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EXECUTIVE SUMMARY 1

RURAL INSURANCE IN THE WORLD AND ALTERNATIVES FOR BRAZIL: Different designs and dialogues with the adoption of good practices and technologies

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Context

This document presents a summary of the study "[RURAL INSURANCE IN THE WORLD AND ALTERNATIVES FOR BRAZIL: Different designs and dialogues with the adoption of good practices and technologies](#)", published in August 2021.

In this study, the presented view was a structural analysis of the rural insurance market in nine select countries, including Brazil. The objective of this analysis was to highlight updated results obtained by these countries' insurance systems, as well as the governance structure adopted by each country.

Analyses of the relationship between rural insurance and adopting good practices and technologies and alternatives for Brazil are complementary presented in Executive Summary 2.

1. RURAL INSURANCE MARKET STRUCTURE IN THE WORLD

Faced with growing risks arising from climate change, risk management in agricultural activity is seen as an important agricultural policy instrument around the world. Instruments such as rural insurance have been gaining increasing importance in this scenario, which is considered strategic for ensuring food security and man’s continuity in the countryside.

Success in risk management via agricultural insurance permeates the system’s governance structure, which varies depending on the country. Therefore, understanding these structures a little better enables us to capture lessons that can be reflected in the Brazilian rural insurance system itself.

In a simple manner, this work seeks to compile information about rural insurance systems in nine select countries, including Brazil, in order to highlight similarities and differences among them.

Table 1 offers a small glimpse of these structures.

Table 1 – Key characteristics of rural insurance in select countries

Countries	Private	PPP - Public-Private Partnership	Coinsurance	60%+ Subvention	Public Reinsurance
Argentina	Yes				
Mexico		Yes			Yes
United States		Yes		Yes	Yes
Spain		Yes	Yes		Yes
China		Yes		Yes	Yes
Brazil		Yes			
India		Yes		Yes	Yes
Russia		Yes	Yes		
Turkey		Yes	Yes		Yes

Source: study results. Prepared by Agroicone

1.1 Rural insurance in the United States

The US rural insurance market is basically served by public-private partnerships, and is the largest in terms of collected premiums, percentage of insured area, and product portfolio.

In 2019 alone, US\$ 10.13 billion in premiums were paid to insure around 40% of the country's agricultural area, covering 153.3 million hectares.

The US government, represented by the Federal Agricultural Insurance Company (FCIC), grants administrative and operational subsidies to producers, driving the system through premium subsidies - whose average in the country is over 60% -, in addition to acting as a reinsurer.

Overall, the agricultural securitisation programme in the US is very costly to the government.

The country has 14 private insurers offering and operating insurance products. The broad portfolio offers from classic options, such as indemnity for named and multi-risk risks and a number of index insurance products, to specific products for rural producers who adopt some kind of soil conservation or production system.

Such a variety in insurance options offered in the country, as well as strong subsidy for the system, contribute to rural insurance's popularity in the US.

As stated initially, US insurers receive subsidies from the FCIC for administrative and operating costs of policy sales and for policy expenses with catastrophic coverage.

Reinsurance of rural insurance operations between insurers and the FCIC takes place through an agreement called Standard Reinsurance Agreement (SRA), whose clauses are defined on a regular basis.

The SRA varies in three categories, with quotas that can be proportionate, where responsibility sharing is the same; or variable, in which the quotas vary according to policy risk.

Another state agency that is active in this sector in the US is the Risk Management Agency (RMA), who establishes policy terms and premium rates, and regulates the insurance system.

1.2 Rural insurance in China

In China, the solid role of the State can also be seen in the national rural insurance system, from the district finance departments (DOF) who select two eligible insurers out of the 32 existing in the country for operating insurance with subsidies. They, in turn, choose between agricultural or livestock insurance, and sell the usually collective policies, divided by villages.

After marketing, insurers receive subsidies from the DOF as a premium subsidy, and part of those are already compulsorily directed to compose the country's rural insurance system's catastrophe fund.

