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# Drought Victims Demand Justice: Politicization of Drought by Farmers in Southern Germany over Time

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**Abstract:** Farmers have an important role in problematizing and politicizing drought. Following the argumentative turn in policy analysis, the paper analyzes the process of problem definition by means of a framing analysis, zooming in on four major drought events covered in German farming sector journals that are published by farmers' associations. The article compares the framing of the four most-cited drought events—1947, 1975–76, 2003, and 2011–12—in order to better understand how problematization has changed over time, and how farmers justify and rationalize calls for political action. Three research questions are answered: What problems are named by farmers journals when describing drought events, and what solutions are proposed? Who is considered responsible for problems and solutions? How has framing of drought changed over time? The paper shows that farmers frame drought as a matter of justice and assert their perceived right to subsidies, compensation, farmer-friendly tax policies, and market regulations by the state. From 2003, drought has been framed in association with climate change. The data findings suggest that there is no post-productivist, post-exceptionalist paradigm shift connected to proposed drought policy solutions. Drought framings appear to be persistent, giving priority to assured farmers' incomes, not water distribution. Considering the lobby power of farmers' associations in Germany, this finding helps to understand why state interventions remain the same over time.

**Keywords:** drought; frame analysis; water governance; policy analysis; Germany; agriculture; media analysis

## 1. Introduction

In 2018, a large part of Europe was hit by a drought and a heat wave. Never before had it been so dry, on average, in Germany as in the period from April to July 2018 [1]. Due to climate change, droughts are expected to become even more frequent and more severe. However, there is no drought directive, neither on a national nor on the European level. Ad-hoc state responses characterize drought management in Germany so far. It is assumed that extreme events are so-called focusing events and are therefore suitable for influencing agenda-setting processes, including having the potential for changing attitudes and beliefs, as well as political decisions. Droughts as extreme events may therefore trigger moments of policy change.

Being highly dependent on water supply, the agricultural sector is seen as one of the most drought-affected [2]. Thus, farmers have an important role in politicizing drought and giving attention to certain aspects of drought responses. But how do farmers' lobby groups politicize drought? In which ways do they shape the political agenda on agro-food policies and politics while problematizing drought impacts? As every policy process starts with problem definition, policy problems are not pre-political and given, but rather socially and discursively constructed. The aim of this paper is to better understand how farmers politicize drought: what problems they describe, to whom they assign responsibility, and what solutions they propose, as well as how these dynamics (do not) lead to policy change over time.

Understanding how farmers shape the agenda on drought policy-making over time allows to find out to what extent German farmers contribute in increasing attention for water issues during drought events.

The federal state of Baden-Württemberg in Germany is seen as one of the most climate change affected areas in the country [3]. Farmers in Baden-Württemberg are especially vulnerable to droughts because around one third of agricultural holdings depend on small-scale production [4]. Therefore, the focus of this paper lies on farmers in Baden-Württemberg. Highly organized, farmers set the political agenda for drought policy-making via farming sector journals that give access to a 60-year study period.

Agricultural policy-making in Germany was traditionally characterized by the notion that the agricultural sector needed a special and exceptionalist treatment [5]. But this productivist and exceptionalist paradigm is increasingly being questioned and agricultural policy reforms pushed transformation processes. Daugbjerg and Feindt suggest the diagnostic concept of post-exceptionalism that “denotes a partial transformation in which an exceptionalist policy sector has not been completely ‘normalized’ and in which old and new ideas, institutions, interests and policy instruments coexist” [5] (p. 1573). Does drought politicization by farmers support post-exceptionalist policy ideas?

Scholars describe four agricultural policy paradigms within Europe that bring about a diverse field of discourse [6]. All of these agricultural paradigms bring about a certain narrative about the relationship of the agricultural sector, and the German state. As the four paradigms partly merge, overlap or continue, there is no clear chronological sequence: After World War II and until the 1980s the *paradigm of agricultural exceptionalism* was dominant. Within this productivist paradigm agriculture was seen as dependent of state interventions. Subsidies and market price support are dominant policy instruments. Assured incomes for farmers are goals for state interventions. The *market liberalization paradigm* is characterized by a lack of state intervention policies, stressing competition between farmers within a liberal agricultural market. Temporally limited direct payments as hardship regulation may be possible. Within the *multifunctionality paradigm* agriculture is seen as producing both marketable goods as well as common goods, including ecosystem services. State interventions including payments for common goods are part of this paradigm. Considering water as a common commodity, it is to be expected that the multifunctionality paradigm highlights water as one policy issue among others when dealing with droughts. The *paradigm of globalized agriculture* considers global value-added chains and problematizes environmental and social standards. State intervention is possible, e.g., through certification schemes in order to enable distinction of differently produced agricultural products. Drought politicization takes place embedded within these four agricultural policy paradigms. To connect the investigation of drought politicization by farmers and agricultural paradigm shifts will help to understand how agenda-setting dynamics may or may not support the proposition of new policy solutions, among them potential transformative policy solutions for water issues.

