

COLLABORATION OF STAKEHOLDERS IN THE DEVELOPMENT OF MICRO ENTERPRISES FOR SUSTAINABLE FOOD SECURITY IN TELUK BINTUNI REGENCY

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ABSTRACT

The establishment of micro-enterprises for Independent Workers (TKM) aimed at enhancing sustainable food security in Teluk Bintuni Regency, West Papua, is a crucial initiative to bolster local food production sustainably. This study investigates the challenges of TKM and the cooperation among stakeholders in the regional employment expansion initiative. Qualitative research was employed, encompassing field observation, interviews with micro-entrepreneurs and stakeholders, and focus group discussions (FGDs) with local populations. The findings indicate that the Independent Workers (TKM) initiative significantly enhances local economic development by empowering micro-enterprises in food production and processing. Challenges faced by TKM, specifically restricted financial access, market entry, corporate governance, and digital marketing, continue to pose substantial barriers. Cooperation among government agencies, commercial firms, academic institutions, and non-governmental organizations is crucial for addressing these challenges. This study underscores the necessity for a unified strategy to enhance TKM development, fostering sustainable food systems and economic resilience. This collaborative methodology seeks to produce insights for attaining the sustainable development goals (SDGs) associated with poverty alleviation and hunger reduction in the region.

Keywords: Independent Workforce, Sustainable Food, Collaborat

INTRODUCTION

Enhancing business development for food security in Teluk Bintuni Regency, West Papua, is crucial for augmenting local food production and addressing food-related issues (Sloan et al., 2019). The Province of West Papua confronts significant food security issues stemming from its reliance on the mining industry and insufficient local food diversification (Nurhasan et al., 2022). Key areas emphasize the cultivation of local products and the promotion of small and medium companies in fostering sustainable food systems. Sustainable food security is a crucial element of regional development, particularly in regions confronting socio-economic difficulties like Teluk Bintuni Regency.

Regions rich in natural resources can be leveraged for local food diversification to attain food security and fulfill the Sustainable Development Goals (Pardo Martínez and Cotte Poveda, 2022). The establishment of community group enterprises focused on food security can enhance local food production and diminish reliance on imported food (Bizikova et al., 2020). The micro-entrepreneurship model may serve as a national strategic solution to enhance food sustainability and bolster the economies of local communities. Entrepreneurship-based programs can enhance local economic stability and provide long-term food security (Herrero et al., 2021; Saa, 2024).

The implementation of an employment expansion program is a primary strategy of the Ministry of Manpower of the Republic of Indonesia to address intricate socio-economic issues, including poverty, unemployment, and economic disparity. This initiative seeks to enhance regional potential by establishing Independent Workers (TKM), concentrating on business development to promote sustainable food security and alleviate unemployment and poverty in Teluk Bintuni Regency (Hanggarawati et al., 2024; Muliadi et al., 2024). Mentoring

and advancing TKM will generate new employment opportunities and diminish reliance on the mining sector, which poses risks to local food security (Theotama and Syahputra, 2024).

The Empowerment of Independent Workers (TKM) seeks to offer business training, mentorship, and assistance for TKM business support facilities. This method has demonstrated efficacy in generating new employment opportunities and enhancing the competitiveness of local communities (Nurhasan et al., 2022). Enhancing TKM's capacity via education and training has demonstrated favorable outcomes in elevating community skills and income (Saa, 2024). This initiative will also facilitate the expeditious attainment of SDG 1 and SDG 2, particularly with poverty alleviation and hunger eradication (Herrero et al., 2021; Yulianti et al., 2024). Intensive training and technical support can mitigate hurdles in TKM development (Tuturoop et al., 2022); nonetheless, community groups continue to encounter difficulties related to money, restricted market access, and inadequate business management (Theotama and Syahputra, 2024). The efficacy of this initiative necessitates robust governmental endorsement, encompassing access to training, financial resources, and infrastructure enhancement. Research indicates the necessity of understanding TKM development outcomes, necessitating a comprehensive plan to engage stakeholders in fortifying the micro-business ecosystem (Theotama and Syahputra, 2024).

