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Exploring the Untapped Potential: The Role of Local Resources in Fostering Modern Village Businesses

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Abstract

Modern villages are innovative sources of economic growth, harnessing the untapped potential of local resources to drive sustainable development. This study explores the dynamic interplay between local resources and the establishment of modern businesses in Pandansari Lor Village. By adopting a qualitative approach and using interviews and field observations, the research uncovers the distinct local resources that play a pivotal role in the community's economic transformation. The findings demonstrate the significance of natural resources, cultural heritage, and traditional knowledge as drivers of entrepreneurial initiatives, paving the way for the modernization of village businesses. The study not only contributes to the academic literature on rural development, but also provides valuable insights for policymakers and local communities seeking to leverage their inherent resources for sustainable economic growth and community well-being. The development of local resource management today shows that the community already has a tradition to do business, in the form of opening cafes around Coban Jahe waterfall and the cassava processing industry that already has a market outside the village. Industrialization must be based on the local potential of the village, namely processed cassava, and coconut with various variants of product diversification. Village industrialization is carried out in two ways, first the development of various appropriate technologies in the form of production machines to increase the processing capacity of cassava, coconut, and herbal plants, and second, digital technology and automation for natural water resources management. This industrialization process is very important for increasing village production capacity, village product quality andtourism village branding in the future. The development of village industry will be able to accelerate the realization of a modern tourism village.

Keywords*: Local Village Potential, Industrialization, Sustainable Livelihood, Appropriate Technology, Smart Technology*

Introduction

In the increasingly interconnected world of today, where globalization often takes center stage, a hidden gem lies waiting to be discovered and harnessed - the untapped potential of local resources. Amidst the bustling city streets and urban landscapes, lies the resilient spirit of villages, brimming with indigenous resources that have remained largely untapped. It is this urgency to unveil the hidden possibilities within local resources that

necessitates the conduction of a comprehensive study on the role they play in fostering modern village businesses. With a specific focus on Pandansari Lor Village, nestled in the enchanting region of Malang, Indonesia, this study seeks to uncover the untapped potential within this vibrant community. By delving into the intricate connection between local resources and the growth of modern village businesses, we aim to shed light on the strategies and factors that can unlock the true power and productivity of these village enterprises (Audretsch et al., 2023; Ratana Singaram et al., 2023).

The urgency of this study lies not only in the potential economic benefits derived from harnessing local resources, but also in the preservation of cultural heritage and the sustainable development of these rural communities. It is imperative that we understand and appreciate the unique attributes and capabilities of local resources, and how they can be effectively utilized to create thriving, modern businesses that uplift and empower the villagers.By undertaking this study, we hope to inspire policymakers, community leaders, and entrepreneurs to recognize the untapped wealth that lies within their own backyard. Together, we can unlock thetrue potential of local resources, foster a vibrant ecosystem of modern village businesses, and create sustainable,resilient communities that thrive amidst the fast-paced global landscape (Meier & Peters, 2023; Nguyen et al., 2023).

Pandansari Lor Village located in Malang Regency has long been known as a granary of vegetable crops, coconut cassava and other crops with an area of 4.78 km ^{2} of which 62.5% (2.99 km2) is cassava plant land. This village is located on the slopes of Mount Wonosari, so a lot of Perhutani land is collaborated with community groups, coordinated by theForest Management Village Partnership Institute. The population of Pandansari Lor village is 1,031 people, consisting of 258 households of which 92% (237 households) are cassava farmers and depend on cassava agricultural products. Cassava plant land is 499 Ha with a productivity level of 4.5 tons / ha, so that one harvest averages 6,408.5 tons / ha. Cassava harvesting is carried out every 8.5 months and harvesting throughout the year. The population is very dependent on cassava production and sales as a sustainable livelihood. Pandansari Village is already known as a tourist village that has the main tourist destinations Coban Tarsan, Coban Jahe and Kopi Keceh (Fadlilah et al., 2016).

The business of the Pandanari Lor village community, in term of processing the food industry based from cassava and coconut, the family medicinal plant industry that is available is abundant and has been used by the community for health, but there has been no effort to process it. The use of herbal medicine and the perspective of the people of Pandansari Lor village are: consumption of traditional plants is generally boiled and juice(may be added honey or other spices; consumption of herbs as needed; if the body feels pain rely more on the doctor's medication; and the use of herbs only in case of preventive treatment. The industrialization of Craft art developed because of the local potential of the village which is the cultural base of the region. The industrialization stage of Pandansari Lor village has been started for a long time, and in 2020 through the application of mechanical technology machines, namely Appropriate Technology machines to make emping samiler from cassava. The industrial design of the village is different because it has different natural and agricultural resource potential. The design of the village industrialization model offered is for villages based on the potential of natural resources and agriculture, so that it has different types of characteristics and stages of application of appropriate technology. Another novelty is related to the analysis of the diversification of other processed products based on local potential that can be developed in Pandansari Lor Village (Suman & Putra, 2015; Surjono et al., 2015).

There are two novelties of this research, first, appropriate technology experiments in small businesses on the potential of natural resources and agriculture that can be diversified products by community industries and second, the design of village industrialization empowerment initiatives that are effectively applied by villages in accordance with the system, structure and social capital of the village. Tus, the success milestone of village industrialization depends very much on the superior potential of the village and the existing social system. The purpose of this study is to develop a model of rural industrialization strategy and downstream technology of Pandansri Lor village which has very abundant natural and agricultural resource potential. Village industrial development must also be able to maintain environmental sustainability, so collaboration of compounds and local wisdom of the village is needed. Formulate the potential of village location in the form of natural resources and human resources which are the basis for downstream village industry. Second, formulating diversification for processed products based on local potential that are down streamed to support the development of tourism villages. Lastly, based on these considerations, a framework formulation is needed to prepare a village business integration

plan with nature conservation efforts, which is in accordance with the needs and contextual situation of the village community (Wang et al., 2023).

