

The Influence of Food Security Program Through Arts and Culture Towards Sustainable Development in Mahulu District, East Kalimantan Province

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Article history: received October 16, 2023; revised November 28, 2023; accepted December 28, 2023

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ABSTRACT

This research examines the implementation of the "Urip Kerimaan" Food Security Program in Mahulu Regency, East Kalimantan Province, since 2021. This program aims to increase food independence by focusing on developing modern and organic dry land agriculture. The program steps involve opening 500 hectares of new land in 50 villages, with capital support, community-based agricultural technology management, and outreach for farmers. This research uses a conceptual framework that includes aspects of the Food Security Program (X), Arts and Culture (Urip Kerimaan) (M), and Sustainable Development (Y). This research method involves collecting quantitative and qualitative data from 1009 farmers involved in the Food Security Program. The research results show that the Food Security Program has a positive and significant impact on Sustainable Development, as well as on Arts and Culture. The Food Security Program has made a positive contribution to increasing the area of rice fields, rice production and the number of farmers in villages. Apart from that, Arts and Culture are also closely related to this program, with increasing public interest in various cultural expressions such as music, crafts and dance, which then influences Sustainable Development.

Keywords: Food security, development, sustainability

INTRODUCTION

Since 2021, Mahulu Regency has implemented a Food Security Program. The Mahakam Ulu Regency Government (Pemkab Mahulu) is determined to encourage food independence. One of the efforts taken is to encourage the development of permanent, modern and organic dry land agriculture in accordance with local wisdom. The initial step was followed up with the opening of 500 hectares of new land spread across 50 villages. Or 10 hectares in each village.

The Food Security Program is called the "Urip Kerimaan" Program. Apart from improving the economy at the village level, this program is believed to maintain the local wisdom of the people who are accustomed to farming using a dry land farming system. The system that will be built will have a touch of modern technology. These include soil processing systems, fertilization, organic pesticides, plant breeding, and packaging. Apart from aiming to increase productivity and quality, it also aims to encourage the economy of farmers in the village. The Mahulu Regency Government provides capital assistance, implementation of community-based and environmentally sound agricultural technology management, as well as counseling for farmers. Village institutional assistance, capital assistance and land clearing through village fund allocations led by the Village Community Empowerment Service (DPMK). Preparation of spatial planning and supporting land infrastructure is carried out through the Mahulu Public Works and Public Housing Department and related agencies. Meanwhile, collecting and marketing the rice produced will involve village business entities (BUMK).

The two parameters of development success, namely Economic Growth and Human Development Index (HDI) Growth, have not been accompanied by the Percentage of the Number of Poor Population in Mahulu Regency. The percentage of poor people has increased from 2015 to 2021, on average by 2.1%. Meanwhile, Income Inequality using the Gini Ratio Indicator, from 2018 to 2021, for urban areas there was an increase in the average income inequality gap of -0.66%, while in rural areas, the average was -0.71%.

The Mahulu Regency Government is aware of the problems regarding poverty indicators and Income Inequality indicators. For this reason, the food security program, namely the "Urip Kerimaan" Program, is being implemented to

overcome the problems of poverty and inequality in Mahulu Regency, East Kalimantan Province.

Likewise, policies that limit or tax small farmers' ability to produce cash crops, or force them to grow food crops, when cash crops would provide them with higher incomes, may actually reduce their food security by lowering their real incomes. In contrast, policies and projects that increase the incomes of the poor, 75 percent of whom live in rural areas, and the majority of whom rely heavily on agriculture for their livelihoods, can do much to improve food security.

Food is a human right. But one in 10 people worldwide do not have enough to eat. Poverty and food security are closely related. Without income or resources to grow food, it could result in more people being malnourished or chronically malnourished. Scarcity of natural resources, increasing population and climate change place a huge burden on food security. Investing in smallholder farmers is an effective way to reduce poverty, hunger and malnutrition, especially in rural areas, where most of the world's poorest people live, aciar annual review (2019) (Food Security and Poverty Reduction | ACIAR, nd).

Currently, the global food system is highly vulnerable to food security risks, economic shocks, price volatility, as well as natural disasters and pandemics, such as the new coronavirus (COVID-19). According to Panghal et al.(2022) (Panghal et al., 2022), security risks have prompted the enforcement of measures to reduce food supply, which has had a negative impact on food availability. Additionally, COVID-19 is likely to temporarily increase food security and nutrition issues worldwide, resulting in increased poverty.

Of the various food security strategies, the Productive Safety Net Program (PSNP) is one strategy to increase household consumption. According to Hailu and Amare (2022) (Hailu & Amare, 2022), the government needs to carry out and know the results of program interventions for further decisions in poverty reduction strategies. The Productive Safety Net Program has significantly increased household calorie intake. Beneficiary households are more food secure than non-beneficiary households by 68% and 54% respectively. The average energy available to beneficiary and non-beneficiary households is 2488,500 and 2153,394 kcal, respectively. Estimates of the average treatment effect of those treated suggest that Productive safety net programs can have an impact on household food security.

Babu and Gajanan (2022) (Babu & Gajanan, 2022), that the relationship between food insecurity and poverty is very complex. As pointed out by Smith et al. (2000), an important development goal, is not only to increase food security, but to improve it in a way that is sustainable for the maximum number of people. From an analysis of a sample of developing countries during the 1990s, they found that poverty was the most binding obstacle in increasing food security. In addition to poverty, many countries face problems of national food availability (especially sub-Saharan African countries), while other countries face problems of nutritional insecurity related to health and care (especially South Asian countries). Policy objectives should be designed in such a way that synergy can be obtained using multiple interventions where there are multiple causes of the problem (related to food insecurity and nutritional insecurity). An example where multiple interventions can have a synergistic effect is combining income-generating activities with nutrition education (von Braun et al., 1993).

