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## 10 Phases in Developing a National Crop Insurance Program: Guide Overview

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*This is a step-by-step overview guide for prospective governments to consider before launching a national crop insurance program or to review for improving a current program. **This 10 phase guide overview has been developed for the ASEAN Climate Resilience Network (ASEAN-CRN) Knowledge Exchange Event on Effective Policies for Promoting Agriculture Climate Insurance to Increase Resilience in ASEAN**, held on 16-18 August 2016 in Ho Chi Minh City, Vietnam. Members of the ASEAN Sectoral Working Group on Crops (ASWGC) participated in this event, along with other relevant ASEAN working groups, and therefore helped in the development of this guide. The ASWGC is an organic unit under the ASEAN Ministers of Agriculture and Forestry.*

*This guide was created with support from the G4INDO Project, funded by the National Space Organization of the Netherlands. Mrs. Laura Johnson Blair, independent consultant, is the lead author of this publication and Mr. Emilio Hernandez of the Food and Agriculture Organization (FAO) of the United Nations and Mr. Chee Koon Ong of SwissRe Singapore contributed to its development.*

*This ASEAN-CRN knowledge exchange event on agriculture climate insurance was organized by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, through the Forestry and Climate Change (FOR-CC) project of the ASEAN-German Programme on Response to Climate Change (GAP-CC) and funded by the German Federal Ministry for Economic Cooperation and Development. The ASEAN-CRN is established to ensure that ASEAN Member States (AMS) are in a better position to adapt their agricultural sector to climate change and optimize its mitigation potential.*

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## Phase 1. Initial Multi-Stakeholder Assessment on the Need for Agricultural Insurance

- a. Initial discussions within the government department(s) interested in agricultural insurance to identify need for such a program. These discussions may address the current climate risk mitigation and resilience strategy of the government, evolving climate pressures and their impact on the country's agriculture, and/or the need to leverage formal risks mitigation services to de-risk rural lending.
- b. Participation of private sector representatives is encouraged in the inception phase, particularly those that will be directly affected or benefited by the insurance program. Most often, private sector representatives provide a different perspective, which will eventually make the program more responsive to their needs, implementable and achieve the intended impact. Furthermore, the inputs from the private stakeholders during this phase will be valuable in setting the parameters for the feasibility study. *(Proposed additional bullet next to letter (a) under Phase I)*
- c. Identifying broad goals for promoting agricultural insurance and formal risk mitigation tools that transfer risk to the public or private sector insurance industry. These insurance products can build an additional protection to complement the current government climate change response, enable access to rural credit, bundle with input subsidies, etc.
- d. Once there are broad ideas, launch multi-stakeholder Working Group. This Working Group may include members from Ministry of Finance, Ministry of Agriculture, insurance regulator, insurance companies, national meteorological department, technical advisors, lead farmer organization representative, other relevant players and development partners (if including).
- e. Secure funding for feasibility study and program development – ideally from internal government sources from Ministry of Finance or Ministry of Agriculture, or if needed, from development partners. External technical advisors may be secured at this time to oversee and conduct capacity building throughout the initial phases for the feasibility study, product development, process creation and pilot.
- f. Set up reporting structures and timeline (potentially advised by this guide) for the Working Group.

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## Phase 2. Feasibility Study and Farmer Risk Assessment

This feasibility study is a critical step in the program development, research and establishing the key parameters for the basis of the program. Implementation of the country level data collection and the farmer-level surveys may be carried out by a dedicated team appointed by the National Working Group and/or objective outside technical consultants may be brought in to advise and assist in the analysis. Ideally the local country team is advised by outside experts who can also engage in capacity building on the national team that will be involved in the program develop throughout the 10 phases. Capacity building and subsequent problem solving ability is critical for the long term sustainability of such programs.

### **a. Country-Level Data Collection**

- i. Agricultural Sector – e.g. key crop and livestock value chains, crop and livestock risks
- ii. Insurance Sector – e.g. regulatory framework, current agricultural insurance and risk mitigation products available
- iii. Financial Sector – e.g. government involvement in agricultural and rural lending; and private financial institutions offering lending to farmers (this may include informal sectors)
  
- iv. Mobile – e.g. key mobile network operators with rural penetration
- v. Index Data – e.g. historical time series of weather, yield and price data
- vi. Available studies that evaluate the current agricultural insurance program challenges