Literature Review

Sustainable Livelihood Approach

The development of the existing agricultural sector still leaves residual pockets of poverty in rural areas, which is characterized by low per capita income of rural residents and still high urbanization rates ofrural people to cities in search of a more decent livelihood. Thus, poverty in the village will continue to increase along with the decreasing productive age force of villagers who want to continue their parents' agricultural livelihoods and prefer the new sector to work in the formal industrial sector in urban areas. As many as 6 small industries in the village that produce processed cassava bases such as samiler, jemblem, lepet, etc., have absorbed farmers' crops, so that the supply to the middleman market is reduced, this encourages an increase in the selling price of cassava farmers. Another policy carried out by the Agriculture Office is to diversify production crops in accordance with the characteristics of the village, including coffee plants (Chakabva & Tengeh, 2023).
The village government and local investors work together to develop tourist spots in the form of cafe keceh. The business development of Pandasari Lor village through the production of local agricultural commodities with increased supply absorption should improve the quality and welfare of the community while reducing negative impacts on the environment. Similarly, MSMEs developed in village tourism areas should motivate rural communities to maintain natural beauty, because beautiful and sustainable nature is one of the important sources of their livelihood. The balance of economic activity and natural sustainability will greatly determine the sustainability of village industrialization. Because the alternative network formed is a lively interaction between several alternative actors quickly, and the creation of community initiatives to build collaboration together to turn on new ways of doing business together is needed. Quoting the investment climate direction conveyed by Moeljadi in the development of MSMEs, that the investment system should ideally be run in a spirit and compound. Thus, efforts to integrate village businesses with the green economy need to be approached by utilizing the collaboration of compounds and local wisdom of village communities. From the framework above, it can be concluded that the people of Pandansari Lor Village since the Covid-19 Pandemic began many residents have made changes in their livelihoods due to the drop in cassava prices. The price set by the middleman is the cause of this. This condition has an impact on the amount of rupiah receiving family income, so many residents have to change their source of livelihood to increase income, one of which is doing cassava processing business (Yao & Liu, 2023).
In addition, the income from this business has begun to be felt and replaced the results of cassava sales carried out by farmers and even able to absorb residents' agricultural products at reasonable prices. The performance of this growing samiler business requires more advanced production equipment and increased production capacity, due to greater market demand. Village industrialization, or industrial activities in the village must be carried out so that the existing village potential can be processed, managed, and produced to support tourist attraction. Tourist destinations must be managed professionally and at the same time by relying on existing natural resources, so that they can be managed sustainably and become a massive and equitable source of livelihood for the population. Industrialization is a guarantee that the management of tourist destinations and supporting activities can be managed effectively, efficiently, and productively. Thus, the village industry governance process becomes a very important factor for the utilization of local resources to be converted and developed into local economic resources that become sustainable tourism village management.

Green Economy

The mindset of rural people who feel enough amid the abundance of potential natural products needsto be changed, because in fact the abundance of natural products does not guarantee the prosperity of the

community because nature that is extracted and not cultivated wisely will bring natural damage to natural disasters (Arsawan et al., 2022). Enforcement of the green economy concept in village businesses depends on the commitment of people and businesses to reuse, reduce, and recycle. These things may seem easy on the surface, but they will require a lot of good science, technical and management briefing to find energy-efficient ways to turn used materials into new products (Adomako et al., 2023). With increasing awareness of environmental issues and pressure targets to reduce carbon emissions, the demand for environmentally friendly business practices has grown into the need for small businesses' response to climate change. These eco-friendly innovation activities are expected to provide "lower consumption of natural resources, new sustainable energy generation methods, and new environmentally friendly practices and products" (Costa et al., 2023). Businesses –and in particular, small businesses – are predicted not only to deliver on this agenda but also to create jobs and wealth in the process of safeguarding "valuable, traditional rural locations" (Arshad et al., 2023).

The application of green economy to village businesses was carried out by Li et al., (2022); Zang et al., (2023) who explored rural entrepreneurship and gave birth to the view that, although early movers are not in principle economic, every business adopts pro-environmental behavior, by identifying entrepreneurial opportunities, then enjoying economic benefits as a result. These include cost reduction, improved morale and internal relations, better external relations and the development of new markets, new products or new opportunities. Village businesses that benefit from eco-friendly businesses are seen in the drivers (community aspect) but also in the impact of eco-friendly innovations to save on materials, distribution, and transportation costs, considering that transportation problems in rural locations require costs. Environmental innovation in rural small businesses shows a relationship between motivational factors, pro-environmental behavior, innovation and business growth (Fadlilah et al., 2016).Opportunistic perceptions are shown in efforts that support environmental sustainability, given the level at which new ideas are developed and provide concrete evidence of economic benefits as seen in the way pro-environmental measures are developed, as a way to gain new markets, to deepen customer and supplier relationships and to reduce costs. The owner showed "opportunistic perceptions; controlled growth ambitions; a culture of innovation and flexibility developed" (Li et al., 2022). Rural small businesses need to demonstrate the importance of strategic choices, and the benefits associated with the combination of entrepreneurs, firms and their strategies, in determining how environmental behavior is implemented and how environmental innovation is carried out (Huang et al., 2022).

The diversification of the roles of rural communities encourages them to be able to understand the business concept that is integrated between the perspective of modern and independent village business with nature conservation efforts more easily digested, because it has been manifested in several diverse actionable activities,at the same time required to carry out a specific role that requires an integral understanding of the community system. The concept of pluriactivity or combining agricultural activities with other sectors, fosters awareness of agrarian rural communities not to be completely dependent on agricultural products but is triggered to increase the value of agricultural products by collaborating with the role of sectors outside agriculture. The concept of collectivization that prioritizes uniformity in the synergy built. Synergistic integration born from the concept of "compound" can produce balanced cooperation and be able to optimize the profitability of joint businesses by providing flexibility to work on various diverse needs that can be served from various perspectives that support each other (Chakabva & Tengeh, 2023; Ghauri et al., 2023; Lestantri et al., 2021).

Village Industrialization

The development of village industries based on local potential has been carried out by several researchers. Industrialization of villages has been proven to have an impact on the economy of rural communities and encourage the development of social life of village communities. The business of the Pandanari Lor village community in term of processing foods from cassava and coconut, family medicinal plants that are available are abundant and have been used by the community for health, but there has been no effort to process them. This herbal medicine preparation is still a public science that is transmitted by word of mouth and is practiced individually by family. Residents have no interest in processing family medicinal plants into herbal medicine (Lee, 2023; Vrontis et al., 2020).