Food insecurity is a global problem that is of concern not only in poor and developing countries, but also in developed countries. Conditions have worsened since the start of the Covid-19 pandemic where social restrictions and economic contraction caused many people to lose their jobs, income and increase poverty. DKI Jakarta was one of the provinces most affected economically at the start of the Covid-19 pandemic where economic growth in the first quarter of 2020 was recorded as growing 5.06 percent YoY (year on year) (the lowest in the last ten years) and slowing down 0.56 percent overall from quarter to quarter, and an increase in poverty of 1.11 percent, the highest in Indonesia. Research conducted by Sutikno and Budiasih (2022) (Sutikno & Budiasih, 2022), examined the influence of household characteristics in DKI Jakarta on their food insecurity status at the start of the Covid-19 pandemic. The data used was the March 2020 Susenas which was analyzed descriptively and inferentially using firth logistic regression. The research results show that there were 4.47 percent of households in DKI Jakarta who were food insecure at the start of the Covid-19 pandemic. In general, households with food insecurity status are poor, do not have social security, the head of the household does not work and has less than a high school education.

Agriculture plays an important role in economic growth, food security, poverty alleviation, and rural development, Sarma, (2022) (Sarma, 2022). In developing countries, farmers face adverse weather, pest and disease outbreaks, and changes in input supply and input-output prices. We investigated the intentions of 320 rice farmers in Bangladesh with the aim of influencing their actions to reduce the risks of pesticide production and application. Descriptive statistics, Delphi method, Theory of Planned Behavior (TPB), and Structural Equation Model (SEM) were used to achieve research objectives. Pesticides are a vital technology and play an important role in increasing productivity, but they have harmful effects on population health and the environment when used excessively and widely. Our results show that three TPB constructs and one psychological construct mediate the relationship between production risk reduction and behavioral intentions regarding pesticide use. The research results also show that Perceived Behavioral Control (PBC), Behavioral Goals (BGs), Behavioral Attitude (BA), and Subjective Norms (SN) positively influence farmers' intentions to use pesticides to minimize production risks and maximize profits. Interventions aimed at changing farmer behavior should concentrate on increasing awareness and encouraging farmers to assess their control beliefs and increase their capacity to cope with social expectations and

circumstances that compete with pesticide use.

The relationship between food security and arts and culture, according to the results of research conducted by Wright et al. (2021) (Wright et al., 2021), in the second generation of American and international students. Thirty-one semi-structured interviews were conducted from January-April 2020. Students indicated that the food culture pathway enhanced their well-being by facilitating the maintenance, connection, and expression of their cultural/ethnic identity. Conversely, a culture of food insecurity reduces students' well-being due to reduced cultural anchors, highlighting the importance of food culture in this population. Universities that reduce cultural food barriers can reduce the culture of food insecurity for second-generation American and international students.

Research conducted by Safitri et al. (2022) (Safitri et al., 2022), used a spatial regression model in cases of food security in each district in South Sulawesi Province. The results of the analysis show that there is negative spatial autocorrelation, meaning that spatial effects do not affect the level of food security. The SEM model equation produces variables that have a significant effect, namely the ratio of normative consumption per capita to net availability, the percentage of the population living below the poverty line, the percentage of households with a proportion of food expenditure of more than 65 percent of total expenditure, the percentage of households without access to electricity, percentage of households that do not have access to clean water, life expectancy at birth, ratio of population per health worker to population density, average length of schooling for women over 15 years, and percentage of children under five with height below standard (stunting). Thus, the resulting distribution pattern is a uniform data pattern. This means that each neighboring district tends to have different characteristics.

According to Viana et al. (2022) (Viana et al., 2022), Agriculture provides the largest share of the food supply and ensures a large number of ecosystem services (e.g., food provision). Therefore, agriculture is as important for food security and supporting Sustainable Development Goal (SDGs) 2 (SDG 2 - zero hunger) as the other SDGs. Several studies have been published in various fields of the world with different research directions that focus on improving food and nutritional security from the perspective of agricultural land systems. The heterogeneity of agricultural research studies calls for an interdisciplinary and comprehensive systematization of various research directions and a large number of approaches, scales of analysis and reference data used. Thus, this work aims to systematically review the contributions of various agricultural research studies by systematizing the main research areas and presenting a synthesis of the diversity and scope of research and knowledge. From an initial search of 1151 articles, 260 met the criteria to be used in the review. Our analysis revealed that most articles were published between 2015 and 2019 (59%), and most case studies were conducted in Asia (36%) and Africa (20%). The amount of research conducted on other continents is lower. In the last 30 years, most research has centered on six main research areas: land use change (28%), agricultural efficiency (27%), climate change (16%), farmer motivation (12%), urban and peri-urban agriculture (11%), and land suitability (7%). Overall, the identified research areas are directly or indirectly related to 11 of the 17 SDGs. There are substantial differences in the number of articles between research fields, and future efforts are needed on underrepresented ones to support food security and the SDGs.

Based on the above phenomenon, there is still a gap in research results (Research Gap), and there are not many studies that discuss the conceptual framework with three latent variables, namely; Food Security, Arts and Culture, and Sustainable Development, this research in the form of a dissertation, entitled "The Influence of the Food Security Program through Arts and Culture towards Sustainable Development in Mahulu Regency, East Kalimantan Province", will discuss, analyze and interpret analysis of this research, and it is hoped that the results of this research can contribute to Theory and Implications.

