ECONOMIC INSTITUTIONAL EMPOWERMENT MODEL AS A CLIMATE AND ENERGY INDEPENDENT VILLAGE BASED ON LOCAL WISDOM

Adhi Iman Sulaiman 1
Ahmad Sabiq 2
Dian Bestari Santi Rahayu 3
Shinta Prastyanti 4
Toto Sugito 5
Irene Kartika Eka Wijayanti 6
Sri Weningsih 7

ABSTRACT

Objective: Village development from the perspective of community empowerment is to increase community participation in institutions by utilizing economic potential resources and local wisdom.

Purpose: The research to analyze and design a model of economic institutional empowerment at the location of Sambak Village, Kajoran Subdistrict, Magelang Regency, Central Java Province as a productive and innovative village that was awarded the Climate Village and Independent Innovation Champion.

Method: The research used a qualitative method with Participatory Rural Appraisal (PRA) which is relevant for constructing reality through observation, dialogical interviews, documentation, and Focus Group Discussion (FGD). Research informants were selected purposively, namely administrators and members of Micro, Small, and Medium Enterprises (MSMEs) and Village-Owned Enterprises (VOE), village government, and empowerment activists. PRA research analysis obtains data construction, reduction, and categorization which can then design empowerment programs or models.

Results: Village governments need to create and run economic institutional empowerment programs in partnership with educational institutions and empowerment activists so that VOEs and MSMEs become integrated institutions. The empowerment programs needed are institutional management, administration, finance, promotion as well as digital marketing. Sambak Village can become a model and destination for an energy-independent productive and innovative Eduwisata.

Research Implications: This research can apply the concepts, theories, and methods of community empowerment as participatory development.

1 Communication Science Department, Jenderal Soedirman University, Purwokerto, Java, Indonesia. E-mail: adhi.sulaiman@unsoed.ac.id Orcid: https://orcid.org/0000-0002-7439-9661
2 Political Science Department, Jenderal Soedirman University, Purwokerto, Java, Indonesia. E-mail: ahmad.sabiq@unsoed.ac.id Orcid: https://orcid.org/0000-0002-8460-0577
3 Communication Science Department, Jenderal Soedirman University, Purwokerto, Java, Indonesia. E-mail: dian.rahayu@unsoed.ac.id Orcid: https://orcid.org/0000-0002-4163-1808
4 Communication Science Department, Jenderal Soedirman University, Purwokerto, Java, Indonesia. E-mail: shinta.prastyanti@unsoed.ac.id Orcid: https://orcid.org/0000-0002-4998-7403
5 Faculty of Communication Science, Padjadjaran University, Bandung, Java, Indonesia. E-mail: toto.sugito@unpad.ac.id Orcid: https://orcid.org/0000-0001-9596-2031
6 Agribusiness Department of Postgraduate School, Universitas Jenderal Soedirman, Purwokerto, Java, Indonesia. E-mail: irene.wijayanti@unsoed.ac.id Orcid: https://orcid.org/0000-0002-8576-2826
7 Indonesia Open University. Bogor, Java, Indonesia. E-mail: wening@ecampus.ut.ac.id Orcid: https://orcid.org/0000-0003-3852-8137
Originality/value: This research has created a productive and innovative economic institutional empowerment model based on energy independence and local wisdom.

Keywords: Climate Village, Community Empowerment, Economic Institutionalization, Energy Independence, Local Wisdom.

MODELO DE EMPoderamento INSTITUCIONAL ECONÔMICO COMO CLIMA

RESUMO

Objetivo: desenvolvimento da aldeia sob a perspectiva do empoderamento da comunidade é aumentar a participação da comunidade nas instituições, utilizando os recursos econômicos potenciais e a sabedoria local.

Propósito: A pesquisa para analisar e projetar um modelo de empoderamento institucional econômico na localidade de Sambak Village, subdistrito de Kajoran, Magelang Regency, província de Java Central como uma vila produtiva e inovadora que foi premiada com o Climate Village and Independent Innovation Champion.

Método: A pesquisa utilizou um método qualitativo com Avaliação Rural Participativa (PRA) que é relevante para a construção da realidade por meio de observação, entrevistas dialógicas, documentação e Discussão em Grupo Focal (FGD). Os informantes da pesquisa foram selecionados propositadamente, ou seja, administradores e membros de Micro, Pequenas e Médias Empresas (MPME's) e Village-Owned Enterprises (VOE), governo da aldeia e ativistas de empoderamento. A análise de pesquisa PRA obtém a construção, redução e categorização de dados que podem então projetar programas ou modelos de capacitação.

