Conservation Partnership Strategy for the Tengger Tribe Community in The Management of The Bromo Tengger Semeru National Park Area, East Java Province, Indonesia

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ABSTRACT

This research aims to formulate a conservation partnership strategy for the Tengger tribe community in managing the Bromo Tengger Semeru National Park Area (TNBTS). The method used is quantitative descriptive, with data collection techniques, namely semi-structured interviews, documentation studies, questionnaires, and observations. The data analysis in this research uses SWOT analysis (Strength, Weakness, Opportunity, Threat). The technique used to select informants was purposive sampling. The research results showed that based on the scoring value on the internal and external factor matrix, the score for strengths was 1.29 and the score for weaknesses was 1.61. Meanwhile, the scoring results on the external factor matrix obtained a score for opportunities of 2.73 and a score for threats of 0.40. The score value determines the coordinates on the SWOT analysis diagram which are expressed as coordinate values (-0.32; 2.33). Based on the results of the SWOT analysis, the position of the conservation partnership program in the Tengger tribe community is in quadrant III. The strategy that must be implemented in this condition is to overcome weaknesses by taking advantage of existing opportunities to develop a conservation partnership program for the Tengger tribe community in managing the TNBTS area.

Keywords: community empowerment, conservation areas, conservation partnerships, national parks

INTRODUCTION

The management of conservation areas cannot be separated from the existence of the people in the villages or indigenous communities around them and even the villages or indigenous communities within them. In conservation areas located directly adjacent to community residential areas or where there are settlements within them, community participation plays a crucial role in managing the area to realize sustainable forest management. As stated by Adom (2016), the participation of local communities and their cultural aspects has a positive impact on biodiversity conservation. Bisong et al., (2017) stated that various benefits can be obtained from community participation in forest conservation, including increased food production, income,

and availability of raw materials.

Forest resource management is impossible without proper participation from local communities (Gashu et al, 2019). Community participation has proven to be effective if local communities are involved not only as users of natural resources but also as managers of natural resources (Chirenje et al, 2019). Thus, community participation in managing conservation areas becomes a very important part.

According to Massiri, S.D (2022), the aim of conservation area management is not only to conserve and protect wildlife, but the current aim of conservation area management is to integrate conservation goals, community cultural value, and economic goals. This is important to formulate a management strategy. Wiratno (2018) stated that management of conservation areas cannot be limited to the area's territory without considering the socio-economic and cultural dynamics of the community around the conservation area. Furthermore, Wiratno (2018) stated that new ways to manage conservation areas include making the community the main actor in various area management models, developing buffer areas through ecotourism, utilizing non-timber forest products (NTFPs), environmental services, water, and area patrols. , area protection, area restoration, fire control, animal cultivation, and breeding, handling animal conflicts, preventing hunting and animal trade.

In order to change the current paradigm of forest management in Indonesia, which prioritizes the community as the subject of development, the government has issued regulations regarding the management of conservation areas, namely Regulation of the Directorate General of Conservation of Natural Resources and Ecosystems of the Ministry of Environment and Forestry Number: 6 of 2018 (P.6 /KSDAE/SET/Kum.1/6/2018) concerning Technical Instructions for Conservation Partnerships in Nature Reserve Areas and Nature Conservation Areas which aims to accommodate community empowerment and collaboration activities in managing conservation areas or what is known as Conservation Partnerships. Conservation partnerships are cooperation between area management units or permit holders in conservation areas and local communities based on the principles of mutual respect, mutual trust, and mutual benefit (Perdirjen KSDAE Number: P.6/KSDAE/SET/Kum.1/6/2018). It is very important to build partnerships with communities to preserve natural resources. The existence of communities living around conservation areas must be seen as partners in protecting natural resources, namely by using responsible utilization patterns. Conservation partnerships are expected to be the most appropriate approach in involving communities as partners in managing conservation areas. Conservation partnerships not only resolve tenure issues but are also a solution to improving community welfare. The benefits of conservation partnerships for the community are realizing independence and improving community welfare by helping and supporting the community economy through community empowerment.