This paper is structured as follows: Firstly, frame analysis as heuristic for analyzing the process of converting a social issue into a policy problem is introduced, following an interpretive perspective on policy analysis. Also, the research questions are introduced. Secondly, the methodology is explained by describing data collection and data analysis. Thirdly, the main results of the analysis are presented by comparing drought framings over time. Fourthly, the paper discusses the major findings linking them to European agricultural paradigms, highlighting how farmers’ lobby power gives priority to certain policy solutions. The paper concludes with drawing the main conclusions and addressing policy implications for drought policy-making in Germany.

## 2. Theoretical Background: Frame Analysis as Heuristic for Analyzing Problem Definition

The argumentative turn in policy analysis [7] considers that multiple perspectives are involved in the interpretation of social and political reality [8]. Kingdon differentiates between a problem and a condition or situation [9]: A condition becomes a problem when people want to change it. Kingdon stresses that there is “a perceptual, interpretive element” [9] (p. 110) linked to the values someone brings to an observation. Policy problem definition is a process of meaning-making, or sense-making. This process is not a pre-political act, but rather part of a powerful struggle over different potential

definitions. Interpretative policy analysis therefore highlights “the possibility of multiple meanings in policy and organizational actions” [10] (p. 222), analyzing thus how stakeholders interpret social issues and turn them into socially constructed policy problems. Framing as sense-making means converting a problematic situation into a policy problem. It includes a normative aspect because problem definition is always driven by the distinction of “what *is* [and] what *ought to be*” [11] (p. 98, emphasis in original).

Framing is the “process by which issues, decisions, or events acquire different meanings from different perspectives” [12] (p. 321). A frame is a “structure of thought, of evidence, of action, and hence of interests and of values” [13] (p. 96). The elements of this structure are not only related, but also mutually constitutive. Goffman introduced the concept of frames as interpretative frameworks that allow for making sense of a situation [14]. Many scholars have focused on the functions of frames: they organize knowledge [15], help to select some aspects of a particular problem definition [16], help to filter information [17] and affect an actor’s interpretation of a situation and of an issue as well as their choices for coping with it [18]. Frame analysis is “informed by the American tradition of philosophical pragmatism” [19] (p. 82). It is classified as both a method in qualitative-interpretative policy analysis [8], and a theory [20] rooted in a social constructionist position. Therefore, this paper applies a non-positivist approach within social-constructivism.

It is important to analyze problem framing as well as solution framing given that framing also proposes what actions are considered feasible and therefore provides insights into the perceived limitations of actions. Following Rein and Schön [21] the framing approach is a power-sensitive, dynamic analysis of the process of policy problem definition as it highlights the naming of issues as a crucial component of action. As such, the first research question is:

- (a) What problems are named by farmers journals when describing drought events, and what solutions are proposed?

To understand how the framing process takes place, the paper combines Rein and Schön’s approach with that of Van Hulst and Yanow, who define framing as a “many-dimensional socio-political process grounded in everyday practices and ordinary beliefs” [11] (p.105) that is carried out through three distinctive acts: Sense-making; naming; and storytelling [11] (p. 97). Rein and Schön, [21] as well as Van Hulst and Yanow [11] point out that naming of problems and proposing certain solutions are crucial steps in the framing process. Describing causes and consequences is part of the inherent storytelling [11,22]. In the framing process responsibility is attributed [23].

Frame analysis suffers from a diffusion of different epistemological and ontological concepts as well as questions of operationalization. The paper addresses this methodological research gap by proposing a framing operationalization scheme. There is no general definition of the epistemic status of frames [19]. Framing is operationalized in this paper by identifying distinct acts of framings that make up a certain frame. Storytelling is operationalized through the steps of naming problems, solutions, causes, and consequences, and assigning responsibility. Sense-making takes place through judging and justification. Considering the action dimension as introduced by Rein [24], problem naming and solutions naming, as well as the assignment of responsibility for potential action are analyzed. Thus, the second research question is:

- (b) Who is considered responsible for problems and solutions?

The meaning of droughts for German farmers may have changed over time. Thus, the third research question addresses this evolution of framings and will help to understand why state responses to drought mostly remained the same over time:

- (c) How has framing of drought changed over time?

### 3. Materials and Methods

#### 3.1. Data Collection

Farmers in Germany are strongly organized within farmers' associations that lobby for their interests and publish farmers journals. In Germany, there are 18 farmers' associations at federal state level. The umbrella association German Farmers' Association (Deutscher Bauernverband e.V., DBV) [25] speaks for German farmers at the national level. The lobby power of the DBV as dominant lobby group for German farmers is characterized by a lack of political counterparts and political affiliation to the Christian Democratic Union of Germany (CDU) [6], a Christian-democratic, liberal-conservative political party in Germany that is traditionally closely linked to farmers as core voters. Likewise, Tosun [26] finds that German political parties—among them, the CDU—support weaker forms of post-exceptionalism if they are closely associated with farmers' interests, and support state intervention to shape agro-food markets.

