

Community Empowerment Program in Management of Health Clinic Development and Herbal Tourism

Adhi Iman Sulaiman¹, Toto Sugito², Bambang Suswanto³, Tri Nugroho Adi⁴, Sri Weningsih⁵

^{1,2,3,4} Faculty of Social and Political Science, Jenderal Soedirman University, Indonesia

⁵ Indonesia Open University in Purwokerto, Central Java of Indonesia

*Corresponding Author: adhi.2005unsoed@gmail.com

Copyright©2018 by authors, all rights reserved. Authors agree that this article remains permanently open access under the terms of the Creative Commons Attribution License 4.0 International License

Abstract: The herbal as a traditional medicine, that has become local wisdom of the Indonesian people needs to be preserved and developed in maintaining the health of families and communities. The study aims to create community empowerment programs and support the development of health clinics and herbal tourism. The study used case studies method, and data were collected through observation, interviews, discussion and documentation. The study location took place in health clinic and herbal tourism, Kalibakung Village, Balapulang District, Tegal Regency, Central Java Province. The results showed that the raw materials of herbal plants to make herbal medicine in health clinics was still depend on the Center for the Development of Medicinal Plants and Traditional Medicines in Tawangmangu Regency. Plant galleries in herbal tourism are still pilot project only, it have not been developed to become self-sufficient of health clinics. Community groups need to be involved as partners to supplying raw materials of health clinics and herbal tourism develop with empowerment programs. Local governments must be initiate and facilitate the implementation of empowerment for collaboration with social institutions, universities and herbalists to conduct socialization, counseling, training and assistance on herbal plant cultivation and herbal processing. Empowerment programs have important to increase motivation, understanding, and community skills in cultivating and processing herbal plants to improving socio-economic welfare and supporting the development of health clinics and herbal tourism.

Keywords: Herbs, Local wisdom, Socio-economic welfare, Empowerment, Herbal tourism

1. Introduction

This template is formatted according to advice of some experts. All Food resilience must receive attention and support for development not only a large scale production to meet regional and national food needs, but also local food resilience which has long been an economic and agricultural force in rural communities, especially in the use of home yards and gardens around the houses which become horticultural farm for vegetables and fruits including cooking spices that are useful to complement and fulfill daily needs. In addition, the food resilience of the yard and gardens can also be used for medicinal plants or herbs as alternative to maintain health and treat the so-called diseases.

It is expensive to maintain health and to treat illness through modern health care. Thus, people are looking for alternatives in preventing and treating illness by returning to natural or herbal medicine. This is known as a family medicinal plant or living pharmacy. Living pharmacy is an activity of cultivating medicinal plants in the yard to prevent or to treat illness using existing medicinal plants. Family medicinal plants are Ginger, Kencur, Lempuyang, Galangal, Temulawak, Reeds, Blimbing Wuluh, Lime, Noni and Cardamom, Guava, Betel, Cat Mustache and Moringa Leaves.

The empowerment program for family medicinal plants has received government attention and support with the Ministry of Health Regulation Number 9 of 2016 concerning efforts to improve health through independent care by using family medicinal plants and their cultivation and processing skills. Traditional health independent care is an effort to maintain and improve health as well as to prevent and overcome minor health problems by individuals, families, groups and communities by utilizing family medicinal plants and the skills to use them.

Agricultural cultivation in yards and gardens, both horticultural crops and Family Medicinal Plants around the house as local food resilience, is a form of local wisdom and can be categorized as knowledge, skills or expertise, experience, and native, natural and traditional technology that become distinctive and unique culture that are used and survives in rural communities for the development of agricultural and economic activities in villages which can be referred to as Indigenous Technology (Onwu & Mosimege 2004); (Pandit 2017); (Jauhainen & Hooli 2017). Even further development of agricultural cultivation that utilizes yards and gardens at home, along with residential roads, in offices, hotels, cafes and restaurants, even campuses has become a new discovery and development in the world of agriculture as an innovation

for local food resilience in urban areas, namely creating and implementing technology of hydroponics for growing vegetables and fruits (Burhansyah 2014); (Wangke & Suzana 2016); (Sulaiman et al. 2020). Many concepts are evidence of local food resilience innovations that have become campaigns for environmentally friendly, local food resilience, and interrelated organic plants such as "Save Our Earth", "Go Green", "Stop Global Warming", "Green Village", "Agro-Tourism", "Organic Village", and "Back to Nature".

Especially in the situation and conditions of the Covid 19 pandemic which stands for Corona (CO), Virus (VI) Disease (D) in 2019 which has become a global problem in almost all countries, including Indonesia, food resilience through cultivating in yards and gardens is useful. According to Kompas.com information source, 209 countries and regions around the world have reported Covid-19 until Wednesday, April 8, 2020, that reached 1,435,310 cases with 82,210 died and 303,007 were declared cured. Then on the media source Covid19.go.id, the number of patients who were positively infected with the Corona Virus (Covid-19) in Indonesia in August 2020 was 165,887 cases, 120,900 recovered and 7,169 died. This results in everyone having to limit themselves to the terms social distancing and physical distancing as well as self-quarantine even to area quarantine in the Decree of Large-Scale Social Restrictions with the Minister of Health Regulation Number 9 of 2020 which is a derivative rule of Government Regulation Number 21 of 2020 concerning Large-Scale Social Restrictions in the Context of Accelerating Handling of Corona Virus Disease 2019 (Covid-19) as an elaboration of Law Number 6 of 2018 concerning Health Quarantine. The threat of the Covid 19 pandemic is being sought for a cure, including the emergence of several alternative medicines such as traditional medicine or herbal medicine which has become the local wisdom of the Indonesian people which is obtained from family medicinal plants.

Based on this, it is very important and strategic to conduct research on the benefits of Family Medicinal Plants in maintaining public health during the Covid 19 pandemic which can be recommended for developing herbal health tourism areas as a form of developing food resilience at the local or village level that is real and close to people's lives through the use of land, yards and gardens so that they become more beneficial for greening and environment and the family health. They have added value to save basic needs and generate additional income for families and communities.

The researcher conducted research and studies on food resilience through the use of yards and gardens around the house to grow vegetables, fruits and herbal plants to meet family needs and used as additional income to create community independence. This is relevant to the concept of community empowerment which processes resource potential into economic strength, as according to Witjaksono (2010), Mardikanto & Soebianto (2012), Meirinawati et al. (2017), Suswanto, et al. (2018), Sidik et al. (2018), Sulaiman et al. (2019) that empowerment is a deliberate effort to facilitate local communities in planning, deciding, and managing their local resources through collective action and networking, so that in the end people have the ability and independence economically, ecologically and socially.

Food resilience and self-sufficiency in the community is important to meet needs, overcome the global economic crisis and face competition and free trade in which a large number of imported products are in. It can also be used as income and welfare for the community, especially in rural areas.