There are two novelties of this study, first, AT experiments in small businesses on the potential of natural resources and agriculture that can be diversified products by community industries and second, the design of village industrialization empowerment initiatives that are effectively applied by villages in accordance with the system, structure and social capital of the village. Lestantri et al., (2021) stated that the success of village industrialization, in this case the industrialization of craft arts, depends largely on the superior potential of the village and the existing social system. Village systems, structures, and social capital can provide support for sustainability in village industrial management. Ghauri et al., (2023) stated that to be able to increase productivity, a production system that operates efficiently and effectively is needed. Therefore, management in this case the village government needs to ensure that there are no production disruptions caused by damage, stopping or failure to use machinery, and other social conditions. The accuracy of the application of the village industrial system model largely determines the sustainability of village industrialization activities.

Building a village business basically forms an alternative business network system and develops potential. This alternative business network should be driven by local communities independently. Because the alternative network formed is a lively interaction between several alternative actors quickly (leap), and the creation of community initiatives to build collaboration together to turn on new ways of doing business together is needed Quoting the investment climate direction conveyed by Moeljadi, (2022) in the development of MSMEs, that the investment system should ideally be run in a spirit and compound. Sejiwa means a common vision and a sense of solidarity to achieve common goals, while compound is the awareness that to achieve these goals, stakeholders are faced with various potentials and interests that need to be presented and collaborated (Ronaldo & Suryanto, 2022). Thus, efforts to integrate village businesses with the green economy need to be approached by utilizing the collaboration of compounds and local wisdom of village communities.

Method

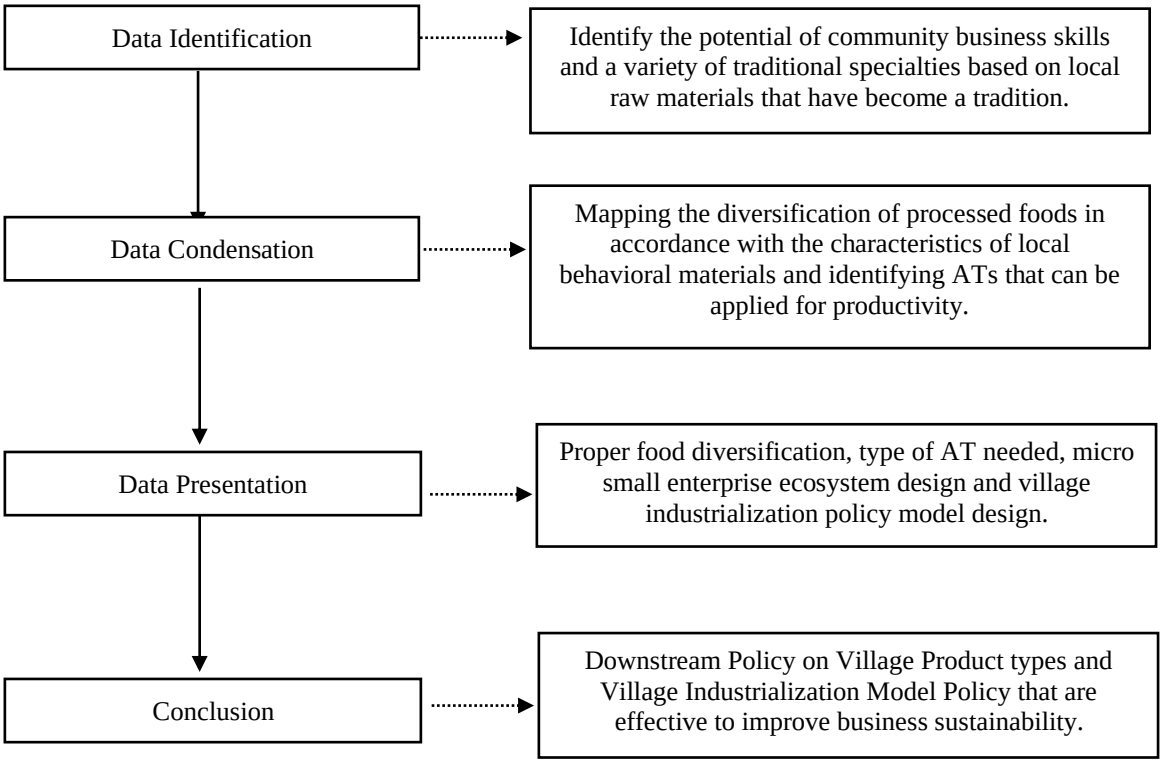
The study was conducted using a combination method, namely Participatory Action Research (PAR) and Exploratory through surveys, interviews, and focus group discussions (Hair et al., 2021). The formulation of the problem proposed is: 1) what diversification of local potential-based products can be down streamed in the village? 2) what type of appropriate technology (AT) and which production process points can AT apply in supporting the downstream of village products? and 3) how is the design of industrial governance of Pandansari Lor village through pull empowering to create sustainability in the downstream program of village products?

There are four variables used in this study, which are a stage, namely: 1) Exploration of the right diversification of processed products in accordance with their local potential; 2) selection of the type and variety of appropriate technology (AT) to boost the productivity of rural micro and small enterprises and at which point of the production process AT will be effectively applied; 3) Policy design and facilitation of the formation of the environment (ecosystem) of small village industries as an effort to increase the expansion and enlargement of the amount of existing production; and 4) policies on the governance of the production system and industrial management in the village by the village government. Data analysis was carried out using interactive model analysis techniques (Miles et al., 2013) with the following components: Data identification, Data condensation, Data presentation and conclusions drawing.

The study was conducted in Pandansari Lor Village, which has been fostered by the Faculty of Economics and Business since 2018. In addition, this village already has a database of village potential, namely cassava, coconut, family medicinal plants (herbs) and water sources that have economic potential to be developed into business products. Since 2020, the community has had resilience in facing the Covid-19 Pandemic which has proven that only about 5 people have been exposed and all of them recovered. This is driven by the pattern of beliefs and behaviors of village people who believe in the efficacy and culture of drinking herbal medicine. Meanwhile, from the economic aspect, it is also tested for its resilience in finding new sources of sustainable livelihoods from only cassava farmers who sell agricultural products raw to cassava-based micro and small entrepreneurs to be able to increase selling price bargaining with middlemen through reducing production in the market to be processed into a variety of processed cassava, including emping samiler, manggleng, lepet, etc. Thus, the community has begun to enter a rational industrial society and has the skills to be developed into an industrial village based on local potential (Audretsch et al., 2023).