Resultados e conclusão: mostraram que os governos das aldeias precisam criar e executar programas de empoderamento institucional econômico em parceria com instituições educacionais e ativistas de empoderamento para que VOEs e MPMEs se tornem instituições integradas. Os programas de capacitação necessários são gestão institucional, administração, finanças, promoção e marketing digital. Sambak Village pode se tornar um modelo e destino para uma Eduwisata produtiva e inovadora independente de energia.

Implicações da pesquisa: Esta pesquisa pode aplicar os conceitos, teorias e métodos de empoderamento comunitário como desenvolvimento participativo.

Originalidade/valor: Esta pesquisa criou um modelo de empoderamento institucional econômico produtivo e inovador baseado na independência energética e na sabedoria local.


RGSA adota a Licença de Atribuição CC BY do Creative Commons (https://creativecommons.org/licenses/by/4.0/).

1 INTRODUCTION

Village development is a representation of national development at the local level that is most real, close to, and feels benefits, progress, and welfare, especially socio-economic by the community. So the basis of a strong socioeconomic system of community institutions in the village becomes the foundation and determinant of socio-economic development at the regional, urban, and national levels.
Based on the Ministry of Villages, Indonesia has 74,093 villages, of which more than 32 thousand villages fall into the category of underdeveloped villages, and it is very contradictory to the goals of regional autonomy which should be able to realize independent development with its socioeconomic institutions to improve the welfare of people in the regions and rural areas.

Public policy support to accelerate development at the regional and village levels with the enactment of Law Number 32 of 2004 which was later amended by Law Number 12 of 2008 concerning Regional Government, that regional autonomy is the right, authority, and obligation of an autonomous region to regulate and minding his own business strengthened by Law Number 6 of 2014 concerning Villages which builds village independence with autonomy for managing government and socio-economic institutions according to needs, potential resources and participation of local communities.

Development with village autonomy has the hope of increasing opportunities, awareness, and community participation to design, agree on and implement development programs according to problems, needs, and local potential resources they have. So that it can open jobs, increase business or entrepreneurial group products, income, and welfare, and more broadly overcome poverty in the village and create self-reliance.

The government has supported the realization of autonomous, prosperous, and independent village communities by developing village community economic institutions in the form of socio-economic institutions as entrepreneurial Micro, Small, and Medium Enterprises (MSMEs) and Village-Owned Enterprises (VOE) (Nugeraha et al., 2021; Reswita et al., 2021; Rokhman et al., 2023; Wahyono et al., 2022).

Thus the researcher is interested in researching one of the village government locations that have achievements in socio-economic institutions in the form of Innovative MSMEs collected in VOE Kartadesa in Sambak Village, Kajoran District, Magelang Regency, Central Java Province, Indonesia which is very interesting and unique by having Potorono Coffee products and the tofu sambak food product which has been supplying to markets to regions and urban areas in Magelang, Temangung, and Wonosobo of Central Java Province, even Yogyakarta regencies. MSME's Tahu Sambak in Sambak Village total of 12 home industries which are also called innovative villages because they can utilize tofu industrial waste for biogas energy. Bio-gas from tofu waste can be utilized by members of the public who are more efficient and practical as a substitute for energy from Elpiji gas.

The MSME's socio-economic institution in this innovative VOE is the driving force for the village community’s economy because in addition to accommodating business production results it is also a transactional medium for marketing and can meet the needs of the wider community, including increasing the income or welfare of the people in the village.

Some of the results of studies on how important and strategic entrepreneurship is in MSMEs as VOE business units in development in rural areas to open jobs for the younger generation, develop potential local socio-economic resources, and improve the welfare of rural communities as a whole (Ahsan et al., 2021; Benoit et al., 2022; Hughes et al., 2021; Papulová & Papula, 2015; Weiss et al., 2019)

The researcher has conducted a study of previous research (Faeni et al., 2023; Irawan, 2020; Kusmulyono et al., 2023; Laila et al., 2023; Panjaitan et al., 2021; Silalahi et al., 2022; Singh et al., 2010; Srirejeki, 2018; Zemtsov et al., 2022) and the results of field research construction in 2022-2023 and found that many potential socio-economic resources for the community can be developed specifically for MSME economic institutions in VOE. As for the socioeconomic potential that can be developed to increase the participation of the younger generation, productivity, and community welfare, namely:
1) Agricultural economic resources that are very important, strategic, and productive such as horticulture with fruit and vegetable products supported by a suitable demographic location and fertile.