However, in the dynamic development in rural areas there are challenges and problems that are faced, interrelated, and cannot be separated, as the research results of 2019-2020 and several research results from Purwanto (2012), Rusono et al. (2015), Kuncoro et al. (2015), Umanailo (2016), Sulaiman et al. (2017), Hidayat et al. (2017), Kusdiane et al. (2018), Sinharoy et al. (2019) namely the condition of agricultural land is getting narrower, the generation of farmers and interest in agricultural production for the younger generation is decreasing. In contrast the number of population, unemployment, poverty, and malnutrition are increasing. As a result it is difficult to meet the needs of life because of the continuing high prices of basic commodities. Moreover, there are motives and lifestyles with a culture of consuming instant and unnatural food and drinks with lots of chemical flavors and shifting local specialties from organic, natural and healthy. In addition, problems caused by the impact of industrialization in the manufacturing, automotive and textile sectors, do not support the agricultural sector (agro-industry) and narrow agricultural land due to land conversion errors, environmental pollution such as air pollution, and waste that pollutes agriculture which damage agricultural ecosystems and warming global.

This problem becomes an important note in the preamble of Law Number 41 of 2009 concerning the Protection of Sustainable Food Agricultural Land, that the increasing population growth and economic and industrial development have resulted in degradation, conversion and fragmentation of food agriculture land which threatened simultaneously the carrying capacity of the area in maintaining food independence, resilience and sovereignty. Moreover, it is explained that the threat to food security has resulted in Indonesia having to frequently import food products to meet domestic needs. In a situation where the population is still increasing in number, threats to food production have raised concerns about food insecurity in the future. As a result, in the future Indonesia will need additional food availability and food land.

One of the development problems lies in the guarantee of food resilience which concerns the quality of agriculture potential resources and the quality of human resources as actors of development. As according to the Law of the Republic of Indonesia Number 18 of 2012 concerning Food, food is the most basic human need and its fulfillment is part of quality human rights. Moreover, as a country with a large population and on the other hand has a variety of natural resources and food sources, Indonesia is able to meet its Food needs sovereignty and independently. In Article 1 it is stated that food security is a condition of the fulfillment of Food for the state to individuals, which is reflected in the availability of Food that is sufficient, both in quantity and quality, safe, diverse, nutritious, equitable and affordable and does not conflict with the religion, belief and culture of the community to be able to live healthy, active and productive in a sustainable manner.

In article 3 it is stated that Food administration is carried out to fulfill basic human needs that provide fair, equitable and sustainable benefits based on Food Sovereignty, Food Independence and Food Security.

According to the regional poverty reduction strategy of Central Java Province in 2015-2018, one of the important and strategic areas of development in overcoming poverty is strengthening food security in society with indicators of affordable prices of staple goods, composition of nutritional intake and increasing food production. Likewise in the Strategic Plan of the Central Java Regional Development Planning Agency 2018-2023, it is stated that the priority of development in the economic sector is to carry out the preparation of technical policy formulation, coordination, guidance, facilitation and implementation of development planning tasks in the field of natural resources and agriculture that become an important and strategic sub-priority that is about food security.

The Covid 19 pandemic has no special medicine and in August 2020 laboratory tests are being carried out for the vaccination in the context of the pandemic, on the other hand herbal medicines as an alternatives have begun to be marginalized and forgotten so that people rarely consume and have awareness of planting family medicine as a source of ingredients to make herbal medicine. Although food security for family medicinal plants is very easy, unique, interesting and becomes a local wisdom and indigenous technology needs attention from the development of the community, group institutions and government through empowerment programs. The use and development of herbal medicine has been implemented by local governments such as in Balekambang Tourism Park as a scientific tourism for herbal medicine under the Research and Development Center for Medicinal Plants and Traditional Medicines in Tawangmangu, Karanganyar Regency, Central Java Province. Moreover, it was adopted and became its fostered branch, the Herbal Medicine Tourism Area in Kalibakung Village, Balapulang District, Tegal Regency which was the research location. Therefore the aim of the research is to design a community empowerment program in planting herbal medicines to maintain family health in the midst of the Covid 19 pandemic.

Methods

Phase 1 research was carried out in November 2019 to February 2020 by involving students to participate as well as assigning case study research in the even semester of 2019. It was then continued by processing and analyzing data from March to June 2020, followed by deepening the study with literature studies, online discussions and webinar studies due to Large-Scale Social Restriction policy that has been implemented. From the end of July to August 2020, having permission to do research, the researcher conducted data deepening, verification and triangulation by using case studies that study in depth phenomena of reality with the background of interaction with the environment of a social unit such as individuals, institutions, communities, or society (Suwanto & Subyantoro 2007). Lundy (2008) stated that case studies can examine relatively specific individuals, groups and institutions that have distinctive and unique characteristics to examine in depth collecting data using direct observation, documentation, discussion and semi-structured interviews by preparing in advance questions or discussions that will be asked and discussed to key informants, focused groups both homogeneous and mixed groups. Followed by open interviews (opened interviews) or unstructured and in-depth interviews that allow researchers and respondents to gain flexibility in conducting dialogue (Mikkelsen 2005).

The research location is in a health clinic and tourism area for herbal medicine, Kalibakung Village, Balapulang District, Tegal Regency. The selection of research informants was purposive, namely practitioners and herbalists, chief, doctors and nurses as well as patients at the Herbal Medicine Clinic and the surrounding community in Kalibakung Village, Balapulang District, Tegal Regency. The research used qualitative data analysis of case studies with triangulation and data verification by having a process based on analytical methods that constructs an explanation of the complexity, detail and context of the data. The research also identified emerging categories and theories from the data found as well as pay attention to the uniqueness of each case and conduct cross-case analysis.

Result And Discussion

Development of Health Clinics and Jamu Tourism Park

The establishment of a Health Clinic and Jamu Health Tourism Park was initiated by the Regional Secretary of Tegal Regency named Haron Bagas Prakoso, The health clinic and jamu health tourism park received the support from the local government with the issue of Regional Regulation Number 1 of 2013 concerning the Implementation of Jamu Health Tourism Park and Complementary Traditional Health Service Retribution in Kalibakung Village, Tegal Regency.

The Jamu Health Tourism Park aims to promote traditional health, especially herbal medicine, as a potential for nourishing the community and increasing the local revenue of Tegal Regency. The Tegal Regency Government in the establishment and development of health clinics and Jamu Health Tourism Park is supported by the Ministry of Health, especially under the Directorate General of Nutrition and Maternal and Child Health, especially the Directorate of

Alternative and Complementary Traditional Health Services, Directorate General for Pharmaceutical Development and Equipment Health and Health Research and Development Agency of the Central Tawangmangu Medicinal and Traditional Medicines Plant Development Center Karanganyar Regency, Central Java Province by planning the development of herbal tourism areas in 2012-2015.