Implementation of conservation partnerships includes conservation partnerships in the context of community empowerment where communities can utilize traditional zones. Community empowerment is an effort to develop community independence and welfare by increasing knowledge, attitudes, skills, behavior, abilities, and mentoring, as well as utilizing resources through establishing policies, programs, activities, and mentoring that are in accordance with the essence of the problems and priority needs of the community (Perdirjen KSDAE Number: P.6/KSDAE/SET/Kum.1/6/2018).

Conservation partnerships in the context of community empowerment can take the form of providing access, namely collecting non-timber forest products, cultivating traditional plants, traditional hunting for unprotected species and limited natural tourism; and cooperation between permit holders in conservation areas and local communities (Perdirjen KSDAE Number: P.6/KSDAE/SET/Kum.1/6/2018).

Bromo Tengger Semeru National Park (TNBTS) in East Java, was designated as a national park based on the Decree of the Minister of Forestry Number: 278/Kpts-VI/1997 dated 23 May 1997 with an area of

50,276.20 hectares. Administratively, TNBTS is located in Malang Regency (18,692.96 Ha), Pasuruan Regency (4,642.52 Ha), Probolinggo Regency (3,600.37 Ha), and Lumajang Regency (23,340.35 Ha). Based on the Decree of the Directorate General of Natural Resources and Ecosystem Conservation Number: SK355/KSDAE/SET/KSA.0/8/2019 dated 19 August 2019, the management zone in TNBTS consists of the core zone (17,028.67 Ha), jungle zone (26,871.36 Ha); utilization zone (1,293.96 Ha); traditional zone (3,140.35 Ha); and rehabilitation zone (1,907.24 Ha); religious, historical and cultural zones (4.13 Ha) and special zones (30.49 Ha).

As a conservation area, TNBTS is inseparable from problems, including collecting wood and non-timber forest products by communities in and around the area, who have used forest resources for generations. This can certainly have a negative impact on forest sustainability. Therefore, to overcome these problems and refer to the Director General of KSDAE Regulation Number: P.6/KSDAE/Kum.1/6/2018, TNBTS has implemented a conservation partnership program in the context of community empowerment with the Tengger tribe community in the area. Ngadas village, Poncokusumo District, Malang Regency and Ranupani village, Senduro District, Lumajang Regency, both of which are Enclave villages (villages within the TNBTS area) as well as Argosari village, Senduro District, Lumajang Regency which is in the TNBTS buffer area, with The aim is to improve the welfare of the Tengger tribe community in the Enclave villages and TNBTS buffer villages, and it is hoped that the Tengger tribe community will participate in maintaining the TNBTS forest area so that it remains sustainable. This conservation partnership is expected to be able to synergize economic and ecological aspects in the TNBTS area.

The Tengger tribe is a tribe that lives in the highlands around the Bromo-Semeru mountain area which is located in the Probolinggo Regency, Pasuruan Regency. Lumajang Regency and Malang Regency, with the main livelihood as traditional farmers growing potatoes, cabbage, and leeks. Most of the Tengger people live in the TNBTS buffer village area and some live in the TNBTS area (Enclave), namely the villages of Ngadas and Ranupani, which existed long before TNBTS was designated as a National Park.Non-timber forest products are biological forest products, both vegetable and animal, along with derivative and cultivated products, except wood originating from forests (Permenhut No: P.35/Menhut-II/2007). In the use of non-timber forest products, regulations, and management are needed that are able to ensure forest sustainability and accommodate the use of forest resources within the TNBTS area. Through conservation partnerships in the context of community empowerment, the Tengger tribe community is given access to collect non-timber forest products and traditional cultivation. The traditional cultivation in question is medicinal plants and plants for daily needs.

The conservation partnership in the context of community empowerment that has been implemented by TNBTS with the Tengger tribe community consists of 1 (one) conservation partnership group, namely the Adas Mulyo TB Forest Farmers Group (KTH) in Ngadas village, which was formed in 2018, in the form of providing access to harvesting results. non-timber forests for Dutch eggplant (*Solanum betaceum*); 2 (two) conservation partnership groups consisting of the Rukun Mandiri Environmental Study Group and the Environmental Care Association in Ranupani village, which were also formed in 2018, in the form of providing access to the collection of non-timber forest products against the invasive Kirinyu plant (*Chromolaena odorata* L.) and traditional cultivation of medicinal plants; as well as 2 (two) conservation partnership groups, namely the Lestari Forest Farmers Group (KTH) and the Sumber Abadi Forest Farmers Group (KTH) in Argosari village, which was formed in 2020, which cultivates edelweiss (*Anaphalis javanica*, *Anaphalis longifolia* and *Anaphalis viscida*) and TNBTS native plant nursery.