2) Post-harvest processing of horticultural agricultural products can simultaneously improve product quality and quantity.

3) The younger generation, especially students or graduates from high schools and vocational high schools as well as those currently in college, become students as potential, creative, productive, and innovative human resources. Furthermore, they can become young entrepreneurs who can continue the development and progress of MSMEs in VOE if given digital-based socio-economic empowerment.

4) Entrepreneurs in MSMEs can become VOE business units that will be able to develop and strengthen community economic institutions.

5) Magelang is already well-known as a tourist destination area that not only sells the natural beauty tourism segment (ecotourism) but must also be used for unique, interesting, and educational culinary and educational tourism. Furthermore, they can become young entrepreneurs who can continue the development and progress of MSMEs in VOE if given digital-based socio-economic empowerment. used as unique, interesting, and educational culinary and educational tourism.

However, several problems were still found from the results of the research team’s preliminary study including reviewing research results in scientific journal articles as follows:

1) Organizational or institutional management has not been managed professionally. MSMEs as VOE sub-units are not fully integrated with formal administration so the bonds are only informal friendships and are less involved in meetings or deliberations within VOE or vice versa.

2) Administrative and financial management is still made manually or not based on computers or digital applications that are more practical and accurate.

3) Development of businesses to increase the quality and quantity of products must still be improved such as tofu and coffee food products.

4) The younger generation in the village has not been much involved in doing village potential-based entrepreneurship.

5) Products do not fully have quality standards that have been stipulated, such as business licenses and marketing or trading licenses from the Home Industry Food license certificate, then health hygiene and food appropriateness standards from the Food and Drug Supervisory Agency, and Halal certificates.

6) Standardization of packaging quality and attractive or marketable brands has not been carried out.

7) Promotion and marketing of MSME’s products within VOE have not optimally adopted digital technology. and attractive or marketable brands

Based on the potentials and problems from the results of studies and research, a socio-economic institutional empowerment strategy model is needed in the form of MSMEs and VOE to increase motivation, knowledge, and skills in organizational management, administration, finance, increase production and product quality, and product marketing promotion.

The importance and strategic importance of productive and innovative rural community socio-economic institutions for development and welfare, the research objectives can be made, namely:

1) How is the development of productive and innovative village economic institutions based on local wisdom?

2) How is the empowerment model of productive and innovative villages based on local wisdom?
Studies of socioeconomic development with adoption and technological innovation use more quantitative methods with correlation and regression analysis, then the context of the study is technical about technology, biochemistry, and environmental studies. However, this study has a research novelty that used the concept and theory of empowerment as participatory development through participatory qualitative methods. So that the research results have been able to construct a productive and innovative institutional empowerment model based on local wisdom in rural development.

Thus, it is important and strategic to conduct research on empowering socio-economic institutions based on local wisdom as an application of participatory development concepts and theories including participatory methods that are relevant to assessing productive as well as innovative development at the local level as pilot programs.

2 THEORETICAL FRAMEWORK

Community empowerment is a concept, theory, and method that emerges from the antithesis of capitalist development and industrialization, where there is a socioeconomic and welfare gap between workers and subordinates who become weak and powerless marginalized communities compared to company leaders or owners.

Community empowerment in literature is better known as Community Worker in England and Community Development in America, as a social, economic, and political activity for community workers and industrial workers to no longer depend on large companies and industries, overcome socio-economic disparities and create prosperity with independence (Cadiz, 2005; Kenny et al., 2018; Payne, 2014; Servaes, 2008).

The theory of community empowerment has several indicators (Hustedde, 2009; Ife & Tesoriero, 2006) namely:

1) Pluralist perspective, emphasizing individuals and groups in society who have equal opportunities to aspire and participate to compete for power in the system.
2) Elite perspective, empowerment is more than just the ability to compete but can perpetuate power by controlling the game and the rules of the game that are made and tend to benefit the elite, so that individuals and groups can join to become part of the elite, become allies of the elite and or reduce the power of the elite.
3) Structural perspective, some strata, and classes differentiate in society by the dominant group, so that empowerment tries to balance, oppose and change the existing structure.
4) Post-structural perspective, constructing understanding, language, and controlling knowledge in society so that there is empowerment for social change through aspirations, social justice, and education.