This study also accommodates sustainable livelihood models based on local potential. The study was conducted

using a combination method, namely Participatory Action Research (PAR) and Survey using sustainable livelihood variables that focus on livelihood assets consisting of natural resources, human resources, economic / financial, social and physical infrastructure). The PAR method actively involves all stakeholders to identify the vulnerability of cassava farmers and assess ongoing actions to formulate changes in alternative economic and social livelihood sources as additional family income. Meanwhile, the survey was conducted to measure and determine the capacity of changes in community livelihood assets as complementary data in formulating changes in alternative sources of livelihood for farmers. The use of these two methods is expected in addition to being able to find the context of the vulnerability of cassava farmers, also at the same time measuring changes in the capacity of residents' livelihood assets, so that appropriate alternative livelihood development strategies can be formulated based on livelihood assets owned by residents of Pandansari Lor Village. Data analysis was carried out using qualitative analysis techniques (Miles et al., 2013) and single-table descriptive statistical analysis techniques (Schwandt, 1996). The stages of data analysis use in this study are illustrated below:



Findings and Discussion

Condition of Pandansari Lor Village

Pandansari Lor Village has the potential of cassava and coconut agricultural sectors, as well as various kinds of family medicinal plants. This village is one of the villages in Malang Regency that has high tourism potential. Pandansari Village has a variety of crops that become superior potentials, including cassava and coconut. In fact, this village has become a cassava producing center which makes it a source of livelihood for many families (sustainable livelihood). In addition to produce, this village also has waterfalls that are often called coban, namely Coban Jahe and Coba Tangkil. This crop encouraged some residents to start pursuing the cassava processing business, including cassava chips (samiler), mangleng, etc. This is one of the sources of livelihood for residents in 3 villages, namely Bayang, Tegir and Begawan Hamlets. Pandansari lor village also has various

other local potentials, namely herbal plants (family medicine) which are processed into drinks as a hereditary tradition for the community. There are at least 12 types of plants that are believed by the community to be herbal healthy drinks.

Pandansari Lor Village has several natural resource destinations that can be developed into sources of economic growth, including coban jahe, coban tangkil and coban keceh. In the economic development of this village, in 2021 one of the village entrepreneurs developed a tourist destination in the form of Taman Sari Garden which contains culinary tours in a unique place, namely the river. This destination began to be supported by several local village products entrusted to TSG café. This TSG has a very strategic role for the economic growth of the village because: 1) a very unique type of tourist spot, namely eating on the river, so as to provide a unique experience for visitors to then become viral for the community, 2) forcing village resources to develop from agrarian ability or competence to industrial competence and that even tertiary service competence, so that many local village products appear, and 3) open interaction between the village community and the community outsidethe village, so as to improve the image and prestige of the village to the local and regional arena.

This change in the profile of the village community that is on the move shows that there is a change in village society in several aspects. First, the economic aspect is the emergence of several productive economic activities based on local agricultural products. The falling cassava price has forced residents to process themselves into several types of local specialties, thereby increasing added value and family income, which at the same time reduces supply to industries in surrounding villages, thus driving up the selling price of cassava community. In 2022, there were 5 cassava-based processed industry business players. The community began to learn to make local products that will be sold either at tourist destination locations, road access to tourist villages or online. Second, the community has begun to realize that Pandansari Lor Village has the potential of natural resources that can be developed into a massive and serious tourist destination so that it becomes a tourist attraction to the village and at the same time creates access to promote local village products to tourists. This encourages the spirit of the village community to continue to innovate better local products. Third, people began to realize the importance of diversifying food crops from cassava and corn, there began to be a desire to develop coffee plants. This diversification has 2 objectives, are to reduce the abundance of corn and cassava crops which have an impact on excess supply so that prices fall and increase people's income from coffee plants while providing raw materials for beverages for tourists.

Local resources of the village.

Pandansari Lor Village has experienced significant changes since the COVID-19 pandemic. This pandemic has affected many industries, one of which is the industry that absorbs (raw materials) from cassava plants, or cassava flour factories. On the one hand, the amount of cassava and corn harvest is very abundant, so there is a law of supply and demand that has an impact on the fall in cassava prices. This condition hit the income of families in the village who depend a lot on cassava crops. Various ways are done to increase the selling price of cassava so that villagers can still survive. Start withholding the harvest for several weeks not to be sold to the factory until looking for buyers from other factories. But this effort was in vain. The condition of cassava prices is still falling and has the potential to add to the rural poor who have reached 40.10%. This condition encouragesseveral academics, including Prof. Moeljadi from the Faculty of Economics and Business to think of the right solution so that society can remain able to survive. One of them is to encourage the community to be able to process cassava agricultural products into processed products that can be sold to the community. Village lolal resources are the products of cassava agriculture which is the main source of livelihood for the village community. Cassava harvest has now been processed into several types of processed cassava food.

Pandansari Lor Village has now established 5 new types of home-based businesses based on cassava raw materials. The name of the micro business, product type, capacity, and market share of processed cassava products are:

Table 1.

Name of Cassava-Based MSMEs Business Actor, Pandansari Lor Village, Malang Regency

No.	MSMEs Actor Name	Product	Capacity	Market
1.	Mrs. Anisa	- Samiler	- Raw cassava = 180 kg - Yield = 54-56kg per day	- Sidoarjo - Surabaya - Kota Malang - Pandaan - Lawang - Singosari - Blimbing - Pakis
2.	Mrs. Meri	- Cassava chips - Samiler	- Raw cassava =50 kg - Yield = 17.5 kg per day	- Supplier Brand 'Delicious' - Pakis - Jabung
3.	Mr. Suryawan	- Samiler	- Raw cassava =75 kg - Yield = 20 kg - per day	- Mantren Jabung - Sumber Pasir - Poncokusumo
4.	Mrs. Ita	- Jemblem - Tiwul	- Raw cassava =20 kg - Yield = 10 kg - per day	- Pandansari Lor - Jabung
5.	Mrs. Kasmini	- Samiler	- Raw cassava =20 kg - Yield = 11 kg - per day	- Pandansari Lor - Jabung

