

The Implementation of the Empowerment Model of Women Farmer Groups “Minangkabau” in Managing Sustainable Food Security

(Implementasi Model Pemberdayaan Kelompok Wanita Tani “Minangkabau” dalam Pengelolaan Ketahanan Pangan Berkelanjutan)

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Abstrak

Penelitian ini bertujuan mengeksplorasi model pemberdayaan kelompok wanita tani “Minangkabau” dalam pengelolaan ketahanan pangan berkelanjutan. Pemberdayaan kelompok wanita tani di Kenagarian Koto Tuo selama ini belum optimal. Dengan demikian urgensi untuk membangun model pemberdayaan KWT dalam pengelolaan berkelanjutan dengan metode System Dynamics. Hasil penelitian menunjukkan bahwa variabel pengungkit (*leverage*) yang diintervensi dalam suatu skenario keberlanjutan sebagai analisis kebijakan adalah peningkatan pemberdayaan wanita dapat meningkatkan pendapatan rumah tangga dan menurunkan kemiskinan. Model disimulasikan sejak 2014 hingga 2038. Simulasi menggambarkan perilaku nyata dari meningkatnya pemberdayaan KWT dapat mengurangi jumlah Kepala Keluarga (KK) miskin. Implementasi model pemberdayaan KWT dilakukan dengan teknik Focus Discussion Group (FGD) dan Participatory Rural Appraisal (PRA) melalui pelatihan pengolahan pangan sinergi pengolahan limbah rumah tangga. PRA dilakukan dengan peninjauan lokasi nagari mencakup ekologi wilayah, produktivitas pertanian untuk perencanaan pembangunan. Hasil analisis uji t menunjukkan bahwa pengetahuan KWT tentang pangan belum menunjukkan perubahan yang signifikan ($P > 0,05$) antara sebelum dan sesudah dilakukan FGD, tetapi secara persentase terjadi peningkatan. Pengetahuan pangan keluarga sebelum FGD 96,50 dan setelah FGD 99,60 dengan peningkatan 3,1 (3,21 %). Nilai pengetahuan KWT tentang pola konsumsi keluarga sebelum FGD 62,50 dan sesudah FGD 74,60. Terjadi peningkatan cukup tinggi 12,10 (19,36%). Pengetahuan gizi keluarga sebelum FGD adalah 67,56 mengalami peningkatan 77,64. Besarnya peningkatan adalah 10,08 (14,92%). Analisis uji t menunjukkan perubahan yang signifikan ($P < 0,05$) antara sebelum dan sesudah FGD. 98% KWT memahami pengetahuan dan keterampilan diversifikasi pengolahan



pangan lokal dan pengolahan kompos limbah rumah tangga. 95% KWT termovitasi berwirausaha.

Kata kunci: analisis kebijakan, berkelanjutan, ketahanan pangan, model pemberdayaan wanita

Abstract

This research aims to explore the empowerment model of Minangkabau woman farmer groups was implemented to manage sustainable food security. "Minangkabau" farmer women groups in Koto Tuo Kenagarian were known not to be optimally empowered yet in managing food before. To pursue the purpose of this study, qualitative descriptive method was used together with system dynamics approach. The results of this research indicated that the implementation of empowerment model has successfully improved the potential and income of Minangkabau woman farmer groups. Their consumption patterns and nutritional knowledge have been increased from 62.50 percent before FGD to 74.60 percent after FGD. Moreover, their family health nutrition has been improved from 67.56 percent before FGD to 77.64 percent after FGD. Similarly, their food knowledge also has been elevated from 96.50 percent before FGD to 99.60 percent after FGD. And, 98 percent of "Minangkabau" farmer women groups even also has had more knowledge and skills related with diversify local food processing and food waste composting. In conclusion, the empowerment model for manging sustainable food security is very essential for Minangkabau woman farmer groups.