Community empowerment as a concept, theory, and method in participatory development has the following elements:

1) Giving people access to production assets in the form of capital.
2) Strengthening the bargaining position of the lower strata of society in the market economy.
3) Developing small industries as the backbone of the national industry.
4) Increasing community independence and self-reliance sustainably.
5) Equitable development by involving all components of community members in all regions (Chaudhuri, 2016; Petit, 2012; Sell & Minot, 2018; Sugito et al., 2019; Sulaaiman & Ahmadi, 2020; Umanailo, 2018).

The empowerment process that occurs at the individual, organizational, and community levels is not a process that stops at a certain point but a continuous effort to increase power, and improve the standard of living of the community, then by examining the factors that cause a community to be less empowered. Community empowerment builds a foundation to raise
awareness and motivation, knowledge and skills, then group cohesiveness, business management, improving product quality to transferring technology or adopting innovations, including the use of information and communication technology media as a promotional and marketing medium (Ahmadi et al., 2023; Kincaid & Figueroa, 2009; Melkote & Steeves, 2001; Mullaly, 2002; Sugito et al., 2022).

Community empowerment is manifested in the formation and development of socio-economic institutions as forums, groups, or communities of joint ventures under the needs, problems, and potential of the community. In the context of institutions in Indonesia, the targets of this research are Micro, Small, and Medium Enterprises Groups, Cooperatives, Entrepreneurship, Home Industry, and Village-Owned Enterprises.

Institutions in strengthening socio-culture, namely the creation of good services, especially to spur the rural economy such as financial institutions. The institution is designed in a network based on the capabilities and professionalism of various actors. Institutions are rules that are a product of values, which are expected to continue to evolve and become part of the culture (Alesina & Giuliano, 2015; Angelia et al., 2022; Bones et al., 2022; Chavance, 2009; Gao, 2022; Prasetyorini, 2023).

The institution is a stabilization of behavior (ways) that lives in a group of people. Is something stable, steady and patterned; functions for certain purposes in society; is found in traditional and modern social systems or traditional and modern forms; and serves to streamline social life. Each institution has a specific purpose and the people involved have certain patterns of behavior as well as agreed-upon values and norms that are unique (Daris et al., 2022; Moscalu et al. 2020; Nurkomala et al., 2023; Ocktilia, 2019).

Based on Law Number 20 of 2008 of the Republic of Indonesia concerning Micro, Small, and Medium Enterprises (MSMEs) Micro Enterprises are productive businesses owned by individuals and/or individual business entities that meet the criteria of Micro Enterprises. A small business is a productive economic business that stands alone and is carried out by individuals or business entities that are not subsidiaries or not branch companies that are owned, controlled, or become part either directly or indirectly of medium or large businesses. Medium Business is a productive economic business that stands alone, which is carried out by individuals or business entities that are not subsidiaries or branches of companies that are owned, controlled, or become part of either directly or indirectly with Small Businesses or large businesses with a total net worth or annual sales results.

3 RESEARCH METHODS

Community empowerment research is relevant to the use of participatory qualitative methods including the Participatory Rural Appraisal (PRA) method (Diannita et al., 2021; Megayanti, T., & Fitria, 2020) which has indicators, namely:

1) Empowerment, as strength obtained from the process and results of participatory research which belongs together. So that professional groups (experts) from outside cannot have a monopoly and even have to be able to generate or strengthen community knowledge (reinforced) regarding the validity of their knowledge. Outside knowledge must be disseminated with local knowledge.

2) Respect, carrying out the process of transforming a researcher into students (learners) and listeners (listeners) by respecting the intellectual abilities and analysis of local communities.

3) Localization, use local resources extensively and creatively.

4) Enjoyment, carried out in a fun and not forced because the emphasis is not on speed but on the process.
5) Inclusiveness, high attention to the process, and marginalized and vulnerable empowered groups.

The research location is in Magelang Regency, Central Java Province, Indonesia as one of the pilot areas for Innovative Villages in Central Java 2022-2023, which is very interesting and unique as a domestic and international tourist destination. This is the reason why it is so important to examine the community's economic institutions that are grouped into MSMEs in the innovative VOE Kartadesa in Sambak Village, Kajoran District, Magelang Regency, Central Java Province of Indonesia.

