Extreme Weather Events and the Support for Democracy

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Abstract

How do adverse conditions shape support for democracy? Combining geocoded Afrobarometer surveys from 16 sub-Saharan African countries with high-resolution weather and development-project data, I show that drought conditions reduce support for democracy. This effect, however, is concentrated among individuals exposed to Chinese development projects and absent among those without such exposure or exposed to World Bank projects. I investigate mechanisms from both sides of the interaction. On the China side, I find little evidence that material impacts of development projects drive the results, but provide suggestive evidence for a non-material channel: Chinese projects make China locally salient and may expose individuals to features associated with its approach to governance and development, such as state-led development and perceived effectiveness. On the drought side, adverse conditions generate a backlash against the incumbent, but this backlash alone does not explain changes in regime preferences. Taken together, the findings suggest that droughts create adverse economic and political conditions that lead individuals to reassess their political environment, while exposure to China provides an alternative reference point that shapes how this reassessment translates into preferences over political systems.

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1 Introduction

"The Chinese bring what Africa needs: investment and money for governments and companies. [...] I would prefer the Western world to invest in Africa rather than handing out development aid."—*Paul Kagame (President of Rwanda, 2009)*

Why do adverse conditions change political preferences for some individuals but not others? This paper studies whether individuals' exposure to different approaches to governance and development helps explain this heterogeneity. I examine this question in sub-Saharan Africa (SSA), combining exogenous variation in drought conditions with individuals' exposure to Chinese development projects.

With populist governments gaining traction globally, support for democracy declining, and political polarization rising (Guriev and Papaioannou, 2022), understanding the determinants of democratic support has become a first-order concern (Mauk, 2020). This question is also central to classical theories of democratization, which emphasize that both the emergence and survival of democracy depend on citizens' support for it (e.g., Lipset, 1959; Almond and Verba, 1963; Easton, 1965).[1]

SSA provides a particularly useful setting in which to study this question. First, droughts are economically consequential across much of the region, generating substantial variation in the adverse conditions individuals experience (e.g., IDA, 2021). Second, the region encompasses considerable variation in political institutions and democratic experience (e.g., Marshall and Gurr, 2020), as well as in citizens' support for democracy (e.g., Afrobarometer, 2024). Finally, the growing presence of foreign development actors, and China in particular, makes alternative approaches to governance and development locally visible (e.g., Dreher et al., 2021; Wellner et al., 2025). Together, these features make SSA a useful setting in which to examine how exposure to different approaches to governance and development shapes individuals' political responses to adverse conditions.

I begin the empirical analysis by examining the reduced-form relationship between drought conditions and support for democracy. To measure individuals' support for democracy, I use

[1]For empirical evidence, see Claassen (2020a). Figure A1 shows a positive correlation in my sample between changes in support for democracy and changes in levels of democracy over time.

geolocated data from five rounds of the Afrobarometer surveys conducted in 16 SSA countries between 2002 and 2015. The primary outcome is a binary variable indicating whether individuals support democracy or are open to non-democratic alternatives. Across countries and survey waves, 68.2% of respondents express support for democracy.

To measure drought conditions, I rely on the Standardized Precipitation Evapotranspiration Index (SPEI), developed by Vicente-Serrano et al. (2010). The SPEI is a standardized, continuous index where negative values represent wet conditions and positive values indicate drought-like conditions. As such, it captures both dry and wet conditions.

I find that a one-standard-deviation increase in the drought index reduces support for democracy by 1.1 percentage points. A drought, corresponding to an approximately two-standard-deviation increase in the index, decreases support for democracy by 2.56%. Consistent with this result, drought exposure also increases respondents' support for one-man and one-party rule. Together, these findings indicate that drought conditions are associated with greater openness to non-democratic forms of government.

These findings hold for a variety of robustness checks. My estimations rely on three primary assumptions: (a) the exogeneity of the drought index, (b) homogeneous treatment effects (e.g., De Chaisemartin and d'Haultfoeuille, 2023; Roth et al., 2023), and (c) the absence of endogenous sample selection. The first assumption is that, conditional on geography and time fixed effects, weather shocks are random. The randomness of weather shocks within a given location and time period is well established in the literature, though I discuss it further in the main text. The second assumption is that the treatment effect is constant across all 16 countries and five survey waves. I show that my results are robust to allowing for heterogeneous treatment effects. Third, drought exposure could affect the composition of the observed sample by (i) disrupting the rollout of Afrobarometer surveys, (ii) changing the types of individuals interviewed conditional on survey rollout, or (iii) inducing migration. I show that these potential sources of sample selection do not drive the results.

I next examine whether this average effect masks systematic heterogeneity in individuals' responses to drought conditions. In particular, I ask whether the effect of drought conditions on support for democracy differs with individuals' exposure to Chinese development projects. I measure exposure using geocoded data on Chinese development projects and classify individuals

according to whether they live within 50km or 100km of an active project. As a comparison, I conduct the same exercise using development projects funded by the World Bank. This comparison helps distinguish whether the heterogeneity is specific to exposure to Chinese projects or instead reflects exposure to development projects more generally.

I find substantial heterogeneity. Among individuals exposed to Chinese development projects, a drought reduces support for democracy by 5.82% to 6.05%. In contrast, drought conditions have no discernible effect on support for democracy among individuals without Chinese project exposure. Nor do I find a comparable effect among individuals exposed to World Bank projects once locations that are also exposed to Chinese projects are excluded. The main empirical finding is therefore that the effect of drought conditions on support for democracy is concentrated among individuals exposed to Chinese development projects.

It is not immediately clear what exposure to Chinese development projects captures. Development projects are unlikely to be randomly distributed across SSA and may target areas with particular economic, geographic, or political characteristics. Moreover, Chinese projects may affect local conditions directly. The interaction between drought conditions and Chinese project exposure could therefore reflect these characteristics or the material consequences of development projects, rather than non-material exposure to China. I address this concern in two steps, considering first material and local explanations and then non-material interpretations of Chinese project exposure.

I conduct several exercises to assess whether the interaction is driven by the characteristics or material consequences of locations receiving Chinese projects. First, I examine respondents living in areas that are not exposed to Chinese development projects at the time of the interview but will receive a project in the future. If underlying characteristics of project locations drive the interaction, drought conditions may also affect regime preferences in these areas prior to project implementation. I find no evidence of such an effect.

Second, I examine the local economic effects of Chinese projects. Development projects may affect employment, income, and other economic conditions in their immediate vicinity, potentially generating differences between exposed and unexposed respondents. I show that employment is positively associated with Chinese project exposure within 10km of a project, but that this relationship disappears at greater distances. I then implement a doughnut specification

that excludes respondents living within 10km of a Chinese project. The main interaction remains similar in magnitude and statistically significant. I obtain similar results when using a more conservative 20km exclusion radius. These exercises suggest that the interaction is unlikely to be explained solely by the highly localized employment effects of Chinese projects.