Keywords: food security, policy analysis, sustainable, women's empowerment model

INTRODUCTION

Several approaches to food-independent village development include community empowerment, particularly empowerment of women farmers. Many experts and practitioners developed this concept to look for efforts referred to by Friedmann as "alternative development," which calls for "inclusive democracy, appreciating economic growth, gender equality, and intergenerational equality" (Susilo 2010). This concept considers women to be more than just housewives who perform reproductive functions, care for children and husbands, or perform other domestic tasks, but also those who have actively participated in various fields of life, both social, economic, and political. This is possible due to the existence of gender equality, intergenerational equality, and the enhancement of democratic life in accordance with changing times.

Minangkabau women are depicted as nagari adorners (village). Women's placement is more than just a symbol; they are given a role in accordance with their position. As a result, women in adat have a place in making decisions in every nagari deliberation, even if they are not the ones who make the decisions. The placement of women as managers of inheritance in Minangkabau is a manifestation of Minangkabau women's attachment to their large role in family management, but they lack the discretion to make decisions (Nurri *et al.* 2007). This is also true when making food security policy decisions.

Nagari Koto Tuo in Limapuluh Regency, West Sumatra City, has 72 disadvantaged households (BPS 2015). It was also stated that the poverty rate in the Fifty Kota District was 16.19%. According to the findings of the field survey, 98 percent of the members of the women's farmer groups in Nagari Koto Tuo were farmer cultivators with arable land of 0.1–0.2 ha, classifying them as small farmers. Many of the region's young people migrate. Endogamous marriages are still prevalent. Patterns of interaction between villages and oceans are still being developed. Traditional social ties are reflected in patterns of interaction and social relations in the

environment, as the tradition of life cycle ceremonies (life cycle) is still common. Relatives and communities are still waking up.

According to the findings of Ibrahim and Yanti's study (2017), the empowerment of farmer women's groups (KWT) in the field of family food security in the study location is not optimal: (1) respondent' education is dominated by elementary education (42.17 percent), which greatly influences food patterns and presentation; (2) land productivity is 0.5 ha (71 percent) and dependent on rainwater (68 percent); (3) family expenditure allocations are mostly for food (63.66 percent), with calorie consumption 2100 kilo calories, only 36.7 percent of the requirements for adequate nutrition and not ideal nutritional status (72 percent). This condition also describes the nagari institutional's non-optimal support for empowering women farmers with its local wisdom, so that independent food management is not yet sustainable.

Furthermore, Ibrahim and Yanti (2019) used the system dynamics method to discover the integration functions of ecological, social, and economic functions in the KWT empowerment model. The sub-system model presented includes the independent village productivity sub-system as an ecological environment, the KWT empowerment sub-system, institutional, local wisdom, KWT income, poverty, and population as socio-economic environments, and the KWT empowerment sub-system as a socio-economic environment (Figure 1).

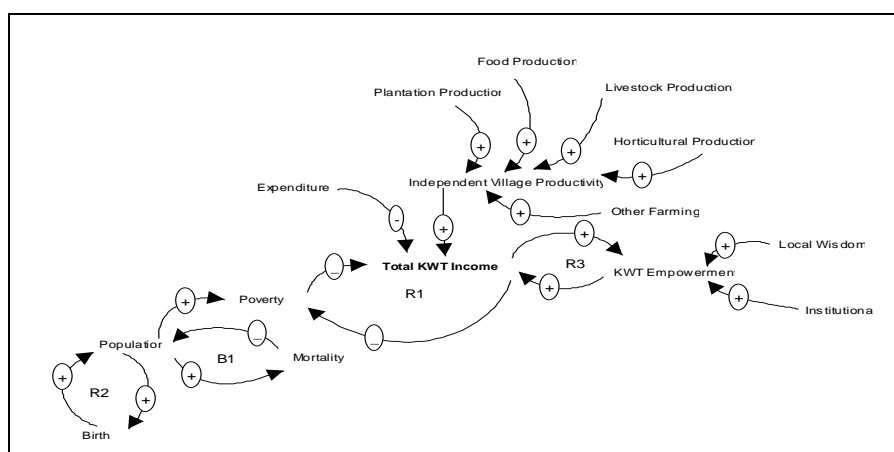


Figure 1. Causal Loop Diagram (CLD) Women's Empowerment Model

The sub-systems presented are based on the concept and include the independent village productivity sub-system as an ecological environment, the KWT empowerment sub-system, institutions, local wisdom, KWT income, poverty, and population as socio-economic environments. The KWT empowerment model intervention can increase household income and reduce the number of poor households by increasing the allocation of village funds by Rp. 70,000,000.00 per year for institutional and role-playing activities for women in the nagari and increasing 80 percent of women's participation in KWT.

