can hinder food accessibility, especially for the poor, an indicator is needed to measure food market prices to assess the function of food commodity markets. Furthermore, as previously mentioned, the majority of the population in Indonesia buys their food at the market, which means an indicator related to the accessibility of food markets is also needed, such as all-season transportation costs to the nearest food market and the availability of all-season roads to access the food market.

Regarding feasibility, to obtain more in-depth data about the real experience of the community regarding food accessibility, the Government of Indonesia needs to consider indicators to assess the severity of food insecurity in the community, based on the Food Insecurity Experience Scale (FIES).

Vulnerable Groups

National targets have sufficiently taken into account women and children regarding food adequacy, but there are still no specific targets for other vulnerable groups such as indigenous peoples and persons with disabilities. As many as 48 million indigenous peoples in Indonesia live near or around forests⁶ and still practice traditional agriculture. Therefore, land cultivation is closely related to a group's access to food. A joint factsheet issued by OHCHR and FAO states that "The realization of indigenous peoples' right to food is highly dependent on the access to and control they have over the natural resources on their ancestral lands, as they often obtain their food sources from cultivating the land or gathering food...Confiscation of land without the free prior and informed consent of the indigenous peoples concerned, as well as the lack of legal recognition of customary forms of land ownership, are serious obstacles to realizing the right to food."⁷ Therefore, a number of specific indicators are needed that focus on the availability of land for indigenous groups to practice their traditional farming as this affects the adequacy of their access to food.

Currently, there are around 24 million persons with disabilities in Indonesia,⁸ many of whom live in poverty. Persons with disabilities in Indonesia are at a 30 to 50 percent higher risk of being poor and unemployed,⁹ which means they also experience food insecurity. Apart from being economically unable to buy food, persons with disabilities, especially those with limited mobility, find it difficult to access food markets to buy food, thus increasing their vulnerability in terms of accessing the right to proper food. With a number of severe conditions faced by persons with disabilities to access food compared to non-disabled, it is very important to include indicators that capture food accessibility for persons with disabilities.

The Role of UN Agencies in Indonesia

UN agencies and programs in Indonesia are committed to playing a significant role in helping the Government of Indonesia achieve the SDGs with three main modalities, namely advocacy and policy advice, capacity building, and knowledge sharing. In terms of ending hunger, achieving food security and improved nutrition, and promoting sustainable agriculture, the Government of Indonesia will benefit from a close partnership with FAO and WFP in strengthening the capacity to implement all national targets related to the second SDG goals. In addition, UNICEF will also provide various technical assistance to ensure food security among children.

The 2023 National Resolution should inflame the spirit of strength that binds unity and nationalism. This resolution is to live up to the theme of the Republic of Indonesia's Independence Day in 2022, namely "Recover Faster, Rise Stronger", as a manifestation of the struggle to overcome various dynamics after 77 years of independence. The meaning of independence does not stop at the euphoria of being free from colonization by foreign nations who occupy Indonesian territory, but we should realize whether we are already free from colonialism in other forms.

We are facing a new form of colonialism because Indonesia is not yet sovereign in the food sector. As a net food importer, foreign exchange is drained to bring in various types of food that can actually be produced domestically. As an agricultural country, we have vast and fertile land and oceans rich in fish as a source of protein, but food sovereignty is still far away.

On the other hand, we are concerned about various phenomena indicating a decline in the spirit of nationalism. They are no longer proud of local products so Indonesia becomes a soft market for imported food products. Thus, President Joko Widodo's warning that we are currently under the shadow of a food crisis threat should be used as a yellow light. Each region must introduce various local food products that are nutritionally balanced and safe (B2SA) which have been cultivated for the last 20 years and currently, the National Food Agency is intensively revitalizing them.

The problem of hidden hunger has not been widely recognized by stakeholders and the public. This problem can be overcome by fulfilling food, both in terms of quantity and quality, by optimizing local food.

Hunger is often equated with not having enough food, even though the body's nutritional needs also need to be considered. Looking at the aggregate availability of food, food consumption, and calorie needs, FAO (2021) estimates that more than 700 million people in the world face hunger due to malnutrition (undernourishment) every day.

Since 2018 the number of hungry people has increased and jumped sharply in 2020 and 2021. The Covid-19 pandemic has made it increasingly difficult for people to access the food they need due to economic problems and a lack of available supplies.

Another indicator that is also used to measure hunger is the Food Insecurity Experiences Scale (FIES) which is calculated using the methodology of direct interviews with respondents, asking about obstacles in accessing food. As a result, there are 2.3 billion people in the category of moderate or severe food insecurity in the world.

As much as 60 percent of the population is included in the moderate food insecurity category, namely those who reduce the quality and quantity of their food or are unsure of their ability to be able to obtain food due to economic problems. The risk of this condition is malnutrition, stunting, micronutrient deficiencies, or adult obesity.

The interesting thing is that micronutrient deficiency which is a problem for Indonesia is included in the category of hidden hunger. Hidden hunger is a condition caused by malnutrition due to a lack of intake of vitamins and minerals (micronutrient deficiency).

Without the vitamins and minerals that the body needs, a child's growth will be stunted and interfere with the body's vitality causing impaired physical growth, poor cognitive function, low resistance to infection, and degenerative and chronic diseases in old age. Overcoming hidden hunger is also included in the achievement of Sustainable Development Goals (SDGs) 2: "Zero Hunger" which is categorized in the calculation of moderate food insecurity.

Micronutrient deficiency is a type of triple burden of malnutrition in Indonesia, along with stunting and malnutrition. The numbers are still relatively high even though they have decreased. The tangles rate for children under the age of five in Indonesia is still relatively high, with a prevalence of 24.4 percent. Meanwhile, for adult obesity (over 18 years), the prevalence is 21.8 percent. Coupled with the anemia rate for pregnant women which is very high, which is equal to 48.9 percent.

"Hidden hunger is a condition caused by malnutrition due to lack of intake of vitamins and minerals (micronutrient deficiency)".

Why is this hidden hunger to watch out for? This is because the indication of a person suffering from hidden hunger is not clearly visible when compared to the condition of tangles or malnutrition. However, the impact can be seen in every human life cycle.

In the figure below, it can be seen that hidden hunger can affect individual growth and development from the time they are in the womb with very diverse consequences, ranging from the risk of infant death at birth, to malnutrition, longevity, productivity, and mental condition. If it doesn't get immediate attention, it will lead to an increased risk of various health problems, especially the triple burden of malnutrition in Indonesia.

So, how much of the population in Indonesia is actually experiencing hidden hunger? Based on an estimate from Drajat Martianto, Professor of Nutrition at the Faculty of Human Ecology, IPB University, 50 percent of Indonesia's population does not consume sufficient vegetables, fruit, nuts, and animal protein.

When compared with the FIES data, it is estimated that the population experiencing hidden hunger in Indonesia will still be below the figure of 14.4 million people in 2020. Even though there are differences

in the numbers due to differences in counting methodologies, this hidden hunger number is very worrying and certainly needs to be watched out for.

What must be done immediately? Our current diet must be transformed to avoid hidden hunger by increasing the consumption of a variety of available foods, such as vegetables, fruit, legumes, and nuts, to double the amount before and limiting the intake of animal protein.

Our current diet must be transformed to avoid hidden hunger by increasing consumption of the variety of food available. Increased consumption of vegetables, fruit, and nuts will certainly meet the adequate intake of vitamins and minerals needed by the human body to avoid hidden hunger. Vegetables and fruit eaten also need to be adjusted to the availability of local vegetables and fruit in each region.

Optimizing the consumption of a variety of fruits, vegetables, and nuts in each region will help reduce fruit and vegetable wastage due to long supply chains. Based on Indonesia's 2021 Food Loss and Food Waste report, vegetables and fruit that are not consumed and become losses and food waste are respectively 62.8 percent and 45.5 percent of the total domestic supply. Just imagine, half of the domestic supply is wasted and cannot be consumed optimally to avoid hidden hunger ([ARIKA, 2022](#))

2.4. SDGs Village

Village SDGs are integrated efforts for economic, social, environmental, legal, and community governance development at the village level. The Village SDGs Goals are derived from the National SDGs Goals into 18 areas of development focus. The SDGs Village score scale is 0 - 100. The higher the score indicates the more the Village SDGs goals are achieved. Please select a region to see the Village SDGs score in the region you want.

The Sustainable Development Goals (SDGs) are a global action plan agreed upon by world leaders, including the world, to end poverty, reduce inequality and protect the environment. As part of efforts to achieve the national sustainable development goals (National SDGs) down to the village level, the Ministry of Villages, Development of Disadvantaged Regions and Transmigration (Kemendes PDTT) issued Permendesa PDTT No. 13 of 2020 which focuses on village SDGs. This regulation regulates the priority use of village funds in 2021 which also focuses on efforts to achieve SDGs. The background of this Permendesa PDTT Number 13 of 2020 is related to the national development model based on Presidential Regulation Number 59 of 2017 related to the implementation of achieving sustainable national development goals ([Kordi Ghufran, 2020](#)).

The Sustainable Development Goals (SDGs) is a new global development agenda for the 2016-2030 period to continue the Millennium Development Goals (MDGs) including achieving goals that were not achieved, especially to reach very vulnerable groups of people (Alfa, 2019, p. 24). The SDGs are also a set of universal development goals, targets, and indicators. One of the characteristics of the SDGs is that they are formulated in the form of a statement of objectives, meaning that the indicators compiled are directed at achieving the goals that have been set.

It is in this position that SDGs are needed to be implemented in villages. Localizing the SDGs into Village SDGs can build a village with total substance but can be controlled in a limited area and population. So the village SDGs are the total development of the village. To see what goals will be achieved in the Village SDGs, the goals of the Village SDGs / Sustainable Development Goals (Iskandar, 2020, p. 109) are explained as follows:

1. Village Without Poverty; This goal targets that by 2030 poverty in villages will reach 0 percent. As for measuring poverty, the Central Bureau of Statistics (BPS) uses the concept of ability to meet basic needs.
2. Village Without Hunger; This goal targets no hunger in the village, as well as villages achieving food sovereignty, improving nutrition, and promoting sustainable agriculture.
3. Healthy and Prosperous Villages; This goal is intended to ensure the healthy life of villagers for the sake of prosperity. This goal requires the availability of easy access to health services for villagers.

4. Quality Village Education; Development seeks to increase income for the rural poor, guarantee villagers' access to basic services, and protect all villagers from all forms of disaster. To achieve the goal of increasing income for the rural poor, the main target of this goal is to improve the quality of village human resources (HR).
5. Involvement of Village Women; This goal targets the creation of conditions that place all villagers in a fair position, without discrimination against women in all aspects of life.
6. Adequate village with clean water and sanitation; Clean water and proper sanitation are basic human needs. Fulfillment of clean water and proper sanitation is still a problem throughout the world. This can be measured by household access to drinking water and proper sanitation reaching 100 percent by 2030.
7. Clean and Renewable Synergy Village; SDGs Goals This village ensures everyone has access to renewable energy. This can be measured by the household electricity consumption indicator in the village reaching a minimum of 1,200 kWh, households in the village use gas/wood waste for cooking.
8. Even Village Economic Growth; Economic growth accompanied by equitable distribution of development results is the main target for the Village SDGs goals, including creating decent jobs, as well as opening up new economic opportunities for all villagers.
9. Village Infrastructure and Innovation according to Needs; To achieve positive economic growth, the reliability of village road infrastructure and so on really needs to be considered. Apart from that, the Village SDGs also emphasize the birth of innovation in villages in all fields.
10. Village Without Gaps; The Village SDGs aim to reduce and eliminate this gap by 2030. For this reason, the success of achieving this goal is measured by the village's Gini coefficient; poverty rate in the village; village development status; as well as an index of civil liberties in the village.
11. Superintendent of Safe and Comfortable Village Settlements This goal targets the realization of an inclusive, safe, strong, and sustainable village, with several achievement targets for clean and healthy residential areas, creating environmental security through community self-help, and fostering the participation of all parties in village development.
12. Commision and Production of an Environmentally Aware Village. For this objective, indicators of the success of the Village SDGs can be seen, including village policies governing the management of business world waste; the occurrence of efficient use of natural resources; as well as household waste management businesses as well as the business world.
13. Climate Change Response Village; SDGs This village aims to help reduce the impact of global climate change, with several programs that can be carried out by the village government in accordance with their main tasks and functions. The success of achieving this goal can be seen from several indicators, one of which is the disaster risk index in the village.
14. Marine Environment Care Village; SDGs goal of this village is to protect the coast and oceans. To measure the success of achieving this goal, the following indicators are used: village policies related to the protection of marine resources; an increase in reasonable fishing; and there is no illegal fishing.
15. Land Environment Care Village; The goal of this target is to protect resources and wildlife. To see the success of achieving this goal, including village government policies related to efforts to preserve biodiversity; green open land areas; and the number of endangered species.
16. Village of Peace and Justice; SDGs Goals This village sets several targets that must be achieved by 2030; no incidents of crime, childbirth, domestic violence (KDRT), and violence against children; the preservation of the culture of gotong royong in the village; increasing the democracy index in the village; as well as the absence

17. human trafficking and child labor; Partnerships for Village Development Village SDGs require good village partnerships with these various, including partnerships with other villages, or sub-districts. To measure the achievement of this goal, several achievement indicators are used, including the existence and forms of village cooperation with third parties; availability of an internet network in the village; village statistics, and export commodities and activities by village.
18. Dynamic Village Institutions and Adaptive Village Culture SDGs Villages strive to maintain local wisdom, as well as revitalize and mobilize all elements of institutions at the village level.

With goals that cover the overall goals of the SDGs, it is intended to mobilize development that leads to progress, especially in efforts to end all forms of poverty and hunger everywhere, reduce inequalities within and between countries, preserve the environment, and take strategic steps for climate change.

SDGs Village Dimensions

As a derivative of the SDGs, villages are built on six dimensions (Iskandar, 2020, p. 106), which are as follows:

1. Prosperous Villagers; SDGs Desa exists to ensure that all villagers are free from poverty, and hunger, in all its dimensions, and to ensure that all villagers can fulfill their potential in dignity and have an equal position and the right to live with dignity in a healthy environment.
2. Natural Balance; Village SDGs strive to protect nature from the adverse effects of human activities, such as environmental change and irresponsible use of natural resources so that it can support the needs of present and future generations.
3. Village Prosperity; The Village SDGs exist to ensure that all villagers have a prosperous, sufficient life and that economic, social, and technological progress can live in harmony side by side with nature.
4. Peace; The Village SDGs strive to develop peaceful, just, and inclusive villagers who are free from fear and violence. There is no sustainable development without peace and social security and vice versa, there is no peace and security without sustainable development.
5. Partnership; The Village SDGs are here to mobilize the necessary means so that villages can collaborate with other villages and/or cooperate with third parties. The success of sustainable development can only be achieved through close cooperation with a high principle of solidarity to achieve competitive economic value.
6. Village Institutions and Wisdom; SDGs Desa is here to ensure the strength of village institutions, recognition, respect, and protection of the rights of indigenous peoples, in order to realize strategies for empowering customs, local wisdom, and culture of village communities.

