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Key Messages

- Improving climate resilience of Mongolian farmers is needed;
- Crop insurance can increase risk management potential;
- Index insurance could serve as an affordable product;
- Experiences gained through the livestock insurance scheme could be transferred to the field of crop insurance;

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Development of index based crop insurance market in Mongolia

Agricultural production and climate risks

Agricultural production plays an important role in Mongolia both for food security and for the employment of rural population. Currently, 28.2 percent of the population in Mongolia is employed in the agricultural sector. However, productivity in the agricultural sector is not very high. In order to improve the crop production, the Mongolian government has established an agricultural support fund to provide different types of support measures to agricultural producers. The fund is supporting the development of the agricultural sector via allocation of subsidies, provision of inputs and credits. Currently, 525 thousand hectares are being cultivated, from which 390.7 thousand are annually allocated to wheat production (DMKNL, 2016). However, the climatic conditions in Mongolia are unfavourable for agricultural production due to the very short vegetation periods. Moreover, annual precipitation levels are very low and range between 110 and 140 mm in the South and West, between 200-230 mm in the East and between 220-350 mm in the North. Another challenge is the increased occurrence of extreme droughts during the recent years, which is making farmers very vulnerable. For example, this kind of extreme drought was observed in 2017, when very large yield losses were experienced. The loss of harvest and



livestock isn't a problem only for farmers, but also for the financial sector and for state support programs, since farmers cannot return their credits and inputs received in advance. This will not only reduce farmers' motivation to invest to agricultural productions, but will also create difficulties to provide credits and inputs in the subsequent years. This uncertain environment therefore challenges the goal of the Mongolian government to improve food security conditions in the country. Under these conditions, agricultural insurance may provide an opportunity to increase the resilience of farming systems, to improve productivity and thus to contribute to food security.

Role of agricultural insurance to manage climate risks

An agricultural insurance could be a potential market-based financial instrument to increase the risk-coping capacity of farmers and agricultural lenders. Agricultural insurances allow risk to be transferred to agricultural insurance markets and thus increase the confidence of farmers and facilitate their investment into agricultural production in general. Farmers usually have a better opportunity to receive credits when they insure their production risks. Otherwise, banks might be reluctant to provide credits since the confidence on credit returns is very low due to the risky nature of agricultural production. Farmers with agricultural insurance therefore have better opportunities to increase their productivity via intensification of production and by using better technologies compared to farmers without insurance. Overall, this would also provide better food security conditions at national levels. Therefore, agricultural insurance in developing countries may have a positive influence on agricultural production beyond merely securing farmers' profits.

Although theoretically very promising, agricultural insurance programs were not very successful in the developing countries. One of the main reasons for the lack of success was the very high operational costs of traditional programs, that made products unaffordable to farmers in the developing countries. Lack of trust to insurance companies and fear of manipulations (e.g. moral hazard) are the other challenges also very relevant to transition economies. Index insurance is introduced as a new product which has promising potential to reduce operation costs and to resume trust between farmers and insurance companies, because loss payments are based on an index (e.g. rainfall, temperature or regional yields) which is outside the control of farmers or insurance companies. Such kinds of indexes are usually highly correlated with



yields and farmers receive payments when such index falls below or above the critical point. Mongolia is one of the pioneer countries where the livestock index insurance market was already developed with support from international organizations.