In China, the subvention is split among the central government, provinces, and municipalities. In 2018, subsidy shares were 37%, 24% and 14%, respectively; producers paid 20% of the amount, and 5% were borne by other funding sources. This model was created in the second phase of rural insurance in China in 2002-2007, and contributed to the extraordinary growth of the rural insurance system in the country.

The diversified offer of products in China also repeats the American dose, with multi-risk agricultural insurance named as index, productivity, forestry, aquaculture, and livestock risks, with the exception of costing insurance.

Reinsurance is operated by a group of reinsurers, whose acronym is CARP, and coordinated by China ReP&C, the country's public reinsurance company.

In 2018, US\$ 8.59 billion in rural insurance premiums were paid in China, where more than 80% of the amount was subsidised for insuring an area equivalent to 35% of the agricultural territory, equivalent to 166 million hectares.

1.3 Rural insurance in Spain

Rural insurance in Spain is also in public-private partnership format, with almost 20% of its agricultural and livestock area insured, reaching 4.8 million hectares, according to 2018 data.

The Spanish government operates through the National Agency for Rural Insurance (ENESA), who is responsible for guaranteeing subsidies to producers as a premium subsidy of around 30% on average. This is the agency that formulates the Annual Rural Insurance Plan, establishes basic rules for insurance products, and fosters research for new products.

A differentiator in the Spanish market is the Insurance Compensation Consortium (CCS), which serves as a kind of balancing agent for the local insurance system.

The CCS is a public institution linked to the Ministry of Economy that fulfils the role of an insurance company with a 10% market share, and a reinsurer, funding itself on the rates charged on policy premiums.

Reinsurance products are divided into two categories: viable, governed by the stop-loss system, and experimental, by excess-of-loss, since experimental insurance products have high information asymmetry.

CCS also serves as an incorporator of failed insurance companies, assisting in the process of closing or recovering companies.

The 24 private insurers in Spain operate in the coinsurance system and are grouped under the Spanish Association of Combined Rural Insurance Companies

(AGROSEGURO). They operate the system from policy contracting to indemnity payments, in addition to fostering actuarial research for new product development.

Rural producer organisations and cooperatives also participate in the Spanish rural insurance system, formulating the insurance policy, encouraging rural insurance culture, and even as insurance cooperatives.

Spanish private reinsurers also serve in guaranteeing liquidity to CCS and to AGRO-SEGURO itself.

The insurance product offering covers the multi-risk agricultural modality, as well as named, index, forestry, aquaculture, and livestock risk.

The main products insured in Spain are citrus and summer vegetables, and the main risk is drought. In 2018, US\$ 868 million in premiums were paid, and the loss ratio reached 93%. Organizações de produtores rurais e cooperativas também participam do sistema de seguro rural espanhol, atuando na formulação da política de seguros, no fomento à cultura do seguro rural e até mesmo na forma de cooperativas de seguros.

Por fim, as resseguradoras privadas espanholas também agem para garantir liquidez ao CCS e à própria AGROSEGURO.

A oferta de produtos de seguro abrange a modalidade agrícola multirrisco e risco nomeado, paramétrico, florestal, aquícola e pecuário.

Os principais produtos segurados na Espanha são os cítricos e as hortaliças de verão, e o principal risco é a seca. Em 2018 foram pagos US\$ 868 milhões em prêmios e a sinistralidade atingiu 93%.

1.4 Rural insurance in India

India is one of the nations that suffers most from climate catastrophes and, therefore, has been seeking to build a rural insurance system that mitigates the risks in its agricultural activity, considering the land occupation pattern and rural property size.

The Government of India's role in the rural insurance market follows the public-private partnership model, with the highest average premium subsidy, which exceeds 90%, and public reinsurance.

Maximum premium for producers who take insurance varies from 1.5% to 5% of the insured amount. Even so, just over 10% of the country's agricultural area is insured.

The Indian rural insurance system is Pradhan Mantri Fasal Bima Yojana, known by the acronym PMFY, and is operated by five public and 18 private insurers who, in coordination with commercial, cooperative, and rural banks, sell insurance policies. These policies are compulsory for producers who take out loans, and optional for the others.