Initially, Jamu Health Tourism Park was managed by two agencies, namely the Tourism Office and the Tegal District Health Office which were integrated into one, but its development has changed only under the Health Office whose status is the Regional Technical Implementation Unit which is equivalent to the Community Health Center at the sub-district level.

Health clinics and herbal tourism areas in Kalibakung Village, Tegal Regency, are located at an altitude of 650 meters above sea level with the address on the main road Kalibakung Bojong Kilometre 1 Kalibakung, Balapulang District, Tegal Regency, Central Java Province. There are medicinal plant showcase with 280 types of herbal medicinal plants labeled with names with a total land area of 3.2 Ha in collaboration with Pharmaceutical Development and Equipment Health and Health Research and Development Agency in Tawangmangu, Karanganyar Regency, Central Java Province. Thus the herbal medicine clinic in Kalibakung health tourism, Tegal Regency, uses the basis research results of Pharmaceutical Development and Equipment Health and Health Research and Development Agency, the results have 11 scientific herbal concoctions, namely the herb Gout, jamu for High Blood Pressure, jamu for Hemorrhoids, Arthritis, High Cholesterol Herbs, Liver Disorders of Liver, Gastric or Stomach Disorders, Kidney Stones, Diabetes, Fitness, Obesity or overweight herbs. Therefore the health tourism of herbal medicine in Kalibakung, Tegal Regency has the aim of utilizing natural resources and managing traditional and natural potentials sustainably to be used as herbal medicine in health service efforts. On the other hand, the raw materials for traditional medicines originating from the people of Tegal Regency are only 30% of the health tourism needs of herbal medicine, whereas as much as 70% are supplied from Pharmaceutical Development and Equipment Health and Health Research and Development Agency in Tawangmangu. Developing herbal medicinal plants to supply complementary services and facilities in other places outside the Tegal Regency area.

Health clinics and herbal tourism areas in Kalibakung, Tegal Regency have staffs who manage and carry out services at health clinics and herbal tourism areas, consisting of general practitioners who already have herbal certification, including pharmacists and nurses who also have herbal certification as well as herbal tour guides or extension agents. The herbal tourism park is a visiting place for students to practice learning, Family Health Empowerment groups, Scouts, elementary school students, middle and high school students as well as communities guided by health workers. The services provided are health clinic services with herbal clinical laboratories, general action services and outpatient services. There were 3,846 special visits for patients who came to the herbal health clinic or an average of 13 people every day who came from various areas outside Tegal Regency. The composition of patients' ages was 41-55 years (41%), 55 > years (39%), 15-41 years (18%) and <15 (2%). There are patients undergoing treatment with disease cases include diabetes, hypercholesterola, dyspepsia, hypertension, gout, myalgia, osteoarthritis, cough, rheumatoid arthritis and kidney stones. Based on data from the health clinic and tourism herbal medicine Kalibakung, Tegal Regency, the most widely used herbal medicinal ingredients during 2019 are Temulawak as a type of rhizome 75.8 kg (3.2 kg per month), Meniran the herbal part of 56.8 Kg (4.7 kg per month), turmeric as a type of rhizome 43.7 kg (3.6 kg per month), 40.7 kg of Sembung leaves (3.4 kg per month), 35.6 kg of Salam leaves (3 kg per month), Wood sweet 34.5 kg (2.9 kg per month), Secang wood, 33.6 kg (2.8 kg per month), 33.6 kg Dutch teak leaves (2.8 kg per month), 33.2 kg perforated grass (2.8 kg per month), 27.3 kg (2.3 kg) of Pule bark.

The plan to develop a health clinic and tourism area for herbal medicine in Kalibakung, Tegal Regency to improve health services with herbal raw materials for spa services, acupuncture, laboratories and research centers for herbal medicine, post-harvest processing, herbal cafes and even planning to build a Jamu Health Hospital as a referral in traditional and complementary treatment service. Health clinics and Jamu tourism areas have a vision to create a healthy community with quality, safe and efficacious herbal medicine, whereas the missions are to improve the quality of research and development of medicinal plants based on health services, to develop research and development results of traditional medicinal plants, to increase the use of research results and traditional medicine development with the motto of being friendly, informative, educative and productive. Registration hours for treatment at a health clinic are Monday to Thursday from 08.00 - 11.00, Friday and Saturday from 08.00 - 10.00 and closed on holidays. Then the service hours are Monday to Thursday starting at 07.00 - 14.00, Friday from 07.00 - 11.00 and Saturday 07.00 - 12.30. It is importance to have health clinics and herbal tourism areas such as in Kalibakung village, Tegal regency, to maintain and maintain health and treat diseases. Jamu is a herbal medicine that has long been a traditional medicine from generation to generation in Indonesia. Apart from health, herbal medicinal plants can also be an economic commodity and do not depend on imported products. As according to Law Number 36 of 2009 concerning Health, the highest degree of public health is carried out based on non-discriminatory, participatory and sustainable principles in the framework of forming Indonesia's human resources, as well as increasing the nation's resilience and competitiveness for national development. Article 3 states that health development aims to increase awareness, willingness and ability to live a healthy life for everyone so that the highest degree of public health can be realized, as an investment for the development of socially and economically productive human resources.

Public health is the science and art of preventing disease, extending life, and improving health through community

organizing efforts to improve environmental sanitation, to control infectious infections, to conduct individual education in personal hygiene, to organize medical services and to care for achieving it, to early diagnose and prevent therapy for disease, as well as to develop social development towards a decent life insurance in the health sector. The scopes of public health are (1) promotive (improvement of optimal health) for increased nutrition, individual health maintenance, environmental health maintenance, regular exercise, adequate rest and recreation; (2) Preventive (prevention of disease) through immunization of infants and children, pregnant women, periodic health checks to detect disease early; (3). Curative (treatment) of the sick to be treated appropriately so that their health is concerned; (4) Rehabilitation (health care) for patients who have just recovered from their illness. (Detels, et al. 2009);(Pippel, 2013);(Eliana & Sumiati, 2016).

In its development, herbal medicine is a traditional medicine that is used from generation to generation made from plant ingredients which are developed into standardized herbal medicines with research to test the quality, safety and usefulness standards scientifically and use raw materials that meet the requirements or standards called Fitofarmaka. The process of making herbal medicine materials is dried and or mashed (made into fine powder) then boiled in hot water over low heat for about 15-20 minutes using a pot or pan made of clay such as a teapot or pendil, it can also be made of stainless and or glass, but do not use aluminum. Several types of herbal plants are based on sources from health clinics and herbal tourism areas and the results of interviews with herbalists and practitioners that the herbal ingredients consist of (1) ingredients from plant stems such as lime for antiseptic mouthwash, castor plant to treat toothaches, Brotawali for fever and worm medicine, Cinnamon for shortness of breath and cough, Lemongrass to warm the body, then Pomegranate for worm medicine. (2) Ingredients from leaves such as guava to treat diarrhea stomachache, Alamanda leaves for ulcers, kale for insomnia, cat's whiskers for treating urinary tract, gotu kola for treating canker sores, Moringa leaves for treating anemia, Landep for treating rheumatism, Papaya for treating fever and dysentery, Celery and Blimbing to treat high blood pressure, Betel for mouth sores and bad breath, Salam leaves to treat diabetes, Wera leaves to treat fever, and Saga leaves for coughs and mouth sores. (3) Material from seeds such as Mahogany for malaria, Jambalang for diabetes, Nutmeg for flatulence and Kedaung for stomachache, and noni fruit for hypertension. (4) Ingredients from tubers or rhizomes such as turmeric for heartburn, ginger for asthma, lumbago and colds, Temulawak for constipation, Alang-alang for rheumatism, Kencur for cough medicine, Lempuyang for diarrhea and appetite, Temu giring for sickness stomach and worm medicine, galangal as an antibacterial.

