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Developing rice farm insurance in Indonesia

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Abstract

The agricultural development policy of Indonesian government has been to achieve self-sufficiency in rice. However, rice production growth is critical to increase availability, accessibility, and affordability following the impact of global climate change. The farmers have continued to face rice production risk and harvesting failure. Insurance is introduced in favor of farmers to protect rice farm from great loss caused by flood, drought and pest and disease infestations. A pilot program is formulated to obtain knowledge about insurance application. Rice farm insurance scheme would successfully work with three-way coordination active roles of the government, the farmers and the insurance company.

Agricultural risk, climate change, farm insurance, local government, rice farmers

1. INTRODUCTION

1.1. Background

Rice farm is a source of livelihood and food security for a large proportion of rural families. Despite the government's policy of achieving self-sufficiency in rice, however, the country has continued to face the risk of rice production deficit. One of the main reasons for variability of rice production growth has been risks faced by rice farmers due to the global change of climate and natural threats, specifically floods, droughts, and pests and diseases which have thwarted the farmers' enthusiasm towards adoption of yield-enhancing modern inputs. The growth of production of rice was not satisfactory since the early 1990s. The production of rice, which was growing at the rate of 4.0 percent per year during the 1980s, did not keep pace with the growth of population since then. As reported by FAO-RAP [1], the annual growth rate of rice production decelerated to 1.3 percent during the 1990s and 0.6 percent during the period 1996 to 2006.

Based on the national social economic survey data published by CBS [2], McCulloch [3] indicates that nearly a quarter (24.8%) of 53.5 million households in Indonesia is rice farmer households. Among rural households, rice farmer households account for 37.8 percent. Warr [4] reports that almost 82 percent of the poor in Indonesia live in

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rural areas. This sector is also an important source of formal employment and export earnings. Being a staple food for Indonesians, maintenance of growth of rice production is quite critical in reducing dependence on imports, saving foreign exchange and improving access of staple food to everyone. Increased availability of rice at reasonable prices also helps in reducing domestic discontent and in improving political and economic stability.

Rice crop supplies 50 percent of the energy needs of an average Indonesian. Recognizing the importance of rice in macro and household food security and as a major source of livelihood of small scale subsistence farmers, the domestic policies of Indonesian governments have aimed at achieving self-sufficiency in rice. Despite being the third largest rice producing country in the world, Indonesia has continued to remain a net importer of rice. The imports of rice (milled) and its products had been an average of 1.53 million tons during 1979-81, 0.19 million tons during 1989-91, 2.25 million tons during 1999-2001, 1.83 million tons in 2002 and 1.65 million tons in 2003. However, since January 2004, a ban on rice imports was imposed, initially up to June 2004, but was later lifted to allow some imports of rice to maintain national rice stocks at safe levels. During 2008 and 2009 so far, following a significant increase of domestic rice production, the imports of rice have been negligible.

Agricultural insurance has been widely applied in many countries in favor of the farmers and the poor people. The lessons emerging from review of status of crop or farm insurance in various countries are that some form of insurance cover is necessary for encouraging the growth of farm production, and the government support in this endeavor is unavoidable. Despite the existing subsidies, price, and other policies that improve access to inputs and markets and improve farmers' terms of trade, policies responding to the risks farmers face are clearly lacking in Indonesia. Therefore, considering the current food security concerns and experience of other countries, rice farm insurance was identified as one of the priority areas to guard the interest of the farmers as part of pro-poor policy in the context of agricultural development.

1.2. Farm risks, rice production loss, and importance of rice farm insurance

Risk denotes probability of occurrence of an event or condition, which may have adverse consequences at any stage in the pathway of rice production chain. The risk adversely affects the current as well as future farmers' decisions and severely impairs production and farm income, when it crosses absorptive limits of self adjustment coping mechanisms. The production and price risks are the major risks in agriculture, including rice farming. The production or yield risks arise due to biotic and abiotic factors in the short run, and potential climatic changes, and inefficient support infrastructure, in the long run. Major sources of price risks are imbalance in demand and supply, market imperfections, post-harvest losses, and lack of production or farm-income stabilization support systems. The multiplicity and diverse sources of risks make farming decisions more complex to tackle, and pushes the rural population into the vicious cycle of low production, low income, poverty, and low investment in improved technology.