Collaboration among stakeholders is essential to enhance the skills and innovation of micro-businesses focused on food security (Bizikova et al., 2020; Zhou et al., 2022). This study aims to assess the program designed to enhance job possibilities by establishing food security-oriented TKM enterprises in Teluk Bintuni Regency in 2023. This study examines the collaboration among stakeholders in the development of TKM enterprises, with the objective of alleviating poverty and enhancing food security in the region. This study's conclusions intend to offer strategic policy recommendations to

stakeholders to foster the development of inclusive and sustainable small enterprises. This study further endorses the attainment of Sustainable Development Goals, emphasizing poverty reduction and hunger eradication via the establishment of food security-oriented micro-enterprises.

RESEARCH METHODS

The research site is situated in Teluk Bintuni Regency, West Papua Province, as it serves as a pilot project for the regional job opportunity growth program initiated by the Ministry of Manpower of the Republic of Indonesia for the years 2023-2024. The research subjects are TKM players and other stakeholders (Palinggi and Sari, 2023), who participate in the regional job opportunity expansion program. This study delineates all resources and roles of the stakeholders in the advancement of employment opportunity expansion. Data collection was conducted through three methods: 1) Field Observation, which highlights the advancement of business management and the use of local food by independent worker groups (Palinggi and Sari, 2023; Saa, 2024); 2) Interviews with micro-business operators, TKM participants, and stakeholders to gather insights on their experiences, challenges, and perceptions regarding the program

(Amalia and Wahyuadianto, 2019; Herissuparman et al., 2024); and 3) Focus Group Discussion (FGD), engaging local community groups to explore opportunities and limitations in the development of micro-enterprises centered on food security (Rahman et al., 2024). This study employs a qualitative methodology with a design framework to examine the evolution of independent worker group (TKM) enterprises centered on sustainable food security in Teluk Bintuni Regency, West Papua. This methodology was used to investigate comprehensive data concerning the community's socio-economic situations (Saa, 2024), the viability of local resources, and the efficacy of the Independent Worker (TKM) program in promoting sustainable food security (Palinggi and Sari, 2023).

A descriptive-analytical design was employed to examine the collaboration among parties in the development of micro-enterprises focused on sustainable food security (Amalia and Wahyuadianto, 2019; Dudung et al., 2023). This methodology enables researchers to investigate stakeholder relationships (Rahman et al., 2024), difficulties, and possibilities in cross-sector collaboration to establish a business ecosystem that fosters food security (Herissuparman et al., 2024).

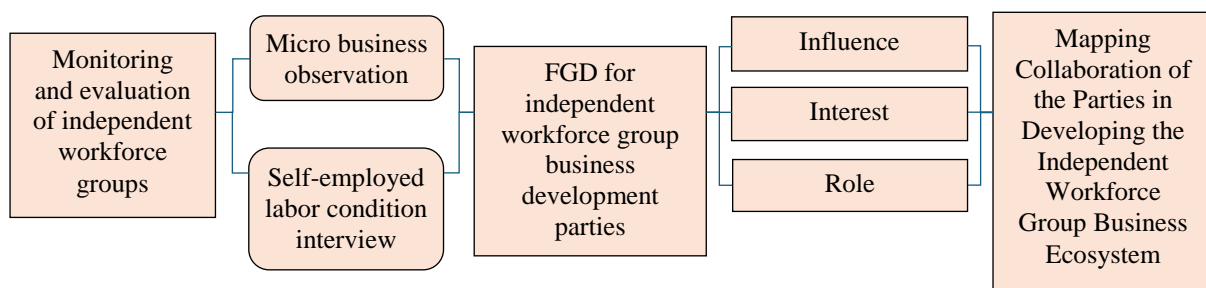


Figure 1. Stakeholder mapping flow

RESULTS AND DISCUSSION

The Ministry of Manpower of the Republic of Indonesia has set a policy direction to empower the workforce

through a program to expand regional-based employment opportunities. In 2022 to 2023, the ministry created a pilot project in Teluk Bintuni Regency by forming the Independent Workforce (TKM). This

program is aimed at developing the economic growth of community groups around the area according to their characteristics and needs to support development (Supendi, 2022; Digdowiseiso et al., 2023).

