

Model Development of Home Industries to Improve Family Income
Using Strategic Assumption Surfacing and Testing (SAST)
A Case Study in Kendal Regency, Central Java, Indonesia

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Abstract

Women have a big role to increase their family economics with out reducing her main obligation as a housewife. One of the potential productive activities for women to develop their family economics is home industry. The purpose of this paper is to design appropriatness strategy for developing home industries. Method used is AHP (Analytical Hierarchy Process) and SAST (Strategic Asumption Surfacing and Testing). Results study showed there are five main barriers to the development of home industries(1) consistency of product, (2) Capital, (3) finance management, (4) transfer of skill and (5) access to information and policy. While the driver power are consumer confidence, motivation, entrepreneurship, innovation and creativity. There are three groups of home industries : beginner, developing and developed, which diferent characteristics. The most suitable strategy to develop home industry for each groups are production process; product design and marketing and networking.

Key word : Women role, family economics, home industry, AHP and SAST

1. Background

The success of development shouldn't be measured by economic growth only, but also human resources development. The improvement of the quality of life of human is a continuous effort by the government to achieve better living. This development effort is intended for the general population, whether men or women. However, in its implementation, some women are left behind in achieving quality of life. This may happen because gender equality and equity haven't been fully integrated in development, although women play a major role in rural development, and economics family (Gegrorian, 2007; Marlow and Mcadam, 2013).

Although women have a very big role in their families, and even national development, policies and their implementations don't provide any space for women to live as they should. Access, benefits, participation, and control on economic resources are limited. Women's access and control to institutions and organizations, whether formal or traditional, are limited to institutions related to their gender role, such as Family Welfare Guidance (PKK), regular social gathering (arisan), etc..

Open access, benefits, participation, and control on economic resources to women is very important considering the government policies above. Furthermore, the designs of gender responsive equipment and activities should be developed to expand the role of women. The role and participation of women in micro enterprises are still often overlooked with their obligation as a housewife, their activities in home industries has always fused with her role as a housewife, no separation in managing finances, labor and spending. Home industries are often run by women as subcontracting workers or homeworkers and family labor, but their participation rarely recognized. This is one of the characteristics of female workers in Home Industries. Other characteristics are low wage, double workload, low access to improve skills, and discrimination in their work environments. In free market and competition, when low production cost is the focus of producers, it's predicted that the participation of women in the production process will increase, but the welfare won't improve.

The benefits, role and participation of women in Home Industries are often ignored due to perception on women working at home which is associated with women's domestic roles, as well as seasonal, part time and informal aspects of most jobs for women. *Didia, P.Freeman, J.C. Assad, and J.Yuan (2015) stated* that labour force of women has a positive correlation with economic growth. While Nobari, K. Mohamadkhani, A. M, Davoudi (2014) stated that behaviour of labour have significant

The main characteristics of home industries are integrated industrial activities and residential homes, limited capital, labor, and technology. Home Industry is defined as a production system which means a product is produced by a process to create added value from certain materials, which is performed in an individual's residential house and not a special location (factory). The production process uses production infrastructures, facilities and other equipment which are owned by individual/a business group/cooperative. Generally, the products of Home Industries are handmade, unique in significantly different ways, and often associated with local wisdom and targeted technology. Smith (2014) stated that wife, partner is the most important aspects for developing home industries in term of business scale.

Home industries In reality, the products of Home Industries are often identified by production area (Pekalongan batik, Kediri tofu, Tasik umbrella) or family name (Bu Citro's gudek, Cak Man's meatballs, Bugis sarong). The result of the study by Widiastuti, R; Awang, S.A; Prayitno, T.A. Warsito, Sofyan P. (2011) shows that the technologies used in home industries is very simple and the production process is manual (*handmade*), moreover, they rely on their own capitals. *Husain, Li Xiao Xiao (2016)* stated that women leader in Small Medium Enterprise (SME) have a stronger motivation and spirit of the men.