**b. Farmer-Level Survey** – to be conducted in each province considered for the agricultural insurance very early in the development process. Ideally have a team assigned by the working group that engages with the local extension (for coordination and survey questions) and authorizes in each province/select districts to meet/interview/survey representative groups of farmers. Prior to the conduct of farmer-level survey, there should be emphasis on the development of a questionnaire and the capacity building for enumerators, who will conduct the survey. The below data topics should be addressed in this survey. In the actual survey, the questions would be phrased differently and examples given in some circumstances. It is also critical that the staff implementing the survey treat it more as a discussion, asking follow-up questions to ascertain the true situation farmers experience, not simply ask the questions as written. This survey, in addition to quantitative information,

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is seeking qualitative knowledge with which to base the program partly on.

- i. **Farmer household and farming operations** - age, household composition, area cultivated, field own/rent/sharecrop, timing of seasons, crops grown, recent harvest vs expected yield, price fluctuations, financing/access to credit for inputs and labor, market for crops and intermediaries, input use and brand preferences, where are inputs purchased
- ii. **Risk profile and management** - what are the main reasons for a poor harvest/crop failure (possible: drought, storms, erratic rain, disease, pests, price fluctuation, lack of market, others), what percentage yield loss (if any) experienced last season/last years, changes in causes of sub-optimal yields, how do you currently manage each of these risks, coping strategies of loss of harvest/impact on next planting season
- iii. **Costs of Production** – how much land do you plant for x main crop; how much did you spend last season in seed, fertilizer, land preparation, labor, chemicals, weeding, harvesting, thrashing, bagging, transportation, other costs; source of funds
- iv. **Potential government insurance covers** – most important risk to cover, how would compensation be used if harvest lost, if farm investment protected what would done different with inputs/credit/etc., thoughts on best ways to access the insurance/any current services or programs most farmers use.
- v. **Mobile Phone Use** – how often use SMS, internet on phone, access/use of mobile money, preferred provider/best coverage
- vi. **Views and experiences with insurance** – current/past insurance products, heard of insurance products marketed before, what type (e.g. health, life, crop), interest in taking insurance products, concerns with insurance products, preferred insurance company/brand
- vii. **Access to Credit** – do you currently take any loans, do you have village saving groups, do you have bank account, do banks offer loans for farmers for production costs, what are the terms of these loans, have you ever taken a loan from a bank, are there any preconditions for obtaining formal loans, which?, does the government offer crop loans, do you get credit from local agro dealers or traders, what is the interest on loans from traders, what happens if you default on a loan, do you want more access to loans, do you need loans to invest in farm or for other purposes, what you would do differently if you could take a loan

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- viii. **Farmer Organizations** – involvement in local farmer organizations, other aggregation in the province, how the organization functions, voluntary or compulsory membership, size, benefits of membership (access to programs or inputs, etc.)
  - ix. **Government Programs** – current government programs targeting farmers in the area, what benefits are accesses, requirements to access benefits, views on quality of implementation
- c. ***Analysis on collected data at the farmer and national levels*** to identify key risks to be covered, what products are feasible given available data and risk profile, potential distribution channels, modes of reaching farmers, need for a subsidy and best placement within the government.

### Phase 3. Insurance Partnerships and Regulatory Framework

- a. Review current, if any, government regulatory framework regarding agricultural – or similar -insurance products and financial instruments currently available to smallholder farmers. Index insurance products may fall under a country’s financial regulatory framework.
- b. Design an institutional framework for the supply and distribution of the agricultural insurance. This framework must include an understanding of if the supply of insurance will be done through individual insurance companies or a pool or insurers; who will reinsure the risk (local, international or both); and the direct role in insurance underwriting/regulations/oversight the government will take. Such institutional architecture needs to be set up early and may be supported by international experts, bringing experiences from other regions.
- c. Involve the insurance regulatory authority and private sector insurance stakeholders in the Working Group to discuss additions or modifications to the regulatory framework to enable agricultural insurance to exist in the country, potentially bring in technical advisors for the new regulatory framework. Allow for local and international companies, including insurance intermediaries to be appropriately licensed. Private sector stakeholders can be directly involved in this process to ensure the eventual regulators on agricultural insurance are a feasibility framework for the longterm and sustainable growth of the sector.
- d. Review current local underwriting insurance companies and services providers

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involved or interested in agricultural insurance, understand current products in the market and determine optimal local insurance partner(s) - may be government's own insurance company.