Literature Review

Food Security Theories

Explaining food security comparatively demands an "integrated assessment" approach that considers the interactions of ecosystems and social systems as responsible for food security, Harper and Snowden, (2017) (Harper & Snowden, 2017). An inter-disciplinary and multi-theoretical approach to food security is best because there are many explanations for its prevalence, Buttel (2000) (Buttel, 2000).

The Concept of Sustainable Development (The Concept of Sustainable Development)

The concept of sustainable development is still subject to criticism, including questions about what should be maintained in sustainable development. The Brundtland Report (World Commission on Environment and Development, 1987) promoted nothing but a business-as-usual strategy for world development, with ambiguous and unimportant concepts attached as public relations slogans.

Sustainable Development aims to achieve social progress, environmental balance and economic growth, Gosling et al. (2018) (Gosling-Goldsmith, 2018). Another definition of the concept of Sustainable Development is that presented by Benaim et al. (2008) (Benaim et al., 2008) and Browning et al. (2019) (Browning & Rigolon, 2019), that the concept of Sustainable Development is a development paradigm and concept that calls for increasing living standards without endangering the earth's ecosystem or causing environmental challenges such as deforestation and water and air pollution which can result in problems such as climate change and species extinction. The metrics used to measure sustainability, involving environmental dimensions, social dimensions and economic dimensions, are still developing, including indicators,

benchmarks and assessments.

The following figure shows the relationship between the "three pillars of sustainability", economy and society limited by environmental constraints, Scott Cato (2009) (Scott Cato, 2009)

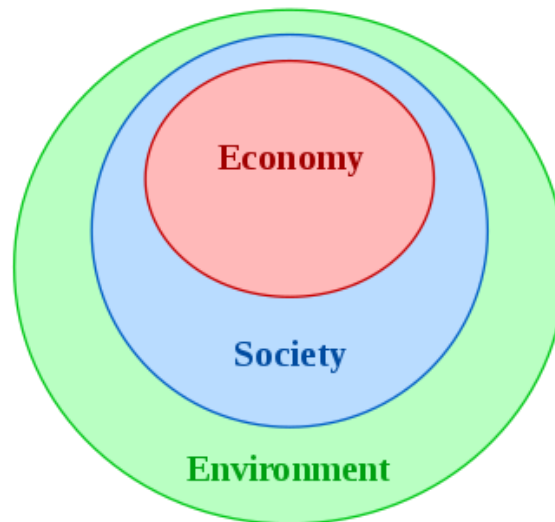


Figure 1. Three Pillars of Sustainability

Source: https://www.researchgate.net/figure/the-three-pillars-of-sustainable-development-Source-Scott-Cato-2009_fig6_318419544

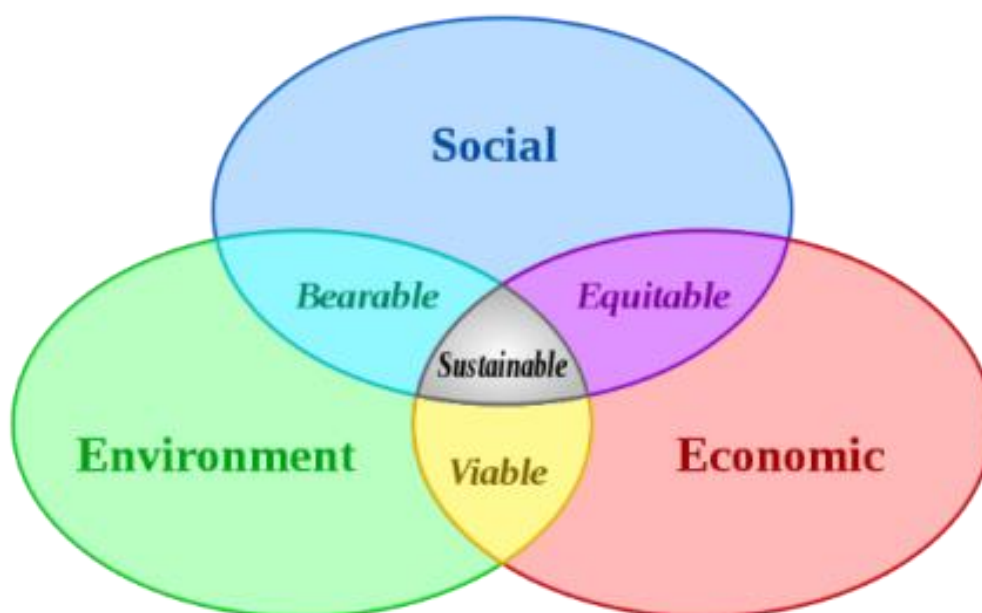


Figure 2. Sustainable Development Venn Diagram

Source: https://www.researchgate.net/figure/Dimensions-of-Sustainability-Pinter-2005-Adams-2006_fig1_284156044

The Influence of Food Security Programs on Sustainable Development

With COVID-19 now spreading in developing countries, massive consequences on health and livelihoods are feared. Food security is the most important and crucial aspect of sustainable development. The agricultural sector forms the backbone of the economy and provides livelihoods for the majority of developing countries. Therefore, disruptions in food security and the agricultural sector will have a far-reaching impact on these countries. Due to the importance of these sectors, according to Workie et al.(2020) (Workie et al., 2020) , a comprehensive assessment of the effects of COVID-19 on food security and agriculture, suggests coping and mitigation mechanisms that can be adopted to maintain livelihoods.