There are three types of home industries by the level of business continuity, capital, production process technology, number of workforce, and sales system (Minister of Women and Child Protection, 2013). They are: (1) Startup IR which is characterized by 1-2 workers who are all members of the household, non-continuous production with uncertain production system. Average income/month 1-5 million. (2) Developing IR which is characterized by continuous production and fixed sales system. The level of business continuity is high because it can manage the business well. The capital is around 25 - 50 million rupiah from personal assets and credit from formal Microfinance Institutions, total worker is 2-5 people, and (3) Developed IR, the production process uses high/clean technology with total worker of 5-10 people including the owner. Hopefully, after passing the classification of Developed IR, other Ministries who handle Small Industries develop them more intensively.



Figure 1. Proportion of national home industries (PSP3 IPB, 2011)

Since 2012 Kendal Regency has been appointed to be the pilot project of national home industry, however, the development of home industry until now is still now maximum and dominated by startup home industry group. Therefore, there should be an effective development based on scientific studies which enables the development of home industry and startup group.

The main problems of home industries development in Kendal regency is lack of government attentions due to the information subject to home industries's constraints which has not been identified. The purpose of this study is to identify constraints each level of home industry and to choose the best strategy associate with their problems.

2. Methodology

Home industry development is complex problem and involves various actors and factors. There are many aspects are interrelated and influenced each other, so the method used should be a holistic approach. System approach was the appropriate choice of this study. This study conducted in Kendal regency as a pilot project for the

national development of home industries. Data was collected by expert discussion which involved local government, academics of local Universities, and business of home industries, and field visit to see directly the activities of home industry. Data analysis by SAST (Strategic Assumption Surfacing and Testing) method which was developed by Mason and Mitroff (1981), and AHP (Analytical Hierarchy Process) developed by Saaty (1983), and ISM (Interpretative structural modeling) method (Saxena,1994).

SAST was selected to determine basic assumptions which must be considered in home industry development, AHP to determine the appropriate strategy based on the objective condition, and ISM to design the appropriate organizational structure and identify institutions related in home industry development in Kendal Regency.

3. Result and Discussion

Public perception on women's occupation always places it in the context of household activities. Most of women's work, especially in villages, is revolved around household, so it's not easy to clearly separate the types or characteristics in market or non-market, economic or non-economic, production or reproduction groups. The difficulty leads to simplification of definition of women's occupations because a lot of work activities take place at home, it's considered household chores.

Homeworkers are labors pair to produce goods on their own account and by bearing the risks themselves. Homeworkers, unlike other worker groups, are in a decentralized production organization framework with subcontract system or putting out. In this system, job owners or capital owners pay people to work in their own homes. Beside raw materials and supporting materials which are provided by the capital owners, all facilities and job security are borne by the workers. This wage system is profitable for the capital owners because they're responsible for providing work facilities and other obligations aside from paying wage. Therefore, an effective government policy on Home Industry business environment is required to realize social welfare and better quality of life for these families.

The result of identification of home industry in Kendal Regency showed 8 indicators related to home industry development, which are shown in table 1 below :

Table 1. Identification of Characters of Home Industry

Factor and Benchmark	Parameter		
	IR 1 Startup	IR 2 Developing	IR 3 Developed
A. HUMAN RESOURCES FACTORS			
1. Entrepreneur/Manager/Owner	F(1), M(0-1)	F(1-2), M(0)	F(3-5), M(0)
2. Part Time Worker	F(0-2), M(0-2)	F(2-5), M(2-5)	F(5-10), M(5-10)
3. Full Time Worker	F(0), M(0)	F(1-5), M(0-3)	F(3-10), M(3-5)
B. CAPITAL FACTORS			