The planting of traditional herbal medicines is very important and beneficial to meet human needs and health, even in the pharmaceutical world, medicinal plants are a source of raw materials for traditional and modern herbal medicines that also need to be preserved and patented. The return to the tendency of people with a back to nature lifestyle in consuming traditional herbal medicines and the high cost of modern medicine, so that the demand for traditional herbal medicinal plant products (Hakim, 2015); (Salim & Munadi, 2017); (lin Li, et al. 2017); (Fitri, et al. 2018); (Thakur & Kumar, 2020); (Yu, et al. 2021).

Community Empowerment in Herbal Plant Development Management

The process of making the empowerment program for family medicinal plants can be started from the initiative of the local government of Tegal Regency, in this case the Health Service and administrators of herbal health clinics as facilitators who have policies, authority and budget. Thus in the future the community around the health clinic and the herbal tourism area in Kalibakung Village, Balapulang Subdistrict, can become targets or empowerment participants who will become producers and suppliers of the needed medicinal plants. Therefore people can take advantage of their home yards and plantations to meet the needs of family medicinal plants and increase income by supplying herbal ingredients to health clinics and herbal tourism areas. Because the community around the health clinic and the herbal medicine tourism area in Kalibakung Village has great potential and is suitable for the area to plant herbal medicinal plants with a large yard including plantations.

Efforts to improve food security and family nutrition can be made through the use of available and available resources in the environment. Empowerment is carried out starting with small-scale projects initiated by local communities to improve knowledge and skills in gardening or growing food that contribute to higher levels of food security, better nutrition and environmental, cultural and social values through cooperation of all parties. This effort can be made through the use of yard land managed by households to plant commodities that can be used to meet the daily needs of the community which aims to empower the community, especially housewives who can help increase household income and realize food independence (Tumanggor, 2009); (Ashari, et al. 2012); (Katz, 2017); (Kenton & Singha, 2018); (Mayliza and Adianto, 2019); (Kurniawanto & Anggraini, 2019); (Galie, et al. 2019); (Petraou, et al. 2020).

The program initiated and facilitated by the government of the Health Office of Tegal Regency are: (1) Conducting intensive outreach on the vision, mission and development program of health clinics and herbal health tourism areas to community groups and students around the herbal tourism area, especially in Kalibakung Village, Balapulang District, Regency Tegal by involving the local village government. The goal is to educate people, to make them understand and be motivated to care for the preservation and development of herbal medicinal plant resilience to maintain family health and to support the development of health clinics and jamu tourism areas. (2) Conducting continuous counseling to community groups, students and the Kalibakung village government regarding the importance of the benefits of planting, types of herbal plants, and processing herbal plants as medicinal plants and family health as well as having added value

or generating income to supply raw materials for herbal medicine as well as its herbalist for tourists. The goal is that the community will be more motivated to plant herbal plants in the garden and yard for family medicinal needs and to get additional income by supplying herbal ingredients to health clinics and herbal tourism areas. (3) Conducting dialogues in deliberations to identify and analyze problems, potentials, and interests with community groups and the Kalibakung Village government in developing herbal plants in the yard as well as the process of making herbal medicine. Thus the empowerment program needed for community groups is produced and there is a commitment to a partnership agreement with the health office and managers of health clinics and herbal tourism areas. Therefore, the results of herbal plants in the homes and plantations of community groups can be accommodated and accepted for purchase according to the standards set by the Health Office, health clinics and herbal tourism areas.

The process of dialogue in deliberations between the health office, managers of health clinics and herbal tourism areas with community groups and the village government is a participatory planning and development process as a form of empowering herbal plants as ingredients for family medicine. The goal is that the community and village government can preserve the culture of planting, processing and consuming herbal medicine as a hereditary heritage in maintaining family health, and can even continue to be developed as a local specialty.

Local wisdom is a view of life and knowledge as well as various life strategies in the form of activities carried out by local people in responding to various problems in fulfilling their needs. In foreign languages, it is often conceptualized as local policy "local wisdom" or local knowledge "local knowledge" or local intelligence "local genius. Local wisdom is useful in the process of passing on cultural identity and knowledge constructively through the teaching and learning process, so that public relations should understand local wisdom as an important community commitment to encourage young people to know and be proud of their local wisdom by participating in the preservation of their own local wisdom. Local wisdom is the positive behavior of humans in interacting with nature and the local environment, which comes from the values of local customs, religions, and cultural heritage, which are naturally built in a society to adapt to their local environment. Local wisdom emerges through an internal process and is passed on for a long time as a result of interactions between humans and their environment. A long evolutionary process will build a value system that will shape common law, beliefs and local culture. (Fajarini, 2014) (Situmorang & Harianja, 2014); (Pornpimon, et al. 2014); (Sari, et al. 2015); (Vitasurya, 2016); (Eliza, et al. 2017); (Sibarani, et al. 2020).

The aims of the research are to produce and implement community empowerment programs in planting herbal plants for herbal medicine, apart from providing counseling, training and assistance on the selection and method of planting herbal plants in yards and gardens as well as processing herbs into herbal drinks targeting students and young generations starting from the elementary school level, middle school and school level. It can even provide recommendations and generate policy support from the Education Office to include student subject matter at school as additional and compulsory material for students. The target of empowerment for farmer groups and the general public is to utilize yards and gardens to produce herbal plants for the production of herbal plants, including training in processing herbal plants into herbal medicine to maintain family health, including supplying herbal ingredients for health clinics for herbal tourism areas.

Forming herbal plant resilience empowerment groups from the community supported by the government health office and village government starting from farmer groups consisting of groups of women farmers and youth groups or students with the micro target of utilizing the house yard and at macro level in community group plantations and can also be facilitated by government by providing land for community groups.

Promotion and marketing are carried out by the local government, especially the health office and health clinics, and administrators of herbal tourism through roadshows to every school, college and community group, as well as organizing performance events such as an exhibition of herbal and herbal plants, free checking and medical treatment, participating in exhibitions in various events. They also use promotional media and marketing through the internet such as social media both Facebook, Instagram, websites and blogs by training and involving youth groups as promotional actors who are knowledgeable, skilled and skilled in the use of social media in the digital era.