- e. Evaluate potential reinsurance companies for their ability to reinsure the possible government products, technical expertise on product designing/pricing and long term interest in developing an agricultural insurance market in the country
- f. Discuss with potential donor or international development partners on their technical involvement in the design and launch of the crop insurance program, and potential funding of such work. This is an ongoing step, with contacts ideally made in phase 1
- e. Ensure transparency and the ability to audit government departments and all key implementation partners/companies

#### Phase 4. National Policy Creation and Subsidy

- a. Determine sought government role in the insurance program, including which ministry is lead implementer (refining the structures planned in phase 1), which departments are directly involved, and the resources (staff and equipment) that will be required.
- b. Evaluate the level of insurance cover – or multiple levels – from micro (farmers individually insured), meso (for organizations, companies, district programs) or macro (whole country or regional cover). How this insurance is part of the government's larger climate risk mitigation strategy.
- c. Discuss the need and potential for a premium subsidy, how would these costs would be paid and what is the long term strategy – would the subsidy be decrease over time.
- d. Compulsory or voluntary – do farmers opt in or out of the coverage, or is it required for all farmers or all farmers accessing certain other government services (can be supported by the choice of distribution channel).
- e. Draft new national policy framework for the insurance program, including source of funding. External technical expertise from development partners may be beneficial at this time, also learning from similar frameworks in similar countries.

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- f. Create indicative budget for pilots and first year implementation, and if there is a subsidy, a longer time horizon to ensure the availability of finances for at least 5 years.

## Phase 5. Product Development, Distribution and Pricing

- a. Based on the feasibility study and discussions with local insurance partners, determine the target crops to be insured in the pilot and first year, risks covered, product type (indemnity, index) and data sources for those products.
  - i. *Technical product design* – indemnity, index or hybrid (must understand pros, cons and applicability of each). Ensuring the insurer/reinsurer and/or the government has the expertise to source the data, develop the index model, price the product.
- b. Data collection (10-30 year historical time series) for development of products and pricing – historical loss ratios given the possible risks to be covered, weather/yield data for index products. For weather index products, include the national meteorological office and national statistics office on the Working Group to ensure smooth access to data.
- c. Decide on which farmers are able to access the product, and if there is a subset able to also access any subsidy on the products.
- d. Based on product details, price the product for the country at the district or smallest administrative unit possible. Pure premium is based on actuarial calculations on historic data on crop performance. Give multiple options for a traditional cover and a catastrophic cover, detailing the historical payout frequency for select areas so government decision makers and understand how often each product would payout. Likely will require international expertise (public and private sector) to build capacity in local insurance companies, with final pricing done at the reinsurer level.
- e. If there is a subsidy, detail the impact on what farmers are expected to pay out of pocket or through bundled product.
- f. Investigate and determine optimal distribution channels for the insurance – possible include linked to agricultural credit, other insurance products?, bundled with a current government input subsidy program, through existing farmer groups, or others.

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- g. Investigate how to leverage the current mobile network and mobile money capabilities for farmer registration, premium payment, compensation payment, marketing and seasonal updates.
  - h. Conduct a cost benefit analysis from the farmers' perspective taking into consideration the impact of the insurance/other government benefits in a season with a good harvest, a harvest at 50% loss and a catastrophic season with 90% yield loss (or the loss level considered in the country to be catastrophic). These potential loss levels can be determined through empirical exercises at the country level and by consulting with local insurance companies on their risk appetite. In the analysis, calculate based on realized/expected harvest revenue, cost of insurance premium at farmer level (less government subsidy), and other government relief received.

## Phase 6. Stakeholder Responsibility and Process Creation

- a. Clear division of roles and responsibilities of each partner, accountability, aligning incentives to succeed. Set clear project management framework (discussed in earlier phases), vitally important.
- b. Develop draft SOPs, engaging all relevant stakeholders in the development of each one, on:
  - i. Marketing
  - ii. Distribution
  - iii. Client registration (hard copy or digital)
  - iv. Premium collection
  - v. Data collection for loss assessment
  - vi. Loss assessment at the field level (for indemnity) or through index data
  - vii. Dispersal of compensation to farmers experiencing a loss
  - viii. Field feedback on basis risk (for index products)
- c. Develop a feasible roll out strategy for farmer training/socialization, the pilot and then the scale up. Format as a business plan with an improved budget (refine from previous phase).
- d. Develop all necessary documents to support the SOPs, such a farmer policy documents

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## Phase 7. Field Implementation Training and Farmer Socialization