What are Village SDGs?

SDGs Desa is a concrete effort in building the nation. Village SDGs are a derivative of Presidential Regulation Number 59 of 2017 concerning the implementation of achieving sustainable national development goals or National SDGs. The goal is that the national SDGs can be achieved through integrated efforts to achieve village SDGs.

The Village SDGs are in line with the National Medium Term Development Plan (NMTD) set by the government, as well as adapting them to the global SDGs which are a world agreement. This shows the world Indonesia's commitment to achieving the SDGs goals

With focused development based on Village SDGs, it is expected to be able to provide results in the form of village development planning directions based on factual conditions (evidence) in the village. And secondly, facilitating the intervention of ministries/agencies, local governments (provinces, districts/cities), and the private sector to support village development.

18 Village SDGs Goals

If in the National SDGs there are 17 development goals to be achieved then in the Village SDGs there are 18 goals. There is one added objective to ensure that village development continues to elevate cultural and religious aspects. This goal is not listed in the global or national SDGs. So that in the village SDGs the 18th goal is added regarding dynamic village institutions and adaptive village culture.

In addition to this one point, the indicators are mutual help activities based on religious teachings, religious leaders participating in village meetings and implementation of village development, culture being preserved, reaching 100 percent of active customary institutions, solving social problems through a cultural approach. So we want the good cultural institutions to be maintained. Thus, the 18th point is directed at being able to involve religious and cultural leaders so that each village can maintain its cultural identity and local wisdom.

In this regard, the Ministry of Villages, Development of Disadvantaged Regions and Transmigration (Kemendes PDTT) has divided nine types of villages according to village SDGs, namely villages without poverty and hunger, economic villages that grow evenly, and villages that care about health. Then the village cares for the environment, the village cares for education, the village is friendly for women, the village is networked, the village is culturally responsive, and the village is Pancasila.

Village Sustainable Development Goals or Village SDGs to be achieved in the next 10 years.

1. Villages without poverty
2. Village without hunger
3. A healthy and prosperous village
4. Quality village education
5. Villages with gender equality
6. Villages have adequate clean water and sanitation
7. Villages with clean and renewable energy
8. Employment and village economic growth
9. Innovation and village infrastructure
10. Village without gaps
11. Residential village sustainable area
12. Village consumption and production that is environmentally conscious
13. Village control and climate change
14. Village marine ecosystem
15. Village land ecosystem
16. Peaceful and just village
17. Partnership for village development
18. Dynamic village institutions and adaptive village culture

In implementation until 2030, villages can choose one or several of the 18 goals to be achieved in the Village SDGs. The Ministry of Villages, Development of Disadvantaged Regions and Transmigration will provide guidance for achieving the chosen goals, for example, villages without poverty and hunger. In this way village stakeholders and residents can more easily imagine the direction of activities to achieve development goals and also how to effectively use village funds to support efforts to achieve the intended goals.

Village SDGs Contribution to the Achievement of National SDGs

Village SDGs have contributed 74 percent to the achievement of sustainable national development goals. The 74 percent figure was obtained based on regional and citizenship aspects. From a regional aspect, 91 percent of Indonesia's territory is village territory. As many as 12 of the 18 Village SDGs goals are closely related to village territoriality, especially goals 7 to 18 which are closely related to village territorialism.

Apart from that, from the citizenship aspect, 43 percent of Indonesia's population live in villages and the 6 SDGs goals are closely related to village residents. From these conditions, it can be seen that village SDGs have made a significant contribution.

Village SDGs become a Village Fund Priority

Based on the message from President Joko Widodo, the Minister of Villages, Development of Disadvantaged Regions and Transmigration, Abdul Halim, said that next year's village funds could be enjoyed by all villagers, down to the lowest class. He said that previously village funds were allegedly still not being fully enjoyed by residents, especially the lowest class. It is for this reason that it is hoped that the Village SDGs will serve as a reference for village development in 2020-2024 and will be included in the priority use of village funds in 2021.

The PDTT Village Regulation regarding Village SDGs is the basis for 74,953 villages in Indonesia in preparing work plans and the 2021 APBDes. As much as 72 trillion rupiahs of village funds will be prioritized for Sustainable National Development in villages. In this regard, there are three focuses for next year's village fund budget, firstly national economic recovery according to village authority, which consists of establishing, developing, and revitalizing BUMDes/BUMDesma, providing village electricity, and thirdly developing productive economic enterprises, mainly those managed by BUMDes/BUMDesma .

Second, national priority programs according to village authority which include village data collection, mapping of potential and resources, development of information and communication technology, development of tourist villages, strengthening food security and prevention of stunting in villages, and inclusive villages.

Then the third, priority of village funds in 2021, is the adaptation of new habits, namely the COVID-19 Safe Village. This determination is based on Presidential Regulation Number 59 of 2017 concerning the Implementation of the Achievement of Sustainable National Development Goals or SDGs. As for the use of village funds in 2021, it will use the Village Cash Workforce (PKTD) mechanism, then work on a self-management basis and use it to finance BUMDes or BUMDesma capital.

There is a change in the current pattern of development that is oriented towards SDGs (Sustainable Development Goals), namely development that focuses on economic, social, and environmental pillars supported by governance pillars (Alisjahbana and Murniningtyas, 2018), which is the basis for achieving Indonesia's development goals in a sustainable manner. However, since the echo of the SDGs in Indonesia's development, it has not immediately changed the lives of Indonesian people, as evidenced by the downgrade of Indonesia's SDGs ranging from 98th in 2016 to 101st in 2020.

The downgrade in Indonesia's SDGs ranking may have been caused by development that is more focused on national economic actors or only up to the local government level and ignores the very large role of the village. Even though the village contributes 74% to achieving sustainable development goals (Ministry of Village PDTT, 2021). Village development as stated in Law Number 6 of 2014 concerning Villages aims to improve the welfare of rural communities and the quality of human life as well as reduce poverty through meeting basic needs, building village facilities and infrastructure, developing local economic potential, and utilizing natural resources and the environment sustainably. There are 18 Goals in the Village SDGs, one of which is the Environmental Care Village which aims to utilize local food plants to become herbal ingredients.

2.5. Food Security

Early last August, the government received an award from the International Rice Research Institute (IRRI) for its success in maintaining a food security system in terms of self-sufficiency in rice. This appreciation was given by IRRI because Indonesia is considered to have the competence to foster a strong agricultural and food system and rice self-sufficiency in 2019-2021 through the application of agricultural technology innovations.

The Certificate of Acknowledgment from IRRI received by President Joko Widodo is an important momentum for Indonesia to be able to rise to maintain self-sufficiency and food security in a sustainable manner. The existence of this award is a separate motivation for national agriculture and food activists so that they are able to build a food self-sufficiency system in the midst of the global economic turmoil that has occurred..

Based on the Food and Agriculture Organization (FAO), Indonesia has succeeded in achieving more than 90% self-sufficiency ratio, or the ratio between domestic production and total demand. This is a very large wallet (FAO, 2022). The rapid ratio of Indonesia's agricultural production clearly shows the strength of the Indonesian government in building a high-food agri-food system, not only in rice but also in all sectors.

The occurrence of food insecurity is caused by not achieving the target of food availability and access to food for the community. This is a paradox, considering that Indonesia, Nigeria, and Zambia have vast and fertile land. The development of food security is the achievement of security in the food sector in the condition that food is fulfilled for each individual/household from national food production, which reflects the availability of sufficient, quantity and quality, safe, equitable, and affordable food in all regions of the country.

The definition and paradigm of food security have continued to develop since the 1943 Food and Agriculture Conference which proclaimed the concept of providing safe, sufficient, and proper food for everyone. The definition of food security varies widely but generally refers to the definition of the World Bank (1986) and Maxwell and Frankenberger (1992) namely "access of all people at all times to sufficient food for a healthy life (safe access at all times to sufficient food for a healthy life).). A literature study conducted by IFPRI (1999) estimated that there were 200 definitions and 450 indicators regarding food security (Weingärtner, 2000). The following presents several definitions of resilience that are often referred to.

Food Law No. 7 of 1996 (Indonesia) states that the requirements for fulfilling food needs for households are selling from the availability of sufficient food, both in quantity and quality, safe, equitable, and affordable. Meanwhile, USAID (1992) stated that everyone at any time has physical and economic access to obtain their consumption needs for a healthy and productive life. Meanwhile, FAO (1997) states a situation where all households have access both physically and economically to obtain food for all family members, where households are not at risk of losing both accesses.

FIVIMS (2005) states a condition when all people at all times physically, socially, and economically have access to sufficient, safe, and affordable food to meet consumption needs and according to their tastes (food preferences) for an active and healthy life. Meanwhile, Mercy Corps (2007) stated that everyone at any time has physical, social, and economic access to adequate, safe, and adequate food for nutritional needs in accordance with their tastes for a productive and healthy life.

Based on this definition it can be concluded that food security has five elements that must be met: (i) Oriented to households and individuals; (ii) The time dimension whenever food is available and accessible; (iii) Emphasizing access to households and individual food, both physical, economic and social; (iv) Oriented to the fulfillment of nutrition; and (v) Aiming for a healthy and productive life (Nuhfil Hanani AR, 2008).

The food security system in Indonesia comprehensively includes four sub-systems, namely: (i) availability of food in sufficient quantities and types for the entire population, (ii) smooth and even distribution of food, (iii) food consumption for each individual that meets adequacy balanced nutrition,

which has an impact on (iv) the nutritional status of the community. Thus, the system of food security and nutrition does not only concern the production, distribution, and supply of food at the macro (national and regional) level but also concerns the micro aspects, namely access to food at the household and individual levels as well as the nutritional status of household members, especially children and pregnant women from poor households. Although conceptually the notion of food security includes micro aspects, in daily practice the emphasis is still on the macro aspect, namely food availability. In order not to neglect the micro aspects, this document uses the term food security and nutrition.

The narrow concept of food security reviews the food security system from the input aspect, namely food production, and supply. As is widely known, both nationally and globally, the availability of abundant food that exceeds the food needs of the population does not guarantee that the entire population is free from hunger and malnutrition. The broad concept of food security is based on the ultimate goal of food security, namely the level of human welfare. Therefore, the first target of the Millennium Development Goals (MDGs) is not to achieve food production or supply but to reduce poverty and hunger as an indicator of people's welfare. The MDGs use an impact rather than an input approach.

At the national level, the definition of food security has been debated from the 1970s to the 1980s. National food security does not require self-sufficiency in food production because it depends on the resources you have. A country can produce and export agricultural commodities with high economic value and industrial goods, then buy food commodities on international markets. On the other hand, a country that is self-sufficient in food production at the national level, however, finds its people food insecure because there are barriers to food access and distribution Stevens et al (2000).

Lassa (2006) by adopting Stevens et al (2000), has provided an excellent illustration of countries that are self-sufficient in food with conditions of food security (Table 1). Category A countries (USA, Canada, Australia, Brunei) have the strongest food capacity because they have ideal food conditions where they are able to be self-sufficient in food but at the same time have strong food security. Meanwhile, C countries such as Singapore, Norway, and Japan, are not self-sufficient in food at all but have a much stronger food security foundation than category B countries such as Indonesia, the Philippines, and Myanmar.

Tabel 2.1. Food Self-Sufficiency With Food Insecurity

| | Capable in Food Security | Unable To Food Security |
|-----------------------------|---|---|
| Self-Sufficiency Food | A | B |
| | Example: USA, Kanada, Australia, Brunei, etc. | Example: Myanmar, Indonesia, Filipina |
| Not Self-Sufficient in Food | C | D |
| | Example : Norway, Jepang, Singapura, etc. | Example: Malawi, Eritrea, Kenya, Kongo, East Timor. |

Sumber : Lassa (2006)

The limitation of the concept of self-sufficiency in food occurred in Africa in the mid-1980s where the focus on increasing production to achieve self-sufficiency led to a food crisis in society. So it is clear that food availability at the national level does not automatically guarantee food security at the individual and household level (Borton and Shoham, 1991).

Stevens et al (2000, in Lassa, 2006) provide an illustration that clearly distinguishes between self-sufficiency in food and food security in Botswana, for example, as a country with moderate per capita income but experiencing a chronic food deficit due to a lack of agricultural land. The national food security strategy is self-sufficiency but ultimately is more oriented towards self-reliance. which formally legitimizes the true contribution of imported food to national food security. Thompson and Cowan (2000 in Lassa, 2006) noted policy changes and the formal definition of food security in relation to globalization of trade that occurred in several countries. For example, Malaysia redefined its food

security as being self-sufficient in 60% of national food. The remaining 40% is obtained from food imports. Malaysia now has a solid level of food security.

This provides a clear illustration that food security and self-sufficiency are two different things. Amartya Sen succeeded in challenging the paradigm error of the Malthusians who often argued that food insecurity and hunger were purely a matter of production and availability. Meanwhile, by highlighting various cases in India and Africa, Sen was able to show that food insecurity and hunger often occur due to a lack of access to food even when food production is abundant, like "a mouse dies in a rice barn". The case of malnutrition in West Nusa Tenggara is proof (Lassa, 2006).

Based on this fact, researchers and academics realize that food insecurity occurs when food is available but cannot be accessed by households due to limited economic resources (income, employment opportunities, and other economic resources). This is consistent with Sen's opinion (1981) that food production is not the sole determinant of food security, but only one of the determining factors. The differences between food self-sufficiency and food security are presented below.

Table 2.2. The Difference Between Self-Sufficiency In Food And Food Security

| Indicator | Food Self-Sufficiency | Food security |
|-----------|--------------------------------------|--|
| Scope | National | Households and individuals |
| Target | Food commodity | Human |
| Strategy | Import substitution | Improved availability food, access to food, and food absorption |
| output | Food Production increase | Nutritional status (decrease: hunger, malnutrition and malnutrition) |
| Outcomes | Adequacy of food by domestic product | Healthy and productive people (life expectancy tall) |

Sumber: Nuhfil Hanani AR, 2008.

Food self-sufficiency is generally an achievement of increasing food availability within a national territory, while food security prioritizes access for every individual to obtain nutritious food to be healthy and productive.

The issue of food security is a very crucial issue. Today's food security, since the economic crisis until now, Indonesia's ability to meet its own needs for food for the population continues to decline. Foodstuffs include an average of 2 million tons of rice, 900 thousand tons of soybeans, 1.6 million tons of granulated sugar, 1 million tons of corn, recently 1.2 million tons of salt, and spent US\$900 million in foreign exchange in 2003. (BPS, 2003; Research Center UGM, 2009).

In 2008 and 2010 there was a food crisis in Indonesia. This is because, as a consequence of the choice of the Indonesian people themselves who are too dependent on imports for their food supply. This is evident from Indonesia's food import figures which continue to increase from year to year. In 2007, the government decided to import food commodities, including 1.5 tons of large and 1.5 million tons of soybeans. For rice, this figure has increased by around 78.5% from 2006 which was only 840 thousand tons. As for soybeans, this figure has increased by 25 percent from 2006 which amounted to 1.2 million tonnes (based on records from the 2007 Indonesian Farmers Union). This is of course very dangerous for Indonesia's self-sufficiency and food security because strong food security is characterized by strong self-sufficiency (Christin Sinaga, 2011).