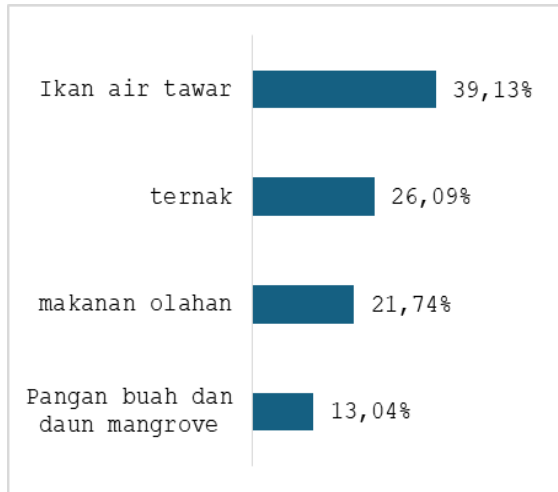


Figure 2. Percentage of food development in the independent workforce group.

The establishment of TKM groups is predicated on local potential, enhancing local food commodities, augmenting self-sufficiency, bolstering resilience, and fostering sustainable food security in the region (Saa, 2024). The food development in Teluk Bintuni Regency encompasses freshwater fish farming (tilapia and catfish), livestock rearing (chickens, goats, and pigs), processed food production (cassava, crabs, and Papuan red fruit), and food derived from fruits and leaves of mangrove plants.

Research indicates that the establishment of micro-firms focused on sustainable food security in Teluk Bintuni Regency is predominantly characterized by freshwater fish enterprises, accounting for 38.89% of the total. The processed food sector contributes 27.78%, indicating substantial prospects for enhancing added value through the management of local food resources. Moreover, both the processed fruit and mangrove leaf sector and the cattle sector each accounted for 16.67%. This food development group possesses untapped potential that requires optimization, particularly regarding

production efficiency and land innovation to enhance the sustainability of micro-enterprises.

The preeminence of this food sector signifies substantial potential for fostering the growth of micro-enterprises centered on sustainable food security in Teluk Bintuni Regency. The consistent and increasing demand for food items is a strategic opportunity to enhance the small business sector that supports sustainable food security in the region. The TKM business group mentorship program shown a beneficial effect on income enhancement, but with considerable fluctuations.

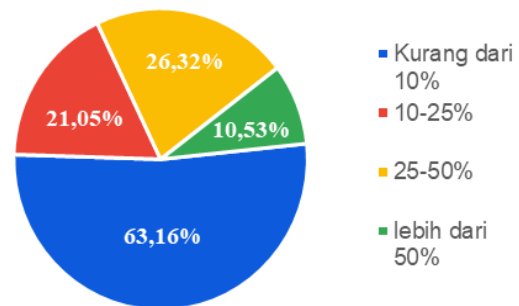


Figure 2. Proportion of Income Growth for TKM Groups.

Sixty-three point sixteen percent of business groups encountered an income rise of less than ten percent, signifying persistent challenges in optimizing the program's advantages. Approximately 21.05% of groups experienced an income rise of 10-25%, while 26.32% of groups attained an increase of 25-50%, demonstrating the effectiveness of some TKM groups in company management and appropriate utilization of mentorship. Merely 10.53% of business groups succeeded in augmenting income by over 50%, indicating the significant potential of this program to provide business groups with enhanced capability and market access.

This discovery underscores the necessity to enhance mentoring techniques, particularly in business

management, product creation, and market access, to promote more equitable and sustainable growth among business groups (Theotama and Syahputra, 2024). The outcomes of mentoring food company groups indicate that government assistance has effectively enhanced their financial performance (Palinggi and Sari, 2023). Mentoring that emphasizes managerial, marketing, and financial management dimensions is considered crucial in fostering this turnover growth. This research verifies that the assistance offered in the mentorship program can directly enhance the financial success of the organization. The Development of Independent Workforce (TKM) continues to encounter some substantial problems that impact corporate viability. The primary obstacles identified include 100% limited access to money, 64% market access, 63% business management, and 52% necessity for a digital marketing plan. These diverse challenges necessitate comprehensive management to facilitate the sustainable growth of micro-businesses.

