CHAPTER I. INTRODUCTION

A. Background

The Sustainable Development Goals (SDGs) represent global and national commitments, as declared by the United Nations (UN); the United Nations 2030 Agenda places particular emphasis on the SDG related to ending starvation and achieving food security through agriculture. The agricultural sector is an important economic sector and a source of livelihood in many developing countries. Agriculture is particularly vulnerable to adverse natural events, such as pest infestations and adverse conditions, which negatively affect production. According to Simatupang (2007), the Indonesian population generally consumes agricultural products as a staple food. Thus, the increase in the production of agricultural products is aimed at food self-sufficiency. Still, the challenge to achieve these results is very large because the area of agriculture is decreasing, climate deviations and the use of agricultural technology is not yet modern.

In The 1945 Constitution of the Republic of Indonesia guarantees that the human right to obtain food is part of human rights, an essential component in building quality human resources. The State is responsible for ensuring the availability, affordability, and fulfillment of sufficient, safe, quality, and nutritious food consumption evenly throughout the Unitary State of the Republic of Indonesia, both at the national and local levels, by utilizing local resources, institutions, and culture. The main staple food of Indonesians is rice and it is very difficult to replace it with other staple foods. In addition, rice employs around 20 million rural farming households, making it key to meeting the nation's carbohydrate needs. The total rice production in Indonesia in 2023 was 53.62 million tons, a decrease of 1,123 million tons or 2,05 percent compared to rice production in 2022, which was 54.75 million tons (Appendix 1).

Indonesia is considered a “disaster-prone” region with a high frequency of natural disasters. Natural disasters such as earthquakes, volcanic eruptions, tsunamis, floods, and droughts, as well as attacks by parasitic organisms (OPT), are very frequent in Indonesia (Septian et al., 2014). Kurniati (2012) stated that risk factors favor production problems due to the nature of farming, which always

depends on nature. These risk factors increase the likelihood of production failure, which has an impact on the risk of decreasing farmers' income. Rice farmers can face the risk of yield or production, selling price of production, and income. Food crop farming, especially rice, is an agricultural activity that is highly influenced by natural conditions and often faces a high level of uncertainty. Pest or disease attacks, weather or natural conditions, water supply issues, and variations in the inputs used are some of the sources of yield or production risk. Natural conditions are indicated to greatly affect yield variations, for example, very high or very low rainfall can cause crop failure, or unstable natural condition factors, such as natural disasters, volcanic eruptions, earthquakes, or floods, are significant uncertainty variables in affecting production outcomes in rice farming.

Farmers face various consequences of crop failure or low production that affect the return on working capital, new capital ventures, household income, other living expenses, etc. Therefore, formal protection is needed for farmers in suppressing climate-related risks, including through insurance mechanisms, namely the transfer of these risks to insurance companies, with relatively small premium costs. Farmers' behavior in facing risks and their strategies to deal with risks related to production and prices of commodities produced greatly affect their behavior in carrying out agricultural activities (Bawarta et al., 2022). Farmers' knowledge of how to mitigate or manage risks in farming activities greatly influences how much they accept risks. Identification of risks that may occur in farming activities affects the level of readiness of farmers to deal with them, which is influenced by knowledge, skills, and long experience in the same farming activities.

The Government of Indonesia in Law Number 19 of 2013 states a preventive strategy that can be done for affected farmers is to join the Paddy Farming Business Insurance (AUTP) with a contribution of IDR 36,000/ha per planting season, which allows claims of up to IDR 6 million per hectare in the case of floods, droughts, or pest attacks. Agricultural insurance is one of the farmer protection strategies for: (a) food crop sharecroppers who do not own farmland and cultivate a maximum area of two hectares, (b) farmers who own land and cultivate food crops on a maximum area of two hectares, and/or (c) small-scale horticultural farmers, planters or breeders by laws and regulations.

Paddy Farming Business Insurance (AUTP) refers to a type of crop insurance specifically designed to provide catastrophe protection to rice farmers. This insurance covers losses caused by various perils such as floods, drought, pests, and diseases. In some cases, Paddy Farming Business insurance policies have fixed sum insurance amounts and premium rates, with specific conditions for indemnifying crop losses (Charles, 2022). The concept of agricultural insurance is not a novel phenomenon within the context of agricultural sector development (Nunoo & Acheampong, 2014). A significant number of countries, particularly those that are economically developed, such as the United States, Japan, and several member states of the European Union, have employed this policy instrument with the objective of maintaining their agricultural production and safeguarding their farmers from the risk of crop damage or failure (Liesivaara & Myyrä, 2014). The mean subsidy provided by developed country governments to farmers in the form of insurance premiums is 50-60% of the total premium (Sandmark et al., 2013).

Conversely, the global insurance market has also demonstrated considerable growth. Agricultural insurance has been demonstrated to be an effective risk management tool for farmers in many countries, providing protection against a range of farming risks associated with changes in ecosystems and disruptions to the ecological balance. The same is true in developed countries in ASEAN countries such as Thailand, the government offers a 60% subsidy on tier 1 cover, and since it was made compulsory in 2016, the Bank for Agriculture and Agricultural Cooperatives (BAAC) also offers a 40% premium subsidy on Tier 1 cover resulting in this layer being 100% subsidised. On the other hand, Malaysia offers a premium of around RM500-RM 800 or IDR 2.7 million rupiah per hectare with the maximum benefit that can be received around RM 13000 if we convert it is about IDR 44.2 million (Ahmad et al., 2018).

