Agricultural drought risk management in Germany: Insurance solutions and other public support measures

- Due to recent extreme weather events, droughts and resulting damages got into the focus of national and international governments.

- Insurance as an instrument for managing agricultural risk is being increasingly explored by policymakers, especially in light of reforms in EU Common Agricultural Policy.

- Germany is one of the few member countries of the European Union not subsidizing agricultural crop insurance. A competing market of diverse insurance companies established over the years.

- Additionally, different publicly financed ad-hoc emergency measures are available for disaster loss compensation, including drought.

- This factsheet outlines agricultural drought risk management options in Germany, including insurance solutions and available public support measures.
Agricultural crop insurance in Germany

In Germany, there is an established market of several competing crop insurance companies, mostly focusing on hail insurance solutions. This is also the most broadly insured peril in Germany (approx. 70% of all crops). Crop hail insurance was introduced in the 18th century and developed ever since. Multi-peril insurance products were only recently established. Especially drought insurance is still in its infancy in Germany. Present penetration rates are comparably low: in 2015 only 0.5% of all arable land was insured against accumulation losses, including drought (GDV, 2016).

As of January 2019, all drought insurance products available in Germany are index-based. In 2013, the insurance tax for weather risks such as hail, storm, heavy rainfall, frost and flooding was decreased from 19% to 0.03% of the sum insured. However, drought insurance products are still taxed at 19% (GDV, 2016).

In contrast to many other countries especially in the European Union there is no form of public support for any agricultural insurance scheme in Germany. Premiums are not subsidized. Although the German government is not intervening in the field of risk prevention and insurance solutions there are funds and emergency measures available both on national and state levels for compensating losses resulting from natural disasters and equivalent adverse weather risks such as drought.

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Figure 1: Available measures for agricultural drought risk management in Germany. Source: own design.
Drought insurance solutions

All drought insurance products available in Germany are currently index-based. Index-based insurance pays compensation if a set parameter - for example rainfall - deviates from a pre-specified level. In other words, crops are insured against events that cause losses, like drought, not against the direct loss in the field.

Insurance companies currently offering drought insurance products are:

(1) Vereinigte Hagelversicherung VVaG

Vereinigte Hagelversicherung VVaG (subsequently referred to as “Vereinigte Hagel”) is the market-leading crop insurance company in Germany and operates mutually. In 2015, 58.7% of the total arable land in Germany was insured at Vereinigte Hagel.

Drought index insurance is offered for winter wheat, winter oilseed rape, winter rye and silage corn. The index used at Vereinigte Hagel is based on the available field capacity: the amount of soil water available for plants calculated as the difference between the field capacity and the permanent wilting point. This value is determined and published by the German Meteorological Service.

As soon as the available field capacity falls below a certain threshold, drought losses can be claimed. Actual compensation payments are based on the difference between regional yields and a pre-defined yield threshold. Payouts are independent from individual yield losses. Drought insurance can be purchased additionally to a basic product (called “Secufarm/Secufarm Garant”) which firstly covers hail and can be extended to frost, storm, heavy rainfall, and drought individually. Drought insurance however plays a minor role with only 0.1% insured arable land (Vereinigte Hagelversicherung VVaG, 2018).

Figure 2: payout scheme for drought related losses at Vereinigte Hagelversicherung VVaG. Source: own design.
(2) Versicherungskammer Bayern

Versicherungskammer Bayern (subsequently referred to as “VKB”) is much less specialized and offers a broader variety of products for companies, private households, as well as agricultural holdings.

For crop insurance, VKB provides a multi-peril insurance called “ErnteSchutz Vario”. This product consists of basic modules (hail, storm, heavy rainfall, frost, and drought) and can be extended by complementary modules (acceptance, quarantine, and deterioration). To purchase the core module “Hail” is a prerequisite; everything else can be purchased individually.

Drought insurance is available for grain, corn, beets, canola and potatoes. Insurance cover is provided from March 1st till September 30th. A critical precipitation level serves as drought index. This critical precipitation level depends on crop specific water demand and is determined for each crop at rural district level. As soon as precipitation amounts fall below the critical level, compensation payouts can be claimed. The monetary extent of the insurance cover is arbitrary. Lump sum compensations are paid to the amount of the contracted insurance sum for each affected plot (VKB, 2018).