Third, I examine whether the interaction varies along dimensions that may shape the economic consequences of drought. In particular, I compare rural and urban areas and areas with and without market access. I find no evidence of differential effects along either dimension: the interaction between drought conditions and Chinese project exposure is negative and statistically significant in both rural and urban areas, and in areas with and without market access.

Finally, I examine whether the result is concentrated among particular types of Chinese development projects. I find similar patterns across projects in infrastructure, health and education, transport, and energy. Together, these exercises make an explanation based purely on local material conditions or the sectoral composition of Chinese projects less likely.

Ruling out several material explanations suggests that non-material interpretations of exposure to Chinese development projects may be important. The precise content of this exposure, however, is difficult to identify. Chinese projects may make salient China's nondemocratic political system, centralized authority, state-led development, perceived organizational effectiveness, its broader geopolitical presence, or some combination of these features. I therefore remain agnostic about the precise content of the non-material channel and interpret Chinese project exposure more broadly as providing meaningful non-material exposure to China and its approach to governance and development.

I provide several pieces of evidence supporting this interpretation. Qualitative accounts illustrate how Chinese projects and their implementation are perceived by local populations, including their association with effective implementation and state-led development. In the Afrobarometer, respondents identify China as an important source of influence and a potential development model, and infrastructure and business investment feature prominently in positive perceptions of China. Moreover, respondents living closer to Chinese development projects report more favorable attitudes toward China. Finally, the main interaction persists among respondents with both high and low news consumption, making an explanation operating exclusively through differential news exposure less likely. Taken together, these findings suggest

that Chinese development projects provide meaningful non-material exposure to China.

A second set of exercises examines the other side of the interaction: the role of drought conditions. I consider two possible political responses to adverse conditions. First, droughts may generate a backlash against the incumbent government by reducing trust in its competence and performance. Second, individuals may interpret their government's response to drought conditions as informative about the performance of the broader political system under which they live. I examine these possibilities in turn.

I first examine whether drought conditions generate a backlash against the incumbent. Drought conditions do generate a backlash, reducing trust in government among both exposed and unexposed respondents. These results suggest that backlash against the incumbent forms part of the response to drought conditions. A variety of additional tests, however, suggests that backlash alone is unlikely to explain the differential decline in support for democracy.

I next examine whether individuals interpret their government's response to drought conditions as informative about the performance of the broader political system. This mechanism generates a clear prediction: adverse conditions should reduce support for democracy among individuals living in democracies, but increase support for democracy among those living in autocracies. I find no evidence of such differential updating. Drought conditions reduce support for democracy among individuals exposed to Chinese projects in both democracies and autocracies, and the interaction does not differ significantly across regime types. This pattern provides evidence against an interpretation in which individuals use drought conditions to learn about the relative performance of the political system under which they live.

This finding is consistent with a distinction between evaluations of the incumbent political system and preferences over political systems. Indeed, I show that a country's level of democracy significantly predicts individuals' evaluations of how democratic their country is, but is unrelated to their support for democracy itself. Thus, dissatisfaction with the incumbent government or political system need not translate mechanically into opposing changes in regime preferences across democracies and autocracies.

Taken together, these results help narrow the interpretation of the main finding. On the Chinese-project side, the evidence weighs against several material explanations and is instead consistent with projects providing meaningful non-material exposure to China. On the drought

side, I find evidence of a backlash against the incumbent. Backlash alone, however, does not explain the main result: drought conditions reduce trust in government even among individuals without Chinese exposure, yet their support for democracy remains unchanged. The decline in democratic support therefore appears to require both an adverse political response to drought conditions *and* the additional non-material input associated with exposure to China. The evidence is thus consistent with drought conditions creating circumstances in which individuals reassess their political environment, while exposure to China shapes how that reassessment translates into preferences over political systems.

The paper connects deeply to three strands of the literature. First, the paper relates to the literature examining determinants of support for democracy. One prominent line of research in this literature demonstrates that support for democracy is shaped by accumulated experiences with democratic systems over time (e.g., Persson and Tabellini, 2009; Fuchs-Schündeln and Schündeln, 2015; Besley and Persson, 2019; Claassen, 2020b; Acemoglu et al., 2025; Tabellini and Magistretti, 2025). Another strand examines voters' willingness to undermine democratic principles, often driven by political polarization or policy preferences (Graham and Svolik, 2020; Carey et al., 2022; Grossman et al., 2022; Krishnarajan, 2023; Svolik, 2023; Acemoglu et al., 2024). Additional studies emphasize the influence of religion (Inglehart, 2003; Bloom and Arikan, 2013), the role of ("negative") social remittances (Manacorda et al., 2024), civic education (E. Finkel et al., 2024), and social transmission (Dahlum et al., 2024).[2] Most closely related to my paper is Alsan et al. (2023), who show that crises (in their case: Covid-19) can shift citizens' willingness to trade off civil liberties for increased (health) security.

Second, the paper contributes to a literature linking weather shocks to political outcomes. The most widely studied outcomes are voting outcomes (e.g., Besley and Burgess, 2002; Malhotra and Kuo, 2008; Healy and Malhotra, 2009, 2010; Cole et al., 2012; Amirapu et al., 2022; Araujo et al., 2024; Cremaschi and Stanig, 2025), though some studies also examine trust in government

[2]Another significant body of literature focuses on regime changes. A key hypothesis, the modernization theory, argues that economic development—through higher incomes and education—drives democratization (e.g., Lipset, 1959; Huber et al., 1993; Glaeser et al., 2007) and reduces the likelihood of democratic reversals (e.g., Lipset, 1959; Przeworski and Limongi, 1997). Conversely, some scholars argue that economic downturns can spur democratization (e.g., Haggard and Kaufman, 1995; Acemoglu and Robinson, 2001, 2005). Empirical evidence supports both perspectives. For instance, Barro (1999) finds that higher standards of living are associated with greater levels of democracy, while Brückner and Ciccone (2011) provide evidence that recessions can create "democratic windows of opportunity."

(e.g., Alfano and Aboyadana, 2020; Balcazar and Kennard, 2022) or even social capital and cultural persistence (e.g., Buggle and Durante, 2021; Giuliano and Nunn, 2021).

Weather anomalies such as droughts and floods are closely linked to one of the most pressing global policy challenges: climate change (IPCC, 2021). Anthropogenic climate change is expected to increase the frequency and intensity of such events, with potentially important consequences for economic and political outcomes (Besley and Burgess, 2002; Kahn, 2005; Dell et al., 2014; Carleton and Hsiang, 2016; Hsiang, 2025).