The findings of this study agree with Pieris's assertion (2015) that gender mainstreaming is important in development, particularly in agricultural development. Aspects of gender mainstreaming play an important role in the growth and equitable development of rural agriculture. Gantini and Tuti (2015) discovered that aspects of local wisdom provide a better picture of food security at Kasepuhan Ciptagelar in Sirnaresmi Village, Cisolok District, Sukabumi Regency, and Kampung Naga Village, Neglasari Village, Salawu District, Tasikmalaya

District. The precision with which regional food security is measured has implications for determining the direction of food security development policy.

According to Ellen R. Sauerbrey (2007), many women around the world lack protection for their most basic rights, are undereducated, and are economically vulnerable. Women face social and cultural barriers to advancement in many countries, including discrimination, the need to balance family life, and the need or desire to work outside the home, with education being the most significant. Based on the foregoing description, integrated research on all variables related to women's empowerment in sustainable food management based on local wisdom and urgency to be realized in the form of women's empowerment programs, specifically the optimization of KWT empowerment to improve family nutritional status, farm productivity, and non-farming.

METHOD

This study's respondents were women's farmer groups from Nagari Koto Tuo, Harau District, Limapuluh Kota Regency. Purposively, the research sample consisted of all 95 female farmer group members in Nagari Koto Tuo, Harau District, Limapuluh Kota Regency, West Sumatra. Key informants and experts were also used in this study, including community leaders, kenagarian, agricultural services, local governments, and higher education institutions. Models for policy analysis are being implemented with activity programs using the Focus Group Discussion (FGD) and Participatory Rural Appraisal (PRA) methods. Direct discussions in the FGD and PRA, as well as prepared questionnaires and recording devices such as cameras and notes, were used to collect primary data. Table 1 shows the entire data analysis method.

Table 1. Data Analysis Methods

Research Objectives	Data Source	Analysis Methods
Implementation of the model as a policy analysis in the form of a program of women's empowerment activities in the management of sustainable food self-reliant villages based on local wisdom	Primary data based on interviews and questionnaires as well as ecological observation of the nagari. Secondary data with literature studies. The model was implemented in the form of activity programs in women's farmer groups, with ongoing assistance and evaluation.	Quantitative and qualitative <i>Focus Group Discussion (FGD)</i> , <i>t-test</i> <i>Participatory Rural Appraisal (PRA)</i>

RESULTS AND DISCUSSION

Koto Tuo Kenagarian Region Ecology

Kenagarian Koto Tuo is in the Limapuluh Kota Regency's Harau District. Jorong Koto Tuo, Jorong Tanjung Pati, Jorong Pulutan, and Jorong Padang Rantang are the administrative divisions. A Jorong Head leads each Jorong. Nagari Koto Tuo shares a border with Nagari Sarilamak and Gurun in the north, Ampang Tanah Sirah Village in the south, Nagari Batu Balang in the east, and Nagari Lubuak Batingkok in the west.

The PRA approach was used at Kenagarian Koto Tuo, with the goal of preparing development planning. Location tracking is accomplished through direct observations of environmental conditions and available resources in the community. The site review process started with Jorong Koto Tuo, Padang Rontang, Jorong Tanjung Pati, and Jorong Pulutan. According to BPS (2018), the total population of religion is 7,828 people, with 3,937 women and 3,891 men, and a

population density of 286/km². Farmers and farm laborers make up the majority of the residents' incomes, with a small percentage working as private employees, civil servants, small businesses, and household industry craftsmen.