Risks in rice farming perpetuate poverty and food insecurity. Risks are associated with processes of rice production as well as handling of rice till it reaches the ultimate consumer. Obviously, risks are faced by the rice producers/farmers as well as by other stakeholders who perform the functions of input production and supply, credit delivery, processing and marketing of rice. However, the most vulnerable to these risks are rice farmers, especially those who operate small pieces of lands and subsistence farmers. Risk management strategies for small scale rice farmers ought to be distinctly different than that for other farmers or rice stakeholders.

Risks faced by rice farmers in Indonesia are both natural as well as man-made. The risks caused by natural factors are droughts or moisture stress at critical periods of crop cycle, floods or excess water, high or fluctuating temperatures, change in humidity, attack of pests and diseases, and emergence of weeds. The man-made or human-induced risks include non-availability of critical inputs like seeds, fertilizers and plant protection chemical in time, poor quality of inputs, non-availability of credit to purchase inputs, and market failures.

Harvest failure due to flood, drought, and pests and diseases infestations are common in several parts of Indonesia. The frequency and intensity of such risks are not the same in different places but the effect accummulates

to a large amount when the whole country is considered. Hadi *et al.* [5] estimated that during 1989-1998, the size of paddy harvest failure due to the three types of risk mentioned above was, respectively, 0.21 percent, 0.50 percent, and 0.06 percent of the planted area. Recent data reported by the Directorate General of Food Crops [6] indicate that the actual rice area affected by flood, drought, and pest and disease was, respectively, 333 thousand, 319 thousand, and 428 thousand hectares with respective production loss amounting to 997 thousand, 984 thousand, and 327 thousand tons (2008). The total production loss due to flood, drought, and pests and diseases was 2.33 million tons, which is 3.87 percent of the total production (cultivated at wetland and dryland) in 2008 (60.326 million tons). For majority of the rice farmers who operate small size of landholdings (average 0.3 ha in Java/Bali), such a loss is very significant. This unexpected losses become a problem for the survival of members of farmers' households.

The increasing frequency of harvest failures and yield losses in important rice producing areas urgently need rice policy response. In this context, crop insurance would be a strategic policy response to the current food production scenario. This is one of the financial instruments to transfer farmers' production risks, associated with farming, to a third party (private company or government institution) through certain amount of premium payment.

Rice farm insurance is very important to help small farmers from crop loss and to ensure that they have minimum working capital for the next planting season. Normally, farmers provide financial capital in the beginning of planting season at certain amount sufficient to meet cost of production (according to the size of planted area). This capital is used for planting activities (land preparation, seed and seedling, fertilizers, etc.). In the incidence of unexpected natural disaster (specifically flood, drought, and pest and disease attack) during the period of planting season, farmers usually face risk leading to planting or harvesting failure. In times that the paddy fails to harvest due to the three incidences mentioned above, even with certain age of the crop, the farmers are entitled to obtain certain amount of compensation from the insurance company to whom they are tied risk cooperation. However, all conditions, set in the agreement should be met by those involve, including the farmers. In this point, there is a guarantee that the farmers will obtain certain amount of capital on the ground of risk sharing. Such payment should be available in times of replanting (when the times permit within the current planting season) or available for the next planting season.

Rice farm insurance is also very important to achieve the highest level of production. The farmers would possibly manage their land without good agricultural practices and in this regard, moral hazard may be apparently occurred. However, this moral vulnerability is arguable because the farmers are tied and committed to the agreement for which terms and conditions, including good agricultural practices are applied. When good agricultural practices take place, such moral hazard could be avoided and higher production is expected. On aggregate, the insured rice production would contribute to the national production stock. On the contrary, in case that the farmers not meet these terms and conditions and fail to harvest, there are penalties. This means that the farmers experience losses because of their attitude. Rice farm insurance, therefore, is relevant with the direction of national agricultural development on food security. The other advantages are the potential of regional economy development and employment opportunity through new business activities in agricultural insurance system. Moreover, the local government will be helpful during the natural disaster incidence. The insurance company will involve in dealing with natural disaster relief. This private sector will take certain portion of responsibility in farmer's burden after a loss of their rice farm production.