The events of malnutrition in early 2005 that hit NTB, NTT, Sumba, and others were the victims of food insecurity, it was the poor farmers who lived in rural areas. That's what was exposed in the media, not counting those that have escaped media scrutiny. The problem faced by the government in overcoming food insecurity concerns five aspects (Ministry of Agriculture, 2009): 1) Food availability, 2) Food distribution, 3) Food consumption, 4) Community empowerment, and 5) Management.

From the five aspects above, it is interesting to discuss food distribution. In this aspect, the problems that arise technically include 4 (four) things (Ministry of Agriculture, 2009) namely: (1) Inadequate infrastructure, land, and inter-island distribution infrastructure that can reach all consumer areas, (2) uneven and inadequate collection infrastructure, storage and distribution of food, except for rice, (3) inefficient food distribution system, and (4) variations in food production capacity between regions and between seasons demand accuracy in managing the food distribution system so that food is available all the time in all consumer areas. Meanwhile, those related to the socio-economic aspects are: (1) the institutional marketing of food products has not played a good role in supporting the stability of food distribution and prices, (2) the problem of security of distribution channels and official levies of the central and regional governments and various other levies, along the distribution channels and marketing have resulted in high distribution costs and consequently increased the price of food products.

The government remains alert and anticipatory and continues to strengthen domestic resilience in observing the current global economic conditions. Global economic growth itself is projected by the IMF to slow down from 3.4% in 2022 to 2.9% in 2023. Strengthening the agricultural sector is also carried out by providing easy access to financing to increase agricultural production, such as through the PBC Agricultural Equipment and Machinery (AEM) program. and PBC Super Micro ([RI, 2023](#)).

Indonesia as an agricultural country, benefits from two seasons that can be used for planting throughout the season; both rainy and dry. So here is momentum for Indonesia in 2023 to become a way out so that Indonesia must focus. In essence, together with all stakeholders; government and society must focus on the food sector ([Zaki, 2022](#)).

This is a very big opportunity for Indonesia. A simple analysis is that the world population, as projected by the United Nations, will reach eight billion by early next year. Of course, they need food. The two seasons and the ease of farming are the key as well as the convenience for Indonesia to carry out the distribution or sale of food products. That's because the world really needs food.

It is appropriate for all stakeholders to focus on targeting this food issue. The threat ahead cannot be underestimated and if we are late in anticipating it, it will be detrimental to this nation as a whole. Whoever initiates this program should be supported by all interested parties.

We (Indonesia-Nigeria) do not lack infrastructure. We also do not lack resources. When we started on a small scale, such as cultivating cassava, corn, soybeans, and fruits, the results were truly extraordinary. Imagine if then it could be done on a much wider scale. Building an agricultural ecosystem is not just tight in discussion spaces without implementation ([Zaki, 2022](#)).

2.6. Food Diversification

In practice, the development of food diversification will involve deregulation apart from agriculture, but also in industry/trade, banking, investment, facilities/infrastructure, and others. Thus, if food diversification goes well, it can help in overcoming food problems. It is important to continue to explore and improve food security based on local wisdom and resources, considering that Indonesia's population continues to grow and food economic activities are always experiencing dynamic development. Readiness in building food security will create a conducive environment for the country's development. Without food security, it is impossible to provide high-quality human resources which are very much needed as the driving force of development. Steady food security is a requirement for political stability, while political stability is an absolute requirement for the implementation of national development ([Fajar, 2019](#)).

The key to food diversification begins with the exploration process of finding alternative foods as the most common source of carbohydrates. Indonesia is an archipelagic country rich in agricultural commodities, so it is important to use local feed ingredients such as sago, sorghum, cassava, and taro which must be introduced to the wider community so that these types of local food not only become staple foods in one area. ([Prihatnala, 2022](#)).

The fragile condition of Indonesia's food security will not occur if the food of the Indonesian people does not depend only on rice or wheat. Indonesia as an agricultural country should be able to build an agro-industrial business system that does not depend on imported materials such as rice or wheat. There are still many potential food sources that can be utilized. According to Nasution (2007), Indonesia has 77 types of food plants as sources of carbohydrates, 75 types of sources of fat/oil, 26 types of nuts, 389 types of fruits, 228 types of vegetables, 40 types of beverage ingredients, and 110 types of spices and herbs. By exploiting the potential of these local food sources, Indonesia can actually create strong food security. Broadly food security can be interpreted as the ability to meet the sufficiency of people's food from time to time. Adequacy of food in this case includes the terms of quantity, quality, and safe, equitable, and affordable distribution.

Food security is highly dependent on the existence and capability of the food industry. Furthermore, the ability of the food industry is influenced by research and technology in the food sector. There are actually quite a lot of research results developed by research and development institutions in Indonesia, it's just that not much is known about and utilized by the food industry in Indonesia. This is due to the fact that research developed by research and development institutions is sometimes not in accordance with the needs of the industry, each of which runs separately. Research in the food sector mostly focuses on one specific problem, particularly on technology, nutrition, and policy, for example: the nutritional composition of fermented foods (Rukmini, 2002); wheat/wheat policy (Palm, 2003); grain and rice marketing patterns (Mardianto, Supriatna, and Agustin, 2005). However, the problem of dissemination of alternative food technology and nutrition to the general public and farmers has escaped the attention of researchers. Even though the socialization of alternative food technology and nutrition has an important role in educating the public about the diversity of food ingredients in Indonesia.

Education results in people having enough knowledge to evaluate, so it is hoped that people's preferences and positive attitudes towards alternative food ingredients other than rice and wheat can be created. As stated by the Theory of Reasoned Action (TRA), attitude is produced by one's evaluation or knowledge of the attitude object. Knowledge is obtained from cognitive learning and behavioral learning, in this case through experience. Furthermore, attitude influences behavior intention (Darsono, 2005).

The dissemination of alternative food technology and nutrition has an important role in educating the public about the diversity of food ingredients in Indonesia. Education results in people having enough knowledge to evaluate, so it is hoped that people's preferences and positive attitudes towards alternative food ingredients other than rice and wheat can be created.

Community preferences and positive attitudes towards alternative food ingredients other than rice and wheat encourage people to have the intention to try alternative food ingredients other than rice and wheat. Furthermore, if the tried behavior is evaluated by the community as having a positive impact, then the intention to try will turn into an intention to adopt. The intention to adopt means that the community has changed/modified its behavior, especially in the behavior of eating staple foods, originally rice or wheat, to become alternative foodstuffs. Therefore, the main issues to be examined are: (1) What is the public's knowledge about the diversity of people's foodstuffs other than rice and wheat, including diversification and further processed products, desired quality, and affordable price ranges?; (2) What are the preferences, attitudes, and intentions to try and switch consumption of alternative foods other than rice and wheat? This research is limited to the Surabaya area, and the research object is limited to alternative food ingredients of cassava and sweet potatoes.

This research is expected to produce an inventory of public knowledge about a variety of alternative food ingredients other than rice and wheat (cassava and sweet potatoes), including diversification, and their subsequent processed products, as well as the desired quality, and the price range that the community can still afford. In addition, this research is expected to be able to map preferences, attitudes, and intentions to try and switch consumption of alternative foods other than rice and wheat (cassava and sweet potatoes), including diversification, and its subsequent processing products. These results can provide benefits to 3 parties the food industry, society, and the economy. The food

industry will receive benefits in the form of information assistance to determine public education policies regarding the diversity of food ingredients, determine and develop further processed products that have great potential to be liked by the public, as well as price and quality determination. For the community, this research provides benefits by increasing food security and nutrition at the family level with the availability of alternative quality food choices and affordable prices. The economy, research results are expected to open new jobs and become a multiplier effect on the economy. This is based on the argument that the market potential for local alternative food ingredients with various diversifications has a very large market potential, even the world food market potential is wide open, both for basic food ingredients, in the form of flour, as well as further processed products which have a competitive advantage in the market. the world, such as cassava chips, taro chips, and arrowroot chips (Nasution, 2007).

Food Diversification

Research in the field of food diversity has been carried out by various parties. The Bogor Agricultural Institute has conducted research that explores the potential of various food crops, there are thousands of research results ranging from issues of cultivation, and post-harvest processing technology to business planning and the establishment of the food industry (Nasution, 2007). Research on the development of traditional food was also carried out by Rukmini (2003) and (Djuwardi, 2007).

In addition, six food diversification studies sponsored by Bogasari Nugraha were recorded in 2003, including: the level of preference for conventional tiwul products and instant tiwul products; identification of carbohydrate consumption patterns in an effort to achieve food diversity; community behavior towards food diversity in several income strata; utilization of composite flour from sweet potato and mung bean sprouts as partial substituents of wheat flour; analysis of perceptions of students at Surakarta tertiary institutions on the consumption of staple foods made from flour as an alternative to rice; a shift in food consumption patterns in rural communities (www.bogasariflour.com).

Food diversification research places more emphasis on observing one of the following two variables: (1) behavior (consumption patterns), and (2) attitude variables (perceptions and preferences). Dharmmesta (1999) argues that the use of behavioral variables has been criticized as operational rather than theoretical. Therefore, behavioral measures are still inadequate to explain how and why the behavior is developed and/or modified. However, O'Malley (1998) stated that attitude measures are weak predictors of behavior. So, the use of only one size contains disadvantages. Therefore, ideally, food diversification research combines attitude and behavior variables to investigate people's behavior towards food diversification. However, this research is still in the exploratory stage, so more attitude variables are explored first. The attitude variable is represented by preference, attitude, intention to try, and intention to switch consumption of alternative foods other than rice and wheat.

Attitudes and Preferences

Engel, Blackwell, and Miniard (1995) as quoted by Dharmmesta and Khasanah (1999) define attitude as the result of a comprehensive evaluation of something. In the context of consumer behavior, Schiffman & Kanuk (1997) as quoted by Dharmmesta and Khasanah (1999) argue that attitude is the consistency of an individual's like (like) or dislike (dislike) towards an object. The object evaluated by an individual may be an activity, a particular person, a product, a brand, etc., but the focus of this research is alternative food ingredients other than rice and wheat, so that the attitudes studied are specific, towards behavior alternative food other than rice and wheat).

Attitude is composed of three components, namely: 1. Cognitive component, related to the learning process or the individual's thinking process. 2. The affective component, related to individual feelings, represents the overall evaluation of the individual towards an object. The results of individual evaluations of objects can be positive or negative. This overall evaluation of the individual is called attitude. 3. The conative component, related to behavior, represents the individual's intention to behave.

When individuals evaluate more than one object, the individual evaluation results have different degrees of preference. The degree of preference for an object is often referred to as a preference (Assael, 1998).

In the context of this study, the object of preference is the behavior of consuming alternative foods other than rice and wheat.

2.7. People's Economy

The economic system of each country. The choice of the economic system adopted by a country depends on the country's national agreement. Usually, the agreement is national. This is based on the constitution that is owned, besides that there is a state philosophy and ideology that influences the economic system of a country. departing from the basic understanding and theoretical understanding, the Economic System can be said as a whole of economic institutions implemented or used by a nation/country in achieving the goals that have been set ([Subandi, 2011](#)).

Another understanding explains that the Economic System is a country's strategy to regulate its economic life in order to achieve prosperity ([Siti, 2011](#)). The economic system is a social or societal system seen in the overall framework of social endeavors to achieve prosperity. It contains the following elements: (1) common goals and expectations that give birth to institutionalized habits, traditions, rules, and regulations; (2) A set of values that are attached to a common goal and become a binder that unites community members in a joint venture in a certain way; (3) Basic attitudes and understanding of rights and obligations.

Gregory Grossman in ([Rahardja & Manurung, 2004](#)) said that what is meant by an economic system is a set of components or elements consisting of economic units and actors and economic institutions (institutions), which are not only interconnected and interact but also to a certain degree support and influence each other. [Dumairy \(1997\)](#) said that the Economic System does not stand alone, but is related to (1) philosophy; (2) people's view of life; (3) people's lifestyle; (4) ideology.

A country has rights in government including regulating natural resources and also economic activities that take place within it. This arrangement is based on the basis of the country and applicable laws. One example is the people's economic system. A people's economy is an economic system whose implementation is based on the interests and prosperity of the people. The people's economy is an economic system that is expected to be enforced in Indonesia so that the benefits are shared, not just for one party ([Silmi Nurul Utami, 2021](#)).

Populist/people's economy is an economic system initiated by Muhammad Hatta, the Father of Economics and the Proclaimer of Indonesian Independence in 1945. A populist economy is a system that is highly adhered to. The reason is, at that time the populist economic system was considered successful in saving MSMEs (Micro, Small, and Medium Enterprises) from poverty.

"The principle of democracy means that sovereignty belongs to the people. All laws (recht, laws, and regulations) must rest on the feelings of Justice and Truth that live in the hearts of the people." ([Hatta, 1932](#)).

Until now, the people's economy is one of the best economic management systems. Unfortunately, many of us do not understand what a people's economy is. The community economy is a process of managing business independently and collaboratively by community groups. According to Article 33 of the 1945 Constitution, what is meant by a people's economic system is a system for realizing people's sovereignty in the economic field. Meanwhile, according to the International Labor Organization (ILO), the notion of a populist economy is a traditional economic system carried out by local communities to sustain their lives. What is meant by local communities here are people with simple economic activities such as small traders and MSMEs.

A people's economic system is an economic system based on people's economic power. Then, what is the people's economy? A people's economy is an economic activity or business carried out by ordinary people who manage economic resources independently, according to whatever they can try and master ([Pustikom, 2018](#)).

The definition of a populist economy refers to Article 33 of the 1945 Constitution, which can be understood as an economic system aimed at realizing people's sovereignty in the economic field.

So, the point lies in the goal of popular sovereignty. This populist economy is usually identified with the existence of Small and Medium Enterprises (SMEs). The existence or activities of SMEs are aimed at meeting the basic needs of society in a country.

To determine the economic system used in a country, of course, many considerations are needed. Indonesia itself has also experienced many considerations in implementing a populist economic system.

When referring to its history, initially many developing countries including Indonesia chose to apply growth theory in their economic system. This is based on the experience of European countries which have successfully applied this growth theory. The economies of these developed countries continue to increase.

However, the same is not true for developing countries. Several developing countries that apply the principles of growth theory have failed. The application of this growth theory in developing countries actually causes an increase in socio-economic inequality.

Reflecting on this, Indonesian economists are working on alternative development concepts that are in line with the nation's conditions, but still relying on economic growth as a top priority.

The implemented economic growth must be human-oriented, while still accommodating the interests of other humans or society. This is a manifestation of the welfare development strategy by prioritizing community empowerment. In the end, this effort gave birth to the concept of populist economy.

The people's economy itself is often described as a form of humanistic economy that is based on achieving the people's welfare broadly. In a people's economy, economic development must also be carried out on the basis of humanity, and by avoiding forms of free competition, monopoly, and human oppression of one another.