It is important to have empowerment with government initiatives and facilitation, especially with counseling and empowerment to community groups including the younger generation and students to foster motivation, awareness, willingness and skills to exploit the potential of existing resources and opportunities. And then then empowerment to coordinate between academics, government, private sector and practitioners to produce programs and knowledge that can be used to inform the decision-making process to policies that empower citizens to achieve sustainable development, so as to support the realization of the needs of present and future generations. Empowerment is oriented towards increasing household and community capacity, which is important as a foundation for the strength of local economic institutions. Empowerment also provides a medium for sharing information, strengthening socio-cultural norms, participation and service accessibility (Sidik, 2014); (Yulianto & Kirwanto, 2016); (Choironi, et al. 2018); (Kattumuri, 2018); (Lazaro & Théry, 2019); (Sugito, et al. 2019); (Bisung & Dickin, 2019); (Snapp, et al. 2019); (Shafieisabet & Haratifard, 2020). The stages of planning and implementing community empowerment programs in the management of herbal plant development can be illustrated in figure 1.

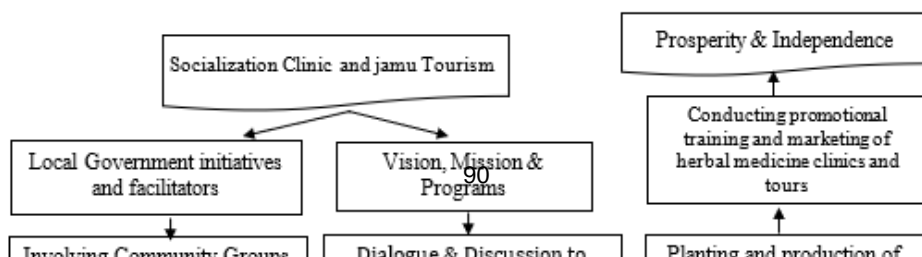


Figure 1. Empowerment Model in Herbal Plant Development Management
Source: Modified from Sulaiman (2020)

The implementation of community empowerment programs in planting herbal medicinal plants can make economic resilience and independence as well as public health. Herbal medicinal plants can also be cultivated at home or commonly called a living pharmacy. Family medicinal plants or commonly referred to as living pharmacies are the activities of cultivating medicinal plants in the yard of the house or yard in anticipation of prevention or to treat independently using existing medicinal plants, whereas medicinal plants themselves are plants that partially or all of the plants are used as medicine, ingredients or medicinal ingredients.

The implementation of community empowerment programs in planting herbal medicinal plants can make economic resilience and independence as well as public health. Herbal medicinal plants can also be cultivated at home or commonly called a living pharmacy. Family medicinal plants or commonly referred to as living pharmacies are the activities of cultivating medicinal plants in the yard of the house or yard in anticipation of prevention or to treat independently using existing medicinal plants. While medicinal plants themselves are plants that partially or all of the plants are used as medicine, ingredients or medicinal ingredients. The types of Toga plants include Family Medicinal Plants such as Ginger, Kencur, Lempuyang, Galangal, Temulawak, Alang-alang, Blimbing Wuluh, Lime, Noni and Cardamom, Guava, Betel, Lucing Whiskers, and Moringa Leaves. (Karo-Karo, 2010); (Hikmat, et al. 2011); (Effendi, 2013); (Amanah, et al. 2014); (Sumarmiyati & Rahayu, 2015); (Nugrahani, et al. 2019); (Prita & Widiyawati, 2019); (Wyk & Prinsloo, 2020).

Conclusion

Indonesian people already have a cultural heritage of planting and processing herbal plants into herbal medicine as traditional medicine and local wisdom to maintain the health of families and communities. Herbal plants have begun to be encouraged by the community to become alternative medicines and healthy drinks in the midst of the Covid 19 Pandemic.

The local government, in this case the Tegal district health office, has had the initiative to build a health clinic and tourism area for herbal medicine in Kalibakung Village from 2012, Balapulang District, Tegal Regency, Central Java Province. The Research and Development Center for Medicinal Plants and Traditional Medicines has supplied raw materials for health clinics as much as 70% from Tawangmangu, Karanganyar Regency, Central Java Province, while 30% from other suppliers, but the surrounding community has not yet cultivated herbal plants to become herbal clinic

partner suppliers.

The Kalibakung herbal medicine tourism area gallery is still an example for visitors, it has not empowered the surrounding community to become partners who can support the development of the Kalibakung tourist area. The implementation of community empowerment programs in the management of the development of herbal medicinal plants can create economic resilience and independence as well as public health. The management of herbal medicinal plant development can be cultivated independently at home and on plantations as a living pharmacy to meet family health needs and can be an addition and even a business to earn income and welfare for both family and community.

The empowerment program is very important to be carried out with the surrounding community as the management of the development of health clinics and herbal tourism with counseling and training on the cultivation of herbal plants and post-harvest processing so that they can become partners in supplying great raw materials in clinics, including becoming a herbal tourism area. Forming and developing herbal farmer group institutions as part of the management or members under the management of herbal clinics and tourism, so that herbal farmer groups continue to receive empowerment, especially counseling, training and mentoring. Local government through the health office can create and run community empowerment programs by involving village governments and community groups to become partners in the development of health clinics and herbal tourism in Kalibakung, Tegal Regency.

Community empowerment is carried out by identifying and analyzing problems, potentials and prospects for planting herbal plants in the yard as family medicinal plants, herbal plant galleries and herbal raw materials, especially for health clinics and Kalibakung herbal tourism. The local government as the initiator and facilitator socializes the vision, mission and empowerment program that has involved the village government and the community in order to increase motivation, awareness and solidarity to plant herbal plants as family medicinal plants, herbal tourism galleries and health clinic raw materials.

Community empowerment is carried out by providing counseling, training and mentoring on the cultivation of herbal cultivation in home and plantation yards, continued by processing herbal plants into herbal medicine as an alternative to traditional medicine and maintaining family health. The younger generation, students, and farmer groups in the village are participating in the empowerment program for plant cultivation and herbal processing. The empowerment program involves other stakeholders such as activists and social institutions who have concerns in herbal plants, herbalists and universities to become resource persons, facilitators, and assistants in counseling and training on herbal plant cultivation, especially in the Kalibakung Village community to support the development of health clinics and tourism Herb.

The health office, administrators of health clinics and herbal tourism need to carry out promotions by visiting schools and other agencies and participating in exhibitions in various regions. The young generation in the village and students are empowered to become promotional and marketing agents for health clinics and herbal tourism through social media, so that they can be widely recognized by the public.

Acknowledgements

We would like to thank the General Soedirman University Institute for Research and Community Service for supporting competency improvement research, especially regarding the development of health clinics and herbal tourism. We thank you for your support and willingness to participate in research, as informants, especially administrators and doctors at the Tegal health clinic and herbal tourism area, thanks to the Ministry of Social Affairs RI who support and publish our research results and also to The committee of the International Conference of Innovation, Science, Technology, Education, Children, and Health at Institut Teknologi, Sain, dan Kesehatan RS. DR. Soepraen.