According to Rai et al. (2019) (Rai et al., 2019), food security is a high priority issue for sustainable global development both quantitatively and qualitatively. Meanwhile research conducted by Ingutia (2021) (Ingutia, 2021), which examines the impact of COVID-19 and climate change on small farmers through the lens of the Sustainable Development Goals (SDGs) and ways to keep small farmers in the 2030 agenda. Descriptive statistical analysis of quantitative secondary data applied to investigate the problem in question in all regions of the world. Increasing demand for energy and food has triggered greenhouse gas (GHG) emissions which have an impact on the environment, socio-economic and related sectors. If unchecked, climate change will jeopardize progress towards the SDGs agenda to end hunger and poverty by 2030. COVID-19 is exacerbating the underlying impacts of climate change that are endangering food and water security. There is a need to strengthen the adaptation and mitigation capacity of small farmers through cooperative platforms so that they reach the small farmers who are furthest away first. International cooperation is urgent to support smallholder farmers' adaptation to climate-smart agriculture to reduce GHG emissions thereby reducing climate impacts resulting in higher productivity, food security, poverty reduction and sustainable development. Cooperatives need support to facilitate adaptation and mitigation by applying site-specific technologies to local needs and possibilities.

Ending hunger and eradicating poverty are key goals for a sustainable future. Food security is a constant challenge for agrarian communities in low-income countries. Agricultural, demographic, and socioeconomic practices in rural communities are related to food security. According to Herrera et al. (2021) (Herrera et al., 2021), More than 70% of respondents reported times during the last three years when there was insufficient food for the household, and the most frequently reported cause was small land size (57%). The likelihood of food insecurity decreases with increasing vanilla yield, rice yield, and land area. There is an interaction effect between land size and household size; Larger families with smaller land holdings have higher food insecurity, while larger families with larger land holdings have lower food insecurity. Other socioeconomic and agricultural variables were not significantly associated with food insecurity, including material wealth, education, crop diversity, and livestock ownership. The high rate of food insecurity in this community suggests interventions that would reduce food stress. In particular, because crop and livestock diversity is currently low, agricultural diversification can increase output and reduce food insecurity. The development of sustainable agricultural intensification, including increasing rice and vanilla cultivation to increase crop yields on small land areas, is likely to have a positive impact on food security and poverty alleviation. Increasing market access and off-farm incomes, as well as improving land tenure policies can also play a valuable role in reducing challenges to food security.

The Influence of the Food Security Program on Arts and Culture (Urip Kerimaan).

The second Sustainable Development Goal aims to end hunger, achieve food security, improve nutrition and promote sustainable agriculture. While some small farmers are aware of this goal, others are not. The question that arises is whether awareness translates into food security or not. Results from the endogenous switching regression treatment effects model with ordered outcomes show that households that are aware of the second objective are more food secure than their counterparts. In conclusion it is wise for stakeholders promoting and championing the Sustainable Development Goals to educate farmers about the second goal as their awareness of the goal is critical to achieving food security.

The Influence of Arts and Culture (Urip Kerimaan) on Sustainable Development.

Agricultural programs are implemented in sub-Saharan African countries to stimulate rural economic development. One such program is the Presidential Cassava Initiative (PCI) in Nigeria which aims to reduce poverty and food insecurity, but there are limited studies on the program's contribution to cassava output and food security. This study estimates the effects of PCI on cassava output and food security in Nigeria. A three-stage multivariate linear regression model was applied in the empirical analysis. The research results show that PCI has increased cassava output; promote food supply; and increasing national food security. The study concludes that agricultural development interventions are needed to achieve sustainable food supply and food security in sub-Saharan Africa. It is suggested that exit strategies should be included in designing agricultural interventions to enable beneficiaries to enjoy sustainable effects, Donkor et al. (2017) (Donkor et al., 2017).

The role of the mediating role of Arts and Culture (Urip Kerimaan) in the relationship between the Food Security Program and Sustainable Development.

According to Garba Abubakar et al. (2019) (Garba Abubakar et al., 2019), food is life, therefore, food has become an instrument of national power. A comprehensive review of food security initiatives on sustainable development. There is a positive and significant relationship between the elements elements of food security such as; Availability, Accessibility, Sufficiency and sustainability for access to food with sustainable development. By using questionnaires among various government institutions, corporate organizations, non-governmental organizations, buyers and sellers and using descriptive statistics, correlation analysis and regression analysis are used to analyze the data. The study recommends that shareholders, government authorities should promote food security to achieve sustainable development. Donor agencies should channel resources in ensuring food security for sustainable development in developing countries. In addition, increasing productivity

should be directed to balance population growth and through improved technology, there will be enough food available in the country.