The cassava based MSMEs product can be in the form of finished processed or ready to eat or even still in the form of semi-finished products that still must be fried. However, some residents prefer samiler for 3 reasons, namely, first, samiler has a more durable product character and is easy to store, either in the form of ready-to-eat finished products or semi-finished products that are ready to be fried. Second, consumers and markets of this product are relatively more, both for snack needson the trip and living room, as well as in the form of crackers for side dishes to eat rice, so that the potential for selling in the market is greater. In addition, samiler products are well known with the public. And third, the manufacturing process is relatively very easy and simple, and the needs of raw materials are easy to obtain. Craftsmen are only able to do marketing traditionally because of their limited capital, so by selling cash directly and the market around the area will accelerate the receipt of cash proceeds and the turnover of working capital. The business carried out by craftsmen in this village has the main purpose of finding additional income for the family, so the speed of capital turnover is very important so that craftsmen can take the results of effort to survive. The innovation carried out in 2021 is to standardize products, through the selection of raw materials andthe application of appropriate technology in the samiler production process.

The capacity of samiler products if operated optimally, is estimated to increase the production capacity of MSMEs to 10 times the previous production, so that the absorption of agricultural production can increase. The absorption of processed agricultural products from businesses driven by MSMEs with AT will increase the absorption of cassava crops to household industries, so that the circulation of the number of raw materials in the market is expected to be able to balance the amount of supply and demand, so that prices become a perfectly competitive market. The size of the product will be one of the important factors of its market segment.

Standardization at the three stages of raw materials and the manufacturing process through the application of AT has been successfully carried out in 2021 through the assistance of a team of Faculty of Economics and Business, Universitas Brawijaya lecturers under the coordinator of Prof. Moeljadi.

In addition, the size of the samiler industry, according to the results of the mini survey of the service team, is in accordance with market demand. Likewise, the innovation of the thickness of samiler products that can be adjusted according to market demand. The diversification of samiler flavors will continue to be developed in the future in accordance with market demand. Innovation in the application of AT to produce various product characteristics in the market according to consumer demand and increase production capacity to absorb raw materials from farmers' crops. These two innovations aim to balance the amount of supply and demand for cassava raw materials in the market, so that farmers' cassava selling prices will be stable and rise. Mr Suryawan which continues to increase with good and quality product standards, is expected to provide similar machine assistance to other samiler craftsmen, so that it will be able to increase the quantity and quality of samiler products of villagers. The potential of the second local resource is the result of family medicinal plants (herbs) that are believed to strengthen the body's resistance. The results of surveys and mapping in the field show that many local plants are trusted and have been used as herbal medicines for sick residents. The survey and mapping were conducted directly to the garden and interviews with village leaders and elders, namely Mr. Nur Salam, Mrs. Rahayu and Mrs. Sukarlik. Some of these herbs are:

Table 2.
Identification of Types of Herbal Plants

No	Plant Name	Benefit (Treatment for)	Existence	How to use
1.	**Red ginger**	- Vertigo - Nauseous - Fever - Cough - Menstrual disorders - Cancer - Heart - Rheumatism - Colds	Small-scale self-cultivation	Crushed, boiled
2.	**Citronella**	- Body warmers - Improve digestion - Colds	Small-scale self-cultivation	Crushed, boiled, extracted, mixed with palm sugar + cinnamon + cloves
3.	**Temulawak**	- Increase appetite - Increase body's immune system	Small-scale self-cultivation	Grated or blended, juice
4.	**Temuireng**	- Increase appetite - Treated pinworm infection	Small-scale self-cultivation	Grated or blended, juice
5.	**Soursop leaves**	- Decrease hypertension - Diabetes	Small-scale self-cultivation	Boiled

6.	**Luntas leaves** (can be mixed with curcuma and young pineapple leaves)	- Reduces body's odor - Increase immune system	Small-scale self-cultivation	Boiled, juice
7.	**Guava leaves**	- Diarrhea (use guava young leaves) - Treatment for typhi infection	Small-scale self-cultivation	- Boiled, juice - Ground or chewed directly
8.	**Bidara leaves**	- Itch - Stomach	Small-scale self-cultivation	Boiled, juice
9.	**Black betel leaf**	- Tumor - Cancer - Itch	Small-scale self-cultivation	Boiled, juice (daily)
10.	**Shallot**	- Cough - Colds	Small-scale self-cultivation (erratic, more often buy at sellers)	Chopped, fed with eucalyptus oil, then placed on theforehead
11.	**Garlic**	Treatment for Gout	Small-scale self-cultivation (erratic, more often buy at sellers)	Transverse cut put on the soles of the feet two hours before bedtime
12.	**Castor sap**	Toothache	Small-scale self-cultivation	Peeled, laid on the wound

Herbal plants have been consumed naturally by boiling and drinking. It has never been developed as a business product with easy and attractive packaging. Traditional plant consumption is generally boiled and juice (honey or other spices may be added). Use of potions / consumption as needed, meaning that people consume if they feel pain. According to the source, if the body feels sick, rely more on the doctor's medication. The use of the herb only in case of conducting traditional medicine (therapeutic).

The potential of the village whose water is an abundant source of water. This water source is currently only a drinking water for residents managed by HIPPAM (Association of Drinking Water Users and Managers). BUMDes Maju Jaya is interested in exploring other drinking water business potentials, namely bottled drinking water and fish farming. Large source water becomes abundant wealth for villagers to then develop a proper and effective village business. This abundant water source will be one of the important production factors in the economic development of the village. The number of people whose composition is dominated by young age is a blessing and demographic bonus for this village. Abundant natural resources are supported by human resources, so this village has the potential to progress. One of the economic potentials to be developed by BUMDes Maju Mapan is fish farming business with a biofloc system. So, it is very important to conduct research related to the business that will be developed by BUMDEs will have great prospects.

Village Industrialization.

Village industry, the concept of being a subject in future economic transactions will turn into a subject (determinant) in economic transactions from other urban and rural areas. Originally, the results of industry, technology and goods from urban areas flowed into the village, then the village industry would become the attraction of urban people. For example, tourist attractions in the countryside will suck visitors from the city to

enjoy the beauty of nature and agricultural products. The potential of natural resources of Pandansari Lor village, Jabung, in addition to tourism, also agricultural products are very decisive in meeting the supply of food in urban areas. Manpower and Human Resources can also be relied on, especially after the last Pandemic, farmers who actively work in the agricultural sector, have high fighting power and motivation if developed (Ali Imron, 2021; Utomo et al., 2021).