Collaborative efforts to implement business development initiatives in food security can generate employment opportunities, while also fostering the advancement of the food industry, including logistics, distribution, and

marketing. To ensure sustainability and competitiveness in the broader market, TKM need help in money, technological innovation, and marketing. Consequently, enhanced coordination among the government, private sector, and community is essential to fortify the current economic ecosystem.

The party mapping (Table 1) delineates the diverse stakeholders engaged in the formulation of the Independent Workforce initiative (Jamhari and Khotimah, 2022), classified according to governmental tier, strategic function, and degree of management participation (Hampshire et al., 2022). The tiers of government are categorized into multiple levels: The national framework encompasses the West Bandung Employment Opportunity Expansion Center (BBPCK) and the Kendari Employment Opportunity Expansion Center (BPCK Kendari) as macro policy drivers; the provincial and regency levels involve agencies such as Distransnaker, Bappeda, and Disperindagkop UKM as regional policy executors; the district level comprises district heads, village heads, and assistants who serve as local program implementers; and academia and enterprises provide contributions through research, training, and technical support.

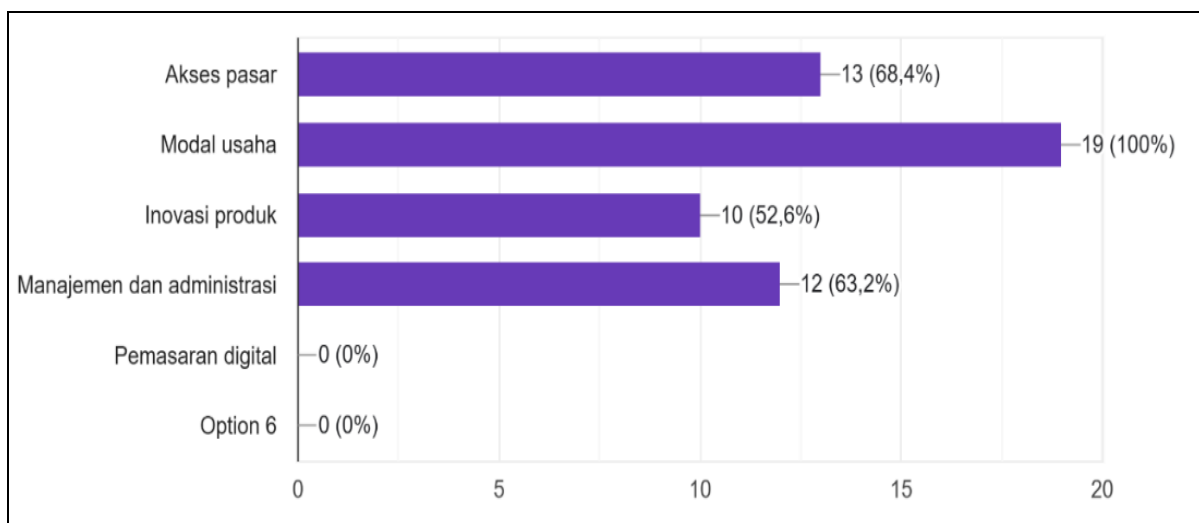


Figure 3. Obstacles in the Development of TKM Enterprises.

Table 1. Levels of Stakeholder Mapping in the Development of Food Security-Based Traditional Knowledge Management in Teluk Bintuni Regency, West Papua Province.