REFERENCES

- Amanah, S., Damanik., I.P.N., & Ibrahim, H. (2014). Pemanfaatan Sampah untuk Mendukung Usaha Tanaman Obat Keluarga (Toga) dan Agroekosistem di Desa Benteng Kecamatan Ciampea Kabupaten Bogor. *Jurnal Manusia dan Lingkungan*, 21(1), 90-97. <https://doi.org/10.22146/jml.18516>
- Ashari., Saptana., & Purwantini, T.B. (2012). Potensi dan Prospek Pemanfaatan Lahan Pekarangan untuk Mendukung Ketahanan Pangan. *Forum Penelitian Agro Ekonomi*, 30(1), 13-30. <http://dx.doi.org/10.21082/fae.v30n1.2012.13-30>
- Bisung, E., & Dickin, S. (2019). Concept mapping: Engaging stakeholders to identify factors that contribute to empowerment in the water and sanitation sector in West Africa. *SSM - Population Health*, 9, 1-10. <https://doi.org/10.1016/j.ssmph.2019.100490>
- Burhansyah, R. (2014). Faktor-Faktor yang Mempengaruhi Adopsi Inovasi Pertanian pada Gapoktan Puap dan Non Puap di Kalimantan Barat (Studi Kasus: Kabupaten Pontianak dan Landak). *Informatika Pertanian* 23(1), 65-74, <http://dx.doi.org/10.21082/ip.v23n1.2014.p65-74>
- Choironi, N.A., Wulandari, M., & Susilowati, S.S. (2018). Pengaruh edukasi terhadap pemanfaatan dan peningkatan produktivitas tanaman obat keluarga (TOGA) sebagai minuman herbal instan di Desa Ketenger Baturraden. *Kartika: Jurnal Ilmiah Farmasi*, 6(1),1-5. <http://dx.doi.org/10.26874/kjif.v6i1.115>
- Detels, R. Beaglehole, R., Lansang, M.A., & Gulliford, M. (2009). The scope and concerns of public health. *Oxford Medicine Online*, 2-74 Oxford University Press

- Effendi, M. (2013). *Pemanfaatan Sistem Pengobatan Tradisional (Batra) di Puskesmas*. Surabaya: FISP-UNAIR.
- Eliana., & Sumiati, S. (2016). *Kesehatan Masyarakat*. Jakarta: Kementerian Kesehatan RI
- Eliza, P., Lailiyah, A., & Febrianingsih, N. (2017). *Analisis dan Evaluasi Hukum dalam rangka Perlindungan Lahan Pertanian Pangan Berkelanjutan*. Jakarta: Kepala Pusat Analisis dan Evaluasi Hukum Nasional Badan Pembinaan Hukum Nasional
- Fajarini, U. (2014). Peranan Kearifan Lokal dalam Pendidikan Karakter. *Sosio Didaktika*, 1(2), 123-130. doi.10.15408/sd.v1i2.1225
- Fitri, R., Oktiarni, D., & Arso, D.D. (2018). Eksplorasi Pengetahuan Obat Tradisional dalam Prespektif Hukum Kekayaan Intelektual di Bengkulu. *Mimbar Hukum*, 30(2), 304-315, <https://doi.org/10.22146/jmh.31021>
- Galiè, A., Teufel, N., Girard, A.W., Baltenweck, I., Salas, P.D., Price, M.J., Jones, R., Lukuyu, B., Korir, L., Raskind, IG., Smith, K., & Yount, K.N. (2019). Women's empowerment, food security and nutrition of pastoralcommunities in Tanzania. *Global Food Security*, 23, 125-134, <https://doi.org/10.1016/j.gfs.2019.04.005>
- Hakim, L. (2015). *Rempah & Herba Kebun-Pekarangan Rumah Masyarakat: Keragaman, Sumber Fitofarmaka dan Wisata Kesehatan-kebugaran*. Yogyakarta: Diandra Creative
- Hidayat, Y., Ismail, A., & Ekayani, M. (2017). Dampak Konversi Lahan Pertanian Terhadap Ekonomi Rumah Tangga Petani Padi (Studi Kasus Kecamatan Kertajati Kabupaten Majalengka Jawa Barat). *Jurnal Pengkajian dan Pengembangan Teknologi Pertanian*, 20(2), 171-182. <http://dx.doi.org/10.21082/jpptp.v20n2.2017.p171-182>
- Hikmat, A., Zuhud E.A.M., Siswoyo., Sanrea, E., & Sari, R.K., (2011). Revitalisasi Konversi Tumbuhan Obat Keluarga (Toga) Guna Meningkatkan Kesehatan dan Ekonomi Keluarga Mandiri di Desa Contoh Lingkar Kampus IPB Darmaga Bogor. *Jurnal Ilmu Pertanian Indonesia*, 16(2), 71-80, <https://journal.ipb.ac.id/index.php/JIPI/article/view/6600>
- Jauhiainen, J.S., & Hooli, L. (2017). Indigenous Knowledge and Developing Countries' Innovation Systems: The Case of Namibia. *International Journal of Innovation Studies* 1(1), 89-106. <https://doi.org/10.3724/SP.J.1440.101007>
- Karo-Karo, U. (2010). Pemanfaatan Tanaman Obat Keluarga di Kelurahan Tanah 600, Medan. *Kesmas: Jurnal Kesehatan Masyarakat Nasional*, 4(5), 195-202. <http://dx.doi.org/10.21109/kesmas.v4i5.169>
- Kattumuri, R. (2018) Sustaining natural resources in a changing environment: evidence, policy and impact. *Contemporary Social Science*, 13(1), 1-16, doi.10.1080/21582041.2017.1418903
- Katz, S.M. (2017) Welfare mothers' grassroots activism for economic justice. *Contemporary Social Science*, 12(1-2), 96-109, doi.10.1080/21582041.2017.1335879
- Kenton, N., & Singha, S. (2018). Community empowerment in changing environments: creating value through food security. *Contemporary Social Science*, 13(1), 85-99. doi. 10.1080/21582041.2017.1417630
- Kuncoro, B., Djawahir, S.T., Endang, D.S., Suswanto, B., Sabiq, A., & Sulaiman, A.I. (2015). "Model of Villagers Food Security Based on Local Wisdom". *Proceeding. The 7th International Graduated Students and Scholars Conference (IGSSCI) Graduated School Gadjah Mada University*, November 2015, 4-5
- Kurniawanto, H., & Anggraini, Y., (2019).Pemberdayaan Perempuan dalam Pengembangan Badan Usaha Milik Desa (Bumdes) Melalui Pemanfaatan Potensi Sektor Pertanian (Studi Kasus di Desa Kadu Ela Kecamatan Cadasari Kabupaten Pandeglang). *Jurnal Kebijakan Pembangunan Daerah*, 3(2), 127-137. <https://doi.org/https://doi.org/10.37950/jkpd.v3i2.71>
- Kusdiane, S.D., Soetarto, E., & Sunito, S. (2018). Alih Fungsi Lahan dan Perubahan Masyarakat di Kecamatan Cimanuk, Kabupaten Pandeglang. *Sodality: Jurnal Sosiologi Pedesaan*, 6(3), 246-251. <https://doi.org/10.22500/sodality.v6i3.23465>
- Lazaro, B., & Théry NA, M. (2019). Empowering communities? Local stakeholders' participation in the Clean Development Mechanism in Latin America. *World Development*, 114, 254-266. <https://doi.org/10.1016/j.worlddev.2018.10.005>
- Lin Li, D., long Zheng, X., Duan, L., we-Deng, S., Ye, W., hua-Wang, A., & wu Xing, F. (2017). Ethnobotanical survey of herbal tea plants from the traditional markets in Chaoshan, China. *Journal of Ethnopharmacology*, 205, 195-206. <https://doi.org/10.1016/j.jep.2017.02.040>
- Lundy, K.S. (2008). *Historical Research*. Given LM et al, editor. *The Sage of Encyclopedia of Qualitative Research Methods Volumes 1 & 2*. Los Angeles, London, New Delhi, Singapore : Sage Publication
- Mardikanto, T & Soebiato, P. (2012). *Pemberdayaan Masyarakat dalam Perspektif Kebijakan Publik*. Bandung : Alfabeta
- Mayliza., & Adianto. (2019). Analisis SWOT Pemberdayaan Suku Bonai dalam Meningkatkan Kesejahteraan di Rokan Hulu. *Sosio Konsepsia: Jurnal Penelitian dan Pengembangan Kesejahteraan Sosial* 9(1), 49-69. <https://doi.org/10.33007/ska.v9i1.1777>
- Meirinawati., Prabawati., & Pradana, G.W. (2017). Strategy community development based on local resources. *The 2nd International Joint Conference on Science and Technology (IJCST)*, IOP Conf. Series: Journal of Physics: Conf. Series 953, (2018), 1-5. doi :10.1088/1742-6596/953/1/012158
- Mikkelsen B. (2005). *Methods for Development Work and Research: A New Guide for Practitioners*. New Delhi: Sage Publications Inc
- Nugrahani, T.S., Suharni, S., & Saptatiningsih, R.I. (2019). Potential of Social Capital and Community Participation in Village