Factor and Benchmark	Parameter		
	IR 1 Startup	IR 2 Developing	IR 3 Developed
1. Own capital	Plenty (80-100%)	Some (0-40%)	Few (0-10%)
2. Loans from relatives/colleagues	Some (0-20%)	Some (0-40%)	Few (0-20%)
3. Revolving fund/and State/Local Budget Reinforcement	None	Plenty (20-60%)	Few (0-30%)
4. Cheap Credit	None	Few (0-20%)	Some (20-60%)
5. Banking Credit/KUR	None	None	Plenty (40-80%)
C. PRODUCTION FACTORS			
1. Technology Application	Simple	Efficient	Modern
2. Product Quality Provision	Good	Good	Very Good
3. Raw Material Provision	Irregular	Regular	Stock
4. Process Management	Unstructured	Structured	Applying key Performance Index
5. Business Administration	Manual	Semi - electronic	Electronic
D. BUSINESS FACTORS			
1. Raw Material Market	Unpredictable	Fluctuating	Predictable
2. Production Cost	Uncounted	Recorded	Recording and Counted
3. Selling Price	Unpredictable	Fluctuating	Periodic Certainty
4. Profit Estimation / Income Per Period	300 thousand – 1 million/month	1-5 million/month	> 5 million/month
5. Minimum Feasibility	Breakeven	B/C : 1.2 – 1.5	B/C : > 1.5
E. BUSINESS CONTINUITY FACTORS			
1. Product Marketing	Unpredictable	Certain Buyers	Regular Buyers
2. Consumer Character	Very varied	Varied	Standard
3. Change of Process Technology	Infrequent	Frequent	Frequent
4. Environmental Control	None	Few	Regular
5. Business License	Informal	Semi – formal	Formal
F. BUSINESS ENVIRONMENT FACTORS			

Factor and Benchmark	Parameter		
	IR 1 Startup	IR 2 Developing	IR 3 Developed
1. Market Scope	Local	Local in the region	Interlocal
2. External Capital Access	None	Difficult	Plenty
3. Transportation/Road Access	None	Optional	Required
4. Infrastructures : water / energy	Inadequate	Inadequate	Adequate
5. Institutional Support	Low	Inadequate	High
G. SOCIAL FACTORS			
1. Gender equality in business decision making	Very Good	Good	Adequate
2. Empowerment by business world	None	Some	Initiative
3. Participation of community activities	High	Medium	Low
4. Labors' Education	Literate – Elementary School	Junior High School – High School	> High School

Strategic assumptions were formulated from the results of meetings and discussions between experts from various fields. The assumptions were (A) Initiative and creativity of female entrepreneurs in producing potentials of Startup IR (informal sector), (B) Market capability and opportunities identified by female entrepreneurs to become Developing IR (UM), (C) Innovation and implementation of technologies owned by female entrepreneurs to reach the status of Developed IR (formal sector/SME), (D) Coordinated and planned participation Local Government/SKPD to organize and develop IR, (E) The function of Women Empowerment Agency in developing women's entrepreneurial capacity, (F) NGOs' participation in improving gender equality in local economic activities, (G) The function of MSME business consultation agencies in reinforcing the business continuity of IR, (H) The function of MSME financial institutions in reinforcing the capital of Startup IR, (I) Local Government Leaders who motivated and guided IR development policies, (J) IR partnership with large enterprises/large traders in marketing and improving product quality and (K) Relation between poverty alleviation program and IR reinforcement and progress.

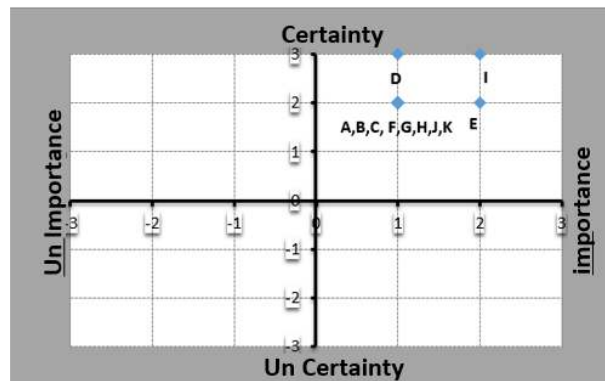


Figure 2. Quadrant of SAST Assumptions

SAST in figure 2 was processed, showing that strategic assumptions which had the highest levels of significance and importance was (I) Local Government Leaders who motivated and guided IR development policies. Meanwhile, strategic assumption which also had high significance and lower level of certainty was (E) The function of Women Empowerment Agency in developing women's entrepreneurial capacity.

The result of AHP analysis showed that the highest priority program was Productivity and Technology Improvement Program (0.400) and IR Capital Reinforcement Program (0.332), Product Marketing Expansion (0.197) and finally Women Empowerment (0.072).