From this, it can be concluded that the notion of a populist economy is an economic system to increase economic independence and the welfare of middle and lower-class people. Since before independence, the people's economy in Indonesia has been implemented and has become one of the pillars of the Indonesian state's economy to this day ([Kholifah, 2022](#)).

Principles of People's Economy in Indonesia

Broadly speaking, the people's economy in Indonesia is based on the 1945 Constitution in the following articles:

The people are collectively constructed by the 1945 Constitution which mandates the state to:

1. Implement policies (policy);
2. Management actions (bestuursdaad);
3. Settings (regelendaad);
4. Management (beheersdaad); BUMN (State Owned Enterprise)
5. Supervision (toezichthoudensdaad)

for the greatest prosperity of the people.

Article 33 paragraphs 1 to 3 contain the principle that;

"Indonesia's economy is structured based on the principle of kinship, control of important production branches by the state, and maximum utilization of natural resources for the prosperity of the people".

Article 27 paragraph 2 :

"About the right of every Indonesian citizen to get a decent job and livelihood.

Article 34 :

"The government is responsible for caring for the poor and abandoned children."

Agrarian Reform

"is a method that is systematic, planned, and carried out relatively quickly, within a certain and limited period of time, to realize social welfare and justice and pave the way for the realization of a 'new' democratic and just society; which began with the realignment of land control, use and utilization of land and other natural resources, followed by a number of other supporting programs to increase the productivity of farmers in particular and the people's economy in general" (Tuma, 1965) .

Reforma Agraria Objektif

1. Rearranging the agrarian structure to be just;
2. Resolving agrarian conflicts; And
3. Welfare of the people after the agrarian reform was implemented.

"The Indonesian revolution without land reform is like a building without a foundation, it's the same as a tree without a trunk, it's the same as talking nonsense without content. Doing Landreform means carrying out an absolute part of the Indonesian Revolution (Soekarno, 1960)." ([Kahin, 2010](#)) .

Characteristics of a People's Economy System

Among other economic systems, the people's economic system is one of the systems with the most unique characteristics. Details of the characteristics of the populist economic system are as follows:

1. Open, every community has equal rights and access to available resources.
2. Sustainability without compromising the future of society and the environment.
3. Economic activities are carried out independently and focus on meeting the needs of oneself and others.
4. Fair market mechanism with fair competition.
5. Prioritizing the quality of life, social interests, the value of justice, and economic growth.
6. Development is carried out in a sustainable manner without damaging the environment.
7. Communities have equal opportunities to work/open businesses for their welfare.
8. Consumer rights are protected and treated fairly.

People's Economic Goals

The first and main objective of the populist economy is to improve people's welfare. As the name suggests, people's economy is created, fought for, and reaped directly by the people, not just a handful of elites. The goals of a populist economy are:

1. Freeing the people from the oppression of the capital-owner oligarchy;
2. Making people economic subjects.
3. Increasing public participation in national capital ownership;
4. Increasing the participation of the community in controlling the wheels of the national economy;
5. Increasing mutual cooperation in the implementation of the national economy.
6. Ensuring Wealth Is Divided Equally; namely ensuring that wealth is distributed evenly without discrimination. So that the economic gap between the rich and the poor can be minimized as best as possible.
7. Increasing People's Per Capita Income; Income per capita is another term to refer to the nominal income of the community per one resident. In addition, per capita income is also

defined as the total state income (GDP) divided by all citizens. One of the objectives of the populist economy is to increase the nominal per capita of the community.

8. Reducing the Number of Poor People and Neglected Children; People's economy is to reduce the number of poor people and neglected children, both in terms of clothing, food, shelter, and education. If people's welfare increases evenly, more people will rise from poverty. Finally, the number of abandoned children from poor families has decreased.
9. Encouraging the State's Economic Growth; The populist economic system is a system that aims to encourage economic growth, first of all on a micro basis (per head of family) up to the national scale. If the people's economic conditions per capita increase evenly, then automatically the quality of the national economy will also increase.

Factors Driving the People's Economy in Indonesia

From the discussion of the objectives of the populist economy above, it can be concluded that the implementation of a populist economic system has had an extraordinarily positive impact. To realize this goal, there are several driving factors that we can try, namely:

1. Level of Community Knowledge and Skills; The first driving factor for the people's economy is the level of knowledge and skills of the community. If people's education and skills increase, the opportunities to be recruited will also increase, both on a national and international scale.
2. Active Participation of Capital Holders; In addition to community education and expertise, the active participation of investors in financing MSME entrepreneurs can also encourage the development of the people's economy. The more investment funds are collected, the more MSMEs will be funded. Finally, the community has the opportunity to develop their business properly, so that their welfare increases.
3. Cooperation between Entrepreneurs; The driving factor for the next populist economic system is a collaboration between entrepreneurs, especially MSMEs. By collaborating, entrepreneurs can cover each other's weaknesses. As a result, their cooperation will be stronger and able to achieve greater targets and profits.
4. Pro-people Government Economic Policy; The most important factor driving the people's economic system is government policy. With full support from the state, people will have the widest opportunity to explore resources from their own homes to open businesses.

Examples of People's Economy in Indonesia

The examples of the implementation of the populist economy in Indonesia is as follows:

1. Establishment of Cooperatives; The first example of example of the populist economy is the establishment of cooperatives, which are business entities with at least 9 members and the financing of which is carried out jointly by all members. Unlike a corporation, every member of a cooperative has an equal voice in expressing opinions, regardless of capital contribution.
2. Mastery of Resources by BUMN (State Owned Enterprises); The next example of the populist economy is the control of state resources by BUMN. The greater the ability of SOEs to manage state assets, the greater the income that can be generated to support development.
3. Free Tuition Fees; In accordance with its principles, a populist economy needs to strive for education that can be enjoyed by everyone regardless of economic status. Therefore, free education costs (minimum 12 years) are an example of a populist economy.
4. MSME Financing Assistance; The next example of a populist economy is MSME financing, both by the state and private investors. With the help of business capital, MSMEs have the opportunity to develop their business so that they have a larger scale.
5. Crowdfunding; The last point from the example of a populist economy is the crowdfunding program, which is the contribution of many people at once to fund a project, both profit and

non-profit. Currently, crowdfunding is one of the most popular socio-economic programs in Indonesia, especially online crowdfunding.

2.8. Micro, Small and Medium Enterprises (MSMEs)

The discussion of small and medium enterprises is included in the grouping of business types which includes industry and trade. The definition of small and medium enterprises (SMEs) is not always the same, depending on the concept used by the country. Regarding the meaning of small businesses, it turns out that it varies greatly, from one country to another. This definition includes at least two aspects, namely the absorption of labor and the grouping of companies in terms of the number of workers absorbed by the company.

Development of Small and Medium Enterprises has several comparative advantages over large businesses. These advantages include: In terms of capital, the development of small businesses requires relatively small business capital compared to large businesses. Besides that, the technology used does not need high technology, so its establishment is relatively easy compared to large businesses.

Small businesses have a high ability to adjust to market demand patterns, and even able to serve individual tastes. In contrast to large businesses that generally produce mass products (standard products), small companies have varied products so that they will

easy to adjust to consumer desires. Besides that, it also has the ability to serve very specific requests which, if produced by large-scale companies, are not efficient (unprofitable).

Small business Is a type of business that is suitable for start-up projects. Most of the large businesses that exist today are small-scale businesses that have developed, and to open a large-scale business is also sometimes started with a small-scale business. Starting a large-scale business, of course, requires large initial capital as well.

In order to strengthen the national economy in the future, SMEs must be able to properly anticipate economic globalization, because under these conditions the Indonesian and Nigerian economies will be increasingly integrated into the global economic system which is characterized by a strong will to reduce various forms of protection and encourage deregulation processes and bureaucratization towards an open economic system that is more market-oriented. For this reason, demands for efficiency and productivity are getting higher in order to be proactive in the process of globalization. The strong economy that we want to realize is an economy that has high growth, has industrial links, encourages economic transformation, and is able to distribute its growth results evenly. With the development of SMEs, it is hoped that they will be able to make a significant contribution to the development of SMEs so that it will further strengthen economic resilience in facing the era of globalization and free trade. SME development strategies include:

1. Business Partnership

Business cooperation relations between various parties are synergistic, voluntary, and based on the principles of mutual need, mutual support, and mutual benefit accompanied by the guidance and development of SMEs by large businesses. In current international business practices, business partnerships are one of the company's business strategies, especially for large companies that no longer rely on the strategy of internalizing business activities through acquisitions and mergers in the context of vertical and horizontal integration. Business partnerships are a way to reduce business risk, increase business efficiency and competitiveness.

2. SME Capital

In general, SME capital is still weak, this also determines the success of the coaching and development strategy in the field of capital, including how the government and the community implement the concept of capital to help the intended SMEs. Development policy directions that specifically focus on providing capital need to determine the following strategies:

- a) Integrate and strengthen three aspects, namely financial assistance, technical assistance, and guarantee programs.
- b) Optimizing the appointment of banks and microfinance institutions for micro, small, and medium enterprises (MSMEs).
- c) Optimizing the realization of banking business plans in the provision of KUK (Small Business Credit).
- d) Effective technical assistance, in collaboration with associations, private consultants, universities, and related institutions.
- e) Improve existing credit guarantee institutions.
- f) Strengthen microfinance institutions to serve the poor.

In general, UKM capital is still weak, this also determines the success of the coaching and development strategy in the field of capital, including how the government and the community implement the concept of capital to help the UKM in question. Development policy directions that specifically focus on providing capital need to determine the following strategies:

- a) Integrate and strengthen three aspects, namely financial assistance, technical assistance, and guarantee programs.
- b) Optimizing the appointment of banks and microfinance institutions for micro, small, and medium enterprises (MSMEs).
- c) Optimizing the realization of business plan banking in the provision of KUK (Small Business Credit).
- d) Effective technical assistance, in collaboration with associations, private consultants, universities, and related institutions.
- e) Improve existing credit guarantee institutions.
- f) Strengthen microfinance institutions to serve the poor.

2. Venture Capital

Venture capital is a fund invested in high-risk companies or individuals. According to Presidential Decree No. 61 of 1998, venture capital companies are business entities that carry out business development in the form of equity participation in a company that receives financial assistance for a certain period of time. Development for venture capital companies is different from banks which provide financing in the form of [loans or credit].

Venture capital businesses provide financing by participating in direct equity participation in the company being financed. The company being financed is called a business partner company or investment company, and the investor being financed is called an investment company or venture capitalist.

SMEs are the center of attention because of their "less advanced" level of economy and knowledge in doing business. SMEs face obstacles in maintaining or developing their business (business), including a lack of business management knowledge, lack of capital, and weakness in marketing. The market condition faced by SMEs is monopolistic competition besides that it is a fact that needs to be considered. To overcome SMEs must plan the right business strategy.

Empowerment is an attempt to make something that was powerless become empowered. Coaching is a treatment that SMEs have the ability. Efforts to achieve these goals are carried out through coaching. The target of coaching for small entrepreneurs is to reduce or if possible eliminate the weaknesses and obstacles that are owned/faced by the company as well as to increase and take advantage of its advantages and opportunities, such as:

- a) Growing business scale
- b) Business opportunities
- c) Market share

With intervention from external parties, it is hoped that their business scale can be increased from small to medium, and from medium to large. Likewise with assistance for access to external parties, then

business opportunities and market share can be developed. Access to sources of capital helps access to funders/investors or credit providers/providers that will solve the company's capital needs problem, because it's not that they don't want to provide funding to entrepreneurs, but because each of them doesn't know and don't know each other. Therefore it is necessary to have a facilitator who can connect between the two parties.

Small and Medium Enterprises (SMEs) have very important functions and roles for the national economy. The functions and roles of SMEs include providing goods and services, improving living standards, absorbing labor, for equal distribution of income, as well as adding value to regional products.

In an effort to build a people's economy, the President of the Republic of Indonesia has given directions to carry out the development of Upgraded MSMEs and Modernization of Cooperatives. The role of MSMEs is very large for Indonesia's economic growth, with their number reaching 99% of all business units. The contribution of MSMEs to GDP also reaches 60.5%, and to employment is 96.9% of the total national employment absorption.

According to data from the Indonesian Joint Funding Fintech Association (AFPI), in 2020 around 46.6 million out of a total of 64 million MSMEs in Indonesia do not have access to capital from banks or non-bank financial institutions. The financing constraints experienced by MSMEs have become the basis for the Government to provide support for other financing facilities, including through the partnership and community development program (CDP), Mekaar PNM, Micro Waqf Banks, Ultra Micro Financing (UMi), and People's Business Credit (PBC).

This financing scheme can be accessed by MSMEs according to their class in line with the development of the MSME business level. Since January 19, 2022, the PBC scheme consists of Super Micro PBC, Micro PBC , Small PBC, Special PBC, and PMI PBC. Especially for Super Micro PBC and Micro PBC, no additional collateral is required.

Thus, the future challenges for MSMEs that must be jointly addressed by all relevant stakeholders include innovation and technology, digital literacy, productivity, legality or licensing, financing, branding and marketing, human resources, standardization and certification, equitable development, training , and facilitation, as well as a single database ([Eko, 2022](#)).

2.9. Social Capital

Social capital is a new terminology developed by social scientists to enrich the understanding of society. Social capital is an interesting debate for social scientists. The theory of social capital was originally developed by a French sociologist named (Pierre Bourdieu) and an American sociologist named (James Coleman). Bourdieu revealed three things regarding social capital, including money capital, social capital, and cultural capital. Social capital can be used for all purposes, but without physical resources and cultural knowledge, it will be difficult for individuals to build social relationships. Social relations will only be strong if the three elements above exist (Hasbullah, 2006).

Meanwhile, James Coleman defines social capital as the structure of relationships between individuals that enable them to create new values. In Coleman's opinion, social capital is weakened by processes that undermine kinship, such as divorce and separation, or migration. When families leave their existing networks of kinship, friends, and other contacts, the value of their social capital falls. (Field, 2010:140).

Social capital is a social relationship that is intertwined in everyday life as a community. Social relations reflect the results of social interaction over a relatively long time so as to produce networks, dynamic patterns of cooperation, social exchange, and mutual trust, including the values and norms that underlie these social relations (L. D. Ibrahim, 2006:110) .

Social capital places more emphasis on group potential and patterns of social relations between individuals in a group and between groups, with space to pay attention to beliefs, networks, norms, and values born of group members and become group norms. In society, there are several types of capital, namely cultural capital, human capital, financial capital, and physical capital. Cultural capital places

more emphasis on the abilities possessed by a person, which are obtained from the family or surrounding environment. Human capital refers more to the abilities and expertise possessed by individuals. Financial capital is cash-owned, bank savings, investments, credit facilities, and other things that can be calculated and have a nominal value. Physical capital is associated with everything related to the material.

Francis Fukuyama (2016:22), defines social capital simply as a set of informal values or norms that are shared among members of a group enabling cooperation between them. If group members expect that other members will behave honestly and reliably, then they will trust each other. If the people who work together in a company trust each other and work according to a shared set of ethical norms, then doing business costs little (Fukuyama, 2007:38).