Development. JEJAK : Journal of Economics and Policy, 12(1),68-85.<https://doi.org/10.15294/jejak.v12i1.15775>

- Onwu, G., & Mosimege, M.G. (2004). Indigenous knowledge systems and science and technology education: A dialogue. *African Journal of Research in Mathematics, Science and Technology Education*, 8(1), 1-12, <https://doi.org/10.1080/10288457.2004.10740556>
- Pandit, A. (2017). Indigenous Technological Knowledge and Practices of Tribal People in Maharashtra. *Journal of Human Ecology*, 12(6), 469-472. <https://doi.org/10.1080/09709274.2001.11907655>
- Peraturan Pemerintah (PP) Nomor 21 Tahun 2020 tentang Pembatasan Sosial Berskala Besar (PSBB) dalam Rangka Percepatan Penanganan Corona Virus Disease 2019 (Covid-19)
- Petrakou, K., Iatrou, G., & Lamari, F.N. (2020). Ethnopharmacological survey of medicinal plants traded in herbal markets in the Peloponnisos, Greece. *Journal of Herbal Medicine*, 19, 100305. <https://doi.org/10.1016/j.hermed.2019.100305>
- Pippel, D. (2013). The scope of public health research strategies. *Journal of Public Health*, 21, 1-2 . <https://doi.org/10.1007/s10389-012-0542-7>
- Pornpimon, C., Wallapha, A., & Prayuth, C. (2014). Strategy Challenges the Local Wisdom Applications Sustainability in Schools. *Procedia - Social and Behavioral Sciences*, 112, 626-634. <https://doi.org/10.1016/j.sbspro.2014.01.1210>
- Prita, D.S., & Widiyawati, I. (2019). Pengenalan Teknologi Budidaya Tanaman Obat sebagai Upaya Pemanfaatan Lahan Pekarangan di Kelurahan Babuwaran Purwokerto, Jawa Tengah. *Panrita Abdi: Jurnal Ilmiah Pengabdian pada Masyarakat*, 3(2),105-114. <https://doi.org/10.20956/pa.v3i2.6155>
- Purwanto, A.B. (2012). Penguatan Kapasitas Masyarakat dalam Ketahanan Pangan di Daerah Tertinggal : Studi Kasus di Distrik Agimuga, Mimika, Papua. *Sosio Konsepsia: Jurnal Penelitian dan Pengembangan Kesejahteraan Sosial*, 17(3), 294-317. <https://doi.org/10.33007/ska.v17i3.833>
- Rusono, N.,Sunari A., Zulfriandi., Indarto, J., Muharam, A., Avianto, N., Maghfirra, D., Suryaningtyas, P., Tejaningsih., Martino, I., Susilawati., & Hersinta, D. (2015). Evaluasi Implementasi Kebijakan Lahan Pertanian Pangan Berkelanjutan (LP2B). Jakarta: Direktorat Pangan dan Pertanian, Bappenas
- Salim, Z., & Munadi, E. (2017). Info Komuditi Tanaman Obat. Jakarta: Badan Pengkajian dan Pengembangan Perdagangan Kementerian Perdagangan Republik Indonesia
- Sari, I.D., Yuniar, Y., Siahaan, S., Riswati., & Syaripuddin, M. (2015). Tradisi Masyarakat dalam Penanaman dan Pemanfaatan Tumbuhan Obat Lekat di Pekarangan. *Jurnal Kefarmasian Indonesia*, 5(2),123-132. doi 10.22435/jki.v5i2.4407.123-132
- Shafeisabet, N., & Haratifard, S. (2020). The empowerment of local tourism stakeholders and their perceived environmental effects for participation in sustainable development of tourism. *Journal of Hospitality and Tourism Management*, 45, 486-498. <https://doi.org/10.1016/j.jhtm.2020.10.007>
- Sibarani, R., Simanjuntak, P., & Fachry, M.E. (2020). The role of women in developing a friendly village for Health: Study of local wisdom marsirimpa in North Sumatera Province. *Enfermeria Clinica*, 30(2), 226-228. <https://doi.org/10.1016/j.enfcli.2019.07.095>
- Sidik, F., Nasution, F.G.A., & Herawati. (2018). Pengelolaan Sumber Daya untuk Memberdayakan Masyarakat dengan Pendekatan Hybrid Institution BUM Desa. *Sosio Konsepsia: Jurnal Penelitian dan Pengembangan Kesejahteraan Sosial*, 8(1),71-96. <https://doi.org/10.33007/ska.v8i1.1503>
- Sidik, R.F. (2014). Pembelajaran Ilmu Pengetahuan Alam Tematik Berbasis Tanaman Obat Keluarga (Toga). *Jurnal Pena Sains*, 1(1), 67-74. <https://doi.org/10.21107/jps.v1i1.1331>
- Sinharoy, S.S., Waid, J.L., Ali, M., Yount, K.M., Thilsted, S.H., & Girard, A.W. (2019). Resources for women's agency, household food security, and women's dietary diversity in urban Bangladesh. *Global Food Security*, 23, 1-8. <https://doi.org/10.1016/j.gfs.2019.03.001>
- Situmorang, R.O.P & Harianja, A. H. (2014). Faktor-Faktor Yang Mempengaruhi Kearifan Lokal Pemanfaatan Obat-Obatan Tradisional Oleh Etnik Karo. Sumatera Utara: Balai Penelitian Aek Nauli
- Snapp, S.S., Cox, C.M., & Peter, B.G. (2019). Multipurpose legumes for smallholders in sub-Saharan Africa: Identification of promising 'scale out' options. *Global Food Security*, 23, 22-32. <https://doi.org/10.1016/j.gfs.2019.03.002>
- Sugito, T., Sulaiman, A.I., Sabiq, A., Faozanudin, M., & Kuncoro, B. (2019). The Empowerment as Community Learning Based on Ecotourism of Coastal Border at West Kalimantan. *International Educational Research*, 2(3), 23-36. <https://doi.org/10.30560/ier.v2n3p23>
- Sulaiman, A.I., Kuncoro, B., Sulistyoningsih, E.D., Nuraeni, H., & Djawahir, F.S. (2017). Pengembangan Agrowisata Berbasis Ketahanan Pangan Melalui Strategi Komunikasi Pemasaran di Desa Serang Purbalingga. *The Messenger*, 9(1), 9-25, <http://dx.doi.org/10.26623/themessenger.v9i1.423>
- Sulaiman, A.I., Chusmeru., & Kuncoro, B. (2019). The Educational Tourism (Edutourism) Development Through Community Empowerment Based on Local Wisdom and Food Security. *International Educational Research*, 2(3), 1-14. <https://doi.org/10.30560/ier.v2n3p1>

