Food and Agriculture Organization of the United Nations

Climate change, food security and insurance systems for family farming

Brazil case: Climate, income and price insurance programs

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Climate change, natural disasters and family farming

At a global level, between 2003 and 2013, natural disasters affected 2.7 billion people, with damages amounting to 1.3 trillion dollars. The farming sector absorbed 22% of the economic damages. If we just consider extreme weather events, 25% of the economic damages correspond to the farming sector. 84% of the economic damages caused by drought corresponds to those affecting agriculture. In Latin America and the Caribbean, the cost of natural disasters amounted to USD 34 billion for the 2003 to 2014 period.

On the other hand, the relevant role of family farming on national food security and nutrition policies has been progressively acknowledged, estimating that approximately 70% of the food internally consumed in countries comes from this sector.

Preparing national insurance strategies for family farming within the scope of climate change has been a concern of regional governments and FAO. This document presents and discusses the Brazilian experience with insurance focused on family farming, seeking to guarantee production and income, within the Zero Hunger Program.

Programs

Family Farming Insurance (SEAF)

Created in 2004 to face climate effects (droughts, excessive rainfall, frost, hail, wind storms) and plagues without known control.

Harvest Guarantee (GC)

Established by Law 10,420 of 2002. A benefits program for family farmers below the poverty line, with emphasis on the Brazilian semiarid region.

Price Guarantee for Family Farming (GPAF)

Established through Decree 5,996 of 2006, to offer a price guarantee through a bonus in the farming loan of family farmers, guaranteeing the production cost payment.

Disasters resulting from weather changes cause the greatest economic impacts on the region (70% of emergencies are weather-related). Annual costs of approximately 2.2% of the GDP (base year 2010) are estimated to face disasters, in lack of climate change adaptation actions.

The 2014 report of the Intergovernmental Panel on Climate Change (IPCC), forecasts heavier rainfall on eastern South America, with which agricultural productivity cold even increase by 2050. However, in Central America, the Brazilian north-east and parts of the Andean region (melting glaciers is the main threat in this zone), the temperature increase and rainfall shortage could reduce agricultural productivity in the short term (2030).

For Central America, forecasts for 2020 predict big losses in the production of basic grains, particularly beans, with reductions of approximately 25% in Nicaragua, Guatemala, El Salvador and Honduras. The Economic Commission for Latin America and the Caribbean (ECLAC), estimates that potential losses in production could represent up to 22% of the Central American agricultural GDP by the end of the XXI century. The Caribbean will be affected by the rise in the average sea levels (damages caused by extreme events are estimated in 6% of the GDP per year in some Caribbean countries), particularly in the Small Island Developing States.

The global climate risk index estimated based on information from 1995 to 2014, indicates that 4 out of the 10 countries with the highest risk index are in Latin America and the Caribbean: Honduras, Haiti, Nicaragua and Guatemala. In the region, one third of the population lives in high risk zones due to exposure to geological and hydro-meteorological threats.

Climate change is also increasing the dispersal area of plant and animal plagues and diseases, in addition to increasing the probability of outbreaks and intensified effects.

Family Farming Insurance

Through the enactment of Law 5,969 of 1973, Brazil established the Agricultural and Livestock Activity Guarantee Program (PROAGRO) to protect farmers from rural loan obligations.
In 2004, it created "PROAGRO Mais", for producers associated to the National Program for the Strengthening of Family Farming (PRONAF).

Currently, PROAGRO protects medium-sized farmers (PRONAMP), and PROAGRO Mais protects PRONAF beneficiaries. PROAGRO Mais guarantees, in cost operations, up to 80% of the expected gross income, covering financing and up to R$ 20 thousand of the estimated net income; and for investment operations, coverage limit is 95% of the expected gross income, deducting the coverage by cost operations. In cost operations, PRONAF beneficiary participation is mandatory, while in investment operations, it is optional.

PROAGRO and PROAGRO Mais are financed with federal resources as well as resources from the rural producer contribution as raw material (3% per year). Resources are managed by the Central Bank of Brazil, and executed by financial institutions authorized to operate rural loans (loan co-ops and banks), which are in charge of registering the participation of the lender in the Program, the collection of the premium, the application analysis and decision, the expense record and payments, and of registering the information with the Special Commission on Resources – CER.