Third, the paper is nested within the large body of literature analyzing the drivers of political beliefs.[3] My paper builds on the strand of this literature that examines how exposure to foreign influences affects political outcomes (e.g., Meyersson et al., 2008). The rise of China as a global power (Yang, 2024) has spurred a growing body of research on the effects of Chinese foreign aid. Scholars have explored the impact of Chinese aid on (i) the behavior of traditional lenders like the World Bank (Hernandez, 2017; Humphrey and Michaelowa, 2019; Zeitz, 2021; Watkins, 2022; Kern et al., 2024), (ii) economic and political outcomes (Isaksson and Kotsadam, 2018a,b; Bluhm et al., 2018; Dreher et al., 2019; Martorano et al., 2020; Dreher et al., 2021; Mueller, 2022), and (iii) political beliefs (Kleinberg and Fordham, 2010; Hanusch, 2012; Eichenauer et al., 2021; Bai et al., 2022; Blair et al., 2022; Wellner et al., 2025; Freytag et al., 2024).

I contribute to these literatures by showing that the political effects of adverse shocks depend systematically on individuals' local exposure to foreign development actors. Drought conditions reduce support for democracy only among individuals exposed to Chinese development projects, and not among those without such exposure or those exposed to World Bank projects. More broadly, the findings show that the political consequences of adverse shocks depend on the environment in which individuals experience and interpret them.

The rest of the paper is organized as follows. Section 2 outlines several channels through which drought conditions and exposure to Chinese development projects may jointly shape support for democracy. Section 3 establishes the reduced-form relationship between drought conditions and support for democracy. Section 4 presents the paper's main result: the effect of drought conditions on support for democracy is concentrated among individuals exposed to Chi-

[3]For an overview of the growing literature on people's understanding of economic policies, see Stantcheva (2023). For an example focusing on climate change policies, see Dechezleprêtre et al. (2025).

nese development projects. Section 5 investigates the mechanisms underlying this heterogeneity, assessing the alternative explanations outlined in section 2. Section 6 concludes.

2 Conceptual Background

The main result of this paper is that the effect of drought conditions on support for democracy is concentrated among individuals exposed to Chinese development projects. This finding raises three related questions: (i) what does exposure to Chinese development projects capture; (ii) through which channels might drought conditions affect political preferences; and (iii) why do the two matter jointly, rather than in isolation? This section develops several possible explanations for this pattern, which I subsequently assess empirically.

What does exposure to Chinese development projects capture? Exposure to Chinese development projects can capture both material and non-material channels.

Material channels. Chinese development projects are not randomly distributed across SSA and may therefore be located in areas with particular economic or geographic characteristics. In addition, the projects themselves may directly affect local economic conditions. Indeed, a growing literature documents effects of Chinese development projects on local economic activity (e.g., Martorano et al., 2020; Dreher et al., 2021; Bluhm et al., 2025). A first interpretation of the main result is therefore that exposure to Chinese development projects captures differences in the material conditions individuals face—either because projects are located in systematically different areas or because the projects themselves alter local economic conditions. These differences may, in turn, shape how individuals are affected by and respond to drought conditions.

Non-material channels. Chinese development projects may also affect individuals through non-material channels. In particular, the presence of Chinese projects may make China and its approach to governance and development more salient to nearby individuals. A growing literature studies the political consequences of exposure to Chinese development projects (Bai et al., 2022; Blair et al., 2022; Wellner et al., 2025; Freytag et al., 2024). One possibility is therefore that Chinese projects provide individuals with locally salient information about an alternative

approach to governance and development. Under normal conditions, such exposure need not affect individuals' regime preferences. Adverse conditions, however, may increase the weight individuals place on available alternatives, making previously existing exposure politically consequential. Under this interpretation, drought conditions and exposure to Chinese development projects matter jointly because droughts *activate* the political relevance of information already present in individuals' local environment.

How do drought conditions affect political preferences? A large literature documents that weather anomalies, including drought conditions, can affect political preferences and behavior. Two channels are particularly relevant in this setting.

Backlash against the incumbent. A first possibility is that adverse shocks generate dissatisfaction with the incumbent government. Citizens may update their beliefs about government competence by observing responses to droughts and relief efforts (e.g., Besley and Burgess, 2002; Healy and Malhotra, 2010; Cole et al., 2012; Ashworth et al., 2018), a mechanism closely related to the retrospective voting literature (e.g., Wolfers, 2002; Leigh, 2009; Healy et al., 2010; Achen and Bartels, 2012, 2017). Under this interpretation, drought conditions reduce trust in and evaluations of the incumbent government, potentially generating broader dissatisfaction with the political status quo.

Learning about regime performance. A related but conceptually distinct possibility is that drought conditions provide information not only about the incumbent government, but also about the political system under which individuals live. Experiences under democracy can shape subsequent support for democracy, as individuals accumulate "democratic capital" over time (Persson and Tabellini, 2009; Acemoglu et al., 2025). If individuals interpret their government's response to a drought as informative about the performance of the broader political system, adverse experiences should generate different updating depending on the incumbent regime: individuals living in democracies should become less supportive of democracy, whereas those living in autocracies should become more supportive of it. This prediction distinguishes learning about regime performance from a more general backlash against the incumbent.

Why do they matter jointly, rather than in isolation? The central empirical result of the paper is that drought conditions and exposure to Chinese development projects matter jointly for support for democracy. The channels discussed above therefore need to explain not only why droughts or Chinese projects may affect political preferences, but why exposure to Chinese projects changes how individuals respond to drought conditions. The interaction can arise if droughts create the conditions under which individuals reassess their political environment. Economic hardship, uncertainty, or dissatisfaction with the incumbent government may trigger such reassessment without, by themselves, determining its direction. Exposure to Chinese development projects may then shape how individuals respond to these adverse conditions, either because projects alter the material environment in which droughts occur or because they affect how individuals interpret them. Under the latter interpretation, Chinese projects make an alternative approach to governance and development locally salient, while drought conditions increase the political relevance of this previously existing exposure. The empirical analysis below examines these explanations in turn.

3 Reduced-form Evidence

3.1 Data

I use two main data sources for the reduced-form analysis.

Afrobarometer data. To measure support for democracy across SSA, I use data from the Afrobarometer surveys. These nationally representative surveys, conducted roughly every three years in various African countries, provide extensive information on political preferences, social capital, economic conditions, and other related topics. In each survey wave, interviews are conducted in local languages with a randomly selected sample of either 1,200 or 2,400 individuals per country.