MSMEs in the VOE institution are the driving force for the economy of rural communities because, in addition to accommodating business production results, they are also a transactional medium for marketing and can meet the needs of the wider community, including increasing income or community welfare.

The research subjects were selected through purposive sampling, namely administrators, members, and stakeholders related to entrepreneurial groups or MSMEs in Kartadesa Village Owned Enterprises (VOE) which are innovative in Magelang Regency, then activists or activists, experts, and empowerment practitioners.

Data collection through interviews, observation, and Focus Group Discussion (FGD). Analysis of community development research data, namely identifying, and categorizing problems, general and specific goals, then analyzing problems and preparing action plans and evaluating the entire process, action plans.

PRA research analysis design that in data validation there is triangulation. So to analyze the data:

1) The principle of triangulation is carried out which is used both in methods, sources, and disciplines.
2) Look for diversity and at the same time differences.
3) Investigations directly from and with local communities (Slocum, 2003; Kindon et al., 2007)

Then complimented by triangulation analysis is the process of compiling data so that it can be interpreted. Organizing data means classifying it into patterns, themes, or categories. Data analysis started by formulating and explaining the problem, before plunging into the field, and continues until the writing of the research results.

4 RESULTS AND DISCUSSION

4.1 Development of Productive and Innovative Village Economic Institutions Based On Local Wisdom

Sambak Village as a research location has an area of 334,532 Ha, located in Kajoran District, Magelang Regency, Central Java Province of Indonesia (Figure 1). The total population in 2021 is around 2281 people with a composition of 1134 men, while there are 1147 women. The composition of the population's occupations is trade 20%, plantation 30%, and agriculture 40%. The most superior commodities are the Paliwija plant and the cultivation and production of Potorono coffee.

Sambak Village has the Vision to realize Agro Wana Wisata Village for independence and prosperity. Its mission is:

1) Explore the potential of botanical and biological natural resources to develop education or knowledge of the wider community, both formal and non-formal.
2) Empowering all levels of society in exploring, developing, and managing village-owned resources.
3) Creating orderly, safe, democratic conditions based on applicable law with the principles of truth and justice.
4) Establish partnerships with other parties.
5) Increasing independence and equity in the planning and implementation of development that is democratic, participatory, and accountable.
6) Improving public services.
7) Improving the degree of public health.
8) Developing the economy with local potential.

Figure 1. Location Map of Sambak Village
Source: Google Map of Sambak Village Government (2023)

The selection of this research was in Sambak Village with the consideration of being a village that has a series of achievements such as a tofu producer with 12 tofu factories, so that it becomes a supplier to surrounding districts in Central Java Province from the central part bordering Magelang Regency to the south to the City of Yogyakarta.

Based on several good sources from the Sambak Village government, Central Java Public Relations, and the mass media in 2022 Sambak Village will receive an award as a Village for the Climate Village Program in the National Sustainable category. Because it can maintain environmental sustainability such as greening, cultivating plants and coffee cherries on Potorono Hill, and especially controlling tofu factory waste into Bio-Gas. Installation of Bio-Gas from tofu waste can provide facilities and services for community kitchen needs.

The achievements that can be achieved by Sambak Village as an innovative productive village are an example of participatory development, which provides space for various parties involved in the formulation or planning, implementation, monitoring to evaluation of activities. So that development belongs to and is a shared responsibility, not just the government, even public service which is the duty or function of the government has shifted to empowering the community.
The village government does not passively wait for the community to be served but practices the terms of picking up the community directly so that they know and carry out development programs to overcome problems and develop community potential. Likewise, the community can play an active, creative, and productive role without waiting for the government and other parties to provide development programs.

Participatory development programs, namely community empowerment activities in the development of productive and innovative socio-economic institutions in MSME’s businesses or home industries for tofu food products and cultivation as well as Potorono coffee products have been very effective and successful.

Participation in community empowerment through MSMEs and VOE is very important to continue to be developed as a media of information and education, communication forums, advocacy, and coordination of activities to strengthen family functions in an integrated manner in the fields of education, economy, health, and environment (Ranasinghe & Pradeepamali, 2019; Sari & Irawan, 2021; Zemtsov et al., 2022).

There are several problems in the participation of MSMEs and VOE found in research (2022-2023) including:

1) The low level of group communication and organizational communication among administrators, community involvement is not optimal, participation and motivation are still low and community apathy, including initiative and support village government, is still not optimal because the orientation of budget use and development is still towards public infrastructure.