In response to the need for more case-specific and audience-specific research [27,28] the paper uses farming sector journals since sector journals function as a “mainly sector internal communication medium” [29] (p. 518). Within sector journals, actor-specific frames are communicated to a specific group of actors [30]. These sector journal articles provide access to certain moments in history, whereas people talking about the past always combine their memories with later experiences. Two agricultural sector journals that complement each other are used to analyze, by means of a framing analysis, the problematization and politicization of drought within the agricultural sector over time. One journal covers the national level, the other the federal state level of Baden-Württemberg. The comparison over time allows for better understanding of how the meaning of drought for farmers has changed within a 60-year study time. Therefore, the data focuses on media coverage of drought problems and solutions that are discussed in farming journals in order to understand what is problematized and thus politicized, or not. The paper does not want to describe the drought events by their natural conditions, but analyze how farmers socially constructed drought policy problems.

Around 300,000 farmers and their families are organized within the DBV. They receive the monthly journal of the DBV, German Farmers' Correspondence (Deutsche Bauern Korrespondenz, DBK). This journal was first published in 1948. Feindt [6] characterizes the power of the DBV to shape agricultural agenda-setting as by having direct access to political decision-makers and influencing recruitments within the Ministry of Agriculture, creating an “inside lobby” situation [6] (p. 74). Inside lobbying describes the efforts by lobbyists to influence decision-making by directly contacting politicians. This study contrasts and complements the national perspective with the views of farmers in Baden-Württemberg in order to focus on one part of southern Germany that is highly vulnerable to climate change impacts. The Farmers' Journal of Baden (Badische Bauern Zeitung, BBZ) is published by the Association of Farmers in Baden (Badischer Landwirtschaftlicher Hauptverband e.V., BLHV), which was founded in 1947. The BBZ was first published in 1948, addresses farmers and their families and is published weekly. Around 80% of the farmers in Baden are organized within the BLHV; around 90% of the organized farmers receive the BBZ. The purpose of the BBZ, as portrayed through its homepage, is to provide critical input to political discussions on agriculture.

The data collection followed a three-step approach:

To understand how drought framings have changed over time, drought events had to be identified. Firstly, main drought events were detected via a review of scientific literature in water research. Studies on drought events often refer to dry years on the basis of common knowledge (such as the year 2003) or use meteorological data where available. Stahl et al. [2] detect the major droughts in Europe within a 43-year study period by counting the number of impact reports. They identify the main drought events as having occurred in 2003, 1975–76, 2005–06, and 2011–12. The European Drought Reference Database reports that the severe droughts in 1975–76 and 2003 occurred across all of Europe, and that the 2005–06 drought affected mainly the Iberian Peninsula. The database does not incorporate data past 2007.

With reference to this literature review, the four most cited drought events up to 2016 that affected Baden-Württemberg were identified: 1947, 1975–76, 2003, and 2011–12. As the first investigation period 1947–52 was characterized by two droughts—one in 1947, the second in 1952—and the fourth investigation period 2011–16 was characterized by two droughts—one in 2011–12, the second in 2015—media reports may refer to both of them. Given that drought impacts may occur with delay or arise over several years in varying degrees of severity, it was necessary to also include articles that were published some years after each of the drought events. The time frame of the investigation and data collection was narrowed down based on reviewing the articles contents and comparing the reporting periods after the drought years 1976 and 2003. The five-year reporting period was the average of these. In a second step, 1266 articles were identified using a set of keywords which was developed inductively. To identify these articles, headings, subheadings, and highlighted words were searched page by page. Advertising was never incorporated. All of the identified articles were scanned as pdf-files. In a third step, the sample of articles was reduced to 949 by searching the whole texts for a smaller set of keywords which was developed inductively to make sure that all of the articles dealt with drought. All of the articles were indicated with a code giving an acronym for the sector journal (see above), the year of publication as well as the article number, e.g., BBZ-2003\_08.

### 3.2. Data Analysis

Qualitative content analysis [31,32] has proved to be a valuable method for frame analysis. The identified articles were coded using MAXQDA (2018 version) and defined typical examples for each code. The deductive starting set of categories was informed by frame analysis literature: naming of problems, causes, and consequences; proposed solutions; assignment of responsibility; and sense-making through judging and justification. This also included assignment of agency. Through iterative coding, the category system was further elaborated to include more detail. The intersections of categories make up a certain framing and the frequency of frames indicates how dominant a frame was. The presented operationalization of the framing process serves as a tool to develop as much discriminatory power to investigate frames as possible. As the operationalization of the framing process often remains unclear in research articles, the presented operationalization scheme addresses this methodological research gap (Annex 1).

## 4. Results

This chapter presents how farmers in Baden-Württemberg have framed drought over time, answering research questions (a) and (b): What problems are named, what solutions are proposed, and who is considered responsible? The frames are presented in Tables 1–4, arranged in order of frequency, starting with the most frequent one. Each table covers one drought event.

**Table 1.** Framing of drought by farmers in Baden-Württemberg 1947–52. Context: The period 1947–52 was characterized by reorganization after World War II. There were two droughts, one in 1947, the second in 1952. The federal state of Baden-Württemberg was founded in 1952.