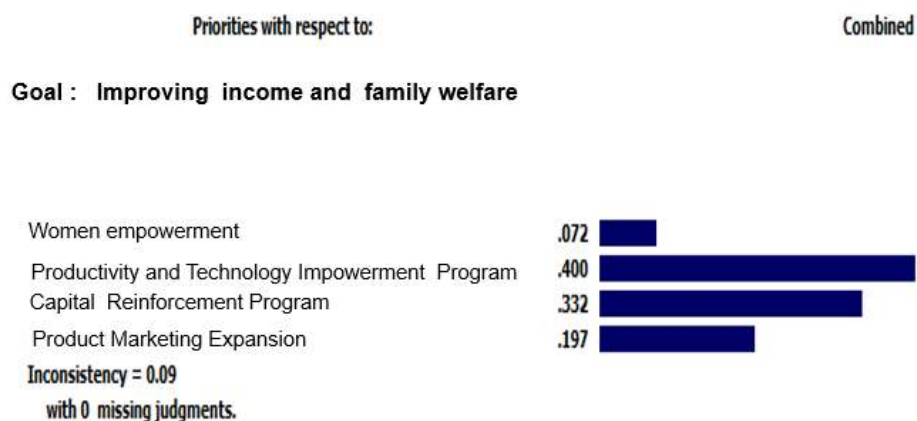


Figure 3. Program Priority

Home Industry is a private business unit where profitability is the indicator of success. Business capability is measured by how it obtains income, control budget and comply with regulations in effect. Business is a legal practice to obtain monetary income by adding profit or reducing cost. However, the micro enterprise category attached to Home Industry creates an association with public life and social ethics. Therefore, IR development requires flexible mechanism and cross-sectoral support from central and local government agencies.

The complex characters of Micro enterprises with high production dynamics require gradual management, from the initiation of startup IR to establishment as Formal SME. The start-up stage is started by entrepreneurial ideas to capture market opportunities. After startup IR is established, despite the high bankruptcy rate, it should be maintained to become Developing IR. The next stage is expanding the business into Developed IR which is formalized by development process into Cooperatives or Limited Liability Company SME. The following table shows medium-term plan in IR transformation process.

Similar to other enterprises, IR is also expected to grow the business to a larger scale to create family welfare. The requirements of the transformation of IR are shown in table 2, while the transformation of home industry is shown in figure 5.

Table 2. The Support Required for IR Transformation

Note	Transformation of Startup IR → Developing IR	Transformation of Developing IR → Developed IR	Transformation of Developed IR → SME
Required Support	1. Non-bank capital loan 2. Process technology fits products 3. Training /consultation from Local Government/ Regional Work Units (Management, business, TTG, Character development, Entrepreneurship) 4. Sanitation and cleanliness of business environment 5. Business grouping (KUBE)	1. Product packaging (Technique, design, material) 2. Marketing expansion (E-commerce, Online) 3. The role of local governments in promotion 4. Process technology (Improving quality and added values) 5. Institutional status, the role of local governments (Pre cooperative)	1. Soft Loan Capital from Banks 2. Product packaging (design) 3. Production diversification 4. The role of local governments in promotion outside of the regions 5. Improving the quality of Human Resources 6. Business legality

		6. Expansion of production location to increase capacity 7. Capital from micro financial institutions (LKM/KSP)	
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Figure 5. Transformation Process of IR

4. Conclusion and Suggestion

4.1. Conclusion

Home industry has the potential to reinforce family strength, whether in terms of economic, health or education aspects, and more harmonious relations between family members. Home Industry generally utilize and produce local products as finished goods by involving many producers who work at home as part-time workers. There are five main barriers to the development of home industries (1) consistency of product, (2) Capital, (3) finance management, (4) transfer of skill and (5) access to information and policy. Every level of home industries have different problem, but their common problems are motivation, entrepreneurship, innovation and creativity. The most suitable strategy to develop home industry for each groups are production process; product design and marketing and networking.

4.2. Suggestion

To improve the role of home industry in family economics, there should be cross-sectoral support and cooperation to develop home industry in accordance with their problems. The government should facilitate access to micro finance, network marketing and training to improve their skill.