According to Bylaw No. 7 of 2012 on Spatial Planning for the Lima Puluh Kota Region in 2010–2030, one of the policies and strategies for spatial planning in the Limapuluh Kota Regency in developing regional infrastructure to support the socio-economic life of the community and ensure the availability of national food is the development of the cultivation area. power. According to Article 16 of Regional Regulation No.7 of 2011, the spatial plan for the Limapuluh Kota Regency in the Harau District is an area of 8,807 hectares of food crops.

In general, there are issues in this area's development of food crop agriculture, specifically the allocation of agricultural land. Some of the issues confronting agricultural land, particularly paddy fields, include rapid population growth, competition for space from various non-agricultural sectors, and plans to change the function of paddy fields due to urban expansion. The Nagari Koto Tuo agricultural area, which is administratively located in Harau District, Limapuluh Kota Regency, has untapped agricultural potential.

In terms of infrastructure, the site review revealed that several roads were in poor condition, posing a problem in supporting economic activities and the daily activities of the community as road users. This condition can occur because locals rely on the road as a vital mode of transportation for agricultural products as well as the smooth transportation of trade. The site review also discovered that consensus deliberation for the Nagari government apparatus was a place to collect the aspirations and needs of the community, because interactions occurred in the form of conversations or dialogues among community members when the site review was carried out. Although PRA is carried out at the nagari level, it does not disregard people's aspirations, problems, and needs at lower levels.

The findings of the site review revealed that, while not optimally realized, the activities and implementation of development planning carried out in Kenagarian Koto Tuo were partially in accordance with theories of community participation and development planning. The community is always included in the process of developing development plans by accommodating their interests. This fact demonstrates that the community is always empowered in terms of expressing all of the community's problems and potential. This community participation is realized through the site review method, which is one of the tools used in the Participatory Rural Appraisal to create a development plan that is carried out collaboratively by the community.

The research team also used the PRA method in conjunction with the Kenagarian apparatus to socialize research findings. Based on research conducted, it is recommended that women's empowerment in the management of sustainable food-independent villages be based on local wisdom and the urgency to be implemented in women's empowerment programs. The model's implementation is to determine what types of programs are in line with the potential of KWT and have the potential to increase KWT household income, thereby lowering the poverty rate. Kenagarian's response, particularly that of the Guardians of Nagari, is quite positive, and it seeks research recommendations as a reference for village mid-term development planning (RPJM).

Potential of Agricultural Productivity

Nagari Koto Tuo has a predominantly flat topography with a wide range of soil conditions. Soil fertility ranges from low to moderate, with an average pH of 4.1 to 5.0 and a low organic matter

content. There is only one river in Nagari Koto Tuo, the Batang Sinamar, which runs through several Jorong, including Jorong Koto Tuo, Padang Rantang, and Jorong Tanjung Pati. Nagari Koto Tuo has a temperate climate with an average temperature of 240-280 C and an average rainfall of 2500-3000 mm per year, with 190 rainy days per year and a relatively even distribution of rain every month.

The agricultural sector is divided into several sub-sectors, including food crops, horticulture, plantations, and livestock, all of which rely on renewable domestic resources. The agricultural sector has a significant comparative advantage and is more resilient to economic downturns. Rice, along with other commodities, is one of the most important agricultural commodities in Nagari Koto Tuo. The total area of paddy fields is 370 ha, which includes 255 ha of rain-fed rice fields, 75 ha of simple irrigation rice fields, and 40 ha of village irrigation rice fields. Field observations show that crop cultivation area for horticultural and food crops is decreasing, particularly for the paddy commodity. This is as a result of increased land use change, particularly in Jorong Koto Tuo, Jorong Pulutan, and Jorong Padang Rantang.

Several leading commodities, including cocoa, coconut, and pinang, are the main plantation commodities in Nagari Koto Tuo. Coconut commodities (4 ha) include plants grown as intercropping between food crops and areca nuts, which are typically grown as land divides. Several new leading commodities have emerged in recent years, including cocoa (25 ha). Cocoa development is accelerating due to policies implemented by the West Sumatra Provincial Government and the Limapuluh Kota Regency Government (<http://kototuo-limapuluhkota.desa.id/pbb-2018/>).