Due to the high frequency of climatic extremes and increased drought damages in recent years other companies also developed drought insurance products. These insurance solutions are still not as well established on the market as e.g. hail insurance and therefore detailed information is missing.

Insurance companies currently offering drought coverage include:

- Müncher und Magdeburger Agrarversicherung AG
- Greensurance, non-profit foundation
Public emergency measures

According to the Federal Ministry of Food and Agriculture, risk provision is firstly within the responsibility of any (agricultural) enterprise itself. The German government is willing to support all sectors of the economy equally and argues that ad-hoc payments/measures can become operative without causing high administrative cost compared to an insurance program (Agroinsurance, 2009).

In the event of drought, the following publicly supported ad-hoc emergency measures can be taken (BMEL, 2018):

(1) Payments for natural disaster-equated adverse weather risks

While flooding and hurricanes are considered as natural disasters, drought, frost, and heavy rainfall fall under “natural disaster-equivalent adverse weather risks”. Losses resulting from these exceptional weather events can be covered to a maximal extent of 80%.

In accordance to constitutional rules regarding the division of powers between national and state governments in Germany, support for natural disaster-equated adverse weather risks is the responsibility of states. Financial support can be granted to:

- Small and medium enterprises,
- Holdings experiencing yield reductions of at least 30% compared to three previous years and
- Holdings at risk of bankruptcy. For that purpose, testing of means is needed.

If such a weather event is classified as an “event of national magnitude”, the federal government can additionally support holdings of the agricultural and forestry sector. In order to be classified as a national event the overall circumstances on national level need to be evaluated. In such cases, the federal government contributes 50% to the coverage of resulting losses.
(2) Liquidity assurance

The German federal government provides this financial support measure through the „Landwirtschaftliche Rentenbank“, a public law institution that offers financing for the improvement of agricultural structures. Both standard promotional loans for agriculture and rural areas as well as special loans for specific promotional purposes and assistance measures are offered. In principal, other banks carry out lendings.

The liquidity assurance is granted to agricultural holdings suffering from exceptionally high losses in revenue or cost increases due to weather extremes, plant or animal diseases. The program is offered at demand in critical situations.

(3) Usage approval of ecological conservation areas

In cases where drought leads to insufficient forage yields, state governments may permit harvests of ecological conservation areas in order to increase fodder availability. These conservation areas may additionally be used for growing catch crops, also for fodder purposes.

In addition to the above described, the German government may also grant early pay-outs of direct payments and compensatory allowances for disadvantaged areas (e.g. mountain regions), and deferrals of taxes, social insurance and land lease to decrease on-farm fixed costs.

The German agriculture and forestry sector

According to the Federal Ministry of Food and Agriculture, in 2016 Germany had 275.4 thousand agricultural holdings. The total agricultural land amounted to 16,658.9 thousand ha or 51.1% of Germany’s area, resulting in on average 60.5 ha arable land per farm. 21% of all farms hold less than 50 ha. The majority (70.6%) of all agricultural land is used for arable crops, 28.2% is covered by permanent grassland and 1.2% by permanent crops (e.g. wine, hop, orchards,…). 48% of all individual holdings operate full-time, whereas 52% rely on an additional source of income (BMEL, 2017).
Subsidized drought insurance and its alternatives

FARM – Farmers and Risk Management: Examining subsidized drought insurance and its alternatives. FARM commenced in May 2016 as a three-year research project funded by the Austrian Climate Research Program (KR15AC8K12597). In the light of increasing climate and market risks, the project examines agricultural insurance as part of integrated drought risk management options, particularly in Austria. FARM has an international component comparing agricultural risk management arrangements in several countries.

Glossary

**Direct payments**: Direct payments are financial governmental contributions for public services performed by farmers, e.g. measures contributing to environmental protection.

**Field capacity**: the amount of water a water-saturated soil can hold against gravitational force after 2-3 days.

**Multi-peril insurance**: Multi-peril insurance solutions do not cover damages resulting from single risks but bundle multiple coverage.

**Mutual insurance**: A mutual insurance company is owned entirely by its policy holders. Any profits are kept within the company or refunded to policy holders by means of dividend distributions or reduced premiums.

**Permanent wilting point**: the minimal amount of soil moisture a plant requires not to wilt. The actual value depends on the soil type and the respective pore structure, and on the growing plant and its water demand and root physiology.

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