- a. Development of training manuals and train field staff who will conduct farmer training and sales.
- b. Develop socializing, communication, marketing and training materials for farmers.
- c. Establish a training hierarchy and chain of command from national level down to villages to ensure communication and ability to direct village level staff.
- d. Implement trainings and follow up trainings at farmer group levels (or otherwise determined by chosen insurance distribution channel). Record details on farmers/groups trained with contact numbers for quality control).
- e. Provide for means of quality verifications on trainings conducted and survey select trained farmers to test understanding of presented materials (phone surveys possible)

## Phase 8. Pilot/Proof of Concept Launch and Improvements

- a. If possible, conduct a dry run on the technical elements of the product, especially with index products to ensure they focus on the most appropriate risks and are triggering at the correct events.
- b. Implement developed processes through the determined distribution channel, including: farmer registration, premium collection/transfer to local insurance company, policy document dispersal, claims review/loss assessment, transfer to compensation.
- c. If there is a subsidy, report farmers insured/other details to the subsidy paying entity for transfer of subsidy to the local insurance company.
- d. Test out efficacy of new technologies such as mobile phones for registration, premium collection or compensation payouts.

## Phase 9. Revised Approach, Products and Partner Coordination

- a. Carry monitoring and evaluation on the pilot to identify challenges/weakness across all implementation steps, partner coordination, and technical product performance.

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- b. Interview involved farmers, local government and implementation staff to understand bottlenecks and gather reactions/feedback on program elements to improve.
  - c. Present and discuss with National Working groups to make changes and improves to the pilot program prior to the full launch. Ideally there is flexibility in certain areas of the policy framework regarding product type, risks, or implementation strategy to allow for improvements in the program.
  - d. Detail a Working Group report on program improvements made to be dispersed to all relevant stakeholders, including key lessons to day and how the government program is acting on these learnings.

## Phase 10. Full Program Launch and Scale Up

- a. Implement the revised program strategy and SOPs with stakeholders.
- b. Continue to conduct monitoring and evaluation with stakeholders, target farmers, and other government intermediaries for continuous product improvement.
- c. Conduct yearly audits of all partners and processes.
- d. Develop and refine a long term strategy for the insurance and potential subsidy to ensure the core goals of implementing the insurance are being achieved.

# Farmer-Level Demand for Insurance Survey

## 1. Rationale

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The goal of the farmer survey is to better understand the demand and need for agricultural insurance products for target end beneficiary farmers. This survey takes place in Phase 2 – Feasibility Study and Farmer Risk Assessment - of the *10 Phases in Developing a National Crop Insurance Program: Guide Overview*, developed for the ASEAN-CRN conference. The Feasibility Study phase is a critical step in program development to research and establish key parameters for the basis of the program. Through analysis on collected data at the farmer and national levels gathered in Phase 2, the outcome is identifying key risks to be covered, what products are feasibility given available data and risk profile, potential distribution channels, modes of reaching farmers, need for a subsidy, and optimal composition of the national crop insurance team.

A similar survey was conducted in March, 2015 in the G4INDO project areas in East Java. As the goal of G4INDO was to support the Government of Indonesia and the Ministry of Agriculture in successfully implementing their agricultural insurance program, it was important for the G4INDO team to have a clear and accurate view of the current agricultural production challenges/risks facing farmers so appropriate products can be designed and distributed. Given the approach, this survey is not meant to be statically valid or have a highly scientific approach. The goal is to learn from a representative subset of farmers about their experiences and needs.

## 2. Survey

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These farmers to be interviewed should not necessarily be already involved with an agricultural insurance program. Ideally the interviewees can also see the farmer plots to better illustrate what the farmers are explaining, though this may be logistically difficult in some areas.

The farmer discussions should focus on understanding the farmer's situation, risk profile, access to credit, use of mobile technologies and other details critical in developing an effective national crop insurance program. The survey approach is informal discussions around a number of subject areas opposed to strict questions with multiple choice options. The discussions are meant to be interactive, with back and front between the farmers and group. This approach is effective, allowing a more natural flow of the conversation, with farmers elaborating on different points.