This paper uses geocoded data from 16 SSA countries that were surveyed in all rounds from round 2 to round 6 (2002—2015), providing a sample of 129,002 individuals. Together, these countries account for 51.7% of the SSA population.[4] I match the locations of individuals to

[4]The countries are Botswana, Cape Verde, Ghana, Kenya, Lesotho, Malawi, Mali, Mozambique, Namibia,

weather grid cells, which are described in more detail below.[5,6]

The precise question respondents were presented with is "Which of these three statements is closest to your own opinion? A: Democracy is preferable to any other kind of government. B: In some circumstances, a non-democratic government can be preferable. C: For someone like me, it doesn't matter what kind of government we have." I use this question to code two different versions of the outcome. First—coding 1—I create a dummy variable that equals 1 if participants answer "A" (i.e., they support democracy) and 0 if they answer "B" (i.e., they are open to non-democratic regimes). Second—coding 2—I create a dummy variable that equals 1 if participants answer "A" (i.e., they support democracy) and 0 if they answer "B" or "C" (i.e., they are open to non-democratic regimes or indifferent) or "don't know".

The first row in Panel A of Table 1 displays the share of individuals who support democracy, showing that 85.9% of individuals support democracy across my full sample (Column 1) and that this share does not vary much across different regions in Africa (Columns 2—4). These shares are conditional on not picking option "C" (i.e., coding 1 of the outcome) or answering "don't know." As Panel A in Table 1 shows, 20.6% of respondents choose option "C" or answer "don't know." It follows that 68.2% of the sample support democracy unconditionally (as shown in the second row of Panel A in Table 1).

I conduct my main analysis relying on coding 1 of the outcome. I view this as the most conservative approach, as it relies on individuals who display strict preferences over which alternative is better. Indifferent individuals, or individuals who may not have views on political systems at all, are therefore excluded from the analysis. I show that the main results of the paper are robust to coding 2 of the outcome.

Democracy can, and likely does, mean different things to different people both across and

Nigeria, Senegal, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe. The reason for restricting the sample to 16 countries is that they are the only ones surveyed in all five survey rounds.

[5]Since the wording of questions in survey round 1 differs substantially from that in other rounds, I exclude that round. In round 2, I lose 797 observations in Senegal as the date of those interviews is not known.

[6]Geocoded Afrobarometer surveys provide researchers with the location of an "Enumeration Area" (EA), i.e., the primary sampling unit (PSU). The precision of this PSU depends on the size of the EA, which varies between different population densities, but usually represents a village (or several geographically close villages) or a neighborhood in an urban area. Each geocoded location is associated with a precision code ranging from 1 (most precise) to 8 (least precise). 98.46% of observations have precision codes between 1 and 4. As this is pretty much the complete sample (except for 1,986 observations), I keep the full sample in my main analysis. All results presented in this paper are robust to restricting the sample to precision codes 1 through 4. For more information on the process of geocoding the Afrobarometer data, see BenYishay et al. (2017).

within countries. Understanding what respondents perceive democracy to be is therefore important. To this end, Figure A2 displays the answers by respondents to the question "What does democracy mean to you?" Two facts are worth highlighting: (i) individuals seem to hold an overwhelmingly positive view of democracy and (ii) respondents overwhelmingly associate democracy with the notion of freedom.

Panel B in Table 1 provides the shares of respondents who do not support one-party rule, army rule, and one-man rule (i.e., abolishing parliament and elections). Existing work analyzing the support for democracy often relies on these three variables as a proxy for support for democracy (e.g., Acemoglu et al., 2025). While the Afrobarometer is unique in asking directly about support for democracy, Panel B of Table 1 shows that the shares of these variables are similar.[7]

Weather data. To identify droughts, or drought-like conditions, my main right-hand side variable is the SPEI index, developed by Vicente-Serrano et al. (2010).[8] The SPEI index is a standardized and continuous drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. More specifically, the impact of precipitation on agriculture not only depends on the level of precipitation, but also on potential evapotranspiration (PET),[9] which is itself determined by factors such as temperature, sunshine exposure, latitude, wind speed, and pressure. The SPEI index incorporates all of these components and has been found to outperform other indices in predicting crop yields (Vicente-Serrano et al., 2012).[10]

I rely on the daily ERA5 reanalysis dataset from the European Centre for Medium-Range Weather Forecasts for the weather inputs to calculate the SPEI index, downloading the data from 1960 until 2015 for a 0.25×0.25 degree ($\approx 27 \times 27$km) grid spanning the world.[11]

The SPEI index is calculated for each grid cell-month and is expressed in units of standard

[7] Online Appendix B provides further summary statistics and validates the main outcome.

[8] To ease the interpretation of my results, I multiply the final index by -1.

[9] PET is the amount of evaporation that would occur if a sufficient water source were available.

[10] Two of these other indices are the Palmer Drought Severity Index (PDSI) (Palmer, 1965) and the Standardized Precipitation Index (SPI) (McKee et al., 1993). For more information on drought indices, see Mishra and Singh (2010). The details for the calculation of the SPEI index can be found in Vicente-Serrano et al. (2010) and can simply be executed in R using the package "SPEI".

[11] See Auffhammer et al. (2013) for arguments why using reanalysis data is more suitable than simple gridded datasets such as UDEL or CRU.

deviations from the grid cell's historical mean. By construction it therefore has mean (standard deviation) 0 (1) in the historical sample, which in my case is 1960-2015. In my sample, the mean (standard deviation) of the SPEI index is 0.485 (0.800) (see Panel C in Table 1), indicating that my sample period (2002-2015) was drier and exhibited less variability than the historical period.

Present drought conditions are not only a function of current weather conditions but also of past periods. The SPEI index can therefore be constructed over different timescales. This paper relies on the 12-month SPEI index. This measure captures cumulative water-balance conditions over the preceding year and therefore reflects sustained rather than short-lived deviations from normal weather conditions. I use this horizon because the political responses studied in this paper are unlikely to depend only on weather conditions in the month of the interview, but rather on adverse conditions experienced over a longer period. At the same time, the relevant horizon should remain sufficiently short for these conditions to be salient to respondents at the time of the survey. The 12-month window provides a natural benchmark between these considerations. I show that the results are robust to using the shorter 3-month SPEI index.

Figure A3 displays the distribution of the drought index across all time periods. As expected, given the mean of 0.485, the mass of the histogram is "shifted to the right." Furthermore, notice that there are few extremely wet or extremely dry observations. This is because I focus on the 12-month SPEI index (indeed, a 1-month SPEI index would have many more extreme values). For expositional simplicity, I call the 12-month SPEI index "drought index" in this paper.[12]

3.2 Empirical Strategy

To capture the reduced form effect of the drought index on the support for democracy, my main specification looks as follows

$$\text{Support for democracy}_{iegct} = \delta_g + \tau_t + \beta \text{Drought Index}_{gct} + \mathbf{x}_{iegct}\gamma + \epsilon_{iegct} \tag{1}$$

where $\text{Support for democracy}_{iegct}$ denotes the outcome variable indicating whether individual i in enumeration area e in grid cell g in country c in year-month t supports democracy or is open to non-democratic regimes. The right-hand side of the equation includes grid cell and month

[12] Online Appendix B validates the drought index.

by year fixed effects, the drought index at the grid cell and month by year level, and allows for the inclusion of household level controls.[13] Standard errors are clustered at the grid cell level.[14]

The coefficient of interest in this TWFE regression, β, indicates the percentage point change in the outcome in response to a one standard deviation increase in the drought index. Recall from section 3.1 that values above 1.5 are considered severely dry and extremely dry and that the mean (standard deviation) of my drought index is 0.485 (0.800). Defining a drought as corresponding to severely and extremely dry conditions, the effect of a drought is therefore equivalent to a two standard deviation increase in the drought index.