Indian authorities guarantee 50% of subsidy funds at the beginning of the year and the other 50% are made available to insurers along the year.

In addition, since 2007, the country's government has invested in index insurance through the Climate-Based Crop Insurance Scheme (WBCIS), which covers climate risks such as drought, excessive rainfall, and hail. This type of insurance is known for its speed in making indemnity payments, which occur when the rate of the insured event exceeds what had been previously estimated.

The products offered in India are more limited but cover most of the country's cultures; there are named agricultural, index, aquaculture, and livestock insurance products. The main risks are drought and excessive rainfall.

US\$ 1.74 billion in premiums were paid in India in 2019, and the loss ratio reached 116%.

1.5 Rural insurance in Turkey

In Turkey, TARSIM is an entity that combines the participation of the government and 24 private insurers. The organisation operates the insurance system in the country, creating new products, monitoring, supporting research, operating the subsidy system, and paying compensation to producers, while the directors are responsible for creating the company's guidelines and principles.

In cases of high claims, TARSIM operates as a reinsurer – internalising part of the claims, while the remaining claims are passed down to the domestic and international reinsurance market.

As a last resort, the Turkish government can also serve as a reinsurer, within the excess-of-loss model, reinsuring the volume of excess losses. In this case, an amount previously defined by the Ministry of Economy of Turkey is used.

Turkey collected US\$ 342 million in premiums in 2019, 52% of which were subsidised. Still, only 6% of Turkey's agricultural area is insured, which is equivalent to 2.5 million hectares.

The main insurance modes offered in the country are named agricultural, index, aquaculture, and livestock risk – the latter accounting for 27% of the total premiums collected in the same period.

The main products insured in the country are livestock and wheat, with a 21% share of premiums. The main risks are hail and frost.

1.6 Rural insurance in Mexico

Despite having a 30% average premium subsidy, Mexico has the second smallest insured agricultural area of the countries in the study: 2%, or 2.32 million hectares, according to a 2018 survey, highlighting the challenge of making rural insurance more popular in the country.

The Mexican market is mostly operated by some 440 Agricultural and Rural Insurance Funds (FAAR), non-profit producer associations that foster rural insurance in a mutualistic manner with their members.

The FAARs receive technical assistance for improving management and cost support in the process of professionalising and developing the services provided by AGROASEMEX - an arm of the Agriculture, Livestock, Rural Development, Fisheries, and Food Secretariat.

AGROASEMEX is responsible for operating in the country's insurance market, managing the federal premium subsidy system, monitoring and regulating the insurance system, encouraging the participation of other entities, and managing the national risk management system.

There are also 19 private insurance companies operating with rural insurance in the country, also regulated by AGROASEMEX.

The industry's products offered in Mexico include agricultural insurance, but only for named, productivity, index, and livestock risks.

The main insured product is corn, which accounts for 54% of premiums paid, followed by sorghum (22%), and beans (21%).

A 31% share of the US\$ 213.5 million in premiums paid in 2018 was subsidised. In addition, a loss ratio of 52% was recorded in the same year.

1.7 Rural insurance in Russia

Of all the countries evaluated, Russia has the lowest percentage of insured agricultural area and the lowest amount of collected premiums – as a result of the drastic drop in demand for this type of service after unification, in 2017, of subsidies

for developing agriculture in the country. With the unification, federation units no longer delegate the subsidy's apportionment and different destinations.

Although there is a determination by law since 2011 that the Russian government must pay 50% of the subsidy for rural insurance policy premiums, less than 3% of the country's agricultural area is insured.

Lack of popularity of the rural insurance market in Russia is also due to the scarce supply of insurance products, which are limited only to multi-risk agricultural and livestock insurance and coverage for few accident events, which makes the system inefficient and expensive.

In the country, there is still a requirement for compensation payment to producers who record a 20% lower than expected productivity.

The 17 private insurers in the country come together in the National Association of Agricultural Insurance Companies (NAAI), which defines policy conditions and submits them to approval by Russia's Ministry of Agriculture and Central Bank

NAAI also works as a reinsurer, especially in cases of high claims, offering liquidity to insurers in need. NAAI-affiliated companies contribute 5% of received premiums to the association's compensation fund.