2) MSMEs and VOE still have not received support from village assistant scholars who focus on planning, proposing, and reporting village development program activities.

3) The planning and implementation of empowerment still lacks support from the village government which tends to carry out physical or infrastructure development as well as providing allowances and facilities for equipment.

4) Community participation in empowerment requires the support of tertiary institutions to become assistants or facilitators and instructors in activities.

5) The knowledge and skills, as well as the number of MSMEs and VOE cadres, are still low, so it requires concern and attention to increase the capacity and competence of MSMEs and VOE administrators.

Institutions in strengthening socio-culture, namely the creation of good services, especially to spur the rural economy such as financial institutions. The institution is designed in a network based on the capabilities and professionalism of various actors. Institutions are rules that are a product of values, which are expected to continue to evolve and become part of the culture (Cahyono et al., 2022; Rohadin & Yanah, 2019; Son et al., 2023; Thompson & Purdy, 2016).

Based on Law Number 20 of 2008 concerning Micro, Small, and Medium Enterprises (MSMEs) Micro Enterprises are productive businesses owned by individuals or business community entities that meet the criteria of Micro Enterprises.

The institution is a stabilization of behavior (ways) that lives in a group of people. Is something stable, steady and patterned; functions for certain purposes in society; is found in traditional and modern social systems or traditional and modern forms; and serves to streamline social life. Each institution has a specific purpose and the people involved have certain patterns of behavior as well as agreed-upon values and norms that are unique (Contrafatto et al., 2019; Oktavia, 2018; Rochwulaningsih, 2015; Sulaiman et al., 2022a; Vlasov et al., 2022).

MSMEs are productive economic business that stands alone and is carried out by individuals or business entities that are not subsidiaries or not branches of companies that are owned, controlled, or become part either directly or indirectly of medium or large businesses. It can productive economic businesses that stand-alone, and are carried out by individuals or
business entities that are not subsidiaries or branches of companies that are owned, and controlled.

MSMEs have a large number and are found in every economic sector and have a large contribution to the country’s economy. MSMEs also increase productive participation, both with and without loans. They are equally trying to be pioneers in their field by introducing new products or services, and new technologies and trying to take initial initiatives to anticipate competition (Bizarria et al., 2022; Klimovskikh et al., 2023; Lestari et al., 2022; Sari et al., 2020; Sulaiman et al., 2022b; Susan, 2020).

Village Owned Enterprises (VOE) are positioned as one of the policies to realize the First, Third, Fifth, and Seventh Nawa Cita, with the following meanings: VOE is one of the policy strategies to present state institutions (Ministry of Village Development of Disadvantaged Regions) in community and state life in the village.

Therefore, VOE must be the parent of rural economic institutions that cannot be separated from MSMEs as business units that must be integrated into the management, development, and supervision of VOE. Sambak village has a Sambak Tofu product business unit, a biogas cooperative unit that utilizes tofu waste, then a cultivation business unit and Potorono coffee products as shown in Figure 2

![Diagram of VOEs and MSMEs as Productive & Innovative Economic Institutions in Sambak Village](image)

**Figure 2.** VOEs and MSMEs as Productive & Innovative Economic Institutions in Sambak Village  
**Source:** Results of 2023 researcher analysis

### 4.2 Productive and Innovative Village Empowerment Model Based on Local Wisdom

The people of Sambak Village have a concern for the environment with the motto as the spirit of local wisdom “Nandur Winih Nggayuh Asih”, meaning planting seeds to create compassion with empowerment and concrete actions to plant seeds, especially coffee in the Potorono Forest for reforestation and water sources, and protect the environment from tofu production business waste.

The motto of Sambak Village is a representation of the local wisdom that has become a joint commitment, especially from the village head as a leader of the community.

The local wisdom is implemented in real terms in the empowerment of productive and innovative businesses of the community in the cultivation and products of Coffee in Potorono and home industry businesses or MSMEs of Sambak tofu products while maintaining the environment through the creation of reservoirs processing tofu waste into Bio-Gas.
Local wisdom is a characteristic of society or community that is manifested in mindset, attitude, behavior, and culture that has been hereditary principles, norms, and rules that have been agreed upon and become a shared commitment to creating harmony, peace, and prosperity together (Arsal et al., 2023; Kamal et al., 2023; Loainak et al., 2023; Prasetiyo et al., 2022; Sulaiman et al., 2019)

Thus, Sambak Village implements the principle of local wisdom in productive and innovative business cultivation and Potorono Coffee products and Sambak tofu products need to be continuously developed with productive socio-economic institutional empowerment programs.