Whether this regression succeeds in capturing the causal effect of the drought index on the support for democracy hinges on at least three important assumptions: (a) the exogeneity of the index, (b) homogeneous treatment effects (e.g., De Chaisemartin and d'Haultfoeuille, 2023; Roth et al., 2023), and (c) the absence of endogenous sample selection. The first assumption is that, conditional on grid-cell and time fixed effects, deviations in weather from a location's historical conditions are unrelated to unobserved determinants of support for democracy. The grid-cell fixed effects absorb persistent geographic and climatic differences, while month-by-year fixed effects absorb common shocks. The key source of variation is therefore meteorological: conditional on location and time fixed effects, the timing and severity of weather shocks are not determined by individuals' political preferences or other local political conditions. The second assumption requires that the treatment effect is constant across all 16 countries and five survey waves. I show that my results are robust to allowing for heterogeneous treatment effects in robustness tests. The third assumption concerns endogenous sample selection: (i) natural disasters can affect the rollout of the Afrobarometer surveys, (ii) conditional on the rollout of the surveys, the Afrobarometer interviews different "types" of individuals, and (iii) individuals exhibit adaptation behavior (e.g., they migrate) due to natural disasters and thus change the composition of the sample. I show that these considerations do not represent concerns in my

[13]The controls I include in all regressions are the age of the respondent and dummy variables indicating (a) whether the respondent completed high school or more, (b) whether the respondent is male, (c) whether the respondent is white, and (d) whether the respondent is aligned with the political party in power. I show, in robustness tests, that none of these variables are bad controls, i.e., they are not affected by the drought index, and that the results are robust to excluding all controls and excluding dummy variables (c) and (d).

[14]The subscript i is redundant as I only know the enumeration area e an individual lives in. The subscript e clarifies that I merge the enumeration area e to the grid cell g. Specifically, geocoded Afrobarometer data contains the geographic center of each enumeration area e. I merge this information to the relevant grid cell g.

analysis in robustness checks.

3.3 Results

Column 1 of Table 2 presents the main result, relying on coding 1 of the main outcome. The results show that a one standard deviation increase in the drought index decreases the support for democracy by 1.1 percentage points.[15] The effect is statistically significant at the 5% level. The next part of the table translates this estimate into a percentage effect for one drought. As mentioned above, one drought corresponds to an increase of 2 standard deviations in the drought index. Put differently, this means that one drought alone reduces the support for democracy by 2.56%.

Columns 2—4 of Table 2 display the effects of droughts on three variables relating to the erosion of democracy (see Panel B of Table 1). In response to droughts, respondents are more likely to want one-man rule (i.e., to want a dictator) and one-party rule (i.e., to abolish parliament and elections). Since elections, a parliament, and a leader/president with some constraints on their power are cornerstones of a democracy, the respondents' answers indicate that they want a consolidation of power in their country's politics in response to a drought.[16]

An interesting thought experiment connects these results to the descriptives in Figure A2, which shows that individuals overwhelmingly associate democracy with freedom. Taken to the extreme, the desire for more consolidation of power within a country's politics results in a loss of freedoms (e.g., if a country abolishes elections, there is no more freedom to vote). It might thus be that individuals are willing to trade some political freedoms for more centralized or decisive governance under adverse conditions.

[15]The precise interpretation is that a one standard deviation increase in the drought index decreases the probability that a respondent answers that they support democracy by 1.1 percentage points. For simplicity, I will refer to this simply as a decrease in the support for democracy throughout the paper.

[16]These results also show that individuals are consistent in their answers. Column 1 of the table shows that droughts reduce individuals' support for democracy. The answers in Columns 2—4 show that respondents understand what this decrease in democracy means.

3.4 Robustness Tests

Online Appendix C presents details of various robustness tests of the main result from Table 2. First, I show that my results are robust to allowing for heterogeneous treatment effects. Second, I explore the possibility that the sample is selected. Specifically, this refers to the possibility that (i) natural disasters affect the rollout of the Afrobarometer surveys, (ii) conditional on the rollout of the surveys, the Afrobarometer interviews different "types" of individuals, and (iii) individuals exhibit adaptation behavior (e.g., they migrate) due to natural disasters and thus change the composition of the sample. I show that none of these possibilities poses serious concerns in my setting. Third, I show that the results are robust to the inclusion of leads and therefore that there are no pre-trends in my empirical setting. Fourth, I consider two alternative ways of measuring droughts (drought dummies and the 3-month drought index) and show that the results survive this adjustment. Fifth, I show that the result is robust to the use of Conley standard errors (Conley, 1999). Sixth, I show that the main results are robust to the inclusion of different fixed effects. Seventh, I show that the results are unchanged when removing all controls. Eighth, I find that the results are robust when only controlling for age, gender, and education. Ninth, I show that the results survive when controlling for temperature and precipitation levels. Tenth, I show that the results remain unchanged when controlling for village controls.

4 The Exposure to Development Projects

Section 3 establishes that drought conditions reduce support for democracy on average. This section presents the main result of the paper: the effect is concentrated among individuals exposed to Chinese development projects. Among individuals without such exposure, drought conditions have no discernible effect on support for democracy. I additionally examine whether a similar pattern emerges among individuals exposed to World Bank development projects.

4.1 Data

World Bank projects. Geocoded data on development projects approved by the World Bank from 1995-2014 are taken from AidData's Research Lab at William & Mary (Version 1.4.2).[17] I calculate the distance between each project location and individual (i.e., enumeration area) from the Afrobarometer and define exposure dummies indicating if the individual lives within 50km or 100km of a development project.[18]

Chinese projects. The data for development projects funded by China only are taken from AidData's Global Chinese Development Finance Dataset (Version 1.1.1). These data, introduced by Strange et al. (2017) and geocoded by Dreher et al. (2016), have been widely used in research (e.g., Dreher and Fuchs, 2015; Dreher et al., 2018; Mueller, 2022).[19] I again calculate the distance between each project location and individual from the Afrobarometer and define exposure dummies indicating if the individual lives within 50km or 100km of a development project.