The main product insured in Russia is grain, which accounts for 82% of premiums paid.

Due to difficulty in accessing information, the data collected from Russia date back to 2017, the year in which US\$ 40.8 million in premiums were paid, with a 50% subsidy and a 0.09% loss ratio.

1.8 Rural insurance in Argentina

Argentina is unique among the countries included in the study, as it has almost no state subsidy programs in the rural insurance market – except for pilot initiatives restricted to the Mendoza, Rio Negro and Neuquén provinces.

In general, the Argentine insurance system is strictly private and holds the second-to-last position in terms of total premium – US\$ 169 million in 2019. Even so, about 13% of the agricultural area is insured, around 19.5 million hectares – more than the respective rates of Russia

The Argentine competition regime is well established, with 26 private insurers selling agricultural risk insurance named for hail, representing almost 76% of policies, followed by hail plus additives, with a 13% share, according to 2019 data. The multi-risk and livestock insurance market, however, is still in its early stages.

The portfolio of products offered includes multi-risk agricultural and named risk, index, forestry, and livestock insurance.

The main insured product is oilseeds, which account for 51% of premiums paid, followed by cereals, with 43% of premiums paid.

The Argentine government is responsible for regulating, monitoring, and supporting the insurance market through the National Insurance Superintendence (SSN), an arm of the Ministry of Agriculture, Livestock and Fisheries.

In addition, as a rule, it is up to the Argentine State to concentrate efforts to develop this market by providing information and instruments for reducing risk in the operations, subsidising the activity with research, insurance education and popularising the service offered by the National System for Preventing and Mitigating Agricultural Emergencies and Disasters, which is exclusively fostered by the National Fund for Mitigating Agricultural Emergencies and Disasters (FONEDA).

It is worth mentioning here a recent innovation in Argentine insurance with no direct connection to rural insurance, but which aims to direct financial resources to environmental actions: the so-called Green Insurance, or National Environmental Sustainability and Insurance Programme (PROSAS). It establishes that 1% of the premiums paid in car insurance policies be directed to planting trees (90%) and environmental education (10%).

2. RURAL INSURANCE MARKET STRUCTURE IN BRAZIL

In Brazil, the Private Insurance Superintendence (Susep) represents the private sector system in the country.

The government is responsible for fostering actuarial research and knowledge of the risks covered by rural insurance, as well as for offering funds as subsidy to the premium.

The Central Bank, in turn, operates two state risk management instrument initiatives geared to rural producers. The first one is the Agricultural Activity Assurance Program, PROAGRO, which provides for exempting producers from payment of costing credit operations in the event of a claim from weather events, pests, and uncontrolled diseases. Contracting it is mandatory in this type of operation for covering up to R\$ 300 thousand.

The second one is PROAGRO Mais, which works like the previous one, but its target audience is family farmers linked to the National Programme for Strengthening Family Agriculture (PRONAF).

There is currently a migration movement by PROAGRO producers fuelled by high uncertainty and claims, in addition to risk to public accounts, to another governmental promotion initiative, the Rural Insurance Premium Subsidy Programme (PSR).

The PSR provides for subsidy to the premium, transferring subsidies to the private insurance market which, in addition to paying compensation to producers, sells policies and establishes their conditions.

After the subsidy programme was institutionalised, rural insurance has become popular in Brazil and gained scale in terms of number of policies, premium amounts, and covered area. A proof of the popularisation of rural insurance is the growth rate of the gross premiums that is higher than the subsidised amount.

The general portfolio of insurance products in the Brazilian market comprises multi-risk and named-risk agricultural insurance, productivity, costing, aquaculture, forestry, livestock and, more recently, index insurance.

Although the number of crops covered in the country has grown over time, there is a high concentration in grain, the main insured crop – with soybeans representing 42% of total premiums – followed by fruit. These activities also have the highest premium subvention averages, at 49% and 44%, respectively.