Variables and Indicators

This research involves three (3) variables and nine (9) indicators. The research variables and indicators are as follows;

Food Security Program

Food is a basic human need that must be met at all times. The right to obtain food is a human right, as stated in article 27 of the 1945 Constitution and in the Rome Declaration (1996). These considerations underlie the issuance of Law no. 7/1996 concerning Food. As a basic need and a human right, food has a very important meaning and role in the life of a nation. Food availability that is less than needed can create economic instability. Various social and political upheavals can also occur if food security is disrupted. This critical food condition can even endanger economic stability and national stability. The strategic value of rice is also due to the fact that rice is the most important staple food. The rice industry has a big influence in the economic fields (in terms of employment, growth and dynamics of the rural economy, as a wage good), the environment (maintaining water use and clean air) and socio-political (as a glue for the nation, creating order and security) . Rice is also the main source of nutritional fulfillment which includes calories, protein, fat and vitamins. Considering the importance of rice, the Government always strives to increase food security, especially originating from increasing domestic production. These considerations are becoming increasingly important for Indonesia because its population is increasingly large with a wide population distribution and geographical coverage. To meet the food needs of its population, Indonesia requires the availability of food in sufficient and distributed quantities, which meets consumption adequacy and sufficient national stock according to the operational requirements of extensive and distributed logistics. Indonesia must maintain its food security. The definition of food security cannot be separated from Law no. 18/2012 concerning Food. It is stated in the Law that Food Security is "the condition of food fulfillment for the state and individuals, which is reflected in the availability of sufficient food, both in quantity and quality, safe, diverse, nutritious, equitable and affordable and does not conflict with religion, belief and community culture, to be able to live healthy, active and productive lives in a sustainable manner." The Food Law not only talks about food security, but also clarifies and strengthens the achievement of food security by realizing food sovereignty with food independence and food safety. "Food sovereignty is the right of the state and nation to independently determine food policies that guarantee the right to food for the people and that give the people the right to determine a food system that is in accordance with local resource potential," Bulog (2014) (Food Security - Perum BULOG , n.d.) .

The indicators that represent the Food Security Program in this research are as follows:

- 1) Growth of Rice Field Area.
- 2) Rice Production Growth.
- 3) Growth in the Number of Farmers.

Sustainable Development

Literally, sustainability means the capacity to maintain an entity, outcome, or process over time, Basiago (1999) (Basiago, 1998) . However, in development literature, most are academics, researchers and practitioners (Gray et al.(2013) (Milne & Gray, 2013) , Tjarve et al.(2016) (Tjarve & Zemite, 2016) , Mensah et al.(2018) (Mensah & Enu-Kwesi, 2019) , Thomas (2015) (Craig F. Thomas, 2015)) applies this concept to the connotation of enhancing and sustaining healthy economic, ecological and social systems for human development.

The indicators that represent Arts and Culture (Urip Kerimaan) in this research are as follows:

- 1) Income Growth Per Farming Family.
- 2) Family access to health facilities.
- 3) Family Access to Educational facilities.

METHOD

The conceptual framework can be used in inductive and empirical research at the micro or individual study level, (Shields & Tajalli, 2006) , (Baum, 2019) , (Shields & Rangarajan, 2013) . The Research Conceptual Framework is as follows:

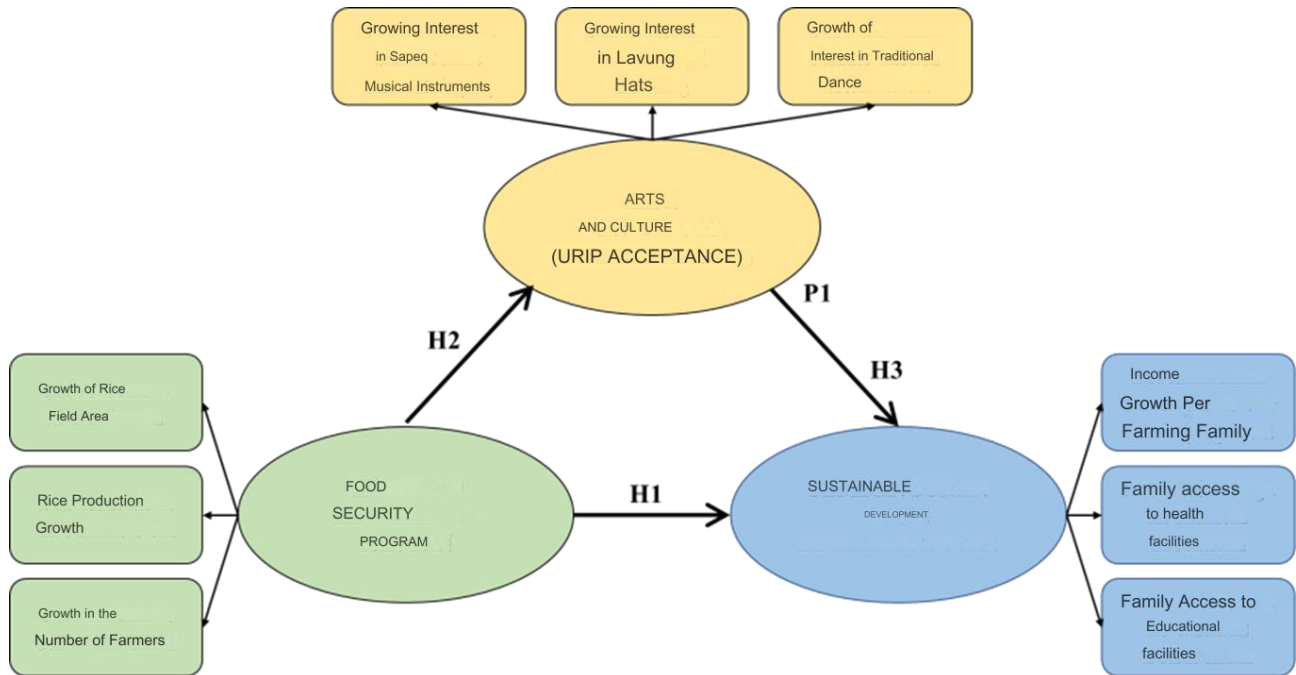


Figure 3. 1. Mode 1 Research Concept

This research approach, involves collecting quantitative and qualitative data (Primary and Secondary data), integrates these forms of data and adopts a differentiated design, which includes philosophical assumptions and theoretical frameworks. The essence of the premise of this mixed method is that the combination of qualitative and quantitative approaches will provide a complete understanding of the research problem compared to other research approaches, Creswell (2003) (Creswell, 2003) .