Framing	Justice Frame	Food Security Frame	Water Security Frame	Religious Frame
Problems named	Dried up grassland Crop failure Catastrophe Calamities	Crop failure Catastrophe	Water crisis	Catastrophe
Causes	Lack of precipitation Heat Mass reproduction of mice and insects	Lack of precipitation	Lack of precipitation Low groundwater levels due to Rhine straightening	Lack of precipitation
Consequences	Lack of forage Damages to crops and fruits Existential threat for farmers	Lack of food Existential threat for farmers	Lack of water	Existential threat for farmers
Proposed solutions	Emergency sale or slaughter of cattle Transport aid for forage Gras reseeding Pesticides Subsidies Market regulations by the state	Irrigation Tax policies Market regulations by the state Subsidies	Improved Rhine management	Not mentioned.
Assignment for responsibility for solutions	State actors and farmers	State actors and farmers	State actors	God
Sense-making through judging and justification	Farmers are “drought-damaged” and expect “justice” from the state.	Declining food production threatens food security.	Human-made impacts on the water balance are a threat.	Precipitation is a “mercy of the Lord”.

**Table 2.** Framing of drought by farmers in Baden-Württemberg 1975–80. Context: The period 1975–80 was strongly characterized by an election campaign in 1976. The parliamentary elections took place on 3rd October 1976.

<b>Framing</b>	<b>Justice Frame</b>	<b>Water Security Frame</b>	<b>Solidarity Frame</b>	<b>Yield Security Frame</b>	<b>Religious Frame</b>
Problems named	Dried up grassland Crop failure Catastrophe Calamities	Water crisis Water emergency	Lack of forage	Economic losses Crop failure	Dried up grassland
Causes	Lack of precipitation Heat, weather conditions Mass reproduction of insects	Low river levels Low groundwater levels	Dried-up grassland	Lack of precipitation	Lack of precipitation
Consequences	Lack of forage Damages to crops and fruits Existential threat for farmers	Transport problems Lack of drinking water	Emergency sale of cattle	Higher production costs due to irrigation costs Existential threat for farmers and their families	Lack of forage
Proposed solutions	Emergency sale or slaughter of cattle Transport aid for forage Gras reseeding Pesticides Subsidies Market regulations by the state Compensations	Armed forces mission that ensures water supply	Self-organized forage market	Irrigation Market regulations by the state Subsidies	Not mentioned.
Assignment for responsibility for solutions	State actors and farmers	State actors	Farmers	State actors	Saint Peter
Sense-making through judging and justification	Farmers are “drought-damaged”. State intervention is a matter of “justice”.	Soldiers are “the secret weapons against water emergency”.	Self-help is “solidarity” among farmers.	Farmers’ families need help.	Saint Peter should “let it rain”.

**Table 3.** Framing of drought by farmers in Baden-Württemberg 2003–08. Context: Within the investigation period 2003–08, there was the so-called Jahrhundertssommer (summer of the century), an extreme weather event characterized by a drought and a heat wave that impacted the European continent.

<b>Framing</b>	<b>Justice and Drought Victim Frame</b>	<b>Yield Security Frame</b>	<b>Climate Change Frame</b>
Problems named	Summer of the century (“Jahrhundertssommer”) Catastrophe	Economic losses Crop failure	Climate change
Causes	Lack of precipitation Heat	Lack of precipitation	Negative anthropogenic impacts on global climate
Consequences	Crop failure Lack of forage Existential threat for farmers	Higher production costs due to irrigation costs Existential threat for farmers and their families	Crop failure Dried-up grassland
Proposed solutions	Irrigation Self-organized forage market Aid fund for farmers Market regulations by the state Subsidies Tax policies Compensations	Irrigation Subsidies Market regulations by the state Harvest insurances	Drought resilient cultivars Irrigation
Assignment for responsibility for solutions	State actors Farmers	State actors Market actors Farmers	State actors Scientists
Sense-making through judging and justification	Farmers refer to themselves as “drought victims”. State intervention is a matter of “justice”.	Farmers’ families need help. Risk regulation is needed.	Adaption to climate change is needed.



**Table 4.** Framing of drought by farmers in Baden-Württemberg 2011–16. Context: The forth investigation period 2011–16 was characterized by two droughts; one in 2011–12, the second in 2015.

<b>Framing</b>	<b>Climate Change Frame</b>	<b>Yield Security Frame</b>
Problems named	Climate change	Economic losses Crop failure
Causes	Negative anthropogenic impacts on global climate	Lack of precipitation
Consequences	Crop failure Dried-up grassland	Higher production costs due to irrigation costs. Existential threat for farmers and their families
Proposed solutions	Drought resilient cultivars Irrigation Purchase of forage	Irrigation Subsidies Market regulations by the state Compensations Harvest insurances
Assignment for responsibility for solutions	State actors Scientists	State actors Market actors Farmers
Sense-making through judging and justification	Adaption to climate change is needed.	Farmers' families need help. Risk regulation is needed.