The implementation of the conservation partnership program that has been implemented by TNBTS with the Tengger tribe community cannot be separated from various factors, both internal and external. Through analysis of internal and external strategic factors, internal and external factors can be identified in the implementation of conservation partnerships in the Tengger tribe community in the villages of Ngadas,

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Ranupani, and Argosari. Furthermore, based on the results of the analysis of internal and external strategic factors, a conservation partnership strategy can be formulated for the Tengger tribe community which can be used to increase the effectiveness of managing the TNBTS area. Thus, to formulate a conservation partnership strategy for the Tengger tribe community in managing the TNBTS area, a study needs to be carried out.

MATERIALS AND METHODS

The data sources used in this research are primary data obtained from members of the conservation partnership group, group assistants, village officials, and TNBTS Center staff. Secondary data sources were obtained from related documents, such as conservation partnership cooperation agreements, documents/data related to conservation partnerships, TNBTS area and zoning maps, TNBTS profiles, and village profiles (Ngadas village, Ranupani village, and Argosari village). The quantitative descriptive method uses data collection techniques, namely semi-structured interviews, documentation studies, questionnaires, and observations. The data analysis in this research uses SWOT analysis (Strength, Weakness, Opportunity, Threat). The technique used to select informants was purposive sampling.

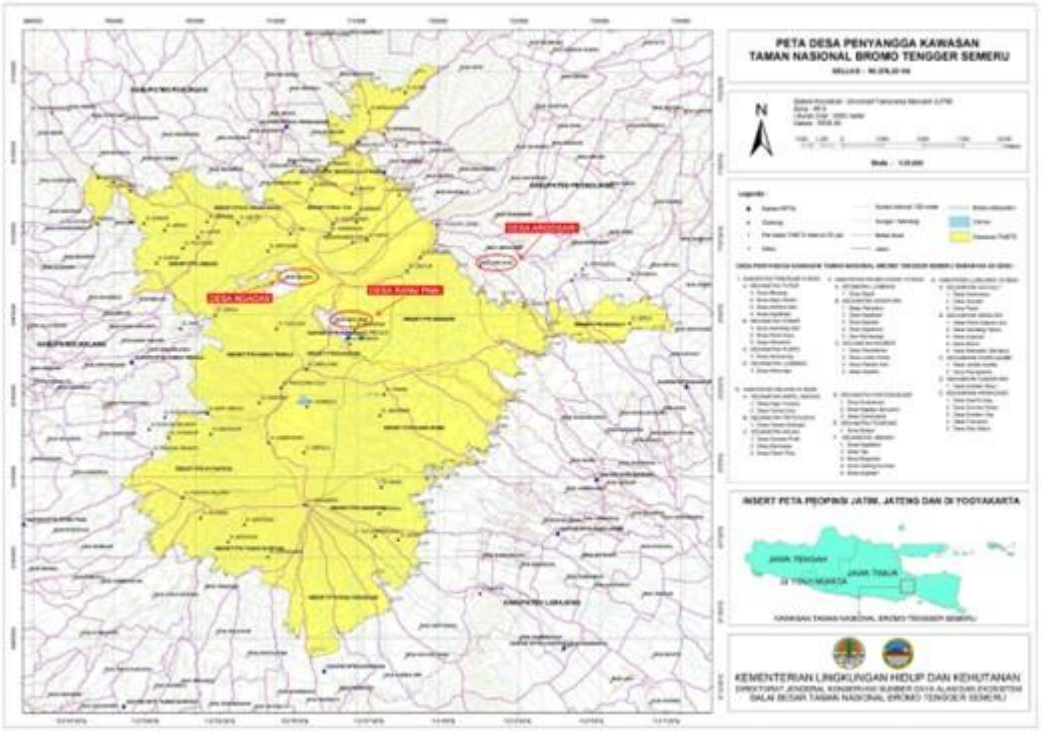

Figure 1. Map of Buffer Village in the Bromo Tengger Semeru National Park Area

The population of the study were 3 village officials, 3 group assistants, 7 TNBTS Center staff and members of the conservation partnership group, 89 members of the Adas Mulyo partnership group in Ngadas Village, 36 members of the Rukun Mandiri Environmental Learning group in Ranupani village, 30 members of the Environmental Care association group, 20 members of the Lestari group in Argosari village; 47 people are members of the Sumber Abadi group in Argosari village.

The samples in this study were Village officials, namely 1 head of Ngadas Village, 1 head of Ranupani Village, and 1 head of Argosari Village. Members of the conservation partnership group, namely 28 members of the Adas Mulyo partnership group in Ngadas Village, 11 members of the Independent Environmental Learning group and 9 members of the Lestari group in Ranupani Village, as well as 6 members of the Lestari group and 15 members of the Sumber Abadi group in Argosari Village. TNBTS