According to the ecological description of the Kenagarian Koto Tuo region, this location has the potential to develop farming, particularly lowland rice, horticulture, plantations, and animal husbandry. According to the findings of KWT research, the majority of KWT work and rely on agriculture for a living. The majority of farm women's families have domestic animals in addition to conducting agricultural business. This is consistent with the findings of a study conducted in 2017-2018 (Ibrahim and Yanti 2019) on the productivity of farmer women groups in farming and non-farming, as shown in Table 2.

Table 2. KWT Kenagarian Koto Tuo Productivity Time Table

Time	Paddy_Production	Horticultural_Production	Livestock_Production	Plantation_Production	Non_Farming
2,014	8,143,908.19	1,672,407.03	4,093,100.00	1,982,758.00	6,303,381.00
2,015	8,492,286.71	1,708,921.16	3,944,457.03	1,977,372.23	5,326,553.89
2,016	8,855,568.09	1,746,232.52	3,801,212.10	1,972,001.10	4,501,104.47
2,017	9,234,389.86	1,784,358.50	3,663,169.18	1,966,644.55	3,803,573.91
2,018	9,629,416.78	1,823,316.90	3,530,139.36	1,961,302.55	3,214,138.80
2,019	10,041,342.10	1,863,125.89	3,401,940.58	1,955,975.06	2,716,047.71
2,020	10,470,888.67	1,903,804.04	3,278,397.41	1,950,662.04	2,295,145.18
2,021	10,918,810.31	1,945,370.32	3,159,340.77	1,945,363.46	1,939,469.39
2,022	11,385,893.04	1,987,844.14	3,044,607.73	1,940,079.27	1,638,912.23
2,023	11,872,956.56	2,031,245.30	2,934,041.28	1,934,809.43	1,384,932.04

Source: Ibrahim and Yanti (2019)

Table 2 shows that rice, secondary crops (maize, peanuts, and green beans), and horticulture have higher projected productivity than estate crops, livestock, and non-agricultural commodities. Plantation, animal husbandry, and non-farming productivity, on the other hand, tends to decline. Figure 3 shows a graph with more information.