In 2020, at the end of the pandemic, the suffering of farmers that had occurred because they could not face trade structures through middlemen was resolved, with the creation of a cassava sarmiler innovation printer (filed for a UB patent). With the printer, one small business has been able to increase its production to 30 times. The multiple in the industry using these machines / tools (smart machines) can absorb village cassava harvests. The greater absorption of cassava harvest resulted in the price of cassava in panan which was originally Rp. 900,-/kg to Rp.2,750,-/kg. The break event point of cassava farming business is around Rp. 1,500,-.So far, farmers have planted cassava for 9 months at a loss, and for many years of losses, because the market structure with price information is controlled by middlemen, now prices can be directly determined by MSME entrepreneurs (Fakhrunnas et al., 2019; Wildan et al., 2021).

The second smart technology that is said to be created is a cassava grate machine that was originally grated by hand (traditional). This grate machine is presented as a tool at once for cassava blenders, coconuts, and traditional medicinal plants (filed Patent 2). This machine or tool can be used to grate cassava faster, because the sarmiler business has increased even greater, because the sarmiler sales system is carried out online, (HP) applications are assisted by Universitas Brawijaya KKN students (not yet patented). The smart blender machine that is created is also three in one. It can be used grated coconut, which MSMEs can make other small foods thatare developing, especially snacks from cassava and cassava ingredients. As an experiment, the production of cassava and snacks is marketed to the city market and some are also sold in modern cafes, including cafes in the UB environment. And the third use, msin blender can also be used to blend the results of traditional medicinal plants (empon-empon) whose plants have been developed by PKK mothers, for the manufacture of herbal medicine (and extracts of herbal ingredients will be proposed to be made in this village).

Concern for the development of technology and the development of small industries is continued by referring to the results of health-based industries. With the help of clean water filter technology created by UTP Malaysia, it wants to realize a health-based MSME food industry production system, using clean water for the cassava harvesting process, frying production process properly, and oil-less sarmiler results (invented spinner, oil absorbing device, submitted for patent 3). The next action research is an IoT-based fish farming system, to monitor water content in freshwater fishponds, tilapia and catfish). With controlled production results, the production process, cleanliness of fish products and better taste (a patent will be filed).The process of developing this village industry if achieved will be obtained a village industry that is able to increase farmer income and reduce farmers' social costs, which eventually the village will develop a tourist spot that prioritizes health aspects (village medika), visited bycity people because of the beauty of the village and the use of resources nature, and become a village that has economic resilience. In the latest development, several agencies such as Telkom, BRI, UM and Jasa Tirta to channel their CSR, and they are more concerned about saving the eco-system. In the future, it is necessary to develop a waterpower treatment system and technology that can be used to generate BUMDES income, because the water resources in this area that have not been utilized are very large (there are still 7 liters per second) that can be processed into bottled drinking water.

The results of the Focus Group Discussion (FGD) stated that the community has a great interest in building industrial villages. This industrial village relies on tourism activities whose potential is very large in Pandansari Lor Village. The potential of natural resources that are currently managed is Coba Jahe, is a waterfall that have become legends of the surrounding community. Culinary business develops around coban ginger, which is in the form of cafes that even have uniqueness, including being carried out in the middle of the river. This culinary activity is very lively and supports the development of village tourism. This is the driver of the growth and development of village industrialization. The most important thing is that village industrialization is built in accordance with the potential of the village developed by technological developments, especially digital technology.

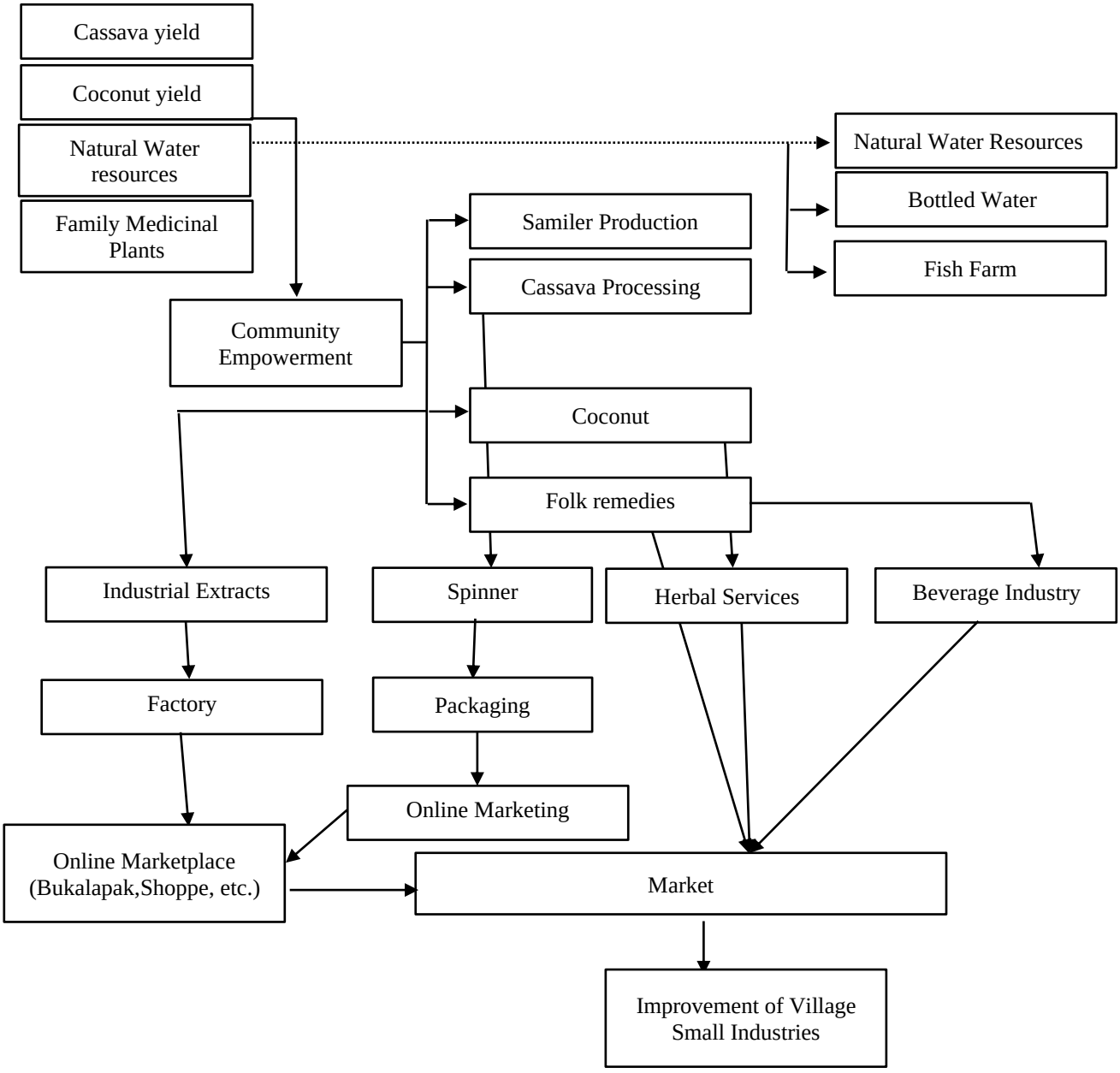
Village industrialization is carried out in 2 ways, first the development of various appropriate technologies (AT)