This paper is aimed at an in-depth description about Indonesia's endeavor to formulate appropriate rice farm insurance application. Sharing these experiences could be useful to obtain valuable suggestions to help improve the current rice farm insurance concept and implementation strategies. Moreover, exchange of information among the participants in this conference would be a significant contribution in developing rice farm insurance in Indonesia. There are three aspects that would be described in this paper, namely farmers and other stakeholders' responses on application possibility of rice farm insurance, introduction of rice farm insurance scheme, and rice farm insurance policy.

2. FARMERS' RESPONSES ON RICE FARM INSURANCE APPLICATION

To study farmer's perception on rice farm insurance, an early stage of a pilot program was conducted in two purposively selected locations of rice producing centers (Simalungun Regency of North Sumatra Province and Tabanan Regency of Bali Province). Farmers in two villages in Panombeian Panei Sub-district of Simalungun Regency (planted area about 510 ha) and one *subak* in Riang Gede Sub-district of Tabanan Regency (300 ha) were surveyed. The survey revealed that farmers and the local governments have responded positively on the plan to implement rice farm insurance in their respective areas.

The size of planted area, harvested area, yield and cost of production of paddy at village level within the sub-districts were accounted as bases for determination of amount to insure. Farmers who can only harvest as large as one fourth of the planted area (25%) would be granted full insurance claim. Lower claim rate would be applied based on the size and level of the damage and in accordance with the crop age (crop planting level). The rate of premium is suggested to be fixed at 3.5 percent of sum insured. Fifty percent of insurance premium of small farmers (below or equal to 0.5 hectare of rice area) is subsidized by the government. According to the farmer's response, the insurance scheme is made compulsory to all farmers who employ rice farm within the village/*subak* (administrative boundaries).

The rice farm insurance would only be effective if all stakeholders play their respective role and actively involve according to their capacity from the planning phase to the implementation stage. The three main players, i.e., the local government, the farmers (farmer's group) and the private insurance company have expressed good understanding, agreed to stick to rules of the game, and anticipated close cooperation to ensure the implementation of the pilot project. The two regencies have also been agreed to form a task force, the Agricultural Insurance Task Force, formally established by the Regent. The members of this task force are representatives from various related institutions, including farmer's group.

The draft of implementation guide to carry out rice farm insurance has been prepared for further intensive discussion to produce a comprehensive final version. To this guide, an agreement between the farmers and the insurance company will be attached. A signed memorandum of understanding between these parties has also been prepared. This document would be used by all parties involve in the implementation of the insurance scheme. The General Guide for Rice Insurance System will be officially published by the Ministry of Agriculture. Local government at provincial and regency level will use this guide to issue a technical guidance of the implementation in the field.

Some of the farmers agree to pay the full rate of the insurance premium; however, a compromise solution is suggested. Both farmers and the local government will take care of the premium payment, probably 50 percent each. The scheme will be applied by planting season but the contract may be on the annual basis. The contract would be renewable and could be expanded to a larger area. The governments at the national and provincial levels, in this respect, should set apart funds required for implementation of the policy package, which includes subsidy on premium, and establishment and operational costs. The governments at regency levels have allocated the operational cost of the scheme in their respective annual development budget.

3. RICE FARM INSURANCE SCHEME

The genesis of any form of insurance lies invariably in 'mutual aid' principle. In Japan, the agricultural insurance essentially started and being operated largely as a mutual aid institution. In the present context, agricultural insurance is being increasingly evolved as a 'marriage' between mutual aid and actuarial technique. According to Ray [7], the actuarial technique is the application of statistical methods to determine the behavioral pattern of what seems to be *prima facie* irregular happening like occurrence of drought or flood or insect/disease infestation of crops and the extent of crop losses there from. The insurance based on actuarial method implies that each insured individual, in the ultimate analysis, becomes his own insurer. Over the years, he/she pays enough premiums to meet his/her losses, which is essentially a self-help mode of insurance. The individual may suffer losses either at the

beginning of the period of his/her participation or in the future. The actuarial technique implies the determination of future losses, indemnities or benefits that the insured may receive in case of crop failure and share of his/her contribution in the form of premium payment every year.