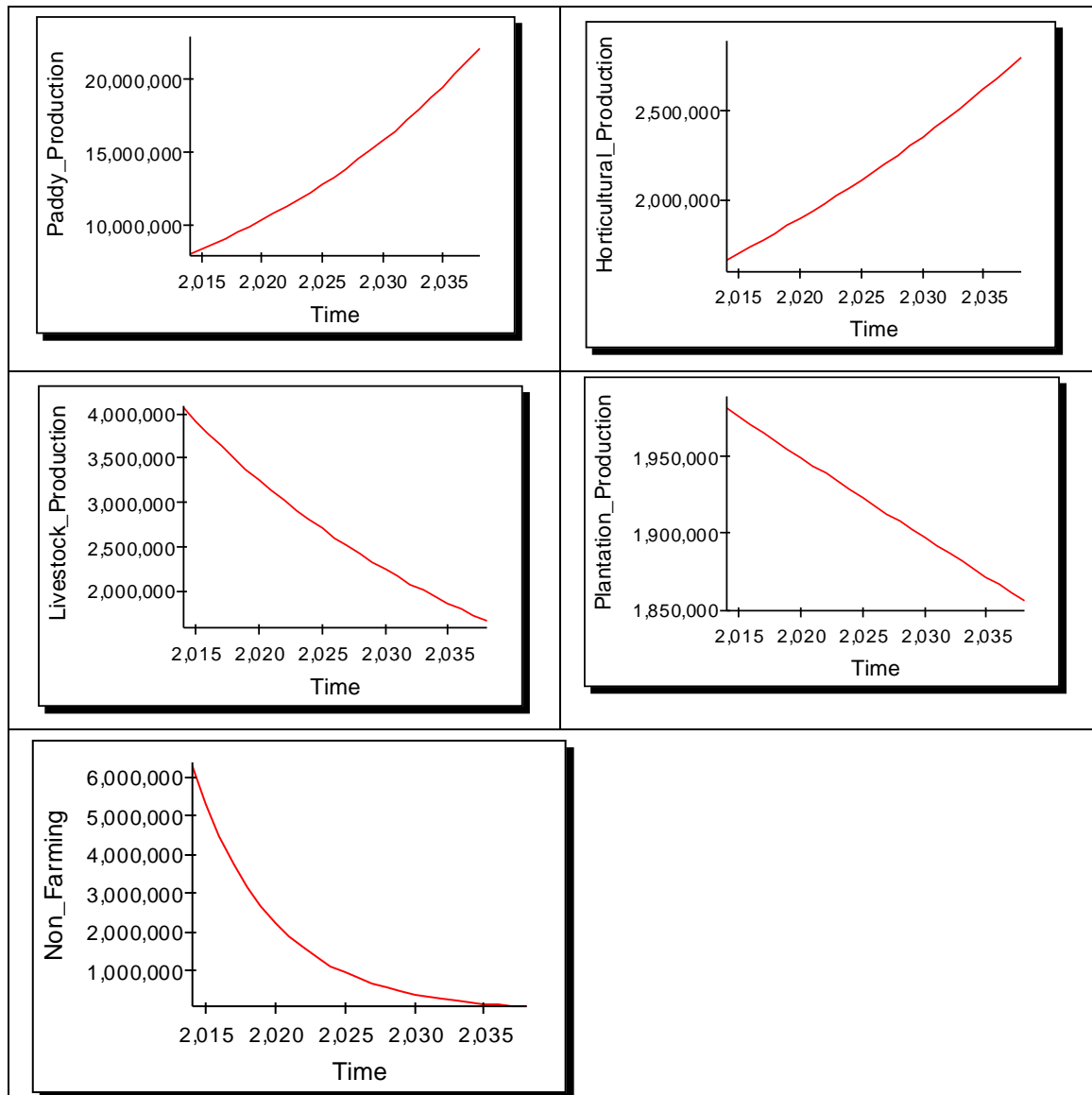


Figure 3. KWT Farm and Non-Farming Model Simulation Time Chart

Figure 3 depicts the simulation and projection of plantation, animal husbandry, and non-farm commodity productivity until 2035. This situation has arisen as a result of the large number of plantation lands that have been converted for settlement and other uses. Furthermore, limited employment forces farmers to focus more on developing rice and secondary crops (maize) to make ends meet, and some of these crops can be sold to supplement income. This condition demonstrates that rice and secondary crop (maize) farming is more developed than plantation and animal husbandry farming. Kenagarian must be concerned about the community's preferences for these commodities. Nagari can create work programs in agriculture that are related to Nagari's Medium Term Development Plan (RPJM). Furthermore, the management plan of Nagari-Owned Enterprises can realize the potential for the development of agricultural excellence optimization in the region (BUMNag). According to M. Fagi Achmad (2014), Indonesia has a diversity of ecosystems which is both a challenge and a potential. General programs and agricultural development in particular must be directed to maintain the potential of agricultural and land water resources, and to turn challenges into opportunities by establishing leading commodity development areas in accordance with agro ecosystem compatibility.

Implementation of Focus Group Discussion (FGD)

Based on the findings of the first phase of the FGD activity, which was attended by 12 administrators and members of the KWT, as well as four representatives of the nagari apparatus, it was decided that the KWT empowerment activity would be carried out by training local food processors in tandem with the processing of food waste into compost products. The FGD technique was well received by the participants in this study because it was the first technique they had obtained. Participants encounter and comprehend that interaction among participants is the foundation for obtaining information. Everyone has the same opportunity to submit and give statements, as well as respond to the material being discussed.

The FGD began with a pre-test to determine the participants' perceptions of the material to be discussed. Following that, the FGD was held, and at the end of the activity, a post-test was administered to assess the participants' knowledge and understanding of the discussion. Throughout the implementation, Nagari and KWT were directly involved in a discussion environment that was directed and guided by a moderator. The speakers at the FGD were Payakumbuh State Agricultural Polytechnic Academic experts in food processing, nutrition, family welfare, and environmental management. The first 100 percent FGD results were agreed to be followed by the realization of KWT empowerment through non-formal education training on local food diversification processing and synergy processing of household waste into compost products.