RESEARCH RESULTS AND DISCUSSION

Food Security Program (X)

Food Security Program from the results of questionnaires to 1009 farmers who participated in the Food Security Program, are as follows: Minimum score: 2 (almost never/do not agree); Maximum Score: 5 (Very positive/always/strongly agree) Average Score:

- 1) Our rice field area has increased from before = 4.18
- 2) Our rice production has increased from before. = 4.29
- 3) The number of farmers in our village has increased from before = 4.35

Table 1. Food Security Program Description (X)

Description	FOOD SECURITY PROGRAM (X)		
	The area of our rice fields has increased from before	Our rice production has increased from before	The number of farmers in our village has increased from before
Minimal	2	3	3
Maximum	5	5	5
Average	4,18	4,29	4,35

Arts and Culture (Urip Kerimaan) (M)

(M) from the results of the questionnaire to 1009 Farmers who took part in Arts and Culture (Urip Kerimaan), are as follows: Minimum score: 2 (almost never/disagree); Maximum Score: 5 (Very positive/always/strongly agree) Average Score:

- 1) The number of people in our village who are interested in Sapeq musical instruments is increasing, by singing songs of success in the agricultural sector = 4.20

- 2) The number of people in our village who are interested in making Lavung hats has increased, as a result the community has experienced an increase in income from farming = 4.03
- 3) The number of people in our village is increasing in interest in traditional dances, especially at cultural events that showcase our success in farming = 4.20

Sustainable Development (Y)

Sustainable Development (Y) from the results of the questionnaire to 1009 Farmers who felt the Sustainable Development program was as follows: Minimum Score: 3 (Neutral/sometimes/undecided); Maximum Score: 5 (Very positive/always/strongly agree) Average Score:

- 1) We feel and enjoy an increase in our income as farmers = 4.29
- 2) We felt and experienced ease in seeking treatment at health facilities (puskesmas, Yandu Post, Hospital) and we were well served. = 4.35
- 3) We feel and experience the convenience of sending our children to educational facilities, both at kindergarten, elementary, middle school, high school and tertiary level provided by the Mahulu Regency Government = 4.35

Hypothesis 2 (H2): Relationship between Food Security Program (X) and Arts and Culture (Urip Keimaan) (M)

The relationship between the Food Security Program (X) and Arts and Culture (Urip Acceptance) (M) is positive and significant and has a path coefficient of 0.34, and $P < 0.001$, the Determination Coefficient (R^2) value is 0.12 or 12%. The hypothesis was accepted ($11.109 > 1.96$).



Figure 5. 1. The Relationship between the Food Security Program (X) and Arts and Culture (Urip Kerimaan) (M)

Hypothesis 3 (H3): The relationship between Arts and Culture (Urip Keimaan) (M) and Sustainable Development (Y)

The relationship between Arts and Culture (Urip Acceptance) (M) and Sustainable Development (Y) is positive and significant and has a path coefficient of 0.27, and $P < 0.001$, the Determination Coefficient Value (R^2) is 0.07 or 7% . The hypothesis was accepted ($8.652 > 1.96$).

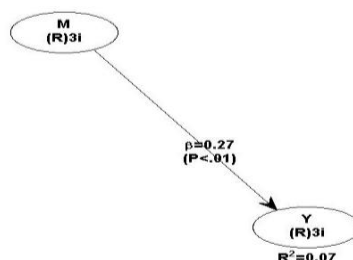


Figure 5. 2. The Relationship between Arts and Culture (Urip Keriaman) (M) to Sustainable Development (Y)

Hypothesis 4 (H4): There is a mediating role of Arts and Culture (Urip Keriaman) (M) on the relationship between the Food Security Program (X) and Sustainable Development (Y)

There is no mediating role of Arts and Culture (Urip Acceptance) (M) on the relationship between the Food Security Program (X) and Sustainable Development (Y). The hypothesis is rejected and accepted ($0.032 > 1.96$).

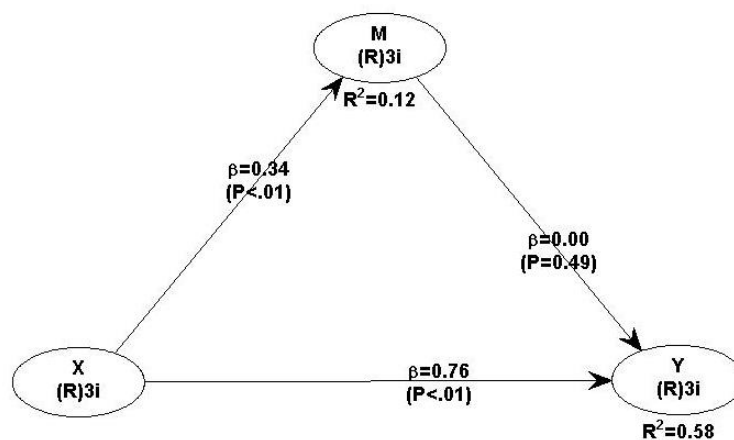


Figure 5. 3. The mediating role of Arts and Culture (Urip Kerimaan) (M) on the relationship between the Food Security Program (X) and Sustainable Development (Y)

