



## ZAMBIA: Climate Risk Insurances



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Ways out of poverty, vulnerability  
and food insecurity (AVE)

**29B** **GOOD  
PRACTICE  
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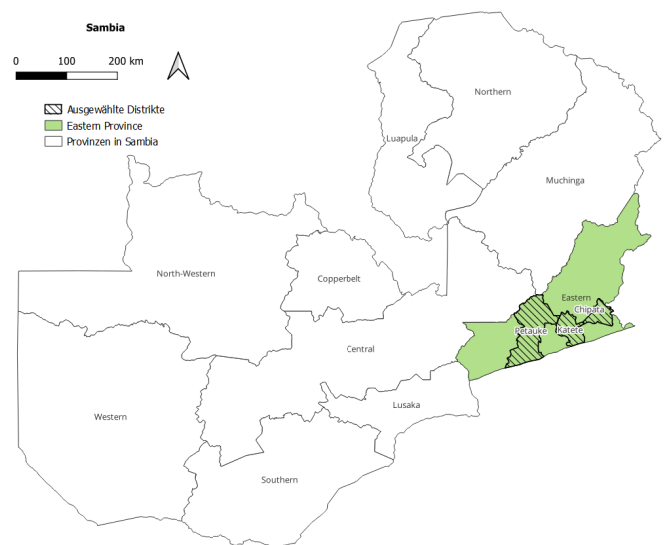
## Introduction of climate risk insurance in Zambia

Eastern Province in Zambia is characterised by small-scale farming structures and at the same time is particularly affected by the impacts of climate change. To address these challenges, different actors – including the Zambian government, GIZ and WFP – are working to introduce climate risk insurance among the region’s smallholder population. In the GIZ project “*Climate resilience through risk prevention and innovative climate risk insurance in Zambia*” (CRIIZ), this is combined with other measures that are intended to increase income and reduce vulnerability to extreme weather-related crop failures and associated consequences. The combination with training programs on the use of climate data, income diversification and climate-resilient agriculture is especially well received by smallholders. However, the acceptance and effectiveness of climate risk insurance are lower. Microfinance institutions and insurance companies have a largely positive attitude towards the approach, but especially inaccurate indices and lack of clarity about the general functioning of insurance lead to scepticism and frustration on the part of smallholder farmers. Overall, some good approaches can be identified, but in many places the instrument of climate risk insurance needs to be adapted and further developed.

*Agricultural finance, Climate Risk Insurance, resilience, Eastern Province, Zambia*

## Country background

The Republic of Zambia is a landlocked country in southeast Africa. More than half of the employed population (approx. 59%) worked in the agricultural sector in 2021 (FAO 2022) which contributed 3.4% to the country’s GDP (World Bank Group 2023b). In many cases, the agricultural potential is not fully utilised, and crop yields thus remain comparatively low. This can be attributed to a wide variety of factors. One of these factors is that Zambian agriculture is predominantly rain-fed agriculture, which relies on natural irrigation through rainfall. For the most part, Zambian agriculture is heavily focused on heavily focused on only one crop, mostly maize. This makes Zambian smallholder farmers in particular extremely vulnerable to weather-related crop failures caused by droughts and/or floods. Zambia is particularly exposed to the consequences of climate change. Thus, the frequency and intensity of both drought and flood events have increased significantly in recent years (World Bank Group 2023a).



In Eastern Province, additional factors are the particularly rural character of the province (83.2% rural population in 2022 (ZSA 2022)) with an above-average susceptibility to extreme weather events (World Bank Group 2023a). This leads to a high risk for the smallholder population of the region to suffer crop and income losses, thereby endangering their livelihoods or losing them altogether and falling into food insecurity.



To address this issue, various actors, such as the Gesellschaft für Internationale Zusammenarbeit (GIZ), but also the World Food Programme (WFP) and the Zambian government, are working, among other things, on the introduction and dissemination of Climate Risk Insurance (CRI) for vulnerable smallholder farmers in order to sustainably strengthen the resilience of this population group.