- Sulaiman, A.I., Chusmeru., Adi, T.N., Jati, P.I.P., Runtiko, A.G., Sutikna, N. (2020). Empowerment Program Design in Edutourism Management Post Pandemic Covid 19. *Journal of Economics and Management Sciences*, 3(3), 1-13. <https://doi.org/10.30560/jems.v3n3p1>
- Sulaiman, A.I. (2020). *Dinamika Pemberdayaan Masyarakat sebagai Perspektif Partisipatif, Konstruktif dan Aplikatif*. Makassar: Nas Media Pustaka
- Sumarmiyati., & Rahayu P.W.S. (2015). Potensi pengembangan tanaman obat lokal skala rumah tangga untuk mendukung kemandirian pangan dan obat di Samarinda, Kalimantan Timur. *Prosiding Seminar Nasional Masyarakat Biodiversitas Indonesia*, 1(2), 330-336. <https://doi.org/10.13057/psnmbi/m010227>
- Suswanto, B., Windiasih, R., Sulaiman., A.I., & Weningsih, S. (2018). Peran Pendamping Desa Dalam Model Pemberdayaan Masyarakat Berkelanjutan. *Jurnal Sosial Soedirman*, 2(2), 40-60. <https://doi.org/10.20884/juss.v2i2.1528>
- Suwarto, F.X., & Subyantoro, A. (2007). *Metode Penelitian dan Teknik Penelitian Sosial*. Yogyakarta: Penerbit Andi
- Thakur, M., & Kumar, R. (2020). Mulching: Boosting crop productivity and improving soil environment in herbal plants. *Journal of Applied Research on Medicinal and Aromatic Plants*, 23, 100287. <https://doi.org/10.1016/j.jarmap.2020.100287>
- Tumanggor, R. (2009). Pengembangan Penelitian Masalah Kesehatan Sosial: Pendekatan Antropologi Kesehatan. *Sosio Konsepsia: Jurnal Penelitian dan Pengembangan Kesejahteraan Sosial*, 14(1), 57-69. <https://doi.org/10.33007/ska.v14i1.759>
- Umanailo, C.B. (2016). *Marginalisasi Buruh Tani Akibat Alih Fungsi Lahan*. Surakarta: Fam Publishing
- Undang-Undang Nomor 36 tahun 2009 tentang Kesehatan
- Undang-Undang Nomer 41 tahun 2009 tentang Perlindungan Lahan Pertanian Pangan Berkelanjutan
- Undang-Undang Rublik Indonesia Nomor 18 tahun 2012 tentang Pangan
- Undang-Undang Nomor 6 Tahun 2018 tentang Keekarantinaan Kesehatan
- Vitasurya, V.R. (2016). Local Wisdom for Sustainable Development of Rural Tourism, Case on Kalibiru and Lopati Village, Province of Daerah Istimewa Yogyakarta. *Procedia - Social and Behavioral Sciences*, 216, 97-108. <https://doi.org/10.1016/j.sbspro.2015.12.014>
- Wangke, W.M., & Suzana, B.O.L. (2016). Adopsi Petani Terhadap Inovasi Tanaman Padi Sawah Organik di Desa Molompar Kecamatan Tombatu Timor Kabupaten Minaha Tenggara. *Agri-SosioEkonomi Unsrat*, 12(2), 143-152. <https://doi.org/10.35791/agrsosek.12.2.2016.13318>
- Witjaksono, M. (2010). Modal Sosial dalam Dinamika Perkembangan Sentra Industri LogamWaru Sidoarjo. *Jurnal Ekonomi Pembangunan*, 11(2), 266-291. <https://doi.org/10.23917/jep.v11i2.329>
- Wyk, A.S., & Prinsloo, G. (2020). Health, safety and quality concerns of plant-based traditional medicines and herbal remedies. *South African Journal of Botany*, 133, 54-62. <https://doi.org/10.1016/j.sajb.2020.06.031>
- Yu, H., na-Li, T., Ran, Q., wan-Huang, Q., & Wang, J. (2021). *Strobilanthes cusia* (Nees) Kuntze, a multifunctional traditional Chinese medicinal plant, and its herbal medicines: A comprehensive review. *Journal of Ethnopharmacology*, 265, 1-23. <https://doi.org/10.1016/j.jep.2020.113325>
- Yulianto, S., & Kirwanto, A. (2016). Pemanfaatan Tanaman Obat Keluarga Oleh Orang Tua Untuk Kesehatan Anak di Duwet Ngawen Klaten. *Interest: Jurnal Ilmu Kesehatan*, 5(1), 75-80. <https://doi.org/10.37341/interest.v5i1.27>