CER is the only PROAGRO administrative instance. It is a collegiate body, the Directive Secretariat of which is subject to the Ministry of Agriculture, Livestock and Supplies. When the PROAGRO coverage request is denied by the financial agent, the producer can appeal to CER.

Between 2004 and 2016, incidents amounted to approximately 7% of the contracted amount. During the agricultural year 2014-2015, the insured figure amounted to R$ 8 billion (USD 2.37 billion). These figures project R$ 560 million (USD 165 million) of annual payments and a raw material collection (3%) of approximately R$ 240 million (USD 71 million). Therefore, the Federal Government complements the Family Farming Insurance resources with R$ 320 million (US$ 94.7 million).

Crops considered

According to the agricultural zoning: cotton, peanuts, plums, rice, banana, Arabica and Robusta coffee beans, cashew, barley, citrus trees, palm, beans, black-eyed beans, sunflower, apples, castor bean, cassava, corn, nectarines, pears, peaches, soy, sorghum, wheat, grapes, and intercropping.

All crops with irrigation.

Monitoring

To assess the quality of inspections and guide financial agents and assessors, a sample of the contracts is assessed, and pluviometric indexes in each municipality are analyzed using weather station information by the National Institute of Meteorology (INMET), EMBRAPA and state research institutions.

Insurance Payment

In case of losses exceeding 30% (gross income obtained lower than 70% of expected income).

The assessment is done through the inspection of damages in each farm, by registered technicians. The cost of the inspection is 1% of the insured amount (at least R$ 230), figure covered by PROAGRO.

For the payment, the producer must file the established supply purchase vouchers or must demonstrate to have capacity to produce the supplies used in the plantation. If "autochthonous seeds" were used, the plantation should have been registered with the Ministry of Agrarian Development.

In case of disagreement, the farmer can appeal to the PROAGRO National Commission.

Harvest Guarantee

Harvest Guarantee is a program that supports family farmers below the poverty line, with emphasis on the Brazilian Semiarid Zone, where losses due to drought are frequent. It was established by Law 10,420, of April 10, 2002.

The Fund Management Committee establishes every year the amount of the benefit, the number of farmers to be covered, the contributions and the reference planting calendar. In the 2014-2015 harvest, for instance, the benefit per family was set at R$ 850.00 (US$ 252.00), and the contribution to the fund at 1.5% of the benefit amount by registered farmers, 4.5% by member municipalities, 15% by the states, and 30% by the Federal Government (or the necessary resources to cover the payments).

Loss assessment is carried out by sampling in the affected municipalities, and using different agro-climate indexes. Once a loss greater than 50% is confirmed, the Fund covers all farmers registered with the Program in the municipality, provided that the farmers, the municipalities and the State had made the corresponding contribution to the Fund.

In Latin America and the Caribbean, family farming is very important for the food security and nutrition of all population. Approximately 81% of agricultural endeavours correspond to family farmers and, depending on the country, they provide 27% to 67% of the food. Family farming generates 57% to 77% of agricultural jobs in the region, so its is a very important job-generation sector.

To continue boosting food security and sustainable development, family farming has three important challenges: 1) to produce more assorted and nutritional foods, 2) to continue creating safer and more stable jobs, and 3) to favour the appropriate use of resources used in production.

Natural disasters affect the livelihoods of family farming, production and value chains, making trade and food availability difficult. Additionally, they cause issues in accessing them as a result of price increases due to shortage, unemployment and income reduction, mainly affecting those that are the most vulnerable.

Together with this, disasters can deplete savings and force those affected to sell vital productive assets, causing economic damages that could be irreversible, upon the loss of family development possibilities.

The chance of eliminating hunger in the growing population, will depend on the efforts governments make to protect, develop and strengthen family farming.

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Beneficiaries

PRONAF farmers from the member municipalities, with a family income lower than 1.5 minimum salaries, and whose planted area ranges between 0.6 ha (minimum) and 5 ha (maximum), can register for Insurance. Insurance payment is made directly by the Federal Government through electronic cards issued by the Federal Economic Fund, when farmers experience losses of at least 50% of the production.