Theory Development Findings

- 1) The Neo-Malthusian perspective, which discusses food security, often begins with ecological issues of population pressure and the earth's ability to feed the planet, warning of doomsday scenarios of uncontrolled population growth and consumption of the earth's resources (Bongaarts 1996; Ehrlich and Ehrlich 1990).
- 2) Food security can be maintained only by achieving a sustainable society that meets the needs of the human population without compromising the needs of future generations, thereby balancing human needs with the earth's capacity to meet those needs without causing irreversible environmental damage. Therefore, agricultural practices must employ land use strategies that maintain soil fertility and natural resources while producing adequate output for markets and consumption. Population is the main starting place; from a sociological point of view, however, it is not enough (Scanlan 2001a)
- 3) Development of economic theories based on the results of this research, with a neoclassical approach, the efficiency of transformation from resources to final goods and services determines the development of a nation. If the transformation efficiency of resources is more efficient in a country, then it will be more advanced. It depends on productive forces, labor skills, availability of technology, which are prerequisites for a country's economic growth (Rostov Model).
- 4) The results of this research confirm that the concept of a welfare state is a state economic system in which services related to the welfare of citizens are fully provided by the government (state), especially education, health services, old age or pension security, and work accidents. The essence of the welfare state economic system is the state's responsibility for the welfare of its citizens. The welfare state is associated with meeting basic needs including clothing and food. Therefore, the welfare state is considered as a mechanism for equalizing the disparities created by the market economy.

Empirical Findings

- 1) The relationship between the Food Security Program (X) and Sustainable Development (Y) is positive and significant.
- 2) The relationship between the Food Security Program (X) and Arts and Culture (Urip Acceptance) (M) is positive and significant and has a path coefficient of 0.34, and P < 0.001, the Determination Coefficient (R²) value is 0.12 or 12%. The hypothesis was accepted (11.109 > 1.96).
- 3) The relationship between Arts and Culture (Urip Acceptance) (M) and Sustainable Development (Y) is positive and significant and has a path coefficient of 0.27, and P < 0.001, the Determination Coefficient Value (R²) is 0.07 or 7%. The hypothesis was accepted (8.652 > 1.96).
- 4) There is no mediating role of Arts and Culture (Urip Acceptance) (M) on the relationship between the Food Security Program (X) and Sustainable Development (Y). The hypothesis is rejected and accepted (0.032 > 1.96). N

Food Security Program for Sustainable Development.

Overall, the main impact of COVID-19 has been on the economy, posing risks to future food security and further impeding progress towards key Sustainable Development Goals. According to Davila et al. (2021) (Davila et al., 2021), the recovery pathway is through utilizing the adaptive capacity of society to stimulate innovative agriculture that also integrates climate adaptation and nutrition. The third recovery pathway relates to addressing the structural challenges that perpetuate

inequality and poverty while finding new ways to implement inclusive policies and research. A series of comparative examples of managing food system shocks and future systems-oriented policies for sustainable development.

The second goal of Sustainable Development is Zero Hunger or ensuring food security in the world. Research conducted by Mu'Afa et al. (2021) (Mu'Afa et al., 2021) aims to determine household food security in Sragen Regency using descriptive and analytical methods with survey techniques. The research was conducted in Gemolong District, Sragen Regency. The selection of village samples was carried out purposively considering the largest area of rainfed rice fields. The data analysis used is an analysis of household energy consumption and food security. The research results show that the energy consumption of farmer households is 6,041 kcal/day with an energy adequacy value of 5,368 kcal/day, so the energy consumption level is 113% and is classified in the high level category because the energy consumption level = 100%. The condition of household food security shows that 53.33% are food secure households and 46.67% are food insecure households. Increasing production and household income by optimizing drilled wells to ensure water availability or providing resistant seeds for rainfed rice fields can overcome food insecurity situations.

Food Security Program for Arts and Culture (Urip Kerimaan).

The results of research by Rostow (2013) (Rostow, 2013), which examined the relationship between food security and culture. Rostow argues that, the first impact of the potato on society was the intimate relationship between the domestication of the potato and the evolution of Andean civilization which influenced Andean culture and religion. Apart from food potatoes are used for several non-food purposes. In the Inca Empire, freeze-dried chuño was collected as a tax from farmers and cashed from imperial warehouses to labor gangs to build roads, wage wars, and erect monuments. After the Spanish conquest chuño was used to feed slaves in the silver and gold mines of the Andes. This in turn set the stage for the flooding of Spanish and eventually global markets with this precious metal and the subsequent worldwide inflation of consumer goods. The potato was a major contributor to the European population explosion of 1750-1850 which in turn resulted in increased urbanization and contributed to the foundation of the Industrial Revolution in England in the nineteenth century.

By feeding a rapidly growing population, the potato enabled a small number of countries in northern Europe to assert power over much of the world between 1750 and 1950. The failure of the potato crop in Ireland in the 1840s led Britain to repeal the protectionist Corn Laws and put in place the country is on the free trade route. At least one million Irish refugees emigrated, most to North America where they left a large legacy. The last 50 years have seen a major global shift in potato production to many developing countries in Asia, including China and India. Throughout history potatoes have provided bread for the poor. It currently contributes to food security on a global scale. Depictions of the potato on postage stamps indicate the esteem in which it is held throughout the world and the many references to the potato in art, literature, and folklore around the world are evidence of how it has become woven into the culture of many societies today.