No	Multi Stakeholders	Government Level	Abreivation
1	Balai Besar Perluasan Kesempatan Kerja Bandung Barat	Nasional	BBPKK Bandung Barat
2	Balai Perluasan Kesempatan Kerja Kendari	Nasional	BPKK Kendari
3	Balai Latihan Kerja (BLK) Sorong	Provinsi	BLK Sorong
4	Dinas Transmigrasi dan Tenaga Kerja	Provinsi/ Kabupaten	Distransnaker
5	Badan Perencanaan Pembangunan, Penelitian dan Pengembangan Daerah	Provinsi/ Kabupaten	Bappeda
6	Dinas Perdagangan, Perindustrian, Koperasi dan UKM	Provinsi/ Kabupaten	Disperindagkop UKM
7	Dinas Ketahanan Pangan	Kabupaten	Disketapang
8	Dinas Pertanian	Kabupaten	Dispartan
9	Dinas Perikanan	Kabupaten	DKP
10	Dinas Sosial	Kabupaten	Dinsos
11	Dinas Pemberdayaan Masyarakat dan Kampung	Kabupaten	DPMK
12	Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu	Kabupaten	DPMPTSP
13	Dinas Lingkungan Hidup	Kabupaten	DLH
14	Dinas Pariwisata	Kabupaten	Dispar
15	Bagian Organisasi dan Tata Laksana Pemerintah	Kabupaten	BOTLP
16	Badan Pengawas Obat dan Makanan	Kabupaten	BPOM
17	Dinas Kesehatan	Kabupaten	Dinkes
18	Kepala Distrik Manimeri	Distrik	Kepala Distrik Manimeri
19	Kepala Distrik Bintuni	Distrik	Kepala Distrik Bintuni
20	Kepala Distrik Merdey	Distrik	Kepala Distrik Merdey
21	Kepala Kampung Masina	Distrik	Kepala Kampung Masina
22	Kepala Kampung Waraitama	Distrik	Kepala Kampung Waraitama
23	Kepala Kampung Awaba	Distrik	Kepala Kampung Awaba
24	Tenaga Pendamping	Distrik	Tenaga Pendamping
25	Perguruan tinggi	Akademik	Perguruan tinggi
26	BP Berau Ltd. (Tangguh LNG)	Perusahaan	BP. LNG
27	PT Bintuni Agro Prima Perkasa	Perusahaan	PT. BAPP
28	PT Freeport Indonesia	Perusahaan	PT Freeport
29	KEMITRAAN (Partnership for Governance Reform)	LSM	Kemitraan
30	Yayasan Ekosistem Nusantara Berkelanjutan (EcoNusa)	LSM	EcoNusa
31	WWF Indonesia – Papua Program	LSM	WWF
32	Yayasan Plan International Indonesia	LSM	YPPI
33	Perbankan	Perbankan	Bank

Discussion

Independent Workers Groups (TKM) encounter numerous intricate challenges, such as restricted money, market accessibility, business administration, and digital marketing. Capital capacity frequently constitutes a significant limitation (Syarif et al., 2018; Jamhari and Khotimah, 2022), including the necessity to enhance manufacturing capacity, broaden distribution networks, and innovate new items (Bizikova et al., 2020; Herrero et al., 2021). Furthermore, restricted market access results from an inadequate comprehension of marketing

tactics and insufficient business networks, hindering the market expansion of TKM products (Jamhari and Khotimah, 2022).

Business management presents challenges in the advancement of TKM, encompassing the organization of human resources into groups, financial management, and suboptimal business planning (Supendi, 2022). Simultaneously, TKM has not adapted to the advancements in digital marketing technologies (Rahma et al., 2019). Online marketing strategies and the capacity to leverage digital platforms enable products to penetrate worldwide markets (Nurhasan et al., 2022).