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Center work partners, namely 1 assistant worker as a work partner of the TNBTS Center in Ngadas village, 1 assistant worker in Ranupani village, and 1 assistant worker in Argosari village. TNBTS Headquarters staff, namely 2 conservation technical staff, 3 resort heads (1 head of the Coban Trisula resort office, 1 head of the Ranupani resort office, 1 head of the Senduro resort office) along with 1 Senduro resort office staff and 1 staff in the field of management of Lumajang Region II National Park.

SWOT analysis (Strength, Weakness, Opportunity, Threat) is used to analyze the internal and external strategic factors of conservation partnerships in the Tengger tribe community in the villages of Ngadas, Ranupani, and Argosari. Internal factors include strengths and weaknesses, while external factors include opportunities and threats.

Internal factor analysis was carried out using an internal strategic factor matrix (Internal Strategic Factors Analysis Summary/IFAS), while external factors used an external strategic factor matrix (External Strategic Factors Analysis Summary/EFAS). The formulation of internal and external factor indicators was carried out by identifying factors related to the implementation of conservation partnerships in the Tengger tribe community in Ngadas, Ranupani, and Argosari villages.

Based on the IFAS and EFAS matrices, a SWOT matrix is then created to obtain 4 (four) alternative strategies, namely: 1) SO Strategy: using strengths to take advantage of opportunities. 2) ST strategy: using force to overcome threats. 3) WO Strategy: overcoming weaknesses to take advantage of opportunities, and 4) WF Strategy: overcoming weaknesses and avoiding threats.

RESULTS AND DISCUSSION

Internal strategic factors related to the conservation partnership strategy of the Tengger tribe community in managing the TNBTS area can be seen in Table 1.

Table 1. Internal factors related to conservation partnership strategies among the Tengger tribe community in managing the TNBTS area.

Strength	**Weight**	**Rating**	**Score**
1. Availability of potential non-timber forest products (NTFPs) in the TNBTS area	0.07	3	0.16
2. The existence of local wisdom of the Tengger tribe community	0.07	3	0.17
3. Establish cooperation with work partners as community assistants in conservation partnership programs	0.05	2	0.10
4. Non-timber forest products have economic value	0.07	3	0.17
5. There is a zoning system for managing the TNBTS area.	0.07	3	0.16
6. There is a Regulation of the Director General (Perdirjen) for Conservation of Natural Resources and Energy (KSDAE) no. 6 of 2018 concerning technical guidelines for conservation partnerships	0.09	3	0.29
7. There is support from the village government	0.06	2	0.13
8. There is a conservation partnership cooperation agreement between the TNBTS Center and the Tengger tribe community in the Enclave and Buffer villages	0.05	2	0.11
Total	0.51		1.29
Weakness			