VOE Kertadesa has the most advanced and developing economic business unit, namely the Bio Gas Group, which processes waste from 12 tofu factories into home gas installations to meet the needs of the regional government, both private and other business groups. Bio Gas in Sambak Village has awards from other business units, namely the cultivation and processing of Potorono coffee beans.

In 2022-2023 Sambak Village won an award as a Village for the Climate Village Program in the National Sustainable category. Because it can maintain environmental sustainability such as greening, cultivating plants and coffee cherries on Potorono Hill, and especially controlling tofu factory waste into Bio-Gas.

Installation of Bio Gas from tofu waste can provide facilities and services for community kitchen needs. So you don't have to buy Liquefied Petroleum Gas (LPG), but you only need to pay a monthly fee of around 10,000 IDR, then the fee increases to 15,000 IDR/month (The year 2021-2022) per household excluding installation fees.

Bio Gas from tofu factory waste can serve 68 families such as 54 families in Sindon Hamlet, 4 families in Mirionbbo Hamlet, and 9 families in Sambak Hamlet, the target is to serve all families in Sambak Village. The recognition of one tempe fried entrepreneur usually spends Rp. 500,000 per month or an average of around 5 to 10 large 12 Kg gas cylinders.

So Sambak Village is also known as an energy-independent village with an established category. Initially, in 2013 the community complained about the pollution of tofu factory waste, so starting in 2014 the Regency Environmental Service suggested making and submitting a proposal for controlling tofu factory waste by making a Biogas installation.

Finally, the proposal was processed by the Central Java Province Environment and Forestry Service in 2015 to create a wastewater treatment plant so that the wastewater that comes out is environmentally friendly. So that by the end of 2015 Biogas has been successfully utilized or operated. Then in 2017 Sambak Village took part in a national-level competition for the climate village program and won the main category, then it will receive another award in 2021.

Sambak Village needs to maintain and improve its achievements as the champion of the main category of the climate village program and the champion of the established category of the energy-independent village competition, it needs to continue to be supported by community empowerment programs.

The empowerment program by providing counseling and training programs to improve the quality of Potorono Coffee cultivation and products, as well as Sambak tofu products. This is to improve the cognitive, affective, conative, and psychomotor aspects that will be able to contribute to the creation of the aspired community independence. Thus in the community, there will be sufficient insight equipped with adequate skills and skills reinforced by a sense of need for development and behavior aware of their needs.

The embodiment of the concept of participatory empowerment which involves all parties, provides motivation, knowledge, experience, skills, and access to partnerships either carried out by parties outside the community (outsiders) or by the community itself (insiders) so that they can develop themselves and others especially social and economic fields whose
ultimate goal is to improve welfare and create self-sufficiency in village communities (Joo Ahn & Bessiere, 2022; Kamruzzaman, 2020; Mikkelsen, 2005; Park & Kim, 2022; Shomedran, 2018; Strelnikova et al., 2023).

Empowerment programs for productive and innovative socio-economic institutions in Sambak Village must be prepared and agreed upon in a participatory manner by involving all elements, especially the younger generation, women and activists, observers, and activists of environmental empowerment.

The Empowerment model must be based on needs and action designs made by the community through a productive dialogue process so that the community can increase their capabilities and actualize themselves or participate in various activities on an ongoing basis (Chang et al., 2022; Muthuri et al., 2012; Sugiarto, & Sulaiman, 2021; Suparman, 2021; Windiasih et al., 2022)

The empowerment program in Sambak Village also needs to preserve local wisdom that has become a guideline and joint commitment in addition to being productive and innovative in MSME and VOE institutions, it also continues to protect the environment as the winner of the main category of the climate village program and the winner of the established category of the energy-independent village competition.