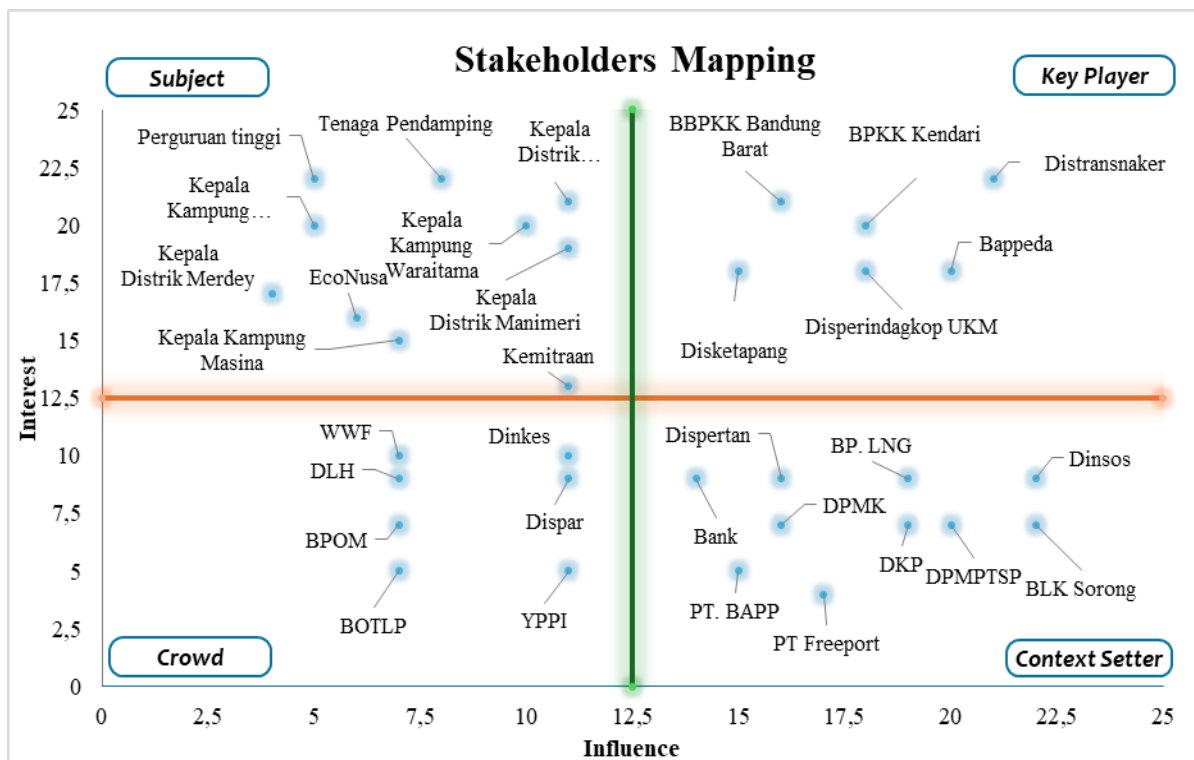


Figure 4. Mapping of stakeholders in the development of TKM based on food security in Teluk Bintuni Regency, West Papua Province

To surmount the diverse obstacles encountered by the freelance workforce (TKM) group, it is imperative to foster tight collaboration among several departments. The government, corporate sector, financial institutions, academia, and community organizations must collaborate to develop comprehensive and sustainable

solutions. The mapping results delineate the engagement of key actors in quadrant 1, comprising those with substantial influence and interests; the subject actor group in quadrant 2, characterized by significant interests but minimal influence; the context setter group in quadrant 3, consisting of actors with limited interests

yet the capacity to influence others; and the crowd group, which includes entities with both low influence and interests (König et al., 2021; Rahman et al., 2024). This distribution demonstrates the several strategies employed to leverage local resources for enhancing food security in the region (Jamhari and Khotimah, 2022). However, a more integrated development strategy is needed, including increasing the capacity of micro-entrepreneurs, to ensure the long-term contribution of each sector to sustainable food security (Palinggi and Sari, 2023; Muliadi et al., 2024). The parties reached a mutual agreement through local deliberation activities and TKM evaluation outcomes. The outcomes of the collaborative agreement (Table 2) represent a partnership among stakeholders in the integrated oversight of TKM development (Lee et al., 2020; Hampshire et al., 2022; Rahman et al., 2024), aimed at enhancing community

welfare within the context of an area-based work expansion ecosystem in Teluk Bintuni Regency, West Papua Province (Jamhari and Khotimah, 2022; Palinggi and Sari, 2023).