Agricultural insurance is one method by which farmers can stabilize farm production and incomes and guard against disastrous effect of losses due to natural hazards or low market prices. Crop insurance not only compensates for the loss in the farm incomes but also helps in initiating the production activities after a crop failure or bad crop year. The insurance cushions the farmers against the shock of crop losses by providing them with a minimum or assured amount of protection. It spreads the crop losses over space and time and encourages farmers to make more investment in agriculture and adopt new technologies. However, in the Indonesian context, this need to be adopted as an important component of safety-net policy, as has been done in both developed and developing countries. Access and availability of rice farm insurance will change the attitude of the farmers and induce them to adopt new high yielding-production technologies and borrow loans for purchase of inputs. Nevertheless, the enthusiasm of rice farmers to buy the rice insurance product (by paying insurance premium) critically depends on their own mechanism or risk diffusion, and importance of rice in the household income. Relevant with this, Hazell [8] describes that the global experience about the advantages of farm insurance program reveals that the crop credit insurance reduces the risk of becoming defaulter of institutional credit and farmers do not have to seek loans at higher interest rates from private money lenders. A farmer could adopt improved but uncertain technology when he was assured of compensation in case of a crop failure.

Obviously, agricultural insurance schemes, both in developed and developing countries are highly dependent on government support in various forms like subsidy on premium, reimbursement of administrative expenses of insurance companies, reinsurance support for risky crops, technical guidance and financial support. Raju and Chand [9] explain that subsidy on insurance premium in recent years was 60 percent in USA, 70 percent in Canada, 50-60 percent in Philippines, and 58 percent in Spain. Moreover, Roberts [10] reports that in 2003, total insurance premiums were estimated at US$ 7.1 billion, which was 0.6 percent of farm gate value of agricultural production. The premiums are concentrated in North America (69%), Western Europe (21%), Latin America (5%), Asia (3%), Australia (1%), and Africa (1%). It may be mentioned here that under international trade agreement, the World Trade Organization (WTO) allows subsidization of premium in agricultural insurance as a ‘green box’ measure.

3.1. Objectives and general characteristics of agricultural insurance programs

The objectives of rice farm insurance scheme in Indonesia should be envisaged: (a) to encourage farmers to increase production by reducing the risks involved in higher costs associated with the use of new improved modern technology; (b) to provide cover to the rice farmers against crop losses due to natural causes, so that they are able to fulfill essential needs, including food for the family; (c) to provide financial stability and confidence in the farm sector, and thereby reduce the migration of farmers or workers to urban centers; (d) to ensure the recovery of loans of government or other lending agencies in the times of crop failure; and (e) to facilitate the government to budget the assistance to farmers as a part of continuing annual program rather than being faced with *ad hoc* emergency programs, often hurriedly planned and financed, which are difficult to administer and are prone to inequities and local pressures.

Some general issues and characteristics of crop/farm insurance policies and programs, as revealed from the experience of other countries could be identified as follows:

(a) The philosophy of insurance market is based on large numbers where the incidence of risk is distributed over individuals. Insurance, by offering the possibility of shifting risks, enables individuals to engage in risky activities, which they would, otherwise, not undertake.
(b) Crop insurance is also based on the principle of large numbers. The losses suffered by farmers in a particular locality are borne by farmers in other areas and the reserves accumulated through premium in good years are used to pay the claims in bad years.