Forestry and livestock insurance are still incipient in Brazil, and their average subsidies in 2006-2020 were 26.9% and 37.53%, respectively.

High loss ratios have kept pace with expansion in Brazilian rural insurance and the growth of the country's agricultural production. Factors such as climate risk, adverse selection, and regional concentration in a small variety of products can affect the recorded loss ratio.

From 2006 to 2019, grain and fruit growing were the activities that recorded the highest volumes of compensation payments, as they are very exposed to multiple risks. Therefore, the number of claims covered in their insurance products is of paramount importance.

In Brazil, according to data from 2006 to 2019, eight of the 15 insurers included in the study have average claims above 50%, the three largest in terms of collected premiums have average claims, and seven have claims below 50%. Four insurers, including two members of the largest group in terms of collected premiums, have a high average percentage of indemnified policies: 18% to 25%.

In terms of public reinsurance, however, the Brazilian model is currently inoperative.

The country had a public instrument for guaranteeing liquidity to the insurance system in cases of catastrophes via reinsurance, the Rural Insurance Stability Fund (FESR). It offered stop-loss reinsurance for excess losses in ranges from 100% to 150% and from 250% to 350%; the others were incorporated by insurers or proven reinsurers.

The FESR was funded by a 30% levee on insurers' profits, and the government covered the deficit in case of excess claims, which created a heavy dependence on the availability of funds. Thanks to this, the fund operated under extreme inefficiency, with delays in reinsurance operations, compromising its popularity among insurers.

The FESR is expected to be replaced by the Catastrophe Fund created in 2010, whose format follows the public-private partnership model, but it still lacks regulation and, therefore, is not yet operational at this time.

The idea for the Catastrophe Fund is that it serves as a guarantor of liquidity in times of catastrophes. Initially, the government would allocate R\$ 2 billion to it, with the expectation of raising the same additional amount from the market.

Recently, in a report on risk management policy in Brazil, the World Bank questioned the need for financial resources for absorbing excess losses via FESR as well as for financing the Catastrophe Fund, since the Brazilian market is open to the international reinsurance market.

The suggestion was to allocate such funds to guide reforms in public insurance programs, such as Proagro and Garantia Safra, based on structured risk layer definition.

3. FINAL CONSIDERATIONS

Rural insurance's performance as an agricultural policy instrument depends on the governance structure and institutional aspects inherent to each country. However, the need to direct public financial resources to guarantee agricultural activity insurability is undeniable.

Beyond the State's financial role, an important component in building a robust and sustainable insurance system is precisely massifying a rural insurance and agricultural risk management culture.

It is therefore worth mentioning the performance of Brazilian actors in this regard. Initiatives by MAPA and SUSEP have been improving several aspects of the rural insurance system, reducing transaction costs between producers and insurers, as well as guiding producers to understand the insurance service as an investment, and not necessarily as a cost.

In addition to this discussion, there is also the issue of adverse selection, which can be better explored by incorporating stewardship matters and risk management strategies that involve adopting sustainable agricultural practices into the policy pricing process. This point is essential for ensuring long-term insurability of agricultural activities.

This publication is an Executive Summary that encompasses the results of the first part of the Agroicone study on rural insurance: “Rural insurance in the world and alternatives for Brazil: Different designs and dialogues with the adoption of good practices and technologies” (August 2021).

About Agroicone

Agroicone is an organization that generates knowledge and solutions to transform Brazilian agriculture towards the global challenges of sustainable development. It operates in five strategic areas: i) international trade and global issues; ii) sustainability and territorial intelligence; iii) public policies; iv) business, markets, financing; v) technologies in agro chains. Agroicone has a multidisciplinary team with broad expertise in the economic, regulatory/legal, territorial, socio-environmental and communication areas. Additional information: www.agroicone.com.br

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The Land Use Initiative (Iniciativa para o Uso da Terra - INPUT) has a dedicated team of leading specialists working at the forefront of how to increase environmental protection and food production. INPUT aims to analyse and influence the creation of a next generation of low-carbon economy policies in Brazil. For more information, please visit: www.inputbrasil.org

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