According to Hardono (2014), the government's commitment in the framework of economic development and domestic agriculture is to achieve national food security, which is based on food independence. Food security is built on resources, institutions, and local culture, with the goal of increasing the diversity of local food production and consumption that is nutritious and safe for the community to consume.

The term education, which is associated with training, refers to learning experiences that aim to improve skills. Meanwhile, training refers to learning that is ready to provide a new learning experience. Other definitions of education and training include: (1) learning experiences designed by organizations to improve performance; (2) a person's role in assisting others, groups, and organizations to learn and live; and 3) the continuous improvement of human and organizational functions such as people, learning, and how to learn (Sururi 2016). Furthermore, according to Zakiyah (2010), the concept of empowerment as a process of giving strength in the form of education aims to foster awareness and sensitivity to social, economic, and political developments so that, in the end, they are able to improve and enhance their position in society. The FGD covered topics such as family food knowledge, knowledge of healthy consumption patterns, and family nutrition knowledge. The results of the FGDs for each discussion material are presented in Table 3-5.

Table 3. Knowledge of Family Food

KWT / Skor	1	2	3	4	5	6	7	8	9	10	11	12
Pre test	80	100	100	100	90	100	100	94	100	95	100	96
Post test	95	100	100	100	100	100	100	100	100	100	100	100

Table 3 shows that KWT has a good understanding of food. Although the t-test analysis revealed no significant differences ($P > 0.05$) between before and after the FGD, there was an increase in

percentage. Family food knowledge was 96.50 percent before FGD and 99.60 percent after FGD, a 3.1 percent increase (3.21 percent).

Table 4. Knowledge Value of Healthy Consumption Patterns

KWT Skor	1	2	3	4	5	6	7	8	9	10	11	12
Pre test	75	55	60	55	60	45	65	55	80	70	55	75
Post test	80	80	65	60	65	75	70	75	90	75	75	85

According to Table 4, the KWT knowledge value of families about healthy consumption patterns before the FGD was 62.50 percent and 74.60 percent after the FGD. There was a 12.10 percent increase (19.36 percent). The t-test analysis also revealed that there were significant differences (P 0.05) between before and after the FGD.

Table 5. Knowledge of Family Nutrition

KWT Skor	1	2	3	4	5	6	7	8	9	10	11	12
Pre test	73	69	69	60	61	50	73	65	81	69	65	73
Post test	89	73	77	65	65	77	80	69	89	77	85	85

Table 5 shows that the highest increase in nutritional knowledge score is 10.08, or 14.92 percent. The t-test analysis also revealed that there were significant differences (P 0.05) between before and after the FGD. KWT considers indicators of family nutrition to be important to understand, so the level of attention is not only understood but also practiced through training. Local food diversification was promoted as a result of the joint agreement, including training in the preparation of red spinach yogurt, sweet potato flour cookies, pumpkin noodles, corn chips, and corn crackers, as well as compost processing activities from household waste. All KWT members (95 people) and two nagari officials participated in this activity.

The results of the food processing program implementation in the synergy of household waste management discovered a number of supporting factors that have been studied more thoroughly in fostering an entrepreneurial culture in KWT. KWT has a strong ability to identify employment and business opportunities. The availability of facilities in the KWT environment facilitates the search for business information, talent and creativity, the ability to learn and try new things, and the willingness to cooperate or collaborate. This activity focuses on community-based KWT community empowerment that is more gender-focused. Women's roles are important to consider as social capital. Individuals and communities can be inspired to take an active role in environmental management. Women as citizens can be change agents in environmental management and even play a role in resolving environmental conflicts.

According to Caulfield (2008), women's organizations provide opportunities for women to develop leadership and management skills, build self-confidence, and foster relationships with other groups that can provide assistance and support by promoting joint activities. The significance of forming women's groups as a strategy for increasing women's access to information, increasing their ability to participate in decision making, and creating opportunities for joint activities in order to access economic input cannot be overstated.