Summary statistics. I create three groups of dummies. First, group G_{never} is an indicator for individuals that are never exposed to a project. Second, group G_{active} is an indicator for individuals that are interviewed after a project started to be implemented (i.e., they are exposed to a project at the time of the interview). Third, group G_{inactive} is an indicator for individuals that are interviewed before a project started to be implemented (i.e., they will be exposed in the future but are not exposed at the time of the interview).

Table A1 summarizes project exposure in my dataset. Relying on the 50km (100km) radius for Chinese projects shows that 21.3% and 12.8% (33.8% and 18.3%) of individuals are in groups G_{active} and G_{inactive}, respectively. Similarly, relying on the 50km (100km) radius for World Bank

[17] I keep only projects in the sample that have precision codes 1 or 2. Furthermore, I assume that once a development project has been implemented it will "stay forever." The idea behind this is that if, for example, a road was built from 2002 to 2005, the road will not disappear in 2005. An individual interviewed in the Afrobarometer in 2009, for example, would therefore still be coded as being exposed to this road in my sample. For comparability with Chinese projects, I discard projects with a start date prior to 2000.

[18] I view 50km as the main distance because it is a reasonable commuting distance in Africa (Knutsen et al., 2017). I also report all results for 100km as a robustness test.

[19] I drop umbrella agreements (Dreher et al., 2021), only keep projects categorized as ODA (Isaksson and Kotsadam, 2018a), drop any co-financed projects, and only consider projects where the source of the project information comes from official sources. The dataset contains projects implemented between 2000 and 2015.

projects shows that 58.6% and 11.6% (70.1% and 9.70%) of individuals are in groups G_{active} and G_{inactive}, respectively. Panel C of the table shows that there is significant overlap between the project locations of World Bank and Chinese projects.

4.2 The Development Projects

Figure A4 displays the share of development projects by the World Bank (Panel (a)) and China (Panel (b)) by sector across time. While "government and civil society" rank high for both, the World Bank otherwise tends to focus more on "water supply and sanitation" projects while China stays in the "health" and "education" sectors.

Finally, Table A2 regresses dummy variables indicating whether the respondent lives within 50km or 100km of a future development project on the drought index, thus assessing whether these projects are targeted towards drought areas.[20] The table shows no correlation for Chinese projects and a small negative correlation for World Bank projects.

For Chinese projects this implies that areas subject to disasters are not actively targeted.[21] For World Bank projects, the results suggest that drought occurrences do affect their future locations: World Bank projects are less likely to be implemented in areas that previously experienced droughts.

4.3 Empirical Strategy

To examine whether the effect of drought conditions varies with exposure to development projects, I extend equation (1) as follows:

$$\begin{aligned}\text{Support for democracy}_{iegct} = \tau_{cy} + \delta_g + \beta_0 \text{Drought Index}_{gct} \\ + \beta_1(\text{Drought Index}_{gct} \times \text{G}^{x\text{km}}_{\text{active},iegct}) + \beta_2 \text{G}^{x\text{km}}_{\text{active},iegct} + \mathbf{x}_{iegct}\gamma + \epsilon_{iegct} \quad (2)\end{aligned}$$

[20] To be clear, the outcome is the G_{inactive} dummy indicating future exposure to projects. It is important to take this variable as the relevant question is whether droughts (or disasters more broadly) affect the location choice of future projects. How the location choice of past projects correlates with current droughts is irrelevant.

[21] This is contrary to the finding in Cervellati et al. (2022) who show that the location of Chinese projects is shaped by geo-climatological conditions.

where $G^{x\text{km}}_{\text{active},iegct}$ is a dummy variable indicating exposure to either a World Bank or a Chinese project and $x \in \{50\text{km}, 100\text{km}\}$. The remaining variables are defined as in equation (1).

A difference from equation (1) concerns the time fixed effects. While the grid-cell fixed effects δ_g remain unchanged, I replace month by year fixed effects with country by year fixed effects τ_{cy}. These absorb (i) time-varying country-level relations with China and the World Bank, such as diplomatic relations, trade, and FDI, and (ii) changes in the political and economic environment of recipient countries. I show that the results are robust to using the original month by year fixed effects in robustness tests below.

In this specification, β_0 is the effect of the drought index on the support for democracy for individuals not exposed to a development project and β_1 represents the differential effect of the drought index on the support for democracy of exposed and not exposed individuals. $\beta_0 + \beta_1$ is thus the effect of the drought index on the support for democracy for individuals exposed to a development project funded by the World Bank or China.

4.4 Results

Table 3 displays the main results. Columns 1 and 2 (3—6) interact the drought index with exposure to Chinese (World Bank) projects within 50km and 100km, respectively. The top panel presents the estimated coefficients $\widehat{\beta}_0$ and $\widehat{\beta}_1$. The second panel then displays the sum of the estimates, $\widehat{\beta}_0 + \widehat{\beta}_1$, as well as the p-value associated with said coefficients. Finally, the third panel translates the effects of $\widehat{\beta}_0$ and $\widehat{\beta}_0 + \widehat{\beta}_1$ into percentage effects of one drought.

The table contains three important insights. First, the drought index has no significant negative effect on support for democracy among respondents not exposed to a development project. Second, among individuals exposed to Chinese development projects, the differential decline is a statistically significant 2.5 to 2.7 percentage points. Overall, a drought reduces support for democracy among these individuals by 2.5 to 2.6 percentage points (5.82 to 6.05%). Third, the effect among individuals exposed to World Bank projects is substantially smaller in Columns 3 and 4 and disappears in Columns 5 and 6. Since Columns 3 and 4 include locations exposed to both World Bank and Chinese projects, while Columns 5 and 6 exclude such locations, the results suggest that the apparent World Bank effect is driven by overlap with Chinese project exposure.

5 Mechanisms

Having established that drought conditions and exposure to Chinese development projects jointly shape support for democracy, I now examine the mechanisms underlying this relationship. I organize the analysis around the alternative explanations outlined in section 2.

5.1 Exposure to Chinese Development Projects

5.1.1 Material Channels

Local characteristics. To assess whether the interaction is driven by characteristics of locations receiving Chinese projects, I estimate the following model

$$\begin{aligned}\text{Support for democracy}_{iegct} = \tau_{cy} + \delta_g + \beta_0 \text{Drought Index}_{gct} \\ + \beta_1(\text{Drought Index}_{gct} \times \text{G}^{x\text{km}}_{\text{inactive},iegct}) + \beta_2(\text{Drought Index}_{gct} \times \text{G}^{x\text{km}}_{\text{active},iegct}) \\ + \beta_3 \text{G}^{x\text{km}}_{\text{inactive},iegct} + \beta_4 \text{G}^{x\text{km}}_{\text{active},iegct} + \mathbf{x}_{iegct}\gamma + \epsilon_{iegct} \quad (3)\end{aligned}$$

β_1 in (3) captures the effect of drought conditions among individuals living in areas that are not exposed to a Chinese project at the time of the interview but will receive one in the future.