There are several definitions given by experts regarding social capital which in outline illustrate that social capital is a very decisive element for the establishment of cooperation between individuals, and groups, and the creation of collective cooperative behavior. So social capital is always inseparable from the three main elements that exist in social capital, namely: (a) Trust (honesty, fairness, egalitarianism, tolerance, and generosity); (b) Social Networks (participation, reciprocity, solidarity, cooperation); (c) Norms (shared values, norms, and sanctions, rules). Based on these three elements of social capital, in essence, are the elements that exist in the life of social groups, whether the group is called community, society, ethnicity, or other categories. The elements of social capital are hierarchical which are inseparable in the social structure of society.

Social Networks

The central idea of social capital is that social networks are an asset (Field, 2005: 16), networks are a basis for social cohesion that unites people to cooperate with one another and not just with people they know directly so that win-win solution.

Networks of individuals engaged in reciprocal social interaction, mutual priority, and mutual support. Networks can be complex; they do not apply explicit market criteria, nor do they adopt the paternalism that is usually found in hierarchies. The basic assumption of network relations is that one party is dependent on resources controlled by the other party, and there are benefits to be gained from combining resources. In essence, the parties in the network agree not to pursue their own interests by harming others. Powell in Hamilton & Sherman, (1996).

Network and group linkages are vital aspects of social capital. Social networks occur thanks to the linkages between individuals in the community. Linkages are manifested in various types of groups at local and higher levels. Networks of social relations will usually be colored by a typical typology in line with the group's characteristics and orientation. Social groups that are usually formed traditionally on the basis of similarity of lineage, repeated social experiences, and similarity of beliefs in the dimension of religion (religious belief) tend to have high cohesiveness, but the range of networks and trust that wakes up is very cramped. Conversely, groups that are built on the basis of similar orientations and goals with more modern organizational management characteristics will have a better level of member participation and a wider range of networks.

Basically social capital is a collaboration that is built to achieve goals. Collaboration that exists is created when there has been a relationship of social interaction resulting in a network of cooperation, social exchange, mutual trust, and the formation of values and norms in these interaction relationships.

Fukuyama (2002: 324), defines a network as a group of individual agents who share informal norms or values beyond the values or norms that are important for ordinary market transactions. Networks provide the basis for social cohesion because they encourage people to cooperate with one another and not just with people they know directly to obtain mutual benefits Field, (2010:18).

"Social capital is defined as resources embedded in one's social networks. Resources, that can be accessed or mobilized through ties in the network"

Social capital is defined as resources that are embedded in one's social networks, resources can be accessed or mobilized through relationships in networks). Fukuyama (2002: 332), explains that even through friendship or friendship, networks can be created that provide alternative channels for the flow of information and into an organization. Networks with high trust will function better and more easily than networks with low trust (Field, 2010:103). Individuals who have experienced betrayal from a close partner will know how difficult it is to work together without trust.

The occurrence of a social network is inseparable from communication which results in social interaction. Thus this network facilitates the occurrence of communication, and interaction between humans, or fosters trust and cooperation between these groups. The process for the formation of social networks is the occurrence of communication. The network is built on existing nodes, namely the role of social capital.

Trust

Social capital; The trust described by Max Weber, where Weber saw a baptismal sect in Christianity that showed moral qualities in starting a business and obtaining capital loans. The elements of social capital described by Max Weber namely

1. There is a network of non-economic relations.
2. The existence of a social network function that allows the circulation of information.
3. Information and trust are used to obtain economic resources.

As Weber's statement saw that Protestants work hard not to seek profit, but to gain a position before God. From this statement, it can be seen that a person's economic actions are strongly influenced by the element of belief (religiosity) that is owned by every society. Religion in this case plays a role in fostering an attitude of enthusiasm to work hard, be thrifty and care for others. If they believe in that, God will guarantee reward and heaven for them.

In the view of Francis Fukuyama, trust is an attitude of mutual trust in a society that allows the community to unite with one another and contributes to increasing social capital. Fukuyama argues that trust is the expectation that arises in a community that behaves normally, honestly, and cooperatively based on shared norms. The existence of guarantees about honesty in the community can strengthen a sense of solidarity and cooperative nature in the community.

Fukuyama (2002:24), defines trust, namely cooperative norms such as honesty and willingness to help which can be shared between limited groups of people and not with others from society or with others in the same society. If group members expect that other members will behave honestly and reliably, then they will trust each other.

Fukuyama (2002:72), says that trust is a very important side effect of cooperative social norms that give rise to social capital. If society can be relied upon to maintain commitments, respectful norms of mutual assistance, and avoid opportunistic behavior, then groups will form more quickly, and the groups that are formed will be able to achieve common goals more efficiently.

According to Fukuyama (2002:75), belief should be remembered in itself as not a moral virtue, but rather a side effect of virtue. Trust arises when people share norms of honesty and availability to help each other and are therefore able to cooperate with one another. Trust is destroyed by excessive selfishness or opportunism. Therefore, trust can enable people to work together more effectively because they are willing to place group interests above individual interests.

Norms (Norms)

Norms cannot be separated from networks and trust. Norms are a set of rules that are expected to be implemented and followed by community members in a particular social entity. In the norms, there will be sanctions if there are violations and deviations from members of the community. So norms will be

important as limits on what can be done and what is prohibited by members of society to maintain the longevity of existing relationships. The existence of the same view and the cooperation that is carried out will lead to a norm within the street vendor community itself.

2.10. Collaborative Governance

In recent years, collaborative governance has become one of the publicity concepts that has begun to be in great demand by academics. Collaborative Governance emerged to respond to implementation failures, high costs, and the politicization of public sector regulations. The focus is on every stage of public policy. Collaborative governance is a new paradigm in understanding the existence of multi-stakeholders in public affairs. This paper actually describes the dynamics of collaborative governance in the study of public policy in dealing with the process of policy stages. The complexity of the relationship between actors in public policy gave birth to a new concept called collaborative governance. In short, collaborative governance is a process and structure that involves various parties across organizational boundaries. Collaboration is used to describe formal, active, explicit, and collectively oriented cooperation in management and public policy. The basic values are consensus orientation in decision-making (objectives), collective leadership in institutions (structure), multidirectional communication in human relations (interaction), and resource sharing in action (process). These basic values become an integrated whole at every stage of public policy.

In recent years, collaborative governance has become one of the publicity concepts that has begun to be in great demand by academics. Collaborative Governance emerged to respond to implementation failures, high costs, and the politicization of public sector regulations (Ansell & Gash, 2007). The focus is on every stage of public policy. Collaborative governance is a new paradigm in understanding the existence of multi-stakeholders in public affairs. There are certain characteristics in actor relationships that make it important to conduct collaborative studies (Silvia, 2011).

Governance is a policy-making process in which policies are implemented involving the state (government), the private sector, and civil society in the process of making and implementing policies (PBCniawan, 2007). There are five propositions regarding governance, namely: 1) Governance refers to institutions and actors, 2) Governance identifies the blurring of boundaries and responsibilities overcoming social and economic issues, 3) Governance identifies the dependency of the relationship between the institutions involved, 4) Governance is about autonomous self-governing of the actors, 5) Governance makes it aware that to fix something it is not necessary to depend on government power through orders and authority Stoker in (PBCniawan, 2007) .

Based on some of these meanings according to researchers, governance is the process of making policies carried out by government administrators. Established policies require cooperation between related parties. The collaboration includes a collaborative approach that includes the government, the private sector, and the community in achieving previously agreed goals.

To find out the position of collaboration in the context of public administration is done by examining the concept from various scientific perspectives. Collaboration is a relationship between organizations (sociology), relations between governments (public administration), strategic alliances (business management), and multi-organizational networks (public management). These four perspectives dive into one theme, namely explaining interactions and relationships across organizations.

In the public administration literature, governance terminology is often used to explain inter-organizational interrelationships. The notion of governance is not just the involvement of public institutions in the formulation and implementation of policies, but the connection of various organizations to carry out public goals.

Based on a number of explanations above, Goddard concludes that in relation to government and third-sector organizations, there has been a shift from a formal administrative bureaucratic framework to a collaborative model. Collaboration is a form of complementary relationship concept, especially relations between government and non-profit organizations, third-sector organizations, and other social organizations. Based on that, collaboration is part of the study of public administration.

Collaborative cooperation occurs when the parties have the same vision, goals, strategies, and activities but have the authority to make decisions independently and have the authority to manage the organization even though they are subject to a mutual agreement (Dwiyanto, 2011, p.251). Collaborative Governance emphasizes six criteria, namely: (1) this forum is initiated by a public institution or institution, (2) participants in the forum include private actors, (3) participants are directly involved in decision-making and not just as service providers by public agencies, (4) organized, (5) the forum aims to make decisions by consensus and (6) the focus of the collaboration is on public policy and public management (Ansell & Gash, 2007).

Based on this understanding, according to researchers collaborative governance is an activity that binds between related parties. These parties are partners and work pathers to achieve a goal in accordance with mutually beneficial provisions and agreements to produce goods and services.

According to Ansell & Gash, (2007), The network is used to describe the form of cooperation between the government and the community which is more plural, informal, and implicit in scope. The partnership is used to describe cooperation that is more oriented towards coordination than consensus in decision-making. Collaboration is used to describe cooperation that is formal, explicit, and collectively oriented in decision-making. Collaboration involves managing relationships to manipulate regulations and systems while the network only talks about executing civil works (Goliday, 2010). Partnership occurs when PBCang private agents more replace the role of the public whereas collaboration occurs when public and private agents carry out active functions (Bevir & Richards, 2009).

Ansell & Gash, (2007), in his article entitled 'Collaborative Governance In Theory and Practice', the criteria for collaboration is consensus. Agreement is based on common interests. Consensus must be based on commitment. The content of the commitment is related to the escort of promises or agreements. Without high commitment, it is difficult to realize the unity of promises.

Besides that, what determines a consensus depends on the symbiosis of mutualism (mutual benefit). If there are parties who are disadvantaged, the chance of not reaching a consensus is very large. So, mutual commitment and mutual benefit are important to put forward so that the orientation can be achieved properly. Indeed, it is not easy to reach mutual agreement because there are many interests in a collaborative governance. Different organizations sometimes have different interests.

One of the main themes in collaborative practice according to Osborne, Stephen. P (Osborne, 2010) adalah leadership (kepemimpinan). Emerson et al., (2011) added that leadership is part of the capacity for joint action in collaborative governance practices. Leadership in collaboration is more networked than hierarchical. That is, each party is in the same position. The relationship between the parties involved is more on the function of coordination than command. In contrast to the hierarchical pattern which usually prioritizes command. Structurally the position of the actors is the same. Nothing is above or below. The coordination line is not vertical. Each has a different task but is in the same position. Duties and responsibilities are carried out regularly.

The understanding of leadership in collaboration is directed at collective leadership. All individual

actors, groups, or organizations involved are leaders without exception. The term collective leadership is in line with the term distribution of leadership as stated by Goodin et al., (2008). Even though it is directed at a collective model, the presence of a coordinator is still recommended to facilitate direction. At least become the center of the stages of public policy to know the progress, results, and impact. Network-based collective leadership is one of the basic values. Collective leadership forms the distribution of power among stakeholders. According to Johnston et al., (2011), that a collaborative approach is taken to facilitate solving public problems. It must be acknowledged that the government has strengths and weaknesses, as well as the private sector, the media, and non-governmental organizations. Collaboration is here to answer the existence of PBCangan resources. Often the shortage of resources is the reason for not implementing a solution to a problem.

Institutional performance is strongly influenced by its resources (Lee & Whitford, 2012) , Collaborative governance which has been used as a governance strategy must indeed pay attention to resources in the framework of strengthening public policy. The existence of the division as stated will certainly be a strength in itself. In addition, knowledge also includes things that must be shared. If the resource requirements are met, the impact of a collaborative action will be more pronounced. It is certain that the power possessed by collaboration is better than partial activity. Something that unites and unites has its own power. Collaboration forums are shared property of all parties involved. Therefore, there is no reason not to share the resources they have. Good results will increase the reputation of the parties involved, otherwise bad results will reduce reputation. Of course, collaboration is here to provide better colors. Various resources become one of the pillars.

The complexity of the relationship between actors in public policy gave birth to a new concept called collaborative governance. In short, collaborative governance is a process and structure that involves various parties across organizational boundaries. Collaboration is used to describe formal, active, explicit, and collectively oriented cooperation in management and public policy. The basic values are consensus orientation in decision-making (objectives), collective leadership in institutions (structure), multidirectional communication in human relations (interaction), and resource sharing in action (process). These basic values become an integrated whole at every stage of public policy.

2.11. Stakeholders

In simple terms, stakeholders are all parties, whether individuals, communities, or groups of people who have a relationship and interest in the organization, company, and issues being discussed. In the Indonesian translation itself, the meaning of a stakeholder is a stakeholder or an interested party. As quoted from Investopedia, stakeholders are parties who have an interest in the company and can influence or be influenced by the business.

Meanwhile, according to Freeman, the notion of stakeholders is a group of people or individuals who influence each other and are also influenced by the achievement of certain goals of an organization.

Ramizes in his book Cultivating Peace, identifies various opinions about stakeholders. Friedman defines stakeholders as:

"any group or individual who can affect or is affected by the achievement of the organization's objectives." The free translation is as a group or individual who can influence and/or be affected by the achievement of certain goals.

Biset briefly defines stakeholders as people with an interest or concern for a particular issue. Meanwhile, Grimble and Wellard see stakeholders in terms of the important position and influence they have. From this definition, stakeholders are an attachment based on certain interests. Thus, when talking about stakeholder theory, it means discussing matters relating to the interests of various parties.

The first thing about stakeholder theory is that stakeholders are systems that are explicitly based on views about an organization and its environment, regarding the nature of the interplay between the two which are complex and dynamic.

In the context of village development, the involvement of stakeholders in empowering village communities is established through collaboration. Collaboration according to Salman (2012: 140-141) is a way or method to create a situation where two or more parties contribute to each other in the stages of achieving common goals, while the elements include Resources, Organization, and Norms. Stakeholder involvement in community empowerment can be seen from three stages, namely the awareness stage, capacity building, and empowerment stage (Wrihatnolo, 2007).

Stakeholder collaboration is in line with what was revealed by Godsell (2017) that public value must come from the social collectivity of people acting together in public spaces accompanied by democratic dialogue on shared concerns. Therefore, what is valued and believed to be the best solution is not only determined by the government alone.

2.12. Promotion, Marketing and Product Sales

Definition of Promotion

Promotion is an activity carried out to convey a certain message about products or services, trademarks or companies and so on to consumers so that they can help marketing increase sales.

Philip Kotler (1997, 142) defines promotion as an activity carried out by companies to communicate the benefits of their products and to convince consumers to buy. Julian Cummins (1991, 11) defines promotion as a series of techniques used to achieve sales or marketing targets using cost-effective means, by providing added value to products or services either to intermediaries or direct users. Usually not limited in a certain period of time

The product has been created, the price has also been set, and the place (layout location) has been provided, meaning that the product is really ready to be marketed and sold. In order for the offered product to be sold to the public or customers, the public needs to know the presence of the product, the benefits of the product, the price where it can be obtained and the advantages of the product compared to competing products. One way to inform or offer products to the public is through promotional means.