1. People are more interested in potato farming, resulting in massive encroachment in traditional potato farming zones	0.05	3	0.13
2. The community's human resources (HR) are low	0.06	3	0.17
3. Limited number of Human Resources (HR) to accompany the conservation partnership program	0.10	4	0.41
4. Lack of intensive assistance for conservation partnership programs	0.10	4	0.41
5. Lack of promotion and marketing	0.05	2	0.12
6. Processed tamarillo egg products in the form of tamarillo juice packaged drinks do not use preservatives so they have a short shelf life.	0.03	2	0.07
7. The taste of the tamarillo juice packaged drink as a processed tamarillo egg product is too sweet	0.01	2	0.01
8. Processed tamarillo eggplant products in the form of tamarillo juice packaged drinks do not yet have a PIRT (Home Industrial Food Production) permit.	0.04	3	0.14
9. Edelweiss cultivation does not yet have a breeding permit or distribution permit	0.03	3	0.09
10. The process of producing charcoal briquettes from the Kirinyu plant is slow. it takes 15-20 days because we still use manual tools, drying takes 2-3 days and production levels are low.	0.02	3	0.06
Total	0.49		1.61
Total number	1		2.90
Difference (Strength -Weakness)			-0.32

Source: data processed in 2023

External strategic factors related to the conservation partnership strategy in the context of community empowerment in the Tengger tribe community in managing the TNBTS area can be seen in Table 2

Table 2. External strategic factors related to conservation partnership strategies in the Tengger tribe community in managing the TNBTS area.

Opportunity			
1. Opening up business opportunities for non-timber forest products	0.11	3	0.40
2. Improving the economy of the community around the TNBTS area	0.11	3	0.36
3. Conservation of biodiversity	0.11	4	0.40
4. Preserving Tengger traditional culture	0.11	3	0.36
5. Development of various types of non-timber forest products as commodities in conservation partnerships	0.11	3	0.40
6. There are various natural tourist attractions in TNBTS	0.12	4	0.41
7. There is market demand	0.12	4	0.41
Total	0.79		2.73
Threat			
1. There are provocateurs from outside parties in the implementation of conservation partnerships	0.03	3	0.08
2. Forest fires.	0.05	1	0.07

3. There are competitors in the sale of plant seeds. produced by the conservation partnership group	0.03	3	0.08
4. Capital limitations	0.04	1	0.04
5. There is no clarity regarding further regulations regarding conservation partnerships	0.07	2	0.13
Total	0.21		0.40
Total number	1		3.14
Difference (Strength -Weakness)			2.33

Source: data processed in 2023

Based on the scoring value on the internal and external factor matrix, the score for strengths was 1.29 and the score for weaknesses was 1.61. Meanwhile, the scoring results on the external factor matrix obtained a score for opportunities of 2.73 and a score for threats of 0.40. The score values of internal and external factors can indicate the position of the conservation partnership program on the SWOT analysis diagram. The score value will determine the coordinates on the SWOT analysis diagram which are expressed as coordinate values (-0.32; 2.33). The position of the conservation partnership program for the Tengger tribe community in the management of the TNBTS area is depicted in the SWOT analysis diagram, which is shown in Figure 2.