in the form of production machines to increase the processing capacity of cassava, coconut, and herbal plants, and second, digital technology and automation (smart technology) for water resources management, namely HIPPAM management and fish farming. This industrialization process is very important for increasing village production capacity, village product quality and tourism village branding in the future. The village industrialization process is carried out for 3 purposes, namely 1) increasing the number/capacity of village processed products; 2) build standardization and quality of processed cassava products and heads to expand the market; and 3) build branding as a modern industrial village (digital based on the internet of things / IoT). Village industrialization based on local potential and AT and digital technology design will be able to accelerate the realization of modern tourism villages based on local products.

Some other culinary that developed in Pandansari Lor Village besides keceh cafe located in the flow of the Coban Jahe River, there are also several small and micro industries that also support. Among others, samiler and cassava chip business. Thus, these various efforts will be very good if synergized with the development of Pandasari Lor tourism village support.

Framework 1.

Village Industrial Product Diversification Framework



Conclusion

Through the combination of Participatory Action Research (PAR) and Exploratory methods, this study has provided valuable insights into the role of local resources in fostering modern village businesses in Pandansari Lor Village, Malang, Indonesia. The findings highlight the untapped potential of the village's resources, including village industrialization, smart technology, and the green economy, in driving sustainable livelihoods and economic growth. The study reveals that the utilization of local resources has the potential to create an enabling environment for village industrialization, whereby traditional industries are transformed using modern technologies and practices. This not only increases productivity but also opens new avenues for value-added products and services, leading to improved income opportunities for the local community.

Furthermore, the research emphasizes the importance of adopting smart technology solutions to enhance the efficiency and effectiveness of village businesses. The integration of digitization and connectivity enables improved access to markets, finance, and information, enabling villagers to compete on a larger scale and expand their reach beyond local markets.

In addition, this study underscores the significance of embracing the green economy as a means to ensure sustainability and environmental stewardship. Leveraging the village's natural resources in a sustainable manner promotes eco-friendly practices, reduces environmental degradation, and enhances the resilience of local businesses in the face of climate change challenges.

The contributions of this study extend beyond the Pandansari Lor Village context. The findings provide insights applicable to other similar rural communities seeking to harness their local resources for economic development. Policymakers can utilize these findings to design strategies that empower villages to develop and capitalize on their unique resources, fostering inclusive growth and providing sustainable livelihood opportunities for local communities.

In conclusion, this study demonstrates that by recognizing and utilizing local resources, including village industrialization, smart technology, and the green economy, modern village businesses can thrive, leading to sustainable livelihood and economic growth. This study serves as a valuable resource for researchers, policymakers, and communities interested in promoting rural development using local resources.

Reference

[1] Adomako, S., Abdelgawad, S. G., Ahsan, M., Amankwah-Amoah, J., &AzaavieleLiedong, T. (2023). Nonmarket strategy in emerging markets: The link between SMEs' corporate political activity, corporate social responsibility, and firm competitiveness. Journal of Business Research, 160. https://doi.org/10.1016/j.jbusres.2023.113767

[2] Ali Imron, M. (2021). Economy in Times of Crisis: An Economic Analysis of the Energy Policy during COVID-19 Pandemic. International Journal of Management Research and Social Science, 8(2). https://doi.org/10.30726/IJMRSS/V8.I2.2021.82011

[3] Arsawan, I. W. E., Hariyanti, N. K. D., Atmaja, I. M. A. D. S., Suhartanto, D., & Koval, V. (2022). Developing Organizational Agility in SMEs: An Investigation of Innovation's Roles and Strategic Flexibility. Journal of Open Innovation: Technology, Market, and Complexity, 8(3). https://doi.org/10.3390/JOITMC8030149

[4] Arshad, M. Z., Arshad, D., Lamsali, H., Ibrahim Alshuaibi, A. S., Ibrahim Alshuaibi, M. S., Albashar, G., Shakoor, A., & Chuah, L. F. (2023). Strategic resources alignment for sustainability: The impact of innovation capability and intellectual capital on SME's performance. Moderating role of external environment. Journal of Cleaner Production, 137884. https://doi.org/10.1016/j.jclepro.2023.137884

[5] Audretsch, D. B., Belitski, M., Caiazza, R., & Phan, P. (2023). Collaboration strategies and SME innovation performance. Journal of Business Research, 164. https://doi.org/10.1016/j.jbusres.2023.114018

[6] Chakabva, O., &Tengeh, R. K. (2023). The relationship between SME owner-manager characteristics and risk management strategies. Journal of Open Innovation: Technology, Market, and Complexity, 9(3), 100112. https://doi.org/10.1016/J.JOITMC.2023.100112

[7] Costa, A., Crupi, A., De Marco, C. E., & Di Minin, A. (2023). SMEs and open innovation: Challenges

and costs of engagement. Technological Forecasting and Social Change, 194, 122731. https://doi.org/10.1016/J.TECHFORE.2023.122731