5. Bibliography

- Abdulmanap, N.M., S. Fahmi, A. Sidique and N.W. Ismail. 2015. International Journal of Economics and Management 9 (S): P : 181 – 191.
- Ahimsa, P.H. Sumintarsih, Sarmini, and Raharjana, D.T. 2003. Economic Moral, Rational, and Politics of Small Industries in Center Java. Kepel Press. Yogyakarta.
- Allen, T and Thomas, A. 2000. Poverty and Development into The 21st Century.
- Anonymous. 2011. Annual Report Ministry of Women empowerment and Child Protection, Republic of Indonesia, Jakarta.

- Bradshaw, J.Castellino and Bineta Diop. 2015. Women's role in economic development :Overcoming the constranits. Paper for the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda. Sustainable Development Solution Network. Global Initiative for The United Nation.
- Benneth,N. 2010. Sustainable Livelihoods from Theory to Conservation Practice: An Extended Annotated Bibliography for Prospective Application of Livelihoods Thinking in Protected Area Community Research. Protected Area and Poverty Reduction Alliance Working Paper No. 1. Victoria, Canada.
- Carney, D. 2002. Sustainbale Livehood Approaches. Department for Internasional Development. Toronto, Canada.
- Dal, Didia, P. Freeman, J.C. Assad, and Jing Yuan.2015. Foreign Capital, Domestic Policy, and Economic Growth: The Case of Nigeria. *Journal of Applied Economics and Business Research* : JAEBR, 5(4): 233-244.
- Eriyatno dan Larasati L. 2013. Ilmu Sistem: Meningkatkan Integrasi dan Koordinasi Manajemen. Jilid 2. Guna Widya. Surabaya.
- E. Nobari, K. Mohamadxhani, A. Mohammad Davoudi. 2014. The Relationship between Servant Leadership and Organizational Citizenship Behavior of Employees at Valiasr Academic Complex, Islamic Azad University-Central Tehran Branch. *International Journal of Management and Business Research*, 4 (4),pp : 247-254.
- Gregorian,H. 2007. Impact of Gender Mainstreaming in Rural Development and Milenium Development Goal (MGD). UNDP Gender Mainstreaming Annual Conference , January 2007. Islamabad, Pakistan.
- Husain, Li Xiao Xiao. 2016. The Antecedents of Women Leadership in SMEs: The Malaysian Senior Female Managerial Perspective. *International Journal of Business and Management*. Vol 5 (11), 2016, pp : 179-210.
- Kholil, S. L. Susanty dan Soecahyadi. 2016. Potential Leading Resources in Padang Panjang City, West Sumatra : The Development of Regional Economic Based on Soft System Methodology (SSM). *Journal Science Research and Repport* . Vol 9 Issue 7 No, pp. 1-9
- Montez, et al. 2009. The Sustainable Livelihoods Approach and the Community Capitals Framework: The Importance of System-Level Approaches to Community Change Efforts. *Journal of the Community Development Society*; volume 40 (2).
- Marlow and Mcadam. 2013. Gender and Entrepreneurship: Advancing Debate and Challenging Myths; Exploring the Mystery of the Under-Performing Female Entrepreneur. *International Journal of Entrepreneurial Behaviour & Research* 19(1) · January 2013.
- Marimin. 2008. Technique and application of multi cretireum decesion making Grasindo. Jakarta.
- Marimin dan Maghfiroh N. 2010. Application of decesion making in value chain management. IPB Press. Bogor.

- Kanungo, S. and Bhatnagar, V.K. 2002. Beyond generic models for information system quality, the use of Interpretive Structural Modelling (ISM). *System Research* 19:531- 549.
- Smith, 2014. Assessing the contribution of the ‘theory of matriarchy’ to the entrepreneurship and family business literatures. *International Journal of Gender and Entrepreneurship*, Vol. 6 Iss: 3, pp.255 – 275.
- Sukiman; E.T.Sule; Sucherly; and D. Sari. 2016. The Affect of value creation and business strategy to business performance of Indonesian green tea product. *International Journal of Economics Commerce and Management*. Vol iv , Issues v. P : 398-413.