(c) Access and availability of insurance changes the attitude of the farmer and induces him/her to take decisions to adopt new high-yielding technology, which, otherwise, would not have taken due to aversion of risk.
(d) The insured farmers invest more on high-yielding inputs leading to higher production and higher income per unit of land.
(e) Farmers' own mechanisms for loss management or risk diffusion are very expensive in arid, semi-arid and tropical regions and in small-farm agricultural economies.
(f) Unlike most other insurance situations, the incidence of crop risk is not independently or randomly distributed among the insured. Good or bad weather may affect the entire farmers' population in the area.
(g) Lack of data on yield levels as well as on risk bearing capacity of the individual farmer puts the insurance agency or company in a tight spot.
(h) Farm insurance market faces the problem of adverse selection and moral hazard. Adverse selection means that only high risk farmers participate while moral hazard implies that insured individuals take less care in preventing the loss as compared to uninsured farmers.
(i) Insurance of crop credit reduces the risk of becoming defaulter of institutional credit.
(j) The public program of crop insurance is usually expensive and has to be subsidized by the government. Agricultural insurance schemes, both in developing and developed countries, are highly dependent on government support in the form of subsidy on premium, reimbursement of administrative expense of insurance companies, technical guidance, financial support and reinsurance of risky crops.

3.2. Sum insured, indemnity and insurance premium

The sum insured is the amount specified in the insurance policy, up to which the insurer will pay indemnities, if insured peril occurs (actual yield falls short of threshold yield). The sum insured could be the value of guaranteed or threshold yield or the cost of production/cultivation per hectare. The estimation of the value of guaranteed yield will require projection of prices at the post harvest season, which is very complex. The estimation of cost of production per hectare also involves several issues. It is argued by some that it should be only purchased inputs or variable costs, which do not include fixed costs like depreciation on machines and farm buildings and land rent/taxes. Another issue is that should labor cost be included where most of the labor is family labor. Even if all costs are included for the purpose of determination of sum insured, the value of managerial input of the farmer and nominal profits should be made a part of the cost. There is no problem in including all costs plus some profit margin but it should be recognized that it will increase the sum insured for which the insured farmer shall have to pay a higher premium. The other alternative to determine the sum insured is the amount of crop loan which the farmer has borrowed. This may also include the interest which the farmer is required to pay. The choice between value of guaranteed yield, direct or full cost of production, and crop loans plus interest for determination of sum insured is basically a policy decision. However, owing to the positive correlation of sum insured and insurance premium, it is always advisable to fix a maximum limit on sum insured and leave it to the individual farmer to decide how much insurance cover he/she wants to buy within the prescribed limit. In the case of rice farm insurance, it will be prudent to fix the sum insured at a level equal to or 25 to 50 percent higher than the crop loan borrowed by the farmer or cost of purchased inputs or variable cost of production. The maximum sum insured should be defined in the scheme. However, the option of insuring a lower sum should be given to individual farmer, in case they wish to keep the premium payment at the lower level.

The indemnity is the amount paid or payable by the insurance company or agency to the insured farmers in the event of yield loss (or production loss). In some countries, the indemnity is fixed at 80 or 90 percent, which means that if the actual yield is lower than the insured or threshold yield by only 20 or 10 percent, respectively, no claim is payable. However, it will be prudent to link the indemnity or insurance claims of farmers to the deviation of the actual yield from the guaranteed or threshold yield. This means that if the actual yields are 25 percent lower than the guaranteed yield, the claim payable to the rice farmers will be 25 percent of the sum insured. This will be easy to understand for an average rice farmer. However, another thought is that the insured party should be fully paid if the production loss no less than 75 percent.