Alongside governmental partnerships, additional collaborators are essential (Hampshire et al., 2022; Rahman et al., 2024), including field assistants, universities, corporations, and non-governmental organizations to facilitate the advancement of Independent Workers in Teluk Bintuni Regency and West Papua. Collaboration across national, regional, and district governments, along with external partners, exemplifies an integrated operational framework (Hampshire et al., 2022). The national government formulates strategic policies, whereas local governments execute these programs with technical and practical assistance from corporations and scholars.

Table 2. Joint agreement of local government parties to overcome TKM problems in food security in Teluk Bintuni Regency, West Papua Province.

TKM's Problem	Role of Multi Stakeholders	Program	Activities	Actor involved
Capital Access	Providing capital access and financial assistance	Capital Access Program Credit Assistance,	Capital Access Assistance	1. BBPKK Bandung Barat, 2. BPKK Kendari, 3. Dinsos, 4. Disperindagkop 5. UKM, 6. DPMPTSP
Product Quality and Quantity Product	Development and Production Capacity Product	Development Program New Product Innovation,	Production Capacity Increase	1. BBPKK Bandung Barat, 2. BPKK Kendari, 3. Dinsos, 4. Disperindagkop UKM, 5. DPMPTSP 6. DKP, 7. Dispertan 8. Disketapang 9. Kepala Kampung
Product Quality and Quantity Product	Certification and Recognition Product	Certification Program Business	Certification, Product Labeling	1. Disperindagkop UKM, 2. DKP, 3. Dispar 4. DLH 5. DPMPTSP 6. Dinkes 7. BPOM
Market Access Limitations	Improving marketing and business networks	Product Marketing Program Marketing	Strategy, Business Network Expansion	1. BBPKK Bandung Barat, 2. BPKK Kendari, 3. Bappeda 4. Disperindagkop UKM,

TKM's Problem	Role of Multi Stakeholders	Program	Activities	Actor involved
				5. Dinsos, 6. DKP, 7. Dispertan 8. Dispar 9. Disketapang 10. Kepala Kampung
Business Management	Improve business management skills Business	Management Program Financial	Management Training, Business Planning	1. Bappeda 2. Disperindagkop UKM, 3. Dinsos, 4. DKP, 5. Dispertan, 6. Disketapang, 7. Dispar, 8. DPMK, 9. Dinkes 10. Kepala Kampung
Business Management	Optimization of business resources	Resource Management Program Organizational	Training, Operations Optimization	1. Bappeda 2. Disperindagkop UKM, 3. Dinsos, 4. DKP, 5. Dispertan, 6. Disketapang, 7. Dispar, 8. DPMK, 9. Dinkes 10. Kepala Kampung
Digital Marketing	Improve digital marketing skills Digital	Marketing Program Technology	Training, Online Marketing Techniques	1. Bappeda 2. Distransnaker 3. Disperindagkop UKM, 4. Dinsos, 5. DKP, 6. Dispertan 7. Disketapang 8. Dispar 9. DPMK 10. BOTLP
Digital Marketing	Digital platform development	Digital Platform Program Marketplace	Development, Social Media Optimization	1. Bappeda 2. Distransnaker 3. Disperindagkop UKM, 4. Dinsos, 5. DKP, 6. Dispertan 7. Disketapang 8. Dispar 9. DPMK 10. BOTLP

National and regional non-governmental entities (Petre et al., 2024), including corporations, Non-Governmental Organizations (NGOs), field assistance banks, and universities, play a crucial role in supplying supplementary resources, conducting research, and facilitating access to funding (Table 3). In this

framework, each participant can participate based on their role to enhance the sustainability and efficacy of the program. This collaborative framework guarantees that the TKM development program is administered thoroughly, efficiently, and in accordance with local requirements (Hampshire et al., 2022).