#### 4.1. Different Framings of Drought

Every framing is named by the goal for state intervention: Justice, food security, water security, yield security, solidarity, and climate change adaptation. The religious framing of drought stands out as the framing addresses a different abstract level but was nevertheless an important process of meaning-making. Thus, all of the aforementioned framings refer to public problems whilst the religious framing refers to a believe system.

##### 4.1.1. Justice Framing and Drought Victim Framing

Within the agricultural sector, drought has been framed as a matter of justice. The justice framing can be identified in 1947–52 (Table 1) and in 1975–80 (Table 2) and evolved into a drought victim frame in 2003–08 (Table 3). Farmers justify the assignment of responsibility to act to state actors through a strong narrative that remains constant over time: as farmers' incomes depend on natural conditions, they have a right to receive subsidies and to demand market regulations by the state. Farmers describe themselves as "drought-damaged" or as "victims" of drought in order to justify subsidies, farmer-friendly market regulation, and compensation as an act of justice. Through all the analyzed drought years, drought is named as a catastrophe that poses an existential threat to farmers and their families.

Crop failures, dried-up grassland and calamities were identified as a problem with the consequence that forage was lacking. The lack of forage was called "forage misery" (BBZ-1976\_21: 22; Futternot) or "forage gap" (BBZ-1976\_25: 24; Futterlücke). Farmers were burdened by the purchase of animal feed: "27% of the operating expenses allocated to purchase of animal feed" (BBZ-1976\_30: 6). Crop failures are strongly considered to be an existential threat for farmers and their families. The causes described were natural conditions: a lack of precipitation and heat. Emergency sale or slaughter of cattle were named as solutions, as well as transport aids, self-organized forage markets, pesticides, and reseeded. Over time, the most prominent solutions proposed have been irrigation, subsidies and compensations by the state. Irrigation has also played a role, particularly in vegetable cultivation, tobacco growing, and fruit growing. There has been only an occasional proposal to build water retention basins.

Within this justice framing, the responsibility to help has been assigned to state actors: "The state has to secure farmers' livelihood after the drought catastrophe!" (BBZ-1952\_08). Subsidies, market regulations, compensations, and farmer-friendly tax policies were named as matters of justice: "Farmers expect justice" (BBZ-1952\_15). When farmers described themselves as "drought-damaged" (BBZ-1952\_24), this self-description denied agency. Yet farmers were also aware of their own agency to mitigate the lack of forage: "Catch crop cultivation—the rescue from forage misery" (BBZ-1976\_21: 22). The assignment of responsibility for solutions to different actors was articulated in the headline: "We need both help from the state and self-help!" (BBZ-1951\_02: 9).

The 1976 drought was remarkably strong framed as a matter of justice. In 1976, there was a heat wave that affected the entire European continent. Twenty-eight million DM in economic losses due to the drought were reported (BBZ-1976\_23: 10). Later, there was an estimated 3 to 5 billion DM reduction in income in the agricultural sector (BBZ-1976\_27: 6). The framing of the 1976 drought took place in the context of an election campaign. Responsibility was strongly assigned to state actors. Market regulation by the state and subsidies were described as matters of justice. Farmers argued that it would be "political suicide" (BBZ-1976\_12) not to intervene politically. The justice framing was so dominant that farmers' associations were accused of political instrumentalization within the election campaign. Headlines like this were published in an effort to distance farmers from this rhetoric: "Damages caused by drought are not an election issue" (BBZ-1976\_31).

In 2003, the justice frame evolved from one about drought damage into a drought victim frame (Table 3), with farmers referring to themselves as "drought victims". Subsidies, tax policies, and market regulations by the state were named as matters of justice and an aid fund for farmers was established.

#### 4.1.2. Food and Yield Security Framings

In the period 1947–52, drought was also framed as a threat to food security (Table 2). Farmers stressed their dependence on nature: “Farmers had to be aware incessantly this year that all their knowledge and ability is insufficient if nature destroys all well-planned work.” (BBZ-1952\_32) Crop failures as well as drastic economic losses for farmers would lead to a decline of food production, threatening food security for the whole country that was reorganized after World War II.

The food security frame from 1947–52 later evolved into a yield security frame (Table 3): “Agricultural companies are confronted with an economic crisis, but there is no threat to food security for European consumers.” (BBZ-1976\_02) The common European agricultural market ensured food security for German consumers. Nevertheless, in politicizing drought, farmers have frequently remained to assign the responsibility for action to state actors. Thus, ensuring yield security becomes a matter of the state. In 2003, irrigation was the most prominent solution to ensure yield security, whereas in 1975, only 2% of the agricultural area was irrigated. Due to more efficient irrigation in 1975, total water use decreased. In comparison, in 2003, 80% of vegetable cultivation was irrigated. The increased water use for irrigation led to higher production costs and to price increase. Farmers framed drought as a threat to yield security in both 2003–08 and 2011–16. For mitigating the economic risks for farmers’ families harvest insurances are discussed in the periods 2003–08 and 2011–16.