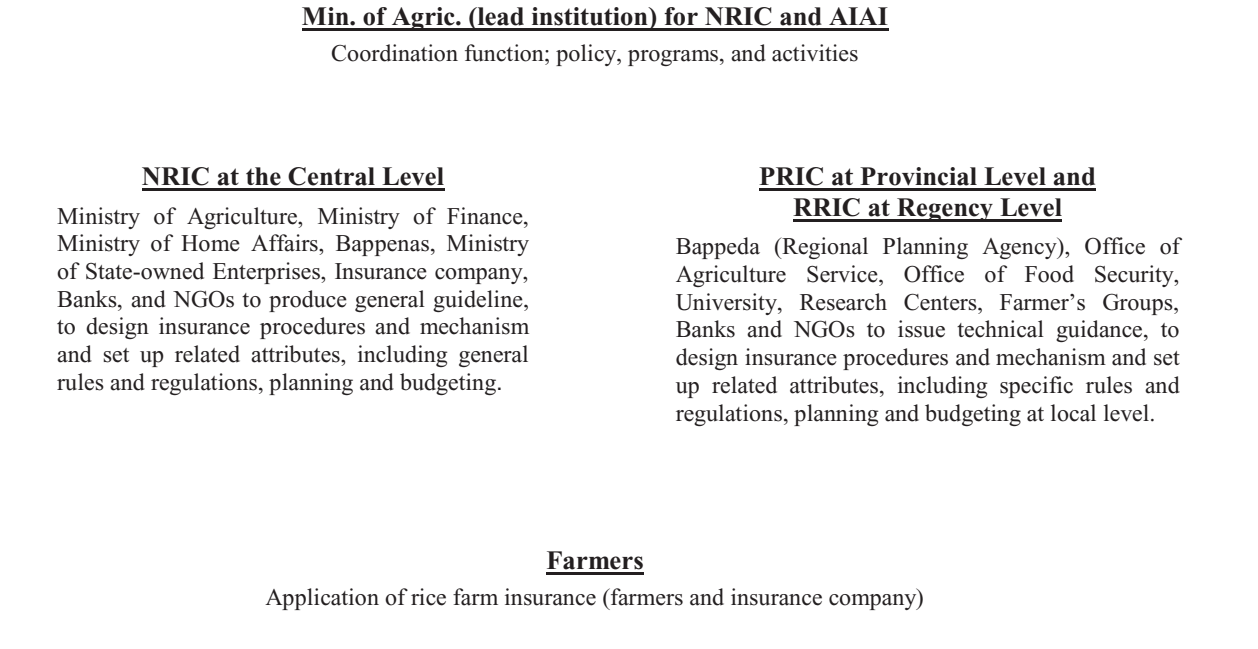
Insurance premium is the monetary amount paid by the insured (rice farmer) to the insurer (crop insurance company or agency) for the relevant rice crop period. The insurance premium is usually decided as a percentage of the sum insured. This can vary from 3 percent to 10 percent depending on the degree of risk involved. While the degree of risk in different regencies may be different, for administrative reasons, it would be wise to fix a common rate of premium for the entire country. The calculation on such percentage rate would be critical and this is currently discussed among the stakeholders.

4. RICE FARM INSURANCE POLICY

The concept of rice farm insurance is being developed in Indonesia and strong political will is sought for application. The general policy framework could be briefly described as follows. The first step in implementation of a national rice farm insurance policy is establishment of National Rice Insurance Commission (NRIC) for internalizing, approving and announcing the policy. It should be a high-powered national authority and Minister for Agriculture should be its chairman. In this connection, the Ministry of Agriculture is suggested to take initiative by establishing the National Rice Insurance Commission (NRIC). The Minister's decree may be needed to establish such a commission. The NRIC should consist of several competent individuals drawn from different institutions and related organizations, including the Ministry of Finance, National Development Planning Agency (Bappenas), and Ministry of Home Affairs. The NRIC will propose a final policy package to the Ministry of Agriculture for decision. The maximum sum insured, premium rates, and premium subsidy will be determined by the NRIC. The policy package will also include the name of a national level agency or organization, which will implement the scheme on behalf of the Indonesian Government. This may be named as Agricultural Insurance Agency of Indonesia (AIAI).

After the finalization of the rice farm insurance package by the Ministry of Agriculture, the same should be communicated to Governors of the two provinces (North Sumatra and Bali), who, in turn, should internalize the policy for their province, and establish Provincial Rice Insurance Committee (PRIC) which would oversee the implementation of policy at the provincial level. The constitution of PRIC should be parallel to that of NRIC and must include all the stakeholders. Details of the constitution of commission and committees at national and provincial levels are shown in Figure 1.

Figure 1: Establishment of Rice Insurance Committees at Central, Provincial and Regency Levels



The provincial level governments, in turn, after officially adopting the scheme, should constitute a Regency Rice Farm Insurance Committee (RRIC) for the selected regencies, which will be responsible for regency level implementation of the policy. The constitution of the RRIC should involve all important stakeholders. Apart from the RRIC, a Regency Level Nodal Officer should also be identified for day to day administration of the policy in the regency. Willingness to consider rice as the power of the local government, supporting services and facilities, and maintenance of close relation among all the parties involved in rice production and insurance are keys to success of the insurance policy. Therefore, the selection of committee members as well as designated officers who will occupy the insurance desk at regency level would be very critical. They should be competent individuals who will take strategic positions in rice farm insurance development.