Although agricultural insurance has been available in some developing and also developed countries for more than a century, the agricultural sector remains underserved in and low-income countries. Since the late 1990s, however, dwindling public support for emerging markets has led to a renewed interest in interest in agricultural insurance. The development of agricultural risk modelling techniques and the techniques and the emergence of insurance pools and index-based have

contributed to a rethinking of the potential role of role of agricultural insurance in emerging markets. A study conducted by the World Bank in 2012 indicates that agricultural insurance is currently available in more than 100 countries, either as well-developed programs or pilots. The World Bank advocates for the advancement of agricultural insurance as a component of an integrated agricultural risk management strategy. The World Bank provides assistance to middle- and low-income countries in the development and implementation of traditional and innovative agricultural insurance products for crops and livestock, as well as in the formation of agricultural insurance pools. These initiatives frequently align with agricultural finance support endeavors and are often complemented by efforts in agricultural extension (World Bank, 2012).

Willingness to Pay (WTP) is aimed at determining consumer purchasing power based on perception (Dinauli, 1999 in Nababan, 2008). Farmers' perception of the implementation of AUTP, benefits, and potential of AUTP varies from one another. Therefore, there are different WTP for each farmer in relation to their perception on AUTP. The WTP value given by the respondents reflects the value they give to AUTP as a guarantor of their farming activities. Because one of the indicators of AUTP success is that farmers implement AUTP by paying premiums, for this reason it is necessary to conduct research on farmers' willingness to pay for AUTP premiums. Willingness to Pay (WTP) is a form of economic assessment that is carried out by looking at the willingness to pay from farmers to mitigate the risk of crop failure from farming activities. WTP is a price at the consumer level that reflects the value of goods or services and the sacrifices made to obtain them (Simonson and Drolet, 2003 in Nababan, 2008). Information about the willingness of farmers to pay AUTP premiums is very important to be researched to see the suitability of the premiums that must be paid with the benefits received by farmers and to see the estimated amount of premiums that farmers are actually willing to pay. In the WTP, it is calculated how far each individual or farmer in aggregate is able to pay or spend money in order to ensure that his farming is in accordance with the desired conditions. This study is important to see the WTP on Paddy Farming Business Insurance (AUTP) program.

B. Problem Statement

Paddy Farming Business Insurance (AUTP) is a government program initiated by the Ministry of Agriculture designed to mitigate harvest failure risks in rice cultivation caused by various factors including floods, droughts, and pest infestations. This program provides compensation to farmers to ensure the sustainability of rice production. West Sumatra Province officially implemented the AUTP program in late 2015, considering its particular relevance for the region. This is especially true for major rice-producing regencies such as Tanah Datar, Solok, and Agam (Appendix 2), which face high risks of natural disasters including landslides and floods that may significantly reduce agricultural productivity.

According to Central Bureau of Statistics (2024) data, West Sumatra's rice production showed a 7.3% increase (108,940 tons), rising from 1,373,532.19 tons in 2022 to 1,482,468.79 tons in 2023 (Appendix 2). However, this positive trend was not consistent across all regions. As one of West Sumatra's main rice production centers, Padang City experienced a production decline of 17,475.64 tons (from 71,454 tons in 2022 to 53,978.36 tons in 2023) (Appendix 3). This decrease is closely associated with production factors dependent on natural conditions, including climate change and pest infestations (Kurniati, 2012). This was also conveyed by head of Padang City Agricultural Office (2024) in the flood disaster that occurred on March 7, 2024; there were 10.34 hectares the agricultural land that was most affected by the flood was rice fields, this disaster resulted in crop failure (Metro TV News, 2024). This pattern of climate-induced production losses substantiates the statement that natural factors are one of the leading causes of crop failure in the region. Research conducted by Hakim et al. (2018) indicates that if current trends persist, there is a significant risk to regional food stability and security. This is particularly concerning in relation to the production and availability of rice as staple crop which are essential for food sufficiency in many communities. Farmers are very likely to switch to other commodities with higher economic value and lower risk when facing high risks if this continues, it will have an impact on the stability of national food security, especially on rice, which is the main staple and the main food of farmers.The government initiated the AUTP programme to assist farmers throughout Indonesia, including West Sumatra, in managing the risks

associated with their agricultural enterprises. However, based on data obtained from the Plantation, Food Crops and Horticulture Office of West Sumatra Province (2024), there were approximately 15 farmer groups that participated in the AUTP programme during the 2021-2022 period (Appendix 4). From the data obtained in 2023, there is no latest update for AUTP in the Padang City.