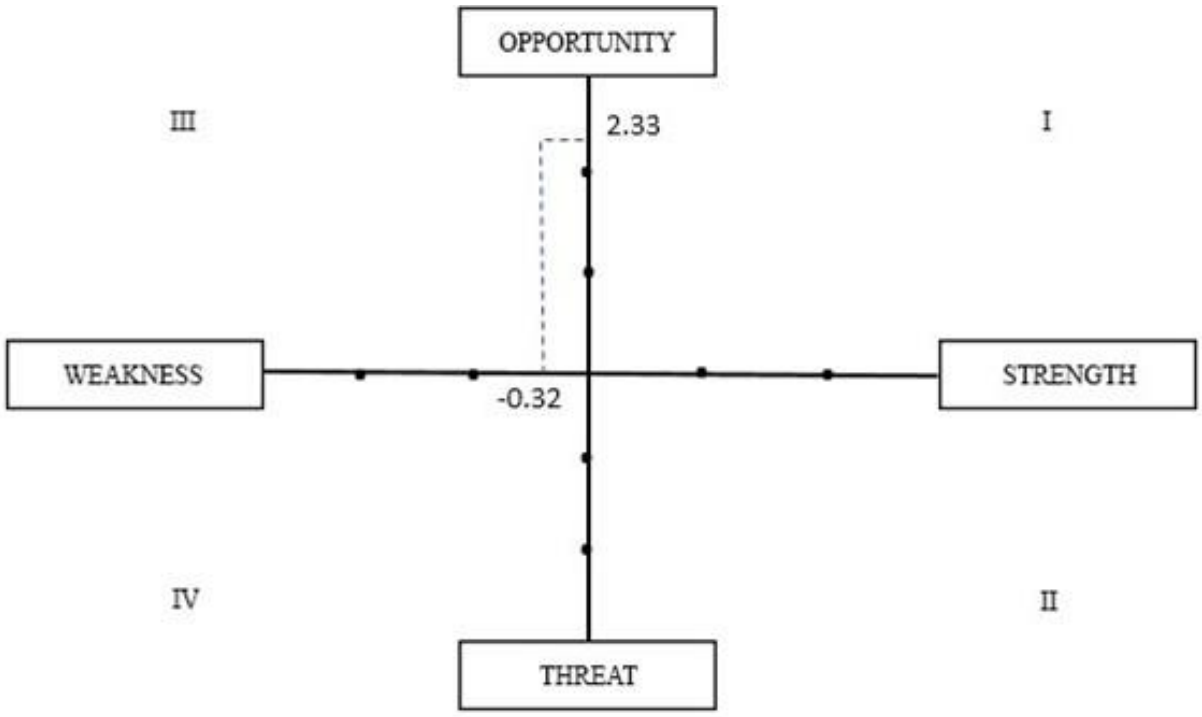

Figure 2. SWOT analysis diagram of the conservation partnership program for the Tengger tribe community in managing the TNBTS area.

The SWOT analysis diagram in Figure 2 shows that the position of the conservation partnership program for the Tengger tribe community in managing the TNBTS area is in quadrant III. The strategy that must be applied in this condition is to overcome weaknesses by taking advantage of existing opportunities. By paying attention to internal and external factors, strategies for conservation partnership programs for the Tengge tribe community in managing the TNBTS area were formulated which can be seen in Table 5.

Based on the strengths, weaknesses, opportunities, and threats, conservation partnership strategies can be obtained for the Tengger tribe community in managing the TNBTS area, as follows:

1. Strategy to optimize strengths by taking advantage of existing opportunities

-Increase community motivation to develop various types of non-timber forest products (NTFP) as commodities in the conservation partnership program for the Tengger tribe community. This strategy is carried out with the aim of developing various types of non-timber forest products found in the TNBTS area as an effort to improve the community's economy, conserve biodiversity, and preserve Tengger's traditional culture. Tamrakar et al (2023) stated that NTFPs remain a vital economic pillar for tribal communities in the Kondagaon Forest Division. Sustainable management and community engagement are imperative to ensure the long-term viability of NTFP-based livelihoods while preserving the forest ecosystem.

-Extend the conservation partnership cooperation agreement with the Tengger tribe community in the villages of Ngadas, Ranupani, and Argosari. It is necessary to extend the conservation partnership cooperation agreement with the Tengger tribe community in the villages of Ngadas, Ranupani, and Argosari to continue the conservation partnership program in accordance with the existing cooperation agreement or to develop the potential for other non-timber forest products.

2. Strategy to overcome weaknesses by taking advantage of existing opportunities.

-Generating community motivation in utilizing non-timber forest products (NTFPs) in the TNBTS area in a conservation partnership scheme. This strategy is carried out so that people are motivated to utilize and develop the potential of non-timber forest products in the TNBTS area as commodities that can be developed in the conservation partnership program as an alternative livelihood besides their main livelihood as farmers. Based on Akomaning et al (2023) finding Ghana has a large potential for mushroom production so extensive education and training on mushroom farming should be considered. Other NTFPs that can motivate the community to utilize are honey, fuel wood, medicinal plants, and bush meat (Tambi and Kengah, 2018).

-Building and strengthening cooperation with various parties. Building and strengthening cooperation with the parties aims to build cooperation and strengthen existing cooperation in increasing community capacity which can be done by increasing community skills in processing processed non-timber forest products, as well as increasing community capacity in the utilization and development of various types of forest products. non-timber forest products found in the TNBTS area. Increasing community capacity in enriching knowledge and skills can be done through training and comparative studies. Apart from that, it is also necessary to build cooperation with the parties to obtain capital support. as well as build and strengthen cooperation with partners as companions because the success of conservation partnership programs cannot be separated from the role of companions.