## Project background

The GIZ project “Climate resilience through risk prevention and innovative climate risk insurance in Zambia” (CRIIZ), which promotes CRI, aims to improve agricultural actors’ access to climate risk insurance and climate risk information in order to sustainably strengthen the resilience of this population group. It is oriented towards different needs and interests. On the one hand, the CRI product is intended to give smallholders the opportunity to externalise the risk of crop failures caused by extreme weather and to spread it over as many shoulders as possible. On the other hand, microfinance institutions (MFI) and banks also have an interest in ensuring that smallholders are not put in a position where they cannot repay (micro)loans they have taken out due to crop failures. However, microloans or small loans play a central role in enabling smallholder farmers to access sufficient, better-quality agricultural inputs such as seeds or fertiliser. The Zambian government also has an interest in a concomitant strengthening of the agricultural sector, and for insurance companies CRI offers a potentially lucrative market due to the hitherto almost non-existent supply.

Documented examples from other countries with similar general conditions provide various indications that CRI can

be a very suitable instrument to strengthen resilience in relation to poverty, the weather-related loss of crop yields, and in the worst case also loss of livelihood and related food insecurity among smallholder farmers (Kraehnert et al. 2021; Kühne 2019; Aznar-Siguan / Bresch 2021). Index-based CRI schemes are particularly recommended for the context of countries of the Global South, as they are cost-effective and can be implemented with little administrative effort compared to other approaches (Kraehnert et al. 2021; Below und Nalwimba 2021). Nevertheless, the insurance approach is still quite new. A structured, open-ended and unbiased evaluation process of different approaches, is needed to investigate its effectiveness.

## Overview of goals and activities

Central to the sustainable impact of the project is the combination of the introduction of CRI with complementary measures to strengthen the resilience of smallholder farmers. Resilience in the context of the project does not only mean the dissemination of CRI among smallholder farmers, but also the communication of preventive measures to reduce potential losses due to extreme weather events. One central instrument for achieving this goal is the training of smallholder farmers, but also of employees of insurance companies and ministries, as well as of microfinance institutions in their role as CRI intermediaries. The content of the training programs is the goals and functioning of CRI in general, as well as the provision and handling of climate data. The approach can be summarised by the description “access to CRI and climate information with integrated capacity building”.

In order to achieve the greatest possible sustainability, local structures were involved in the implementation of the project activities from the very beginning. One way in which this is done is by explicitly training employees of Zambian insurance companies with regard to the introduction of CRI. Furthermore, the project cooperates directly with the Zambian Ministry of Finance and Agriculture, as the Zambian government has its own CRI dissemination strategy, linking CRI to government input delivery to smallholder farmers under the “Farmer Input Support Programme” (FISP) (World Bank Group 2023c). The aim of this cooperation is to improve access to weather information for 100,000 smallholders and to enable 30,000 smallholders to take out a CRI (vgl. Below / Nalwimba 2021).

After the relevant actors on the supply side had been trained in the functioning and objectives of CRI, and individual climate risk insurance products adapted to the regional challenges had been jointly developed, the insurance products were introduced to the smallholder farmers. This process takes place through different channels. Sometimes the issue of CRI is raised in one of the regular meetings held in many villages in Zambia between groups of smallholders and staff of the Ministry of Agriculture, in some cases also attended by representatives of the insurance companies. In other cases, CRI policies are brokered by MFI themselves to smallholder farmers in connection with microloans. Finally, in both the Zambian government's programme and the MFI interviewed, CRI policies were even made a compulsory condition for taking out microloans in the form of agricultural inputs.

In addition, smallholder farmers are trained in agricultural practices that aim to minimise weather-related crop losses – so-called “Climate Smart Agriculture”. They are also taught financial planning skills and ways to diversify their income. On the one hand, these are intended to help minimise the damage caused by extreme weather events in a preventive manner. On the other hand, they are intended to enable smallholders to achieve a general increase in income in order to enable them to finance the insurance premiums at all. In the case of the CRI arranged by the CRIIZ project, the insurance premiums are settled with the repayment of the corresponding microcredit at the end of the harvest period, so as not to place an additional burden on the smallholders at the beginning of the period – a time that is already characterised by financial difficulties. However, this approach is not followed by all CRI programmes.