Livestock index insurance in Mongolia

Livestock production is one of the most important fields of agriculture closely related to the Mongolian culture. It is very important not only for food security, but also as a potential field for boosting agricultural exports. However, high mortality rates in the livestock production sector have been registered, that are associated with harsh climate conditions in Mongolia. This doesn't only create difficulties in commercialization of the livestock sector but also causes considerable challenges for food security in rural areas. In order to manage climate risks in livestock production, the Mongolian government established index-based insurance markets in cooperation with the World Bank. The particularity of the index based insurance is that farmers receive indemnity when the specified index falls below (or above) a certain value. Most index insurances are based on weather indexes or regional productivity indicators, which are highly correlated to farm level losses. Insurance payments in the Mongolian livestock insurance program are based on the district level mortality rates. Insured headers receive a certain amount of payment when the district level mortality drops beyond the certain level. In order to make the price of insurance product more affordable, the Mongolian government provides certain subsidies. Particularly, the state subsidizes the costs of the premiums associated with extreme events indirectly. This is implemented via dividing the indemnity payment according to two levels. In the first level, losses until 30 percent (in some extremely risky regions 20 percent) are secured under market conditions. Re-insurance of the losses with international re-insurance companies are done from the premiums collected. However, the re-insurance of losses above 30 (or 20) percent are subsidized by the state. Thus, the overall price of the product remains affordable to the Mongolian herders. In order to increase the climate resilience of Mongolian crop producers, the government is aiming to develop crop insurance markets in the country in the coming years. In order to define the role and required support from the state, the experience of the neighbouring transition economies could be analysed in order to obtain useful knowledge that could be applied to the Mongolian conditions.

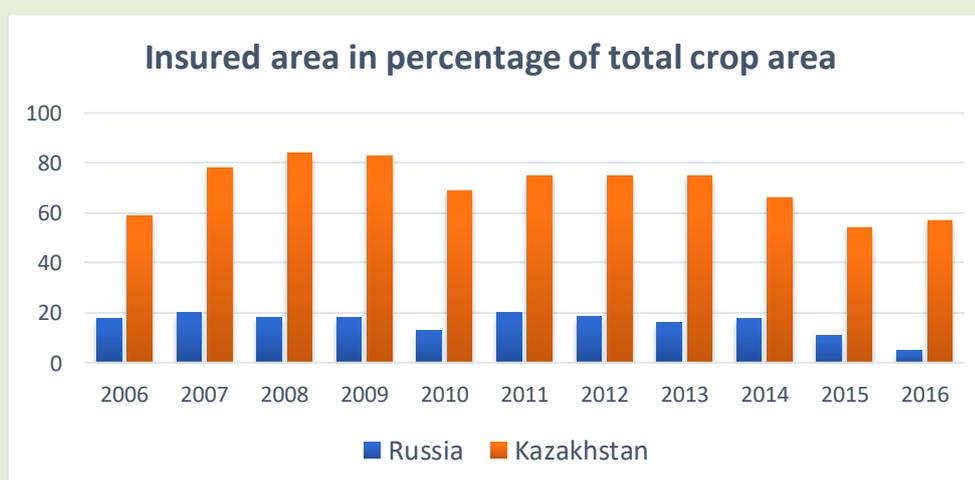


Experience of neighbouring transition economies

Currently Kazakhstan, Russia, Ukraine and Uzbekistan are the only countries in the CIS with functioning agricultural insurance markets, where state support plays an important role. However, the level and form of state support differs from country to country. Farmers in Kazakhstan are mandatorily insured against almost all main perils identified as the main sources of risk in the country. The program is subsidized by the state and the government covers 50% of the insurance companies' losses. More than 57% of the grain acreage was mandatorily insured in 2016 (KazAgro, 2016), however, the effect of this insurance program is very limited. Farmers usually pay very limited levels of premiums in order to fulfil the insurance obligation required by the state, but the program does not function as a risk management tool due to very limited coverage of the losses.

The Russian government subsidizes 50% of the insurance premiums. The insured area changes from year to year depending on the amount of actual subsidy transfers and ranges between 5 and 20 percent depending on the year. Thus, the success of agricultural insurance is very dependent on the amount of subsidy transfers and on the otherwise very reluctant interest of farmers to buy under market conditions. This is mainly explained by very high operation cost of the insurance program and limited risk management effect of the current subsidized insurance products (Bobojonov et al., 2014).

Ukraine has also provided a 50 percent premium subsidy during the years 2005-2008. The subsidies were eliminated in 2009 due to budget deficits. Nowadays, between 8 and 18 percent





of the crop area are insured depending on the region (IFC, 2017). The main demand for insurance comes from high production risk and banks do not accept uninsured yields as collateral. The demand for insurance is declining in the country and the efficiency of the insurance program needs to be improved in order to make it an attractive risk management tool. Several international organizations are planning to implement pilot programs on index insurance to solve the existing challenges, but those projects have not been successful so far.