Collaboration among stakeholders is a strategic imperative that enhances the advancement of TKM and bolsters corporate sustainability. National and municipal governments will significantly influence strategic initiatives and financing (Jamhari and Khotimah, 2022). Private enterprises and financial institutions can substantially enhance the capabilities of the food security workforce via targeted corporate social responsibility programs and public-private collaborations (Chen and Sheehy, 2024). This partnership can tackle food security issues by utilizing resources, expertise, and community involvement, hence advancing sustainable development objectives. Universities and academic stakeholders significantly enhance the capabilities of the food security workforce via education, research,

and community participation (Sultan et al., 2024). Through the integration of novel approaches and the promotion of interdisciplinary collaboration, they can successfully tackle food insecurity (Petre et al., 2024). The involvement of NGOs and field facilitators markedly enhances the capabilities of the food security workforce via many tactics and interventions. Their responsibilities encompass community participation, capacity building, and advocacy, which together foster sustained food security (Wilson et al., 2023). The collaboration of all stakeholders guarantees that the solutions offered are both technological and customized to actual demands, thereby fostering a sustainable positive influence on TKM.

Table 3. Potential companies, institutions and agencies to collaborate in developing TKM.

No.	Company/Institution	Type	Location	Sector	Role in Supporting MSMEs
1	BP Berau Ltd. (Tanggung LNG)	Energy Company	Teluk Bintuni Regency	Energy	Local technician training, workforce development in Papua.
2	PT Bintuni Agro Prima Perkasa	Plantation Company	Teluk Bintuni Regency	Plantation	Cultivation training and job opportunities in plantations.
3	PT Subur Karunia Raya	Plantation Company	Teluk Bintuni Regency	Plantation	Training and job opportunities.
4	PT Freeport Indonesia	Mining Company	Timika, Papua	Mining	Technical skills training and education.
5	KEMITRAAN (Partnership for Governance Reform)	NGO	Teluk Bintuni and Fak-Fak	Governance and Empowerment	Strengthening civil society and local governance.
6	Yayasan Ekosistem Nusantara Berkelanjutan (EcoNusa)	NGO	Sorong, West Papua	Marine and Fisheries	Training and empowerment in the marine sector.
7	WWF Indonesia – Papua Program	NGO	West Papua	Environment	Support for sustainable fisheries and conservation.
8	Plan International Indonesia	NGO	Papua	Community Empowerment	Youth and women's skills development.
9	Bank Papua, BNI, BRI dan Mandiri	Banking	West Papua	Finance	People's Business Credit (KUR) for MSMEs.
10	BPR Papua Barat	Microfinance	West Papua	Microfinance	Funding and financial management training.
11	Pendamping Lapangan TKM	Field Facilitator	Teluk Bintuni Regency	MSME Assistance and Development	Direct mentoring in independent business management, technical skills training, and coaching.

No.	Company/Institution	Type	Location	Sector	Role in Supporting MSMEs
12	Perguruan Tinggi (Universitas Papua)	Educational Institution	Manokwari, West Papua	Education and Research	Research and innovation development related to MSMEs, as well as academic-based training programs.

CONCLUSION

The Independent Workers Group (TKM) in Teluk Bintuni Regency, West Papua, encounters multifaceted obstacles concerning restricted cash, market accessibility, business administration, and digital marketing (Jamhari and Khotimah, 2022; Chen and Sheehy, 2024). These difficulties necessitate a collaborative and cross-sectoral strategy combining government, business entities, academic institutions, and civil society organizations (Nonet et al., 2022; Rahman et al., 2024). The central government is responsible for developing macro policies, whilst local governments are charged with executing these policies at the regional level (Jamhari and Khotimah, 2022). Simultaneously, academia and the corporate sector provide substantial contributions through research, training, finance, and innovation that enhance the production capacity and operational efficiency of TKM. Moreover, entities such as NGOs and banks contribute to community empowerment by means of campaigning, fundraising, and enhancing distribution networks. The collaborative and participatory approach of each key stakeholder optimizes their responsibilities and roles in accordance with their functions. This collaboration will facilitate thorough, efficient, and localized management of the TKM program, while positively influencing sustainable food security and enhancing local employment prospects. The comprehensive approach encompasses enhancing entrepreneurial capacity and guaranteeing that all sectors participate in the long-term advancement of sustainable TKM (Hampshire et al., 2022).

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