#### 4.1.3. Water Security Framing

Farmers framed drought in relation to water security in 1947–52 (Table 1) and 1976–80 (Table 2). In this framing, a lack of water for household consumption was seen as threatening water security. In 1948, there was even a report about water theft in which this was described as “a common sin” (BBZ-1948\_03) as opposed to a crime. This connects this water security framing of a sinful water thievery to a religious framing. Within a water security framing in the period 1947–52, the Rhine straightening was discussed as the cause of sinking groundwater levels. In this sense, the international river basin management of the Rhine was seen as representing a conflict between water users. The skepticism regarding human-made impacts was expressed in the headline: “Will the drought of 1952 be even worse than that of 1947?—Civilization threatens our water supply!” (BBZ-1952\_12).

In 1976, the water security framing was important for parties within the election campaign in Germany, which in turn led to the justification of a military mission (Table 2). Due to very low surface water levels farmers had difficulties using rivers as waterways for transporting forage. The forage was therefore transported by military trucks. There was a military operation by the German armed forces including a mandate for forage transport and the construction of pipelines for water transportation. This mandate was adopted as administrative cooperation in a catastrophic situation. About 28,000 trucks and 78,000 soldiers operated between 30th June and 31st August 1976. The military action cost about 11 Mio. DM (DBK-1976\_22). German soldiers were described as the heroic “secret weapon against water emergency”, and as “helpers” (DBK-1976\_07). Drought management was described as battle in which “18,000 soldiers are fighting at the frontline of drought.” (DBK-1976\_17).

Water security was ensured through technology and troops that laid pipelines even though there were “no significant shortages in drinking water supply” (BBZ-1976\_19), because of long-distance supply systems. After the 1976 drought, farmers increasingly bought irrigation systems that promised, “Rain—whenever desired” (BBZ-1977\_11). Baden-Württemberg adopted a Special Plan for water supply. Natural water resources and water demands were recorded. It was stated that a negative balance should be offset by water infrastructure (BBZ-1977\_08). The aim was to ensure water supply, not to reduce water demand. Nevertheless, farmers were requested to check irrigation needs—not to avoid over-using natural resources but rather because of the high investment. Irrigation systems cost between 20,000 and 60,000 DM (BBZ-1977\_11). Baden-Württemberg subsidized farmers’ irrigation systems because of the water table drawdown caused by the Rhine straightening. In 1975, community integrated irrigation systems were subsidized with 5 Mio. DM.

#### 4.1.4. Solidarity Framing

In 1976, there was a solidarity framing of drought management. Strong self-organization has been highlighted as being essential for setting the political agenda. Soon after World War II, farmers' associations highlighted their role in lobbying, particularly in demanding market regulation (BBZ-1951\_02) and subsidies (BBZ-1952\_19). There were frequent calls to form agricultural cooperatives and to join political farmers' associations in order to strengthen farmers' lobby power. The argumentation after World War II was that strong self-organization was needed because there were "foreign buyers and distributors" (BBZ-1952\_04) that bought forage as well as emergency sold cattle, and put pressure on prices. In addition to market regulation by the state, the proposed means of dealing with this was solidarity and self-help among farmers. The farmers' associations in Germany operated as distributors of forage and organized a common forage market in Germany. Farmers who had enough feed sold it at fair prices to their colleagues. The collaborative action was recorded by the media and photos were published showing farmers from all over Germany coming together and exchanging their experiences. After the crisis management in 1976, there were some articles that summarized the military operation and presented certain farmers who acted particularly altruistically.

#### 4.1.5. Religious Framing

After World War II, there was a religious framing of drought (Table 1), which assigned agency and responsibility for solutions to God: A lack of forage is identified as a "question of destiny" (BBZ-1950\_04: 549), whereas rain is described as a "godsend" and the "mercy of the Lord". Solutions (e.g., praying) are not proposed. This religious framing is exemplified in the following quote in which the term "mercy" is used for precipitation: "May the Lord at least give us his mercy in the late summer and fall, so that the worries in the farms may get smaller" (BBZ-1952\_04: 2). The religious framing later disappeared but was cited in 1976 (Table 2) with a call to Saint Peter to "let it rain heavily" (BBZ-1976\_01) in order to avoid drought-induced crop failures. This phrase reflects the importance of the Christian religion for German farmers and functions as a self-reference.

#### 4.1.6. Climate Change Framing

Farmers framed drought in the context of climate change firstly in 2003 (Table 3) and again in 2011–16 (Table 4). The drought and heat wave were described as part of global climate change, which in turn led to the conclusion that climate change adaptation is necessary. Droughts were discussed as climate change induced extreme weather events. Farmers assigned responsibility for climate change adaptation both to scientists and state actors: "We need investment in research in order to grow climate-resistant cultivars" (DBK-2015\_09). Climate change was described as a threat to the whole agricultural sector: "Farmers must explain to society and politicians that farmers are the biggest losers from the expected human-made climate change." (BBZ-2003\_08). Nevertheless, there was some skepticism about the issue: "Climate change—a phantom or reality?" (DBK-2006\_01). However, climate change denial was not part of drought problematization by farmers.