According to Saladin, promotion is a communication of seller and buyer information that aims to change the attitude and behavior of buyers, who previously did not know become familiar so that they become buyers and still remember the product. ([Saladin, 1996](#)).

According to Stanson, promotion is the best strategic combination of advertising, personal selling, and other promotional tools, all of which are planned to achieve sales program objectives. Meanwhile, according to Lamb, Hair, and Mc-Daniel, promotion is a communication from sellers who inform, persuade, and remind potential buyers of a product in order to influence their opinion or obtain a response. ([Jaiz, 2014](#)). From some of these meanings, as an offer term, promotion is the company's efforts to influence customers or consumers to want to use the products or services offered by the company. Promotion includes elements of providing information and influencing customer behavior. It can also be interpreted that promotion is an effort by producers to communicate with customers in order to influence customers to lead to the actions the company wants, namely having consumers.

Promotion Function

According to Terence A. Shimp (2002: 7) promotion has functions such as:

1. Informing (providing information), promotion makes consumers aware of new products, educates them about the various features and benefits of the brand, and facilitates the creation of the image of a company that produces products or services. Promotion displays other valuable

informational messages, both for the advertised brand and its consumers, by teaching new benefits of existing brands.

2. Persuading (Persuading), good promotional or advertising media will be able to persuade customers to try the products and services offered. Sometimes persuasion takes the form of influencing primary demand, that is, creating demand for an entire product category. More often, promotion seeks to build secondary demand, demand for a company's specific brand.
3. Reminding, advertising keeps the company's brand fresh in the minds of consumers. When a need arises, which relates to the product and service being advertised, the impact of past promotions allows the advertiser's brand to appear in the minds of consumers. Advertising has further been demonstrated to influence brand switching by reminding consumers that recently they have not purchased brands that are available that contain favorable attributes.
4. Adding Value, there are three basic ways in which companies can buy added value to their offerings, innovation, improvement, quality, or changing consumer perceptions. The three value-added components are completely independent. Effective promotion causes the brand to be seen as more elegant, more stylish, more prestigious, and can be superior

Promotion Purpose

Meanwhile, according to Boone and PBCtz (2002: 134), the purpose of promotion is as follows:

1. Providing information Providing this information is the purpose of a promotional strategy carried out by the company only to produce information that informs prospective buyers about the product or service that will be marketed.
2. Differentiate a product. The purpose of this promotion is to differentiate the company's product or service objectives from competitors' products or services. With the services of applying a concept called positioning. Marketers try to reach a place in the minds of consumers, namely by communicating significant differences regarding the attributes, prices, qualities, or benefits of consumer products or services.
3. Increasing sales is the most common goal of a promotional strategy. As stated earlier, some strategies concentrate on stimulating primary demand while partially stabilizing sales.
4. Stabilize sales Sales Stability is another goal of promotion, companies usually promote sales content during periods of declining sales and motivate salespeople by offering prizes such as holidays, television, and scholarships to those who achieve certain targets.
5. Highlight the value of the product A number of promotions were proposed to highlight the value of the product by explaining the benefits of ownership of the product that buyers are familiar with.

Based on the objectives of promotion that have been described by experts, the authors argue that the main focus of promotion is on the final product contained in a company..

Definition of Marketing

Marketing includes activities related to the act of creating uses or benefits due to place, time, and ownership. Marketing moves goods from one place to another, stores them, and then changes ownership, through the act of buying and selling these goods. Marketing is a commercial activity related to the flow of goods and services between producers and consumers.

According to Kotler and Keller (2009), "Marketing is one of the main activities that needs to be carried out by companies, both goods and service companies in an effort to maintain business continuity." Meanwhile, according to Tjiptono and Chandra (2012), "Marketing means individual activities directed at fulfilling wants and needs through barter." Marketing means determining and fulfilling human and social needs with the intention of satisfying human needs and desires so it can be said that successful marketing is the key to the success of a company.

Based on the definition above, it can be concluded that marketing is an overall system of business activities used to plan, determine prices, distribute, and promote an item or service that aims to satisfy the needs of buyers.

The marketing concept is needed in carrying out marketing activities to determine and meet the needs of the target market. Marketing must be distinguished from sales, marketing is a management orientation that assumes that the company's main task is to maximize customer satisfaction (consumer satisfaction), while sales are only part of marketing activities that are more oriented towards increasing maximum sales volume. According to Kotler and Keller (2009),

"The job of marketing isn't finding the right customer for your product, it's finding the right product for your customer." In marketing management there are four main things that can guarantee the success of a company in marketing its products, these four main things are called the marketing mix (marketing mix).

Meanwhile, marketing management consists of planning, organizing, directing, and controlling Ebert and Griffin (2007) or it can also be said to design and implement plans. According to Kotler and Keller (2009):

"Marketing management is defined as the art and science of choosing target markets and getting, keeping and growing customers through creating, delivering and communicating superior customer value."

While the marketing strategy can be interpreted as a basic plan of organizational action to achieve its goals. According to Tjiptono (2008):

"Marketing strategy is a plan that describes the company's expectations of the impact of various marketing activities or programs on the demand for its products or product lines in certain target markets." Marketing strategy is a fundamental tool that is designed or planned to achieve the goals of a company by carrying out the development of sustainable competitive advantage through the markets it enters and the programs used to serve its target markets.

Based on the definition above, it can be concluded that marketing strategy is a plan used by companies to market the products they produce to consumers..

Definition of Sales

Sales is one of the activities carried out by the company to maintain its business growth and to get the desired profit or profit. Sales also mean the process of selling activities, namely from the activity of setting the selling price until the product is distributed to consumers (buyers) ([Nafarin, 2007](#)).

Sales activities are complementary activities or supplements to purchases, to enable transactions to occur. So buying and selling activities are a single entity to be able to carry out the transfer of rights or transactions. Therefore, selling activities like selling activities as well as buying activities, consist of a series of activities that include creating demand, finding the buyer, negotiating prices, and payment terms. In this case, this sale, as the seller must determine the policies and procedures to be followed to enable the execution of the set sales plan ([Assauri, 1987](#)).

Sales Goals

The company's ability to sell its products determines success in seeking profits, if the company is unable to sell, the company will suffer losses. The general purpose of sales within the company is :

- a) Goals designed to increase total sales volume or increase sales of more profitable products ([Tjiptono, 2008](#)).
- a) Purpose designed to maintain an effective sales position through regular sales visits in order to provide information about new products.
- b) Support the growth of the company

This goal can be achieved if sales can be carried out as previously planned. Sales do not always run smoothly, the profits and losses obtained by the company are heavily influenced by the marketing environment. This environment greatly influences the company's development.

2.13. Singkong (Cassava)

Cassava, also called *Manihot esculenta*, is a tropical and subtropical annual shrub of the Euphorbiaceae family. Tubers are widely known as a staple food producing carbohydrates and leave as vegetables.

The shrub can reach up to 7 meters with sparse branches. Taproot with many branch roots which then enlarge into edible root tubers. UPBCan tubers have an average diameter of 2–3 cm and a length of 50–80 cm, depending on the clone/cultivar. The inside of the tuber is white or yellowish. Cassava tubers cannot stand being stored even if placed in the refrigerator. Symptoms of damage are indicated by the discharge of a dark blue color due to the formation of cyanide acid which is toxic to humans.

Cassava root is an energy source that is rich in carbohydrates but very poor in protein. A good source of protein is found in cassava leaves because they contain the amino acid methionine.

Apart from rice, cassava is a staple food that is widely consumed by Indonesian people. Besides being delicious, it turns out that cassava has several health benefits. To find out what these benefits are, let's look at the following review.

Cassava is a staple food for some of the world's population, especially those living in tropical areas, such as South America, Africa, and Asia, including Indonesia. In Indonesia alone, cassava is processed into various dishes, from fried foods, steamed or boiled cassava, and tape, to get.

100 grams of cassava contains about 150 calories and the following various nutrients:

38 - 40 grams of Carbohydrates.

1 - 1.2 grams of protein.

1 - 2 grams of Fiber.

300 milligrams of potassium

20 milligrams of calcium

25 - 30 micrograms of folate

20 - 30 milligrams of vitamin C

Cassava also contains zinc, magnesium, selenium, phosphorus, vitamin A, B vitamins, and various types of antioxidants, such as polyphenols and flavonoids.

What are the Benefits of Cassava for Health?

Due to its various nutritional content, cassava is considered to have health benefits, such as:

Increases energy

Cassava contains high enough calories. 100 grams of cassava, containing 110-150 calories. This number of calories is higher than the calories in other types of tubers, such as potatoes and sweet potatoes. Therefore, you can get extra energy to carry out your daily activities if you consume cassava.

It is a source of fiber and complex carbohydrates

Apart from calories, cassava is also rich in complex carbohydrates and fiber. These two nutrients function to maintain digestive tract health, reduce inflammation, and control blood sugar levels. When blood sugar levels are under control, the risk of developing type 2 diabetes and obesity will also be lower.

Has a good antioxidant content

Other benefits of cassava can be obtained from the content of vitamin C, vitamin A, and beta-carotene in it. Vitamin C and vitamin A are antioxidants that function to protect the body from the effects of free radicals, prevent heart disease, and treat wrinkles on the skin.

While beta-carotene functions to increase endurance, prevent recurrence of asthma symptoms, reduce the risk of cancer, and is good for skin and eye health. Intake of these nutrients can also prevent various eye diseases, such as cataracts and age-related macular degeneration (AMD).

Helps control blood sugar

Cassava is a food with a low glycemic index value. This means these foods do not make blood sugar levels rise quickly. Meanwhile, there is some research that states that cassava is beneficial to help prevent diabetes and insulin resistance. Cassava is even said to help control blood sugar levels in diabetics.

In addition to the benefits above, cassava is also claimed to be used as an alternative medicine to treat fatigue, diarrhea, infections, fertility problems, and induce labor. Nevertheless, the benefits of cassava as an alternative medicine have not been medically proven.

History of its cultivation and distribution

Manihot esculenta was first known in South America and then developed in prehistoric times in Brazil and Paraguay, since PBCang more than 10 thousand years ago. Modern forms of the cultivated species can be found growing wild in southern Brazil. Although there are many wild *Manihot* species, all cultivars of *M. esculenta* can be cultivated. However, archaeological evidence of cassava cultivation is actually found in the Mayan Indian culture, to be precise in Mexico and El Salvador.

World cassava production is estimated at 192 million tons in 2004. Nigeria ranks first with 52.4 million tons, followed by Brazil with 25.4 million tons. Indonesia ranks third with 24.1 million tons, followed by Thailand with 21.9 million tons (FAO, 2004[2]) Most of the production is produced in Africa 99.1 million tons, and 33.2 million tons in Latin America and the Caribbean Islands.

History of Dutch Hindi - Indonesia

Cassava was grown commercially in Indonesia (at that time the Dutch East Indies) around 1810, after being introduced by the Portuguese in the 16th century from Brazil. According to Haryono Rinardi in Colonial Era Cassava Politics, cassava entered Indonesia and was brought by the Portuguese to Maluku around the 16th century. This plant can be harvested as needed. "This characteristic causes cassava plants to be often referred to as underground stockpiles," wrote Haryono.

It took a long time for cassava to spread to other areas, especially to Java. It is estimated that cassava was first introduced to a district in East Java in 1852. "The regent as a civil servant must set an example and act as a pioneer. Otherwise, the people would not believe it at all," wrote Pieter Creutzberg and J.T.M. van Laanen in History of Indonesian Economic Statistics.

But until 1876, as H.J. van Swieten, controller in Trenggalek, in the book *De Zoete Cassave (Jatropha janipha)* published in 1875, PBCang cassava is known or not present at all in some parts of Java Island, but it is planted on a large scale in other parts. "However, today cassava has a greater importance in the diet of the population than half a century ago," he wrote, as quoted by Creutzberg and van Laanen. Until around 1875, consumption of cassava in Java was still low. Only at the beginning of the 20th century, its consumption increased rapidly. Its cultivation also expanded. Moreover, the people were asked to expand their cassava plants.

The increase in cassava planting is in line with the rapid population growth of the island of Java. In addition, rice production has lagged behind population growth. "Cassava in particular is a preferred source of additional food," wrote Marwati Djoened Poesponegoro and Nugroho Notosusanto in

National History of Indonesia V. Until now, cassava has become one of the main food ingredients, not only in Indonesia but also in the world. In Indonesia, cassava is the third staple food after grains and corn.

The Dutch East Indies was once one of the largest exporters and producers of tapioca starch in the world. In Java, many cassava processing factories have been established to make tapioca flour. As in the Handbook of the Netherlands East Indies, in 1928 it was recorded that 21.9% of tapioca production was exported to the United States, 16.7% to England, 8.4% to Japan, then 7% were sent to the Netherlands, Germany, Belgium, Denmark, and Norway. Usually, processed cassava flour is used as a raw material for glue and chewing gum, the textile and furniture industries.[citation needed]

Sampeu and Cassava are local names in West Java for this plant. The names "cassava" and "cassava" are widely used in Malay. The name "yam" is etymologically derived from the Portuguese word "Castilla" (pronounced "kastiya"), because this plant was brought by the Portuguese and Castilla (Spain).

Cassava plants are called sweet or poisonous, depending on the content of hydrocyanic acid in the root, which is generally recognized to contain PBCang of 50 milligrams of hydrocyanic acid per kilogram of fresh material. Currently, there are 10 varieties of cassava on the market. The ten varieties are grouped into two, namely cassava varieties for food and for industry.

Varieties for food are: a). N1 Mekarmanic; b). Adira 1; c). Malang 1; d).Malang 2; e). and Darul Hidayah.

Meanwhile, industrial cassava is: a). N1 Mekarmanik; b). Adira 2; c). Adira 4; d). Malang 4; e). Malang 6; f). UJ 5; g). and UJ 3.

The varieties for food have a pure tuber texture with HCN levels <50 milligrams per kilogram and have a non-bitter taste. Meanwhile, sweet potatoes for the industry have catfish or dry matter content of around 0.6 grams per kilogram. Several superior varieties of cassava that have been released by the Ministry of Agriculture include Adira 1, Adira 2, Adira 4, Malang 1, Malang 2, Darul Hidayah, Malang 4, and Malang 6.

2.14. Research Hypothesis

This study, uses Hypothesis-driven Development (HDD), namely development driven by hypotheses about how to solve the right problem at the right time. This ensures that problem understanding is verified before the actual work project can begin. By first making an adaptive solution to the problem at hand, by doing some significant solution testing. solutions are viewed as hypotheses, which can be theories about areas relevant to the problem statement. HDD's goal is to increase team effectiveness, by ensuring correct resolution of identified problems, rather than having to constantly build solutions that have a low impact on solving a problem.