Table 4 presents the results. The interaction between the drought index and future project exposure is small and statistically insignificant, while the interaction with active project exposure remains negative and significant. If pre-existing characteristics of locations selected for Chinese projects were driving the main result, one would expect a similar relationship between drought conditions and support for democracy before project implementation. The absence of such a relationship suggests that the main result is unlikely to be driven by pre-existing characteristics of locations selected for Chinese projects.

Income. The premise of the first exercise is simple. Suppose Chinese development projects affect some local condition x, but only in their immediate vicinity. If the interaction between drought conditions and Chinese project exposure persists after excluding these locations, then x cannot explain the main result. This insight allows me to assess a range of localized material mechanisms.

To fix ideas, consider local employment, a proxy for economic conditions. Chinese development projects may affect employment in their immediate vicinity (e.g., Sautman and Yan, 2015; Guo et al., 2022). Table 5 examines how this relationship varies with distance from a project. I regress employment on indicators for living within 10km, 20km (conditional on not living within 10km), 30km (conditional on not living within 20km), 40km (conditional on not living within 30km), and 50km (conditional on not living within 40km) of a Chinese development project.[22] The results show a positive association between project exposure and employment within 10km of a project, but no significant association at greater distances. Thus, the relationship between Chinese project exposure and local employment appears to be highly localized.

Employment, serving as a proxy for income, is a potential alternative explanation for the main result. Since the association between Chinese project exposure and employment is concentrated within 10km of a project, I re-estimate the main specification after excluding respondents living within this radius. If employment, or income, effects of Chinese projects drive the interaction between drought conditions and project exposure, the interaction should weaken once these respondents are excluded.

Table 6 implements this test. Columns 1 and 2 replicate Table 3 after excluding individuals living within 10km of a Chinese development project. The results remain unchanged. Columns 3 and 4 take an even more conservative approach and exclude individuals living within 20km of a project; again, the results remain unchanged.[23] These findings suggest that the main interaction is unlikely to be driven by the localized employment or economic effects of Chinese development projects.

Employment and income are not the only local conditions that may be affected by Chinese development projects. The same logic applies to other project-related effects that are concentrated in the immediate vicinity of a project. The fact that the main interaction remains unchanged after excluding respondents within 20km of a project therefore provides broader evidence against

[22]Following Guo et al. (2022), I use region (ADMIN2) rather than grid-cell fixed effects. Unlike the main specifications, this regression is intended to characterize the spatial relationship between employment and proximity to Chinese development projects. ADMIN2 fixed effects absorb broader regional differences in employment while retaining the spatial variation in project proximity needed for this exercise.

[23]The 20km exclusion radius also addresses concerns about spatial imprecision in the geocoded Afrobarometer locations. Even allowing for several kilometers of imprecision in respondents' recorded locations, individuals retained in this specification cannot be located within the 10km radius in which I observe local employment effects.

explanations operating through highly localized consequences of Chinese development projects.

A related concern is that Chinese development projects may be located in areas that differ in their exposure to the economic consequences of drought. Tables A3 and A4 therefore examine heterogeneity by urban residence and market access. I find no evidence of differential effects: the interaction between drought conditions and Chinese project exposure is negative and statistically significant in both rural and urban areas, and in areas with and without market access.

To further investigate the role of income and related local conditions, Columns 1 and 2 of Table A5 replicate Columns 1 and 2 of Table 3 while controlling for income and conflict occurrences. These outcomes are themselves affected by drought conditions (Table B4) and are therefore potentially bad controls. I nevertheless include them as a conservative robustness exercise. The estimated interaction remains essentially unchanged. Columns 3 and 4 of the table show that the results are robust to using Conley standard errors (Conley, 1999).

Sectors of ODA. Table 7 asks whether the results in Table 3 are driven by Chinese development projects in particular sectors. I define (a) "government and civil society" and "other social infrastructure" as "infrastructure projects", (b) "health" and "education" as "health and education projects", (c) "transport" as "transport projects", and (d) "energy generation and supply" as "energy" projects.[24] The results show negative effects across all four project sectors, although the interaction term for infrastructure projects is not statistically significant. The similarity in the direction and magnitude of the estimates across sectors makes it less likely that the main interaction reflects the specific material needs addressed by particular types of Chinese projects.

5.1.2 Non-material Channels

The results above provide evidence against several material explanations for the main result. This raises the question of whether exposure to Chinese development projects instead operates through non-material channels and, if so, what these channels capture. Answering this question conclusively would require detailed information on whether individuals are aware of nearby Chinese projects and how they perceive them—for example, whether they associate these projects

[24]The radius of exposure in these regressions is 75km, i.e., the average between 50km and 100km.

with China's political system, state-led development, effective implementation, or other features of China's presence in Africa. Such information is, to the best of my knowledge, not rigorously available in publicly available datasets. I therefore combine anecdotal evidence on how Chinese projects are perceived with the limited available survey evidence on individuals' views of China and its development activities.

Anecdotal evidence. Given the lack of systematic data on how individuals perceive nearby Chinese development projects, I begin with anecdotal evidence on these projects.

Chinese development projects are highly visible manifestations of China's presence in Africa and are often associated with effective implementation and economic transformation. A Kenyan employee of the Chinese-built Nairobi Expressway, for example, remarked that the "Chinese management style is worth emulating," pointing to its ability to coordinate workers effectively.[25] Similarly, an Ethiopian importer described the Chinese-built Addis Ababa–Djibouti railway as potentially making "a huge difference," while the project manager of Ethiopian Railways called it a "game-changer."[26] Such accounts illustrate how visible projects may convey not only material benefits, but also signals about the effectiveness of the actors and organizational structures delivering them.

These perceptions form part of a broader debate about China as an alternative model of development. In 2011, ECOWAS Commission President James Victor Gbeho described China as a "source of inspiration" and advocated learning from its development approach.[27] China itself emphasizes that this approach is not conditional on political reform: President Xi Jinping's "five-no" approach to Africa includes no interference in countries' development paths or internal affairs and no political conditions attached to assistance.[28] The political contrast has also been made explicitly by African leaders. In a 2009 interview, Rwandan President Paul Kagame contrasted China's emphasis on investment in Africa with the Western approach to development assistance, arguing that "the Chinese bring what Africa needs: investment and money for governments and companies."[29] Taken together, these narratives suggest that Chinese projects may make locally

[25]Source available here (last accessed: September 8, 2026).
[26]Source available here (last accessed: September 8, 2026).
[27]Source available here (last accessed: September 8, 2026).
[28]Source available here (last accessed: September 8, 2026).
[29]Source available here (last accessed: September 8, 2026).

salient an alternative model of development: one associated with visible state-led delivery and with a nondemocratic donor that explicitly separates development assistance from demands for political reform.