### 5. Discussion: Problematization of What?

The drought framings that were presented in the previous chapter are connected with each other. In view of these connections, this chapter highlights and discusses four main findings, focusing on the time dimension and moments of reframing, or the evolution of older frames into newer ones, in order to answer research question (c): How has drought framing changed over time? The empirical research shows that theoretical models of one consistent frame constructed by a group of actors are simplified. Even though scholars have highlighted the ambiguity of frames [33]—which was also shown in this paper—there is little research on the variety of legible and valid frames within a single group of actors. In order to better understand moments of re-framing, this chapter discusses four major findings and

links them with the scope of action determined within the Common Agricultural Policy (CAP) of the European Union (EU) that is reflected within the aforementioned four agricultural policy paradigms.

The data findings suggest that there is no post-productivist, post-exceptionalist paradigm shift traceable within agenda-setting processes in farming sector journals over time. In fact, the longitudinal study of drought politicization allows to conclude that productivist-focused policy solutions remain more or less the same over time which is even more interesting acknowledging the fact that the socio-political context of the studied four drought events is highly diverse.

### *5.1. Evolution of Food Security into Yield Security Framings*

Within the agricultural sector, there has been a framing evolution from food security into yield security over time and both issues are discussed as a matter of the state. After World War II, food security had to be ensured by the state. Although later droughts did not threaten food security, drought was discussed as an existential threat to farmers and their families given their significant economic losses. Farmers view the state as a protector of the agricultural sector. Thus, yield security is framed as a public problem and a matter of the state, as opposed to the individual.

The state responded with drought policy formulations in each drought year which always included compensations. In 1952, the German Parliament discussed drought impacts and the problematization of these by farmers and authorized the federal government to adopt measures to mitigate difficulties threatening farmers' existence (*Dürreschäden-Ausgleichsgesetz*). In 1976, there was an armed forces mission to ensure water security and to minimize the economic losses for farmers. This took place within an election campaign. The state allocated compensation funds in 1976, 2003, and 2015. Market regulation by the state was important in every drought year. Farmers' politicization of drought over time shows that the discussion of drought within the agricultural sector is characterized by a broader debate on economic structural change in the sector. Thus, economic losses that highlight the question of farmers' future situation are discussed in a broader context. Framing yield security as a public problem and matter of the state refers to strong and deep exceptionalist ideas within agricultural policy-making.

The European common agricultural market is highly regulated by the state. The EU's agricultural sector receives permanent subventions meaning that subventions, subsidies, and other market regulations by the state are part of every EU farmer's financing and are taken for granted. The climate change framing of drought fits well with findings that the EU's CAP was greened in its last reform in 2014–20 [34] highlighting the environment but being rooted in a productivist justification that assigned responsibility for supporting the agricultural sector to the state. This productivist paradigm was important for the CAP during the Cold War era and fits with the findings for the periods 1947–52 and 1976–80. The paradigm was followed by a discourse of multi-functionality, and subsequently a neo-liberal discourse [34,35] that questioned state interventions in the agricultural market. The evolution of the justice framing (1947–52 and 1976–80) into the drought victim framing (2003–08), as well as the framing of drought as a security issue, can be seen as a resistance to the shifting paradigm: Farmers' associations lobbied for farmers' interests by highlighting the need to receive subsidies and compensation. For the CAP 2014–20, scholars have found only a weak post-exceptionalism [36] and a "reinstatement of the old justification for agro-political interventions" [34] (p. 60) and a new edition of the productivist paradigm that discursively constructed the state as protector of the agricultural sector and justified this with food security or potential food scarcity in the future. Subsidies, compensations, different tax policy instruments, and market regulations remain the state responses to the risk of economic losses for farmers during a drought period. The framing of drought by German farmers in 2011–16—especially for the drought year 2015—as a consequence of climate change and a threat to yield security, together with the call for subsidies, compensation, farmer-friendly tax policies, and agro-market regulation by the state, follows this paradigm.

Furthermore, the proposal for harvest insurances in 2003–08 and 2011–16 privatizes the economic losses, thereby assigning responsibility for solutions to market actors and farmers and reflecting liberal

elements within the market liberalization paradigm. Nevertheless, harvest insurances are discussed as supplements rather as opposed to alternatives for subsidies and compensations.

### *5.2. Politicization of Drought during the Election Campaign 1976: Securitization*

The framings on yield security and water security are connected with a politicization of drought during the election campaign in 1976. This securitization led to a military mission. The election campaign is a highly specific context for the problematization of drought in 1976. Because “explanatory details are in the context” [37] (p. 163), the meaning of a framing is determined by the context in which interpretation takes place [38]. The findings for the politicization in 1976 stress the importance of analyzing framing processes within socio-political context factors as the securitization of drought appears linked to the election campaign.