-Building marketing networks with parties and carrying out more aggressive promotions. Building a marketing network is carried out with the aim of increasing marketing capacity. Meanwhile, more aggressive promotions need to be carried out to increase consumer purchasing power. Risaad, M et al (2021), stated that increasing marketing capacity can be done by implementing a more modern marketing strategy, namely information technology-based marketing. As stated by Samperompon and Mahbub (2021), promotion can be carried out by utilizing information media.

-Improve the taste and use of preservatives in packaged tamarillo juice drinks as a processed tamarillo egg product. Improving the taste of tamarillo juice packaged drinks is an action that needs to be taken because taste affects consumers' purchasing power. Meanwhile, the use of preservatives in tamarillo juice packaged drinks aims to extend the shelf life.

-Increase community assistance. Improving community assistance in conservation partnership programs in the context of community empowerment can be done by increasing the frequency of mentoring meetings, increasing the number of assistance staff, and increasing the capacity of human resources (HR) assistance. According to Massiri (2022) The role of companions is very strategic so it is necessary to carry out training to increase the capacity of companions. Facilitators must at least have knowledge and skills in strengthening group capacity and be able to facilitate increased community productive efforts.

-Facilitation of permits. Facilitate permits related to breeding permits and distribution permits for partnership groups that cultivate edelweiss as well as PIRT permits better known as Home Industry Food Production Certificates (SPP-IRT) for conservation partnership groups that process tamarillo into bottled tamarillo juice drinks. The PIRT permit is very important to guarantee and also serves as proof that the Dutch eggplant juice business produced by the conservation partnership group meets applicable food product standards. If you already have a PIRT permit, you have a guarantee that the product is fit for sale and suitable for consumption so that it can be used to improve branding. Meanwhile, with a breeding permit, conservation partnership groups can legally cultivate edelweiss.

3. Strategy to overcome threats by optimizing strengths

-Increasing synergy with local communities in managing the TNBTS area. Increasing synergy with local communities, both communities as members of the Fire Care Community (MPA) and communities as members of conservation partnerships in the context of monitoring areas for forest and land fires by carrying out participatory patrols and independent patrols by the community, carrying out fire prevention, including by making fire breaks, handling fire extinguishing and post-fire handling. It is necessary to involve the local community in managing the TNBTS area because without involving the community, the TNBTS Center is unable to manage a very large area with a limited number of Human Resources (HR). In accordance with the rules contained in the conservation partnership cooperation agreement between the TNBTS Center and the conservation partnership group, the conservation partnership group is obliged to protect the conservation partnership area from the dangers of fire, hunting, land grabbing, mining, and other disturbances from outside parties.

4. Strategy to overcome threats by minimizing weaknesses.

-Socialization and building communication with the community. Socialization is carried out to increase public knowledge about conservation areas so that people have an understanding of conservation areas including the rules that apply to conservation areas, namely by providing an understanding of TNBTS as a conservation area, biodiversity conservation, the zoning system in managing TNBTS areas, regulations – regulations for collecting non-timber forest products and traditional cultivation in traditional zones, as well as providing understanding and motivation regarding collaborative management of traditional zones. It is necessary to build communication with the community because the sustainability of the conservation partnership program in the context of community empowerment is very dependent on communication between TNBTS managers and the community.

CONCLUSION

Based on the results of the SWOT analysis, the position of the conservation partnership program for the Tengger tribe community in managing the TNBTS area is in quadrant III. The strategy that must be applied in this condition is to overcome weaknesses by taking advantage of existing opportunities, with the following strategy formulation:

1. Generating community motivation in utilizing non-timber forest products in the TNBTS area in a

conservation partnership scheme

2. Building and strengthening cooperation with the parties

3. Building marketing networks with parties and carrying out more aggressive promotions

4. Improve the taste and use of preservatives in tamarillo juice packaged drinks as a processed tamarillo egg product

5. Increase community assistance

6. Facilitate licensing

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