Researchers have determined the Hypothesis-driven Development (HDD), in a cassava utilization work project in dealing with vulnerability to food security and reducing dependence on imports of strategic foodstuffs, especially cassava, and sugar. Testing adaptive solutions for sustainable village development (SDGs) as food production centers by creating social capital for the purpose of village economic development based on a just and equitable populist economy. The test hypothesis includes:

1. A strategic solution to vulnerability to food security, and dependence on imports of wheat and sugar strategic foodstuffs, through efforts to utilize and empower local resources including; 1. Local Land; 2. Local plants (cassava); 3. Local farmers; 4. Local MSME small industry.
2. Practice Collaborative Governance by involving 9 (nine) stakeholders as a strategic step in SDG's village development, to build the socio-economic village.
3. Village development as a center for food production will run effectively with the creation and involvement of social capital (Social Network, Trust, and Norm).
4. People's economic development is the solution to fair and equitable economic development.

2.15. Conceptual of Research

The conceptual framework is a line of thought on a relationship between one concept and another to be able to provide an overview and direct assumptions related to the variables to be studied.

Conducting research requires good and systematic steps to compile the data needed for the research. The right steps in research will produce good research, directed and can be applied to further research. Therefore, a good conceptual study is needed to support research so that it is more focused and better. So that the research carried out can be maintained.

This study aims to analyze and describe the study of food security through empowering local resources including; a) local land resources; b). Local workers; c). Types of local food plants; cassava/cassava/Cassava; d) Local institutions (Governmental or non-Governmental). This research uses the perspective of Sustainable Development (SDGs), with a focus and goal on sustainable village development (Village SDGs) as a center for food production. Village development is based on the targets and provisions of the 17 Goals and principles that have been determined in the SDG's provisions.

This research was conducted in the country; Indonesia, Nigeria, and Zambia, the findings in the research of each country will become material in a comparative study. The main thing to consider in this joint research between countries is that there are similarities in the top 10 cassava-producing countries in the world, and both have the problem of dependence on imports of wheat and sugar as strategic food ingredients.

20 previous researchers who previously submitted this research document, showed that cassava has the potential to replace wheat flour. Fermented cassava flour using renewable technology in Indonesia can significantly replace wheat flour and has better quality. BFC (Bio-Fermented Cassava) is a food ingredient based on cassava flour which has almost the same character as wheat flour, has the advantage of being a low protein food ingredient, and is gluten-free which is good for health, has a relatively low price (low cost), so it has affordability. in people's purchasing power. The potential of cassava is an important study in local resource-based food diversification which has a competitive advantage compared to wheat flour. This potential will be able to reduce the import of wheat which has been high so far, can reduce the expenditure of foreign exchange, as well as improve the local economy which is more just and equitable, especially at the rural level.

It should be recognized that the Village is the main pillar of food security in a country. However, the opposite condition is often found, that the village is considered the main contributor to the poverty rate. This is truly an ironic and contradictory condition. This deserves a study and is the main objective of this research. Researchers have made a Hypothesis-driven by Development to find the causes and root causes of poverty in the village. to find out how the existing resources in the village can be used optimally. and what steps must be taken in developing the village in an optimal manner? sustainable development (SDGs).

Villages must be able to play an optimal role as a support for food security in a country. So existing resources need to be built and utilized as well as possible. Village communities must be placed as agricultural business actors who are able to produce food crops and their processing on an MSME (Micro, Small, and Medium Enterprises) industrial scale. So that the village community does not only act as farm laborers but is more empowered as an independent agricultural entrepreneurs. This aims to increase economic income in the village so that the poverty rate in the village can be significantly reduced. This is the concept of a just, equitable, and sustainable populist economic development.

To condition sustainable village development (Village SDGs), it is not only the responsibility of the government and the village community but more precisely, the involvement of all stakeholders (stakeholders) is needed. Collaborative Governance theory and practice is a strategic option in an effort to create togetherness (mutual cooperation). By involving stakeholders, problems can be solved together better, and many parties will be able to contribute to village development.

According to the perspective put forward by Chris Ansell and Alison Gash (2008) that what is meant by collaborative governance is governance in which government institutions directly involve actors outside the government (both the community/community, NGOs, and the private sector) within the formal decision-making process, which is oriented to the common interest. The aim is to implement policies and manage programs and resources together.

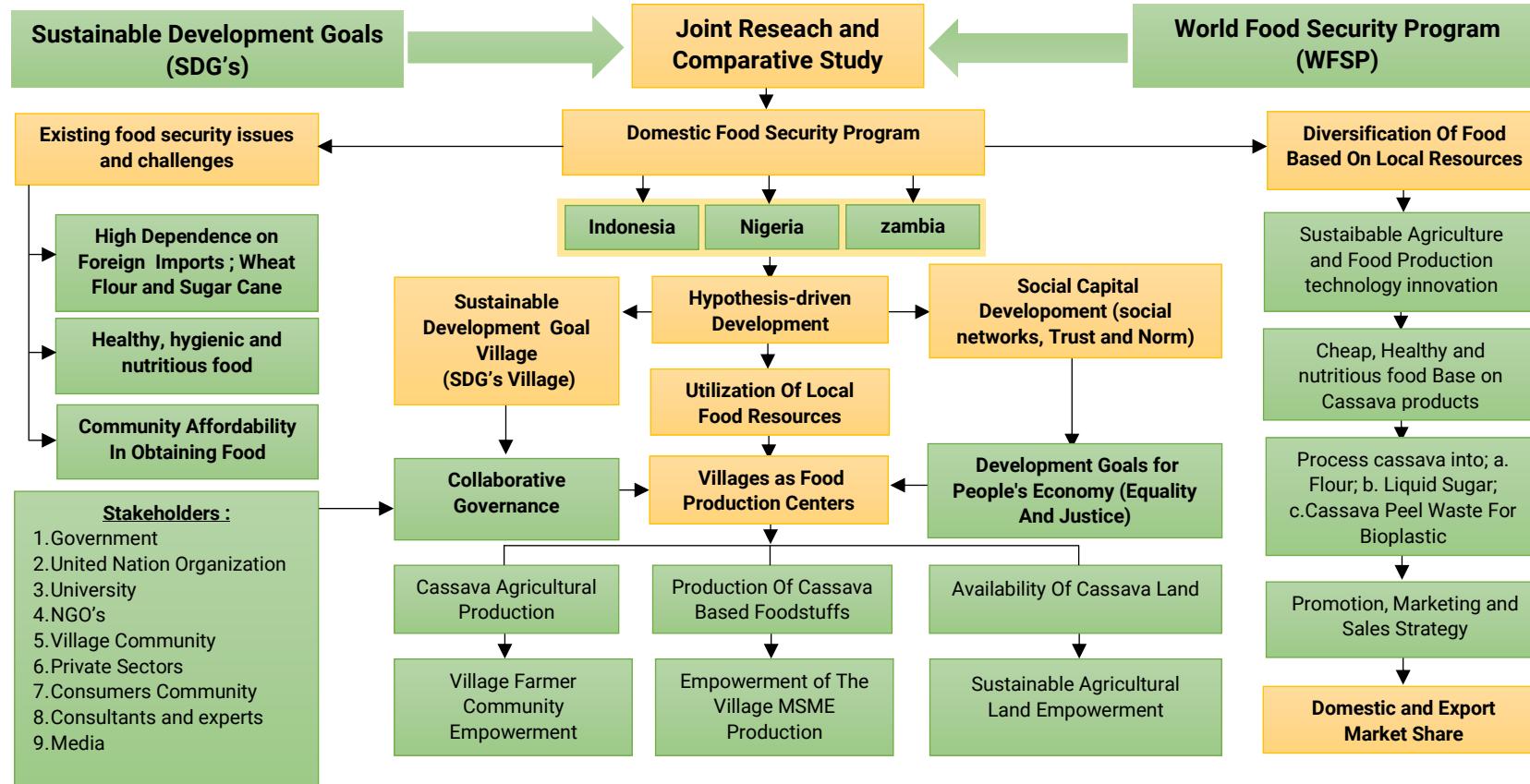
From this perspective, according to Ansell and Gash (2008), there are several important keywords that must be noted, namely: (1) cooperation initiated by government institutions, (2) the involvement of non-government actors, (3) all actors involved in the policy-making process, (4) the cooperation forum is jointly organized and designed, (5) the purpose of the cooperation forum is to make joint decisions, and (6) the focus of the cooperation is on policy-making and governance.

Good governance is needed to build and organize responsible management structures and processes that can open, facilitate, and provide opportunities and forums for constructive dialogue, information sharing, communication, and joint decision-making on various issues. Governance means the establishment and maintenance of a collaborative structure and process to manage a business or business across multiple stakeholders, i.e. including government, business/industry, and community. In addition, the involvement of stakeholders who play a key role in decision-making needs to be accompanied by an increase in the capacity of each to support a responsible governance system. Therefore, responsible governance requires the creation of conditions and situations that are conducive to good collaborative governance.

In the context of sustainable village development, this research places social capital as an important and primary study. Social capital is a new terminology developed by social scientists to enrich the understanding of society. Social capital is an interesting debate for social scientists. The theory of social capital was originally developed by a French sociologist named (Pierre Bourdieu) and an American sociologist named (James Coleman). Bourdieu revealed three things regarding capital including money capital, social capital, and cultural capital. Social capital can be used for all purposes, but without physical resources and cultural knowledge, it will be difficult for individuals to build social relationships. Social relations will only be strong if the three elements above exist (Hasbullah, 2006).

Social capital is a social relationship that is intertwined in everyday life as a community. Social relations reflect the results of social interaction over a relatively long time so as to produce networks, dynamic cooperation patterns of social exchange, and mutual trust, including the values and norms that underlie these social relations (L. D. Ibrahim, 2006: 110). Francis Fukuyama (2016:22), defines social capital simply as a set of informal values or norms that are shared among members of a group enabling cooperation between them. If group members expect that other members will behave honestly and reliably, then they will trust each other. If the people who work together in a company trust each other and work according to a shared set of ethical norms, then doing business costs little (Fukuyama, 2007:38).

CONCEPTUAL RESEARCH AND STUDY INDONESIA – AFRICA



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CHAPTER III

RESEARCH METHODS

3.1. Research Design

The method used in this study is a mixed methods method. This research is a research step by combining two forms of research that have existed before, namely qualitative research and quantitative research. According to Creswell, mixed research is a research approach that combines qualitative research with quantitative research ([Creswell, 2010](#)). According to Sugiyono's opinion, mixed methods is a research method between quantitative methods and qualitative methods to be used together in a research activity, in order to obtain more comprehensive, valid, reliable, and objective data. ([KEPUSTAKAAN, 2014](#)). According to Creswell, the strategies in mixed methods, ie :

1. A sequential mixed methods strategy is a strategy for researchers to combine data found from one method with another. This strategy can be carried out by interviewing first to obtain qualitative data, then followed by quantitative data in this case using a survey. This strategy is divided into three parts, namely:
 - a. Sequential explanatory strategy. In this strategy, the first stage is collecting and analyzing quantitative data followed by collecting and analyzing qualitative data which is built on the initial quantitative results. This weight or priority is given to quantitative data.
 - b. Sequential exploratory strategy. This strategy is the opposite of the sequential explanatory strategy, in the first stage the researcher collects and analyzes qualitative data then collects and analyzes quantitative data in the second stage which is based on the results of the first stage.
 - c. Sequential transformative strategy. In this strategy, the researcher uses a theoretical perspective to form certain procedures in research. In this model, the researcher may choose to use one of the two methods in the first stage, and the weight can be given to one of the two or distributed equally in each research stage.
2. Concurrent mixed method strategy (concurrent mixed method) is research that combines quantitative data and qualitative data at one time. There are three strategies in this mixed method concept strategy, namely:
 - a. ConPBCen triangulation strategy. In this strategy, the researcher collects quantitative data and qualitative data at the same time at the research stage, then compares the qualitative data with the quantitative data to find out differences or combinations.
 - b. ConPBCen embedded strategy. This strategy is almost the same as the conPBCen triangulation model because both collect qualitative and quantitative data at the same time. The difference is that this model has a primary method that guides the project and secondary data that has a supporting role in each research procedure. The secondary method which is so dominant/plays a role (whether qualitative or quantitative) is embedded into the more dominant method (qualitative or quantitative).
 - c. ConPBCen's transformative strategy. Like a sequential transformative model that can be applied by collecting qualitative data and quantitative data simultaneously and is based on a certain theoretical perspective.
3. The procedure for transformative mixed methods is a research procedure in which the researcher uses a theoretical lens as an overarching perspective which consists of qualitative data and quantitative data. This perspective will later provide a framework for research topics, data collection techniques, and the expected results of the research.

The use of these two methods is seen as providing a more complete understanding of the research problem than the use of one of them. Mixed methods research is a research approach that combines or associates qualitative and quantitative forms ([Sugiyono, 2015](#)).

This approach involves philosophical assumptions, the application of qualitative and quantitative approaches, as well as mixing of the two approaches in one study. This approach is more complex than just collecting and analyzing the two types of data but also involves the function of the two research approaches collectively so that the strength of this research as a whole is greater than qualitative and quantitative research. The specification of the research used is a descriptive analysis that aims to make a description or description of the facts, characteristics, and influences between the phenomena investigated. ([Nasir, 2003](#)).

The choice of a mixed methods approach was because this research was carried out through the process of understanding, finding, explaining, and obtaining an overview of social, economic, and public phenomena related to the use of cassava to support food security, as well as suppressing the problem of dependence on strategic food imports, especially wheat, and sugar. Alleviating poverty in villages and building a just and equitable people's economy from the perspective of Sustainable Development (SDGs).

The description of this phenomenon will be related to the systematic expression of meaning, as revealed by ([Strauss & Corbin, 1998](#)) and [Levitt et al. \(2017\)](#) and ([Mohajan & others, 2018](#)) that any research must involve an explicit, disciplined, systematic (planned, regular, and public) approach to find the most appropriate results.

3.2. Research focus

The focus of this research is closely related to the formulation of the problem because the research problem is a reference in determining the focus of the research. However, the research focus may develop according to the research problem situation in the field. This is consistent with the flexible nature of the mixed method research approach (mixed qualitative and quantitative methods), which follows an empirical inductive mindset, where everything in research is determined from the final results of actual data collection in the field. According to Meleong (2005: 237), through determining the focus of a study, there are two things that are achieved by researchers, namely: (1) limiting the study with the intention of being able to limit the field of research (inquiry); (2) researchers know for sure that the data that has been collected is relevant and supports the research focus.

