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Designing the Interventions to Mitigate the Barriers of Coordination in Handling Food Security: Insight from Central Java Province

[Susanty, Aries^a](#) ; [Susanto, Novie^a](#) ; [Denny, Hanifa^b](#) ; [Prabowo, Yulianto^c](#) ;[Permadi, Regine A. S.^a](#) ; [Fauziah, Ayu^a](#) [Save all to author list](#)^a Department of Industrial Engineering, Faculty of Engineering, Diponegoro University, Semarang, 50275, Indonesia^b Faculty of Public Health, Diponegoro University, Semarang, 50275, Indonesia^c Provincial Health Office of Central Java, Semarang, 50132, Indonesia

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This study aims to identify the underlying barriers that may prevent public policy coordination among stakeholders in dealing with food security in Central Java Province and suggest recommendations to enhance the coordination. This study used primary data from a questionnaire that the six government agencies' experts filled out. These experts were asked to identify the relevance and the importance of each barrier and formulate a suitable policy recommendation. There were three data processing techniques used in this study: Content Validity Analysis, Interpretative Structural Modelling (ISM) Method, and Delphi Method. The result of the Content Validity Analysis indicated 22 valid barriers. The result of the ISM method indicated eight barriers occupied the

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Research article topics that are highly recommended for submission include: analytical tools for measuring parameters of food quality; legislative and regulations related to food safety correlated with research and development of novel food products; food quality of plant based products; meat alternatives etc; food packaging; industry 4.0 elements that contribute to food quality (sensors, Internet of Things - IoT); food traceability related to food quality; digitalisation of industrial monitoring to assure food quality; consumer as a central figure for accepting and considering food quality; blockchain for food quality etc.

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Research Article

Designing the Interventions to Mitigate the Barriers of Coordination in Handling Food Security: Insight from Central Java Province

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This study aims to identify the underlying barriers that may prevent public policy coordination among stakeholders in dealing with food security in Central Java Province and suggest recommendations to enhance the coordination. This study used primary data from a questionnaire that the six government agencies' experts filled out. These experts were asked to identify the relevance and the importance of each barrier and formulate a suitable policy recommendation. There were three data processing techniques used in this study: Content Validity Analysis, Interpretative Structural Modelling (ISM) Method, and Delphi Method. The result of the Content Validity Analysis indicated 22 valid barriers. The result of the ISM method indicated eight barriers occupied the topmost level (complicated problems, insufficient sharing of information, ambiguities and lack of clarity, gap of coordination implementations between the rules and policies with the actual practice, fewer budget allocations, different aims and priorities, lack of motivation to collaborate among stakeholders from various disciplines, and weak of infrastructure). The result of the ISM method also indicated three "very significant" barriers: inadequate human resources, the limited capability of the regional government, and lack of communication and high specialization in multisector collaboration. Then, the result of the Delphi Method indicated several recognize policies to mitigate those barriers. Moreover, related to the limitation of this study, future studies should focus on the barriers in diverse places nations or compare different regions or countries; include more experts from the various stakeholder group, and test the recognized policies in the real world.

1. Introduction

The concept of "food security" has evolved and altered since the 1974 World Food Conference. Currently, there are almost 200 different definitions of food security [1]. At the beginning of social and economic development, the concept of food security focused on securing the food supply. Later, food security focused on matching food production to demand [2]. Based on this concept, the strategy in food security often considers the supply-demand imbalance in its variety, quality, region of food product, and other aspects, which eventually inflates the cost of food storage and

transportation. Food security imbalance resulted in regional and structural food shortages, putting social stability and economic development at risk [3]. Then, related to the balanced food security, policymakers in developing countries are often challenged with the problem of rising food prices to enhance food production and safe food for low-income consumers since higher prices impose a considerable cost on this category of customers. In many developing countries, the global economic downturn in family income has recently been worsened by relatively high food expenses, leading to a rise in undernourished households [4]. Consequently, developing-country governments should use