The next important step in implementation of policy is preparation of guidelines and operational procedures for local level officers, including the application forms to be filled by farmers; proforma of contract to be signed between insurance agency/company and farmers; procedure for estimation of actual average yield at sub-district level; how the actual yields will be notified to the insured farmers; form of application for filing claims by insured farmers; and method of payment to the farmers. These details should form a part of the notification of national rice insurance policy, so as to give wide publicity and attract more farmers to the insurance program. These guidelines should be prepared by the Ministry of Agriculture in the form of a small and handy booklet. When the guidelines are ready, sensitization of officials, farmers' organizations, NGOs, bank officials and rice growing farmers will be necessary, so that the entire policy package, guidelines, procedures, and time schedule is known to all the stakeholders at all levels.

To define the threshold yield for each sub-district is the next step. The threshold figure should be based on preceding five-year's average yield of the sub-district. This should be an objective exercise based on authentic data. This will need to be done every year and for each crop season. It is advisable to constitute a committee, to be chaired by Regency Level Agricultural Officer, to work out the threshold yield for each sub-district for the purpose of insurance. This should be done by a committee constituted for this purpose for each sub-district. This committee could be accompanied by an independent group formed and represents insurance company to avoid any bias in the estimation of actual yield.

Financial institutions/banks should be given guidelines and application forms for compulsory insurance. These need to be actively involved in the entire process because for farmers, rice crop insurance will be compulsory. Since insurance will cover loans advanced by the banks, the involvement of financial institutions and/or banks is very important. Their participation should be ensured from the beginning of the launch of the process. Financial institutions or banks should be the important stakeholders in the development of rice insurance scheme in Indonesia.

By definition, the pilot project is an experiment. During the process of implementation as per steps suggested above, there will be a need for continuous back and forth dialogue, interaction and mid-course correction at different stages of the project and levels of implementation. Further, at the end of the two year cycle, proposed pilot program duration, there will be a need to document the lessons learnt from the pilot project. In that context, continuous monitoring and evaluation of each implementation stage will be extremely important for preparing a program of up-scaling the insurance initiative.

5. CONCLUDING REMARKS

The micro level study reveals that institutional milieu and stakeholders' support to launch a rice crop insurance program are available in the selected regencies. Farmers, local government officials, farmers' groups, NGOs and all other stakeholders feel very excited and very enthusiastic to implement rice crop insurance program in their area. They appear to be very eager to look for the details of the program, particularly the procedures and mechanism of implementation. All the stakeholders are of the view that the national and provincial governments should take a lead and oversee the implementation of such an important program and provide financial support, which is consistent with the national goal of food security for all Indonesians. A general guidance to lead the implementation of the

scheme is expected to be prepared by the Ministry of Agriculture. The local government (provincial and regency level) will use the guidance to produce a detail implementation steps (technical implementation guide).

Financial institutions or banks are important stakeholders in the development of rice insurance scheme in Indonesia. Their participation should be counted from the beginning of the insurance scheme process. In the absence of agricultural bank, micro credit financial institutions will play a vital role in the implementation stage. Moreover, the government, at the early stage is expected to cover premium and cost of operation in the form of subsidy. Later, the cost of insurance could be integrated in the cost of production as part of the farm production cost for which the farmers would pay all associated cost of production and the subsidy would be no longer applied.

Legal issue to follow up the implementation of rice farm insurance is considered as the main obstacle. A legal base to ground the establishment of a task force and to disburse local government annual budget for rice farm insurance expenses is required. The central government (in this case Ministry of Agriculture) is expected to initiate a dialogue and intensive communication with other related institutions (Ministry of Finance and Ministry of Home Affairs) to issue a legal document to allow the implementation of agricultural/rice farm insurance (to issue a co-signed decree by the three ministers of agriculture, finance and home affairs).

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