Based on the problems and research objectives that have been formulated, the research focus is determined as follows:

1. Agricultural systems and marketing of cassava production in the perspective of sustainable development (SDGs) in Indonesia, Nigeria, and Zambia.
 - a. Cassava farming systems in Indonesia, Nigeria, and Zambia.
 - b. Utilization of cassava agricultural products and technological innovations for cassava-based food processing in Indonesia, Nigeria, and Zambia.
 - c. System for promotion, marketing, and sales of cassava derivative products in Indonesia, Nigeria, and Zambia.
4. Development of villages as centers of food production in the perspective of sustainable development (SDGs) in Indonesia, Nigeria, and Zambia.
 - a. Policies Laws and Regulations regarding Village development in Indonesia, Nigeria, and Zambia
 - b. Village socio-economic development in the perspective of SDGs
 - c. Development of MSME agriculture and industry in Indonesia, Nigeria, and Zambia

5. Strategies in dealing with dependence on imports of strategic foodstuffs, especially wheat, and sugar.
 - a. Government policy in limiting imports of strategic food ingredients in Indonesia, Nigeria, and Zambia.
 - b. Community dependence on the consumption of wheat flour and sugar.
 - c. Diversification of Food based on local resources.
 - d. BFC (Bio-Fermented Cassava) as a substitute for wheat flour in Indonesia, Nigeria, and Zambia.
 - e. Liquid sugar technology innovation from cassava in Indonesia, Nigeria, and Zambia.
 - f. Technological innovations in processing cassava peel waste as bioplastics in Indonesia, Nigeria, and Zambia.
6. An empirical model for using cassava products in building food security and reducing dependence on imports of strategic food ingredients from the perspective of Sustainable Development Goals (SDGs) in Indonesia, Nigeria, and Zambia.
7. Model recommendations for the use of cassava products in building food security and reducing dependence on imports of strategic food ingredients in the perspective of Sustainable Development Goals (SDGs) in Indonesia, Nigeria, and Zambia.

3.3. Locations and Research Sites

According to [Moleong, \(2005:128\)](#), that the best way that needs to be taken in determining the field of research is by defending the substantive theory and going and exploring the field to see whether there is conformity with the reality on the ground. Geographical and practical limitations such as time, cost, and manpower, should also be taken into consideration in determining research locations.

Based on this view, this research will take research locations in:

1. The State of Indonesia with the location of the research areas in the Provinces of Central Java and Sumatra. Determination of the location and research sites was carried out purposively, with the following reasons: a). The provinces of Central Java and Sumatra are large cassava-producing areas; b). is one of the autonomous regions; c). The provinces of Central Java and Sumatra have empirical facts in managing cassava production.
2. Nigeria research location in:
3. Zambia research location in:

3.4. Types of Research Data

The data used in the study consisted of primary and secondary data with the following explanation.

- a) Primary data is data obtained or collected by researchers directly from the data source. Primary data is also known as original data or new data that is up to date. To get primary data, researchers collect directly. In the context of this study, primary data were obtained from people who have information and knowledge related to the problem and research focus in terms of food security.
- b) Secondary data is data obtained or collected by researchers from various existing sources (researchers as second hand). Secondary data can be obtained from various sources such as the Central Bureau of Statistics (BPS), books, reports, journals, and others. In the context of this study, most of the secondary data were obtained from official documents related to government and development activities through government websites. Meanwhile, more secondary data of a macro nature were obtained through documents released by BPS and Bappeda.

3.5. Data Sources

According to Lincoln et al., (1985) and Meleong (2005), the main data sources in qualitative research are words and actions, which can also be in the form of additional data such as documents, archive reports, and others. Sources of data in this study include humans (informants), events and places, and documents, with the following explanation:

Humans as informants, in qualitative research the position of human data sources (informants) is very important as the role of individuals who have information. Research and informants in research have the same position, and information does not just provide responses to what is requested by researchers, but informants can have more direction and taste in presenting the information they have. Because of this position, data sources in the form of humans in qualitative research are more accurately referred to as informants rather than as respondents. According to Bungin (Bungin, 2008, p. 76) those who can become research informants are subjects who understand the research object information as actors or other people who understand the object and research focus.

- 1) Places and events, places and events can be used as sources of information because in observations there must be appropriateness to the context and every social situation always involves actors, places, and activities. Places and events are intended to strengthen the information provided by informants. The places that became the observation sites for this study were areas in Indonesia, Central Java, and Sumatra Provinces. Where the autonomous region is a research location in food security and village development as a food production center, as a result of cassava agricultural production.
- 2) Documents, documents or archives are written material that can be used as a source of data to obtain information about situations and conditions in the past that are very closely related to the conditions of events that are currently being studied. According to (Meleong, 2005) official documents are divided into internal documents and external documents. Internal documents are in the form of memos, announcements, instructions, and rules of a certain community institution that are used within their own circles. External documents contain information materials produced by a social institution, for example, magazines, bulletins, and news broadcast to the mass media. In the document, there are also various pictures related to the activities and conditions required so that they can be used as data sources.

3.6. Informants

The determination of informants is done using a purposive technique. Purposive is done by taking people selected by researchers according to their specific characteristics (Mantra, 2004). To obtain more information related to this research topic, the research informants were divided into two groups, consisting of key informants and casual informants. However, to choose the right informants in this study, the researchers selected informants based on the criteria.

3.7. Collecting Data Method

In obtaining aPBCat, actual and comprehensive data in accordance with the problems and focus of the research, in the data collection process, researchers have used data collection techniques through interviews, observation, and documentation. The implementation of these three data collection methods can be explained as follows:

- 1) In-depth interviews

This method begins with preparing research instruments through a list of interview guidelines. This list of interviews is what the researcher needs to obtain the information and data needed. The informants were dug as deep as possible by interviewing techniques using the snowball approach, namely gathering information according to the needs needed in the field based on the informant's recommendations and previous data requirements.

In practice in the field and to facilitate the conduct of interviews, an interview guide was used which contained the main questions that had to be asked of informants. Before conducting interviews, researchers first made promises to informants. This was done considering that the informants were often busy with routine activities and tasks being carried out. However, in practice, even though the time and place of the interview have been agreed upon, the researcher often still has to wait or reschedule the time and place of the interview because the informant has more important activities.

2) Observation of the situation and phenomena at the research location

This observation or observation method is carried out by being directly involved in the research object that has been previously determined. In practice in the field, researchers make observations with the aim of getting a picture of how real problems are; 1). Handling of food security; 2). Handling dependence on imports of wheat and sugar; 3). as well as handling village development as a center for food production. Basically, indirect observations are usually carried out by researchers on the sidelines of interviews with informants from government and non-government elements.

3) The process of documenting the required data

This documentation method is carried out through the process of collecting data and information originating from written materials, records of an event, or records obtained during the research. These secondary data were obtained from various sources related to the problem under study. The secondary data needed consists of several types, namely documents in the form of regional regulations, regent regulations, central government regulations

Basically, the data from this documentation study is used as research data as well as comparative data to check the truth of the data from interviews and observations. In addition to conducting documentation studies, researchers also conducted secondary data searches and information from research reports from other parties and information media, both print (National and Local) and online information media, especially through the official website owned by the local government..

3.8. Research Instruments

In qualitative research, the instrument or research tool is the researcher himself. Therefore, the researcher himself is assumed to have validity, namely, readiness to enter the field and mastery of qualitative research methods, mastery of insight into the field to be studied, and readiness of researchers to enter research objects, both academically and logically (Sugiono, 2013).

The researcher is the main instrument in qualitative research because it is the researcher who has the ability to grasp the implied meaning behind the information and social phenomena encountered in the field. There is no instrument in the form of a test or questionnaire that can capture the whole situation except for humans. As stated by Lincoln et al., (1985), naturalists use themselves and others as the main data collection instruments.

The reason for the researcher himself as the main instrument, among other things: (1) humans have the ability to adapt to face and adjust to reality; (2) human instruments can capture and evaluate the meaning of different interactions; (3) humans can appreciate and assess the interference of instruments that intervene in the mutual formation of other reasons; (4) all instruments are value based and interact with local values but are only humans in a position to identify and consider the resulting biases.

3.9. Data Validity Test

According to Lincoln et al., (1985); Meow (2005); H. Nasution (1985), to determine the validity (trustworthiness) of the data inspection techniques are needed. The implementation of inspection techniques is based on a number of certain criteria which include the degree of trust (credibility), transferability (transferability), dependability (dependency), and certainty (confirmability).

- (1) Test the credibility (credibility) or internal validity, namely testing the trustworthiness of research data by carrying out, among others:
 - a. Extension of observation (observation period), namely a method that uses a lot of time to really get to know an environment, establish good relations with people who are in the research location, get to know the local culture, and check the correctness of various information obtained. The extension of the observation period is intended to increase research time in order to anticipate if later there is complete PBCang data, bearing in mind the research sites are located in various places. Therefore, for the sake of effective use of time, time is divided for each research site.
 - b. Increased persistence in research, namely observations made continuously by paying attention to something more carefully, in detail, and in-depth. This is done by evaluating the data that has been obtained at any time in order to find out what data has been obtained and which data is still PBCang. Complete data is properly archived and recorded (recorded), while those that are incomplete are retracted according to the data collection technique and carried out at the place or site where the data was obtained.
 - c. Triangulation, which aims to check the correctness of certain data by comparing it with data obtained from other sources, at various phases of research in the field, at different times, and using different methods. There are three patterns of triangulation, namely comparison of data, data sources, and data collection techniques. This triangulation procedure is very time-consuming, but in addition to strengthening validity, it also provides the depth of research results. Data triangulation is done by matching the data or ensuring the correctness of the data from informants to other informants.
- (2) External validity test (transferability), which shows the degree of accuracy or applicability of the research results to the population where the sample was taken. At this stage, the researcher makes a detailed, clear, systematic, and reliable report that is broken down. The point is that other people can understand and apply the results of the research in other contexts and social situations. In order to obtain the degree of external validity, the data is based on the empirical context of the research background, namely the "emic" perspective accepted by the researcher and "etic", namely the perspective which is the result of the researcher's interpretation. In this external validity is also done by comparing some of the results of previous studies that have similarities to the problems studied.
- (3) Reliability test (dependability), namely research is said to be reliable if other people can repeat or replicate the assessment process. In this dependability test, researchers must be able to show "tracks of field activities" starting from the process of determining the problem/research focus, entering the location, data sources, data analysis, testing the validity of the data, to the process of making conclusions. Then to ascertain whether the research results are right or wrong, the researcher will always consult and discuss with the supervisor in stages. The things that were consulted were in the form of the research process itself, the level of accuracy of the data, and its interpretation. For this, researchers provide some raw data, the results of data analysis, and notes about the process used.
- (4) Test objectivity (confirmability), namely a study is said to be objective if the results have been agreed upon by many people. Testing confirmability means testing the research results associated with the research process. The degree of research objectivity can be achieved through an audit or careful examination of all components and research processes and their results. Examinations are carried out and accompanied by supervisors, especially those concerning certainty of data origin, the logic of data withdrawal, and assessment of the degree of accuracy and review of researcher activities in testing the validity of data.

3.10. Data Analysis Techniques

In this study, the data will be analyzed descriptively. Descriptive analysis research is intended to describe research data in accordance with the focuses studied, to test the relationship between

variables through hypothesis testing. Besides conducting analysis, research results will be translated and described qualitatively and quantitatively in order to obtain an overview of the situations or events that occurred in the field. For the needs of research data analysis, the Spiral Model data analysis technique proposed by Creswell et al., (2007: 152) will be used, as shown in the following figure.

At the data analysis stage, the researcher analyzed the data that had been collected by understanding the research data as a whole. Data analysis in question is the process of systematically searching for and compiling data obtained from interviews, field notes, and documentation, by organizing data into categories, describing them into units, synthesizing them, compiling them into patterns, choosing which ones are important and what will be learned, and make conclusions so that it is easily understood by oneself and others. As for the data analysis technique that the researchers used, it refers to the interactive data analysis model according to Miles and Huberman, the activities carried out during the period of data collection to reporting included three parts, namely data reduction, data display, and conclusion drawing. verification (verification) (Miles & Huberman, 1992).

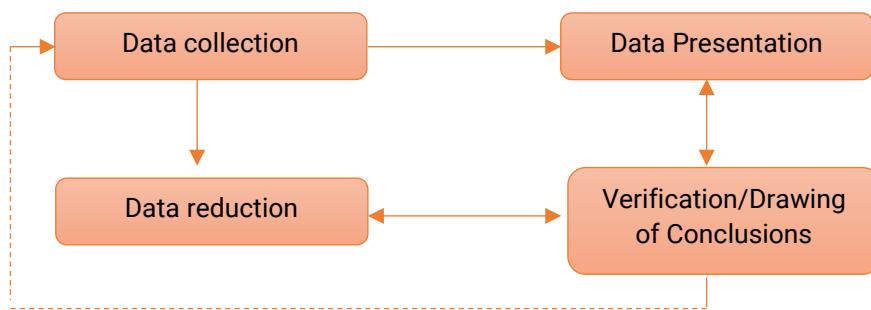
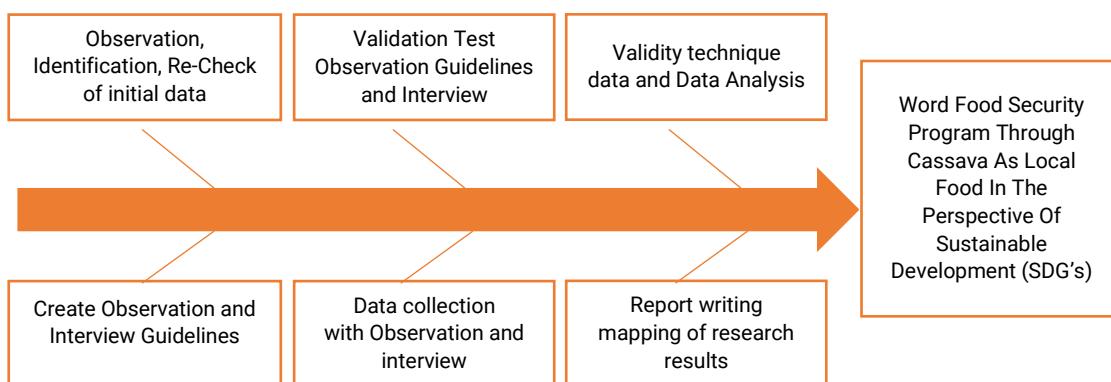


Figure 3.1. Miles and Huberman's interactive data analysis model

3.11. Research Steps



Gambar 3.1 Diagram fish bone

3.12. Outcome Plan

Table 3.1. Outcome Plan

| Tahun | No | Mandatory Output Type | Achievement Indicator |
|--------------|-----------|--|---|
| 2023 | 1 | Scientific publications on the SBDI Center Work network: 1.Indonesia; 2.Nigeria 3.Belanda; 4.Zambia; 5.Rwanda; 6.Ghana; 7.Turkey. | Dissemination of research results from the International SBDI network |
| | 2 | Publication at the SBDI Center seminar on international networks. | Dissemination of research results to Stakeholders. |
| | 3 | Coordination, Reporting, Program outreach to: United Nation Organizations (FWP, FAO, and IFAD), UN.Global Compact, Government, Universities, European Union. | Dissemination of research results: WORLD FOOD SECURITY program to local, national, and international policy makers. |
| Tahun | No | Additional Outer Types | Indikator Capaian |
| 2024 | 1 | Publishing Books with ISBNs | Book of study research results: “Word Food Security Program Through Cassava As Local Food In The Perspective Of Sustainable Development (SDG’s)” |
| | 2 | Book Registration: | Register research results books to be submitted to: “ UNITED NATION ORGANIZATION” |

CHAPTER IV

PRESENTATION OF FINDINGS DATA

CHAPTER V

ANALYSIS AND DISCUSSION

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

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RESEARCH DATA APPENDIX