A state subsidy of about 25 % was provided in the early years of independence until 2002 in Uzbekistan. Since 2002, agricultural insurance has been provided under market conditions. Depending on the region, from 3 to 60 percent in cotton production and between 2 to 37 percent area in wheat production is insured (Muradullayev *et al.*, 2015). However, mainly specific peril insurance products are sold and drought insurance products are not offered due to the high price and due to the systemic nature of drought in Uzbekistan.

Overall, the experiences of the neighbouring countries show that market developments depend highly on state subsidies. Generally, the operation and maintenance costs in the region are very high and make the products very unattractive without the state subsidies. Insurance products are offered under market conditions only if specific perils are insured or banks require insurance to provide credits. Developing index insurance markets are planned in several countries, but the activities are still in their early stages.

Prevailing conditions for establishing crop insurance program

Interviews with representatives of the Ministry of Food, Agriculture and Light Industry (MoFALI), insurance and reinsurance companies, the state meteorological service and a selected number of farmers were conducted. Overall, all the actors involved agree on the importance of establishing a crop insurance market. Furthermore, representatives of the MoFALI indicate a willingness of the state to provide support to insurance companies and farmers in order to increase the attractiveness of the insurance products and to make them more affordable. Insurance and re-insurance companies have already established their experience by operating in the agricultural sector associated with their involvement in the livestock insurance program. Furthermore, a pilot program of crop insurance was implemented with a limited number of participating farmers during the 2016/2017 vegetation period.



Currently, discussions and agreements with several re-insurance companies are ongoing to establish the index insurance market since the re-insurance of traditional insurance is very expensive under Mongolian conditions. These discussions overall show very good grounds, acceptance and readiness of the government agencies and the insurance companies to establish crop insurance market with state support. Nevertheless, there are also several challenges which need to be tackled in the coming years in order to guarantee the sustainability of the expected insurance programs.

Interviews with a selected number of farmers, however, show a very heterogeneous picture - some farmers are very interested in buying insurance products and others are not. Furthermore, interviews provide difficulties in obtaining information not only on the importance of agricultural insurance but also on the scarcity of extension agents in Mongolia in general. Also, the involvement of Mongolian research institutes and meteorological services in the ongoing efforts on establishing crop insurance markets is very little. Therefore, those aspects need to be taken into consideration in the current discussions.

Policy recommendations

The evaluation of the conditions for establishing a crop insurance market show very favourable institutional environment for large scale dissemination of the pilot programs on crop insurance to country-wide scales. However, there are several aspects that need to be considered in the forthcoming developments in the state support of the crop insurance programs. First, careful allocation of state funds to insurance market need to consider experience gained in other countries, especially in the neighbouring countries. The provision of subsidies towards product premiums did not bring any expected effect in the neighbouring transition economies; rather, it complicated the market mechanisms. The state could consider providing subsidies in a similar mechanism implemented in the livestock insurance program or to cover the operation costs of the insurance and re-insurance companies in Mongolia. The provision of subsidies in these forms may also fit to the obligations of Mongolia in international agreements such as its WTO membership. It is also important to note that insurance must not be made mandatory and farmers need to buy it with their own interest. Furthermore, the state should consider improving and expanding the available extension agencies in order to increase awareness of farmers about climate risks and benefits of agricultural insurance. Especially, demand of



farmers and their perceptions on agricultural insurance need to be regularly investigated via surveys and insurance games¹, because it is very important to consider the perceptions of the farmers in introducing new products as well as continuous improvements of challenges which may emerge. Thus, popularity of insurance products could be maintained unlike challenges observed in neighbouring transition economies. Moreover, the state meteorological agency needs to be also involved in the process of development and operation of state supported insurance program.

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Disclaimer: Views and assessments articulated in this Policy Brief are those of the authors. They do not necessarily represent the views of the German Federal Ministry of Food and Agriculture (BMEL) with whose support the German-Mongolian Cooperation Project Sustainable Agriculture is running.

¹ *Insurance game is a methodology to help to explore the demand with participation of farmers in the experiments where different products and prices are offered*



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