Empowerment is a sustainable process that occurs at the individual, organizational, and community levels aimed at increasing motivation, knowledge, and skills as well as socio-economic capabilities (welfare) including technology adoption and transfer (Huda, 2019; Kuhl, 2020; Prastyanti et al., 2022; Sabiq et al., 2020; Smidt & Jokonya, 2022)

Based on the Climate Village Program Road Map from the Directorate of Climate Change Adaptation and the Directorate General of Climate Change Control at the Ministry of Environment and Forestry, that have elements of the village's capability of the Climate Village Program are:

1) Control of droughts, floods, and landslides.
2) Increasing food security.
3) Control of climate-related diseases.
4) Handling or anticipating sea level rise, rob, and water intrusion.
5) Sea, abrasion, ablation, or erosion due to wind, high waves.
6) Waste management, solid and liquid waste.
7) Processing and utilization of wastewater.
8) Use of new and renewable energy, energy conservation, and savings.
9) Agricultural cultivation.
10) Increased vegetation cover.
11) Prevention and control of forest and land fires.

Based on the achievements of Sambak Village as a productive and innovative energy-independent village, especially regarding Sambak Tofu MSME’s processing of tofu waste into Biogas and cultivation and Potorono coffee products, an institutional development model can be made, namely:

1) Making VOE as the parent business and MSME’s as its business unit by empowering institutional management, administration, digital marketing promotion, and financial management with capital assistance from the local government.
2) Empowerment and certification of environmentally conscious cadres to continue the achievement of becoming a productive and innovative climate village that is energy independent as a pilot,
3) Empowerment of educational tourism management by establishing partnerships with local governments, empowerment activists, and universities so that Sambak Village becomes a pilot location for education and training (empowerment), as shown in Figure 3.
Figure 3. Climate and Energy Independent Village Development Model

Source: Results of 2023 researcher analysis

5 CONCLUSION

Sambak Village, Kajoran Sub-district, Magelang District, Central Java Province has the potential and achievements as a productive village with MSME cultivation and Potorono Coffee products, as well as well-known Sambak Tofu products, then as an innovative village in the category of climate village and energy independent village through controlling tofu waste into biogas to meet the needs of the village community.
VOE has not yet become the parent of economic institutions so MSMEs are still not an integrated business unit. So it is necessary to have an economic institutional empowerment program for VOE and MSME’s management as a joint venture that can improve and prosper the community.

Empowerment programs for VOE and MSMEs through counseling, training on business institutional management, administration, and finance, increasing the standardization of coffee and tofu products with health standards, expiration periods, packaging quality, and labeling from Home Industry Food Permit and Food and Drug Administration license, including digital promotion and marketing strategies.

Empowerment and certification of young cadres, especially for environmental impact control management so that Sambak Village will become a model of a productive and innovative climate village or independent technological innovation, especially in Bio Gas products from tofu factory waste and coffee cultivation as productive greening on Potorono hill.

Sambak Village, Kajoran Sub-district, Magelang District, Central Java Province can be used as an Eduwisata location for the community and other villages, as well as for educational institutions for internships, practical work, practicum, Real Work Lectures for students, including research and community service for lecturers so that they can help the process of socio-economic recreation for the community to be able to further improve welfare.

The implications of this research can apply the concepts, theories, and methods of community empowerment as participatory development. Research so far has been on environmental preservation and energy studies in chemical and environmental engineering studies. So that it can also be continued in the form of environmental sociology research.

This study emphasizes the empowerment of socio-economic institutions for tofu products MSMEs, Biogas Cooperatives and Cultivation MSMEs, and Potorono Coffee products as a form of implementation of empowerment theory with a pluralist perspective, namely individuals and groups in society who have equal opportunities to aspire and participate a post-structural perspective that emphasizes social change through aspirations, social justice, and education.

The novelty of this research has used the concept and theory of empowerment as participatory development through participatory qualitative methods. So that the research results have been able to construct a productive and innovative institutional empowerment model based on local wisdom in rural development.

ACKNOWLEDGMENT

We would like to thank the Institute for Research and Community Service of Jenderal Soedirman University for providing the opportunity the Unsoed Competitive Research. We are also grateful to the research informants, village governments, MSMEs, VEOs, and empowerment activists who have participated in the research process, as well as to the Revista de Gestao Social e Ambiental that has accepted and published our research articles.

REFERENCES


Daris, L., Massiseng, A.N.A., & Rochmady. (2022). The role of local community institutions in managing capture fisheries resources in the coastal areas of Maros Regency. **Agrikan: Jurnal Agribisnis Perikanan, 15**(2), 527-532. [https://doi.org/10.29239/j.agrikan.15.2.527-532](https://doi.org/10.29239/j.agrikan.15.2.527-532)