The study's findings also revealed an increase in KWT understanding of the nutritional benefits of the family and the need for empowerment efforts to improve family welfare. Furthermore, 98% of KWT are aware of the knowledge and skills required to diversify local food processing and compost household waste management. 95 percent of KWT are motivated to advance their

careers in entrepreneurship. The skills to try are aimed at improving their ability to be dependable entrepreneurs. Efforts to improve the welfare and empowerment of KWT are linked to the question of how efforts to empower women through entrepreneurship can ensure that economic actors of the people receive what they are entitled to, particularly welfare and a decent standard of living. It is hoped that by empowering entrepreneurship through a group approach and business diversification, KWT will be able to improve the welfare of his family.

According to Ratnawati and Susi (2011), the ownership of agricultural land by villagers results in fewer employment opportunities or opportunities. Women devoted more time and had lower yields than men in the same socioeconomic group to those who got the job. As a result, one approach that can be used to improve the welfare of rural communities is to involve women in productive activities through an entrepreneurial approach.

The participation of all KWT management and members in training and demonstration activities of local food processing diversification in conjunction with food waste processing demonstrates strong motivation and grouping within KWT. This condition describes social capital, which is a community's local wisdom. Local wisdom, according to Rahmawati *et al.* (2013), Yanti (2018), and Ibrahim and Yanti (2018) is a component of cultural construction. Local wisdom refers to a variety of cultural wealth that grows and develops in society and is an important factor in building social cohesion among community members. Local wisdom, in general, has characteristics and functions that serve, among other things, (1) as a marker of a community's identity, (2) as an adhesive element of social cohesion, (3) as a cultural element that grows from below, exists, and develops in society; not as a forced cultural element, (4) serves to provide a color of togetherness for a community, (5) can change the mindset and reciprocal relationships of individuals and groups by putting it on a common ground, and (6) able to encourage the development of togetherness, appreciation and joint mechanisms to maintain the din from the possibility of disruption or destruction of group solidarity as a whole and integrated community. From the explanation above, it can be understood that local wisdom is all of the specific and proud ideas, values, knowledge, activities and cultural objects which become the identity and identity of a particular community or ethnic group.

Some KWT input on program implementation includes: (1) most KWTs are unfamiliar with many processed food products made from cassava flour, (2) food processing and compost household waste management programs are needed to improve family welfare and should be added, (3) KWT hopes for the assistance of local food processing equipment, (4) food processing diversification training is expected to become routine and sustainable activities, (4) local food processing activities and food waste compost processing programs motivate KWT to be more active in group activities, and (5) KWT hopes that these activities can become household side businesses.

The implementation of the KWT training and skill improvement program in diversifying local food processing synergy in food waste processing supports the government's "Family Farming" program, specifically the Family Agriculture Decade in coordination with the United Nations Decade for Nutrition 2019–2028. Family farming has been viewed as the backbone of development and food security in the current global context, contributing significantly to the achievement of global sustainable development goals (SDGs), specifically SDGs 1 and 2, which aim to end hunger through food security, nutrition improvement, and agricultural system sustainability.

CONCLUSION

Participatory Rural Appraisal (PRA) is carried out by reviewing the nagari's location, covering the ecology of the region, potential resources, particularly agricultural productivity, and development planning. The findings of the first and second years of research should be implemented in women's empowerment programs in accordance with the potential of KWT and have the potential to increase income. Before FGD, KWT knowledge about consumption patterns and nutritional knowledge was 62.50, and after FGD, it was 74.60. There was a 12.10 percent increase (19.36 percent). Family health nutrition was the highest knowledge indicator for improvement. It was 67.56 prior to the FGD, and it increased to 77.64 afterward. The magnitude of the rise was 10.08 percent (14.92 percent). Food knowledge before FGD was 96.50 and after FGD was 99.60, representing a 3.1 percent increase (3.21 percent). Furthermore, 98 percent of KWT are aware of the knowledge and skills required to diversify local food processing and food waste composting.

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