According to Briones Alonso et al. (2018) (Briones Alonso et al., 2018), there is still sufficient scope to improve food security policies by better considering culture. The dynamics as well as the magnitude and relative importance of the effects of culture on food security are still poorly understood.

The Influence of Arts and Culture (Urip Kerimaan) on Sustainable Development.

According to Nocca (2017) (Nocca, 2017), the concept of sustainable development has become the main topic of many international conferences. Although there are many discussions related to the role of cultural heritage in sustainable development, they develop only at a theoretical level. The answer to the main question, namely if cultural landscapes can play a role in sustainable development, can be positive only if we are able to generate empirical evidence about their contribution to increasing the economic, social and environmental productivity of cities. It is important to produce empirical evidence to show that conservation/valorization of cultural heritage is an investment and not a cost. To date, there have been several studies on indicators that can support the relationship between cultural heritage conservation/regeneration and sustainable development. This paper intends to go beyond this limit and approach this problem in operational terms. It focuses on the role that cultural heritage can play in the framework of sustainable development. An assessment framework capable of capturing the multidimensional benefits of cultural landscape conservation/valorization is proposed here starting from an analysis of 40 case studies of culturally led regeneration projects. A multidimensional matrix of indicators (divided into nine categories) of the impacts generated by these 40 cultural heritage conservation/valorization projects and their critical analysis are here proposed, focusing especially on the dual relationship between the tourism sector and climate change. Although the analysis often refers to sustainability, it is not addressed in a concrete way because there is an imbalance between the dimensions: in many cases, only the economic component is highlighted, leaving out the social and environmental dimensions. Additionally, impacts associated with culture-led projects are primarily interpreted in terms of tourism and real estate impacts.

Meanwhile, according to Streimikiene et al. (2019) (Streimikiene et al., 2019), culture plays an important role in implementing sustainability principles and approaching sustainable development goals in various countries. The relationship between the values created by culture and the implementation of the country's sustainable development goals. Most of the

attention in research is devoted to compiling and calculating an integrated cultural value index, which provides a clear link between the value created by culture and sustainable development goals, that cultural input when implementing sustainable development goals is significant, as there is a very strong positive relationship between cultural value index and achieving sustainable development goals.

Development in both the marketing and cultural sectors has a multidirectional nature, showing a relationship with sustainable development that must be considered at various levels of cultural sector management in cultural institutions, at the level of state or regional cultural policy, and at the level of state or regional cultural policy. micro scale. The natural environment, economy and technology are not only areas of sustainable development, but also society and culture. Assumptions about sustainable development by cultural institutions are related to the application of marketing concepts in this area, as they are an expression of market orientation (in cultural consumers), Sobocińska (2019) (Sobocińska, 2019).

CONCLUSIONS

After analyzing and discussing the results of this research, the following conclusions can be drawn:

- 1) The relationship between the Food Security Program (X) and Sustainable Development (Y) is positive and significant.
- 2) The relationship between the Food Security Program (X) and Arts and Culture (Urip Kerimaan) (M) is positive and significant.
- 3) The relationship between Arts and Culture (Urip Keimaan) (M) and Sustainable Development (Y)) is positive and significant.
- 4) There is no mediating role of Arts and Culture (Urip Kerimaan) (M) in the relationship between the Food Security Program (X) and Sustainable Development (Y).

Suggestion

Suggestions that can be given based on the research results are as follows:

- 1) The relationship between the Food Security Program (X) and Sustainable Development (Y) is positive and significant. This proves that implementing strong policies that utilize the benefits of globalization while minimizing risks to achieve the Sustainable Development Goals (SDGs), especially SDG 2 related to ending hunger, improve food security and nutrition and promote sustainable agriculture. Famine remains a silent emergency – attracting attention especially when large numbers of people die during sensational and highly visible famines. In contrast, chronic hunger continues to elude the headlines. As the world struggles to achieve better development outcomes in the face of climate disruption, the political, economic and social implications of this silent emergency are enormous. Hunger and food insecurity are the products of a complex set of factors, including climate-related drivers (e.g. drought, floods, typhoons), which are often exacerbated by economic hardship and conflict. Indeed, the ability of a political system to address rising food insecurity and prevent short- and long-term food crises from escalating into famine depends on historical, cultural, economic and political factors. Additionally, various types of inequality, including income, gender, access to productive agricultural land, access to healthy and fresh food – are highly correlated with food insecurity, Banik (2019) .
- 2) The relationship between the Food Security Program (X) and Arts and Culture (Urip Kerimaan) (M) is positive and significant. The Results of this Research Explain the Food Security Theory comparatively which demands an "integrated assessment" approach that considers the interaction of ecosystems and social systems to account for food security, Harper and Snowden (2017) .
- 3) The relationship between Arts and Culture (Urip Keimaan) (M) and Sustainable Development (Y)) is positive and significant. Implementation of a Sustainable Development Program requires a clearer understanding of the interrelated, but different, roles of national governments, international institutions and business. This is especially urgent in low-income countries and fragile, conflict-prone states, which are faced with the dilemmas and potential pitfalls associated with coordinating the activities of multiple competing actors.
- 4) There is no mediating role of Arts and Culture (Urip Kerimaan) (M) in the relationship between the Food Security Program (X) and Sustainable Development (Y) . This explains another key issue relating to state capacity and the ability of local public administrations to identify, articulate, coordinate and implement development programs that are aligned with national interests, while also making them attractive enough for domestic and international actors to engage in SDG-related activities. Therefore, governments must develop the capacity to identify profit-making initiatives that could derail overall social and economic development.

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