Padang City is one of the areas that has become the centre of rice production among cities in West Sumatra and has been a participant in the AUTP since the end of 2015. This is due to the fact that Padang City is one of the areas in West Sumatra with the largest rice fields, resulting in the highest rice production in the region. The target land area realization of the AUTP program in Padang City is ±500 ha in 2021-2022 and in 2021 it was realized at 203.65 ha or 40.73% and in 2022 it was 168.4 ha or 33.68% (Appendix 5). The realization of this program is considered still far from the target set. Figure 1 shows the trend of fluctuations in the area of rice fields insured in AUTP.

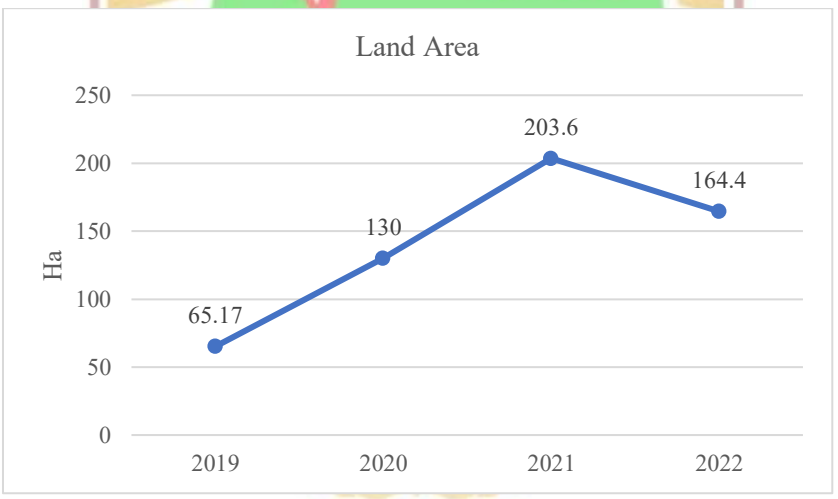

Figure 1. Fluctuation of land area that covered by AUTP
Source: Plantation, Food Crops and Horticulture Office of West Sumatra Province (2024)

There are districts in Padang City that have the largest rice production, namely: Koto Tangah, Kuranji, and Pauh. During the implementation of the AUTP program, several problems were encountered. These included the low willingness of farmers to pay the 20% premium, despite the government's subsidy of 80%, the lack of socialization from related parties, which made it difficult for farmers to understand the insurance, and the lack of initiative on the part of farmers to participate in the AUTP program (Padang City Agriculture Office, 2024).

Agricultural insurance is offered as one of the funding schemes related to risk sharing in farming activities (Marphy & Priminingtyas, 2019). Paddy Farming Business insurance (AUTP) is one of the government programs to protect rice farmers from the risk of crop failure and in the event of a loss, farmers will receive compensation from the insurance company so that they can farm in the next planting season, through a state-owned enterprise, PT Asuransi Jasa Indonesia (Jasindo), which is officially appointed by the Financial Services Authority to be the implementer of agricultural insurance in accordance with Law Number 19 2013 on Farmer Protection and Empowerment (Directorat General PSP, 2022).

It is anticipated that the introduction of paddy farming business insurance will play a pivotal role in bolstering national food stability and security. However, the program has been unsuccessful in numerous Indonesian regions due to farmers' objections to paying the insurance premium. Many farmers believe that they do not require insurance and perceive the premium payment as a burden, despite receiving a premium subsidy of 80% from the government, which is significantly higher than the agricultural insurance premium subsidies provided by governments in developed countries (Sandmark et al., 2013). The farmer's gender (male or female) making the decision can influence the WTP. If the male head of the family makes the decision, it might be based on different priorities and perceptions of risk compared to a female farmer who independently manages her own farm (Diallo & Ronald DY, 2024). Therefore, it is necessary to conduct research on farmers' perceptions of Paddy Farming Business Insurance (AUTP) with the title ***Analysis of Farmers' Willingness to Pay for Paddy Farming Business Insurance (AUTP) Program in Padang City***. Based on the description above, the problem questions in this study as follow:

1. What is the farmer's perception towards AUTP program?
2. How much is the willingness (WTP) of farmers to pay premiums for the AUTP program?
3. What are the factors that influence farmers' willingness to pay for the AUTP program?

C. Research Objective

According to the problems formulated above, the objectives of this research are:

1. Describe the farmers' perception towards Paddy Farming Business Insurance (AUTP) program
2. Analyze the estimated willingness to pay of farmers for Paddy Farming Business Insurance (AUTP) premiums.
3. Analyzing the factors that influence the farmer's willingness to pay the premium of Paddy Farming Business Insurance (AUTP).

D. Research Benefit

The benefits expected from this research are:

1. For students, as information to increase knowledge and as a reference for more research related community about Paddy Farming Business Insurance (AUTP).
2. The community, as a source of information about Paddy Farming Business Insurance (AUTP) and consideration for insurance: This research can provide useful information to the community about Paddy Farming Business Insurance (AUTP) and the factors that influence farmers' willingness to pay for insurance.
3. Government, to help the government establish and implement policies to improve the existing Paddy Farming Business Insurance (AUTP) system to meet the expectations of farmers as insured in the insurance so that AUTP can continue.
4. Researchers, get practice applying their academic knowledge in the field and gain experience that can be applied in the real life