[8] Fadlilah, K. U., Navastara, A. M., Pradinie, T. K., & Kusuma, S. H. (2016). The Rapid Assesment Using RAFHAM Method in Singosari, Malang Regency (Kabupaten Malang). Procedia - Social and Behavioral Sciences, 227, 699–703. https://doi.org/10.1016/j.sbspro.2016.06.135

[9] Fakhrunnas, F., Imron, M. A., & Ekonomi, F. (2019). Assessing Financial Risk and Regional Macroeconomic Influence to Islamic Rural Bank Performance. Global Review of Islamic Economics and Business, 7(1), 049–055. https://doi.org/10.14421/GRIEB.2019.071-05
Ghauri, S., Mazzarol, T., & Soutar, G. N. (2023). Networking benefits for SME members of co-operatives. Journal of Co-Operative Organization and Management, 11(2). https://doi.org/10.1016/j.jcom.2023.100213

[10] Hair, J. F., Astrachan, C. B., Moisescu, O. I., Radomir, L., Sarstedt, M., Vaithilingam, S., & Ringle, C. M. (2021). Executing and interpreting applications of PLS-SEM: Updates for family business researchers. Journal of Family Business Strategy, 12(3). https://doi.org/10.1016/J.JFBS.2020.100392

[11] Huang, X., Xu, H., & Li, X. (Robert). (2022). Spatial development of two villages: Bordering, debordering, and rebordering in a community scenic area. Annals of Tourism Research, 93. https://doi.org/10.1016/j.annals.2022.103370

[12] Lee, J. (2023). Influence of Technological Innovation Characteristics on the Survival Period of SMEs in the Service Industry: Evidence from Korea. Journal of Innovation & Knowledge, 8(4), 100422. https://doi.org/10.1016/J.JIK.2023.100422

[13] Lestantri, I. D., Janom, N. B., Aris, R. S., & Husni, Y. (2021). The perceptions towards the digital sharing economy among SMEs: Preliminary findings. Procedia Computer Science, 197, 82–91. https://doi.org/10.1016/j.procs.2021.12.121

[14] Li, Y., He, J., Yue, Q., Kong, X., & Zhang, M. (2022). Linking rural settlements optimization with village development stages: A life cycle perspective. Habitat International, 130. https://doi.org/10.1016/j.habitatint.2022.102696

[15] Meier, A., & Peters, M. (2023). Limited engagement of SMEs with social media: A structuration and sensemaking perspective. Information and Management, 60(7). https://doi.org/10.1016/j.im.2023.103853

[16] Miles, M. B., Huberman, A. M., & Saldaña, J. (2013). Qualitative Data Analysis: A Methods Sourcebook, 3/E. ICB Research Reports, 9.

[17] Moeljadi. (2022). Implementation of Blueprint Marketing Through Innovation of Strategic Marketing Mix In Small Industry Village: A Community Empowerment Perspective. NeuroQuantology 20(16):4914-4926 DOI:10.48047/NQ.2022.20.16.NQ880499

[18] Nguyen, P. N.-D., Mai, K. N., & Le, T.-H. (2023). Strategic perspectives, creativity, and financial performance in Vietnamese SMEs. Heliyon, 9(9), e20354. https://doi.org/10.1016/J.HELIYON.2023.E20354

[19] Ratana Singaram, L., Zakaria, R., Munikanan, V., Wahi, N., Aminudin, E., Sahamir, S. R., Redzuan, A. A., Gara, J., Zulkarnaini, M. F., & Khalid, R. (2023). Pre-investigation on adaptation of construction 4.0 multi criteria business model by SME contractors in Malaysia. Cleaner Engineering and Technology, 15. https://doi.org/10.1016/j.clet.2023.100662

[20] Ronaldo, R., &Suryanto, T. (2022). Green finance and sustainability development goals in Indonesian Fund Village. Resources Policy, 78. https://doi.org/10.1016/j.resourpol.2022.102839

[21] Schwandt, T. A. (1996). Qualitative data analysis: An expanded sourcebook. Evaluation and Program Planning, 19(1), 106–107. https://doi.org/10.1016/0149-7189(96)88232-2

[22] Suman, A., & Putra, R. E. N. (2015). Towards Development More Inclined On Farmers (A Study Case Of Jatiguwi Village-Sumberpucung District-Malang Regency). Procedia - Social and Behavioral Sciences, 211, 342–347. https://doi.org/10.1016/j.sbspro.2015.11.044

[23] Surjono, Prasisca, Y., &Sutikno, F. R. (2015). Gender Equality and Social Capital as Rural Development Indicators in Indonesia (Case: Malang Regency, Indonesia). Procedia - Social and Behavioral Sciences, 211, 370–374. https://doi.org/10.1016/j.sbspro.2015.11.048

[24] Utomo, S. J., Mayvani, T. C., & Imron, M. A. (2021). Coal Energy And Macroeconomic Conditions.

International Journal of Energy Economics and Policy, 11(4), 426–432. https://doi.org/10.32479/IJEEP.11214

[25] Vrontis, D., Basile, G., Simona Andreano, M., Mazzitelli, A., &Papasolomou, I. (2020). The profile of innovation driven Italian SMEs and the relationship between the firms' networking abilities and dynamic capabilities. Journal of Business Research, 114, 313–324. https://doi.org/10.1016/j.jbusres.2020.04.009

[26] Wang, H., Xiang, X., & Han, L. (2023). Financial development, legal systems and SME finance: Cross-country evidence. International Review of Economics and Finance, 88, 981–1002. https://doi.org/10.1016/j.iref.2023.07.021

[27] Wildan, M. A., Imron, M. A., Siswati, E., &Rosyafah, S. (2021). Macroeconomic factors affecting natural gas export management. International Journal of Energy Economics and Policy, 11(1). https://doi.org/10.32479/ijeep.9911

[28] Yao, Z., & Liu, Y. (2023). How Covid-19 impacts the financing in SMEs: Evidence from privatefirms. Economic Analysis and Policy. https://doi.org/10.1016/j.eap.2023.06.036

[29] Zang, Y., Hu, S., Zhou, B. bing, Lv, L., & Sui, X. (2023). Entrepreneurship and the formation mechanism of Taobao Villages: Implications for sustainable development in rural areas. Journal of Rural Studies, 100. https://doi.org/10.1016/j.jrurstud.2023.103030