In March 2023, a team from the Institute for Development and Peace (INEF) at the University of Duisburg-Essen conducted research in the Zambian capital Lusaka and the project region Eastern Province in the districts of Petauke, Katete and Chipata. In the course of this research, numerous intensive interviews were conducted with key actors of the project, participating MFI and insurance companies. Furthermore, there were focus group discussions with smallholder farmers who were the target group of the project measures, but also with control groups of smallholder farmers who are not among the beneficiaries of the project. The aim was to explore the understanding of how CRI works, to work out the effectiveness and problems of the approach, but also to learn about the insurance companies' perspective and farmers' experiences.

## Project impacts achieved so far

As no final report of the project is available at the time of the INEF investigations, the presentation of the project impacts to date comes from a progress report covering two thirds of the originally planned project duration, i.e. January 2020 to December 2021. In addition, some aspects were deepened within the framework of the qualitative research carried out, which, however, did not aim at a quantitative evaluation.



Since a large part of the project activities are based on training, the implementation of the project was severely constrained by the Covid 19 pandemic. For example, by the end of 2021, 9,651 CRI policies had been taken out by smallholder farmers, of which approximately 40% were taken out by women. It is therefore not expected that the targeted number of 30,000 CRI policies taken out can be achieved by the end of the project period (December 2022). In addition to the restrictions on conducting training programs, the Covid 19 pandemic led to a reduction in income for many smallholder farmers, which made them less willing to spend money on insurance premiums.

Despite these limitations, it was possible to establish CRI as a product with four major Zambian insurance companies. One MFI included in the interviews, which is very active in Eastern Province, has also integrated CRI into its own services as standard. Nevertheless, there seems to be a difference of opinion between GIZ and the MFI/insurance companies on the best possible form of a CRI. While MFI and insurance companies have switched to yield insurance after an initial introduction of index-based CRI, there are concerns on the part of GIZ about the higher effort and the resulting higher costs of this form



of insurance. Without additional public subsidies, this would make yield insurances less affordable for smallholder farmers.

However, the smallholder farmers interviewed are also critical of index-based CRI. Many interviews revealed frustration with the implementation of this tool, as not all weather-related crop losses were recorded and compensated due to the inaccuracy of the indices collected. At the same time, the group's financial resources are severely limited, which makes it difficult to carry out a more cost-intensive implementation of yield insurance with individual claims assessment. As the CRI approach is still quite new, it will be necessary to continuously gather experience and work on the best possible approaches in dialogue between insurers and policyholders.



### Challenges and conditions for success

► Index-based CRI policies are easier and cheaper to implement compared to other types of insurance and are therefore quite suitable for the context of countries in the Global South. Nevertheless, there is the problem of inaccurate indices – different weather conditions within a district cannot always be recorded in a differentiated manner, which is why there may be no payout despite a claim. This not only means that insurance in these cases does not fulfil its purpose of minimising the risk of weather-related income losses, but also leads to additional expenses and a loss of confidence and trust on the part of smallholders.

► Yield insurance is considered by some actors to be a more effective option than index-based CRI, as they are based on an individual assessment of crop losses and thus allow for more targeted support in the event of a loss. Nevertheless, this form of CRI is associated with a higher administrative effort, which ultimately leads to higher costs for the insurance agencies, which are then passed on to the policyholders.

► The question of whether index-based CRI or yield insurance is a suitable tool for strengthening the resilience of smallholder farmers has therefore to be answered based on a cost-benefit analysis. However, the next fundamental question associated is whether CRI should be self-financing or subsidised by public funds.

► The understanding of how CRI work differs greatly among smallholder farmers. In many cases, the concept of insurance itself was understood in principle, but the payment modalities and why payment is often not made despite crop failure often led to a lack of understanding for a large proportion of respondents. There is a need for further explanations and/or an (easily accessible) contact point for smallholders with questions and dialogue in case of uncertainties.