### 3. Survey Questions

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#### 1. Introduction

- a. Short introduction of interviewers
- b. Explain goal of this discussion
- c. Ask farmer whether he/she is willing to answer questions

#### 2. Details about farmer's household and farming operations

- a. Number of household members and composition of household
- b. Area of land under cultivation and number of fields
- c. Full time farmer or also involved in some additional income activity, what activity
- d. Is he/she the owner of the fields, or is he rent them, sharecropping arrangement
- e. Timing of seasons, crops grown rainy season, dry season
- f. Average yield obtained in past years (per harvest) that constitutes a "good/optimal yield"
- g. Harvest last season, focus on rice: if not optimal yield, why not
- h. How does he/she finance the crops: pays all expenses from his/her own pocket, borrows money, does all the field work with family labor, etc.
- i. What inputs are purchased? Seed, Fertilizer, Chemicals, others
- j. Brand loyalty on inputs, do they purchase every season? Who do they buy from?
- k. Who buys the production, does the price change vary, is it set by the government?
- l. Does anyone come to your area to collect yield data with survey or crop cutting?

#### 3. Breakdown of Costs of Production

- a. Fill in the below table on costs of production.

b. What were the sources of funds need to purchase inputs and to hire labor?

<b>Crop</b>		
<b>Planting Area</b>		
<b>Season Planting Date</b>		
<b>Season Harvesting Date</b>		
<b>Cost Items</b>	<b>Vietnam Dong</b>	<b>Comments</b>
<b>Input Costs</b>		
Seed		
Fertilizer 1		
Fertilizer 2		
Pesticide		
Herbicide/other		
Other Inputs		
<b>Total Input Cost</b>		
<b>Labor &amp; Other Costs</b>		
Nursery Prep, Planting		
Field Prep		
Plant Transplanting		
Irrigation		
Weeding		
Fertilizer and Chemical Applications		
Harvest		
Post-Harvest Processing		
Bagging – cost of bags		
Transportation to market		
<b>Total Labor &amp; Other Costs</b>		
<b>Total Costs</b>		
<b>Total Costs per Hectare</b>		

#### 4. Risk Profile

- a. When you have a bad harvest, what usually happened during the season?  
Possible: drought, storms, erratic rain, disease, pests (insects, fungi, ...), animals eating or damaging crops (rats, etc.), market price fluctuation, lack of market, theft, hail, flood, ...
1. Greatest risk of sub-optimal harvest
  2. Percentage loss experienced last season, last years?
  3. Changes in causes of sub-optimal yields?
- b. How do you currently manage each of the risks – for example irrigation for drought or chemicals for certain pests?

- c. Without harvest income, how will you have money to plant next season?  
Possible: reduce the number of meals eaten each day, rely more on food aid, take a loan, rely on assistance from others, pull children out of school, sell livestock, cash from non-farming activities
- d. What would farmer do different if his crop would be insured: other seeds, more fertilizer, other supplier, not take credit any more, less salaried work/cash from casual labor

## **5. Access to Credit**

- a. Have you ever taken a loan for farming? Do you know others who have taken such loans?
- b. Does your village have a savings group?
- c. What banks, NGOs or government programs offer loans to farmers?
- d. Do you know the interest rates on these loans? Do they have to be repaid during the season or only when the harvest comes in?
- e. Do traders or agro dealers offer credit to farmer? How does this credit work?
- f. If a farmer defaulted on one of these formal loans, do you know what would happen?
- g. If you were able to get a loan for farming, would you want one?

## **6. Mobile Phone Use**

- a. Sim card use, what network?
- b. How often do you SMS?
- c. Use of internet on the phone or mobile money?

## **7. Options on Insurance**

- a. Do you have any insurance products? Have you in the past? Were the products good, did they compensate you when they were supposed to?
- b. Do you have companies or brands of insurance that you trust?

- c. Have you heard of the government crop insurance program?
- d. For a crop insurance program, what do you think are the important risks to cover?
- e. What do you think would be the best ways to access the insurance – are there current services or programs most farmers use?

## 8. Farmer Organization

- a. Farmer organizations – do you belong to any farmer group?
- b. Do farmers in your area belong to organizations? Are they voluntary or required?
- c. What are the benefits for the organizations?

## Other proposals for consideration and inclusion in Developing a National Insurance Program:

1. On the evaluation of current insurance policies, we propose for the inclusion of **case studies on conditionality of loan grants.**
2. Prior to a full program launch, the guide document may also want to include the need to have **a legal issuance to support the implementation of the program.** The program that will also be launched should be **based on the results of the feasibility study.**
3. **Development of risk classification and categorization of premium rates** - as the rates and coverage of claims will highly depend on the type of risk;
4. Provision for the mandatory coverage for specific crops, and the window as options for self-financed farmers.