Selection process

The number of possible beneficiaries established every year by the Managing Committee, is distributed based on the record of incidents and the projected demand, to the States, and the latter, at the same time, distribute it to Municipalities. The list of registered farmers is confirmed, electronically, through the use of pre-established criteria at a national level.

Such list is homologated by the Municipal Council of Rural Development, through the verification of the farmers' income and their inscription in the Family Farming register.

Federal Government Contribution

Every year, approximately one million farmers register in this insurance. With the continuing droughts, there are years in which the program has had to grant the benefit to almost 100% of those registered, corresponding to R$ 850 million per year (US$ 252 million). As the contribution of states, municipalities and farmers amounts to 28% of the payments made in 2016 (21% in 2014), the Federal Government contribution is approximately US$ 188 per year.

Managing Committee Members

Ministries of Agrarian Development, of Planning, of Treasury, of Agriculture, of National Integration, of Social Development; Civil Cabinet of the Presidency of the Republic; member Municipalities and States; Federal Economic Fund; Superintendence of Development of the Northeast; Brazilian Company of Agricultural and Livestock Research; National Institute of Meteorology; National Center of Natural Disaster and Warning Monitoring; Family Farmers' Organizations and Non-Governmental Organizations.

Between 2003 and 2014, the population in poverty situation of the region fell from 43% to 28%. During the period, approximately 73 million people overcame poverty. Despite this excellent performance, between 25 and 30 million people were in a vulnerable situation risking returning to the initial poverty levels; natural disasters being one of the risk factors. As of 2015, the Human Development report showed that poverty had increased slightly in regards to the previous year.

In the rural sector, poverty is more severe. Approximately 48% lives below the poverty line and 30% below the extreme poverty line. These figures correspond to twice the indexes observed in the urban sector. Rural population in the region lives in an extremely precarious situation because the poorest population plus the population in economic vulnerability situation correspond to 80% of the total rural population. Many family farmers in this percentage have their livelihoods depending greatly on environmental factors and natural resources.

Price Guarantee for Family Farming

This is a Federal Government program that offers the family farmer with PRONAF loan, a protection against price reductions. Currently, 51 products have a guarantee price.

The guarantee price is established based on the estimated production cost. Such cost can be increased or reduced by 10% to encourage or discourage certain products. Additionally, to promote the production of certain foods, the production cost can be increased by up to an additional 10%. The production cost includes the family labour.

The program establishes that, if the sale price is lower than the guarantee price, a discount is applied on a pro rate basis to the difference, on the loan amount to be repaid by the farmer. This way, the Program guarantees the remuneration of the production cost and promotes stability in production, the extension of the economic activity through the increase of financial security, the incentive of the production of certain foods and the reduction of "payment default" of the loan when prices fall.

The program was established through Decree 5,996 of 12/2006, which also defined the role of the Managing Committee and the functions of the National Monetary Council (CM) Program, of the National Supply Company (CONAB), and the Secretariat of Family Agriculture at the Ministry of Agrarian Development (SAF/MDA).

Functions

Managing Committee and National Monetary Council (CMN)

The Committee is responsible for sending operational proposals for the approval of the CMN, regarding products and guarantee prices, loan modalities, the limit amount for the proportional discount, the geographical area on which the guarantee price applies, and the calculation methodology for the discount.

The Managing Committee is formed by the Ministry of Agrarian Development, the Ministry of Treasury, the Ministry of Planning, Budget and Management, the Ministry of Agriculture, Livestock and Supply, and the Secretary of the National Treasury (STN).

Supply National Council (CONAB)

It carries out the survey and reports by the third business day of every month, the production costs, market prices, and the maximum discount applicable to the loan, per agricultural product.

Secretariat of Family Farming of the Ministry of Agrarian Development (SAF/MDA)

It publishes, by the fourth business day of every month, in the Federal Official Gazette, the discount amount per product and per State where the guarantee price applies.

Secretariat of the National Treasury (STN)

It supervises the financial agents and reimburses the amount of the applied discount. Financial agents are the same ones in PRONAF and are authorized to contract financing, apply the discount, formalize the contract before the STN, present the list of beneficiaries including the product, the financed amount, the municipality/State and the discount granted.


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