### *5.3. Reframing Drought: Emergence of the Climate Change Framing after 2003*

The introduction of the climate change frame in 2003 can be seen as a reframing of drought as it was not closely related to former framings. Nevertheless, it shares common aspects of sense-making with earlier frames. As drought was formerly framed as a security issue, the later dominance of the climate change framing can be seen as a process of climatization of security issues, or a securitization of climate change [39]. A new aspect in politicizing drought in the context of climate change is the increased role for scientists as responsible actors for proposing solutions.

The comparison of framings over time shows that there is an evolution from a complex framing of drought into mainly two framings in 2011–16, namely climate change, and yield security. Thus, the interpretation of drought is simplified to the dominant storyline of climate change. Since 2003, preventive measures to cope with drought impacts—namely drought-resilient cultivars and insurances—have become more important than in previous years. But although drought-resilient cultivars are also discussed within the agricultural sector, farmers still view irrigation as the most important technical response to climate change.

### *5.4. The Role of Self-Help and Self-Organization over Time*

Self-organization and self-help have played a prominent role over time. Farmers acknowledged that united, organized farmers and their associations are crucial for lobbying. The discussion of self-help and solidarity showed that framing, as well as farmers’ self-positioning within the frame as “drought victims”, is closely related to and connected with identity building. The drought crisis management opened a window for enacting a strong common identity. The federal Farmers’ Union of Germany described its purpose as being “the lawyer and mouthpiece for German farmer’s families” [25] sharing “Christian values” [25]. The Christian religion is highly important to German farmers’ identity, as it is reflected in religious framings that survive as deeply cultural references: The statement that Saint Peter should “let it rain” can only be understood within a shared meaning setting.

## **6. Conclusions**

The paper analyzed how German farmers politicized the four most cited drought events up to 2016 that affected Germany after World War II by analyzing and comparing drought framings. The study accessed the agricultural discussion by using two farming sector journals for doing a media analysis. The findings were linked to four European agricultural paradigms that are discussed within political science literature in order to understand whether drought politicization by farmers supports a non-exceptionalist agricultural paradigm shift.

Within the agricultural sector, drought is discussed as a problem of economic losses and existential threat for farmers within a broader context of the structural change of the whole sector. Farmers have framed drought as a public problem and a matter of the state over time. After World War II, drought was framed as a threat to food security and water security, but this food security frame shifted to a yield security frame after 2003. In the 1940s and 50s, drought was framed religiously by describing



precipitation as a godsend and mercy of the Lord. In later years, the religious framing only appeared once as a cultural self-reference. In 2011–16, the variety of framings is reduced into two framings: climate change, and yield security. Yet, although there is a strong politicization of drought within the agricultural sector, self-organized self-help has been important over time and discussed as an act of solidarity. Nevertheless, creating a strong common farmers' identity was linked during drought crisis management to increasing lobby power.

The analysis of drought framings over time shows that farmers' associations, namely the DBV and the BLHV, speaking through their sector journals, share the productivist agricultural paradigm that focuses on protectionism and security. Although farmers' problem definitions have changed over time, the most mentioned proposed solutions have remained the same: compensations, subsidies, farmers-friendly tax policies, market regulations by the state, pesticides, and increasing irrigation. Drought politicization by farmers therefore does not prioritize water issues but assuring incomes for farmers. How farmers politicize drought over time in Germany does not lead to increased attention for sustainable water governance. In fact, farmers are quite stable in proposing certain policy solutions that prioritize assured incomes over climate adaptive policies. Thus, farmers do not support a post-exceptionalist paradigm shift within drought policy-making. Speaking with Bachrach and Baratz, the politicization of drought by German farmers over time reflects "dynamics of nondecision-making" [40] (S. 952): as status quo-oriented actors "limit the scope of actual decision-making" [40] (S. 952), these actors enact their power in agenda-setting by restricting agendas.

The findings show that there are persistent drought framings over time. This opens up to the following implications for drought policy-making: Over time, German drought governance has been characterized by proposing and implementing the same policy instruments. Demanding subsidies for farmers becomes equivalent to demanding rights. For farmers, drought in Germany is not about water distribution but rather the distribution of subsidies and compensation. Recognizing the lobby power of farmers' associations, it is likely that persistent drought framings will pursue to prioritize productivist, exceptionalist agricultural policies. Drought events thus may not trigger policy change but rather stiffen drought policies that prioritize ensured incomes over water issues. Drought politicization by German farmers does not highlight agricultural water needs besides pushing on for more irrigation. Hence drought adaptation policies could potentially aggravate water issues.

The findings show that German farmers do not include post-exceptionalist policy propositions within their drought politicization. This helps to understand why Germany does not have coherent drought policies focusing on drought impact mitigation. Further research can shed light on the question whether the problematization of drought within the context of climate change may lead to favor transformative drought policies integrated within climate change adaptation policies.

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## Annex 1: Operationalization Scheme.

Category	Sub-Category
Naming of problems	Macrosocial problems
	Causes
	Consequences
	Assignment for responsibility for problems
Naming of solutions	Named solutions
	Assignment for responsibility for solutions
Sense-making	Judging
	Justification

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