► Considering CRI as part of a holistic approach, in which it serves as one of several tools, is quite a promising strategy. This has been particularly taken on board by insurance providers and MFI. Smallholder farmers also claim to benefit from the combination of various measures. In particular, the training programs on income diversification through further economic activities, on financial literacy in general and on Climate Smart Agriculture were positively received by a large part of the respondents and considered as very helpful in improving their living situation.



► The combination with other measures to increase the resilience and income of smallholders, as well as the approach of only charging the insurance premiums at the end of the harvest period with the repayment of the corresponding micro-credit, has proven to be suitable for enabling access to CRI for groups that would otherwise not have the financial means to do so. Alternative approaches can be observed in the form of reduced insurance contributions in return for the participation of smallholders in environmental or climate protection construction measures (“cash-for-work”) in Ethiopia or in the strategy pursued by WFP of financing insurance contributions that are successively reduced after each harvesting period (Kühne 2019; World Bank Group 2019).

## Conclusion

► A discussion which is fundamentally relevant is the question whether the most effective model is one which is independent of public funding and thus quicker to implement, more flexible to adapt and less dependent on political decisions. Alternatively, the issue is whether financial support from public donors would make more sense. This would allow for less focus on the economic viability of the model and thus allow more elaborate but potentially more effective measures without placing a greater financial burden on the beneficiaries themselves. In order to enable the implementation of the more effective, but more cost-intensive approach, it would be conceivable for those countries to participate financially which are considered the main contributors to climate change and thus one of the main causes of smallholders’ risk of losing their livelihoods through extreme weather events.

► As CRI is still a rather new approach, there is a need for both a comprehensive collection of impact data and a vertical as well as horizontal exchange of experience between the different actors involved in order to jointly identify problems and develop approaches to solutions. Something which is central to this is also a concrete evaluation of the impact of CRI on the financial situation of the smallholder farmers concerned, in order to enable a well-founded cost-benefit assessment.

► Should the index-based CRI approach be implemented more widely, it is essential to improve the quality of the weather indices collected. To this end, local actors as well as administrative staff in the responsible authorities must be further educated and trained, but the necessary

infrastructure for the relevant regional weather stations must also be strengthened and further developed. This would not only promote more accurate recording and compilation of the indices, but would also mean an improvement in the quality of the data made available to the smallholders by radio or USSD, which might make it possible to implement short-term adaptation strategies with regard to extreme weather events.

► It has been shown that strengthening the resilience of smallholder farmers to the impacts of climate change through the approach described here can be quite successful, but embedding it in accompanying measures is absolutely necessary. CRI policies alone are not sufficient to achieve this goal, and can only ever function as one aspect of a more comprehensive approach.



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## Images

Cover photo: River at the end of the rainy season, 1. Map of Zambia with provinces and study region, 2. Bridge with traces of heavy rainfall, 3. Cultivation of groundnuts and maize, 4. Bag of soy chunks, 5. Focus group discussion with smallholder farmers

Fig. 1 (map) Nadia Noor  
all photos by © Mika Ache

## Project characteristics\*

B5 – Processing intensity by research team  
G1 – Gender identifier  
P2 – Participation  
A3 – Target group identifier

\* For explanation see Good Practice handout or on [https://www.uni-due.de/inef/inef\\_projektreihen.php](https://www.uni-due.de/inef/inef_projektreihen.php)

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## INEF – Research Project

The research project aims to develop recommendations for state development cooperation. The aim is to identify measures that can better reach poor, vulnerable and food insecure population groups and efficiently support them in improving their living situation in a sustainable way.

We examine the interdependencies of poverty, vulnerability and food insecurity in order to identify both blockages and success factors for development cooperation.

Based on literature analyses and surveys of professional organisations at home or abroad, successfully practised

approaches (“good practices”) are to be identified and intensively analysed within the framework of field research. In addition to a socio-cultural contextualisation, the gender dimension is consistently taken into account throughout. The local investigations focus on the participation of the affected population in order to capture their perception of the problems and ideas for solution.

The project is funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) under the special initiative “One World – No Hunger”.

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