Views of China. I now present cross-sectional evidence complementing the qualitative accounts. For development projects to provide meaningful non-material exposure to China, respondents must hold meaningful views about China and its development activities. Table A6 summarizes these views using the Afrobarometer.[30]

Panel A contains three pieces of information. First, around two-thirds of respondents think that Chinese aid is useful. Second, when asking individuals which country or international organization is the best model for their country, 27.9% name China, 34.7% list the US, and 5.5% state international organizations such as the World Bank or the United Nations. Third, when asked which country has the largest influence on their country, 31.4% name China while 24.0% list the US.

Panels B and C document further views respondents hold about China. Specifically, Panel B shows that 80.6% of respondents view China as having a lot of economic influence on their country and 73.4% view this as a positive influence. Panel C lists the most important factor explaining this positive image of China: over 50% of individuals name infrastructure projects and business investments as the primary reason.[31]

Table A7 provides evidence that Chinese development projects are locally salient. Individuals living closer to such projects express more favorable views toward China, as measured by an index constructed from the variables in Table A6. Although this evidence is cross-sectional, it suggests that proximity to Chinese projects is associated with stronger pro-China attitudes, consistent with the interpretation that these projects make China locally salient.

Taken together, these patterns establish two facts relevant for a non-material interpretation of the main result. First, respondents are familiar with China and view it as an influential development actor, with infrastructure projects and business investments playing an important

[30] All variables presented are only available as a cross-section. Panels A, B, and C rely on data from the sixth round of the Afrobarometer and Panel D relies on data from the second round of the Afrobarometer.

[31] Panel D presents answers to two questions about the United Nations and the World Bank from the Afrobarometer. On a scale from 0 to 10, individuals were asked whether these institutions are doing a good job. Respondents rate both institutions at roughly 6.7 out of 10.

role in these perceptions. Second, proximity to Chinese development projects is associated with more favorable views of China. The available data do not reveal which features of China individuals associate with these projects. Exposure may make salient China's political system, state-led development, perceived effectiveness, or other aspects of its presence in Africa. I therefore interpret the evidence as consistent with Chinese projects generating meaningful non-material exposure to China, while remaining agnostic about the precise content of that exposure.

News exposure. One possibility is that the interaction operates through differential exposure to information about China. For example, individuals who consume more news may be more exposed to information about Chinese projects or China more generally. Table 8 examines this possibility by estimating the main interaction separately for respondents with high and low news consumption. The results are again unchanged. Differential news consumption is therefore unlikely to explain the main result, although the exercise does not rule out broader changes in the salience of China associated with project exposure.[32]

Additional robustness tests.

Selection of grid cells. Columns 1—3 of Table A8 reproduce the main result from Column 1 of Table 2 and Columns 1 and 2 of Table 3, restricting the sample to grid cells that are observed in all five survey rounds. The estimated effects are similar in magnitude and significance, indicating that the results are not driven by changes in the composition of grid cells over time.

In Columns 4 and 5 of Table A8, I re-estimate the interaction specification using the month-by-year fixed effects from the reduced-form model instead of country-by-year fixed effects. The interaction remains similar in magnitude and statistically significant, showing that the main result is robust to controlling for common month-specific shocks across the sample rather than country-specific annual shocks.

[32]The negative effect among respondents exposed to Chinese projects is statistically significant for both high- and low-news-consumption respondents, although the effect is larger among those with low news consumption. The difference between the two groups is also statistically significant. If anything, this pattern makes it less likely that the main result reflects greater exposure to information about China through conventional news sources.

Functional form and symmetry of drought index. Table A9 examines the functional form of the drought measure. Columns 1 and 2 replace the continuous 12-month SPEI index with a dummy indicating extreme drought conditions.[33] I continue to find no effect among individuals not exposed to Chinese development projects, and the estimated effect among exposed individuals is negative and statistically significant at both distances. The interaction between extreme drought and exposure to Chinese development projects is negative at both distances, although it is statistically significant only for the 100km exposure measure. This suggests that the main result is not driven by linearity assumptions in the continuous specification.

Columns 3 and 4 decompose the drought index into its dry (positive) and wet (negative) components. The interaction between dry conditions and Chinese exposure is negative and significant, whereas the interaction with wet conditions is statistically insignificant. The results indicate that the documented effect is concentrated in drought-like conditions rather than being driven by symmetric weather anomalies.[34]

Other radii. Table A10 shows that the main result from Table 3 remains unchanged when changing the radius of exposure to 20km and 30km.[35]

5.2 The Role of Drought Conditions

I now turn to the role of drought conditions in the main interaction. Section 2 outlined two possible political responses to adverse conditions. First, droughts may generate a backlash against the incumbent government by reducing trust in its competence and performance. Second, individuals may interpret their government's response to drought conditions as informative about the performance of the broader political system under which they live. I examine these possibilities in turn.

[33]The dummy is constructed using the one-month SPEI index. Because the 12-month SPEI smooths short-run variation, extreme values are rare in that measure, reducing statistical power for a tail-based specification.

[34]The coefficients on the wet component are similar in magnitude but not statistically distinguishable from zero, possibly reflecting limited statistical power in the wet tail of the distribution. Whether flood conditions generate comparable dynamics therefore remains an open question for future research.

[35]The results are unchanged for other radii as well.

5.2.1 Backlash Against the Incumbent

Table 9 examines whether drought conditions and Chinese project exposure exhibit similar patterns for other political attitudes: trust in government, trust in institutions, and perceived government capability.

Column 2 shows that drought conditions reduce trust in institutions among both exposed and unexposed respondents, with no differential effect associated with Chinese project exposure. Institutional distrust therefore does not exhibit the conditional pattern observed for support for democracy.

Columns 1 and 3 reveal a different pattern. Drought conditions reduce trust in government among both exposed and unexposed respondents, but the decline is significantly larger among those exposed to Chinese projects. Perceived government capability, meanwhile, declines only among exposed respondents. These results provide evidence that backlash against the incumbent forms part of the response to drought conditions, and that some dimensions of this backlash are particularly pronounced among individuals exposed to Chinese development projects.

The stronger responses in trust in government and perceived government capability among individuals exposed to Chinese projects raise two related concerns. First, drought conditions may simply generate greater economic hardship in locations with Chinese development projects, producing both a stronger backlash against the incumbent and the differential decline in support for democracy. Second, even if the underlying economic consequences are similar, the same drought conditions may generate a stronger political backlash among China-exposed individuals, with this differential backlash itself accounting for the decline in democratic support.

I examine both possibilities in Table A11. The first concern is already partly addressed by the material-channel results in section 5: the main interaction does not differ between rural and urban areas or between areas with and without market access. Column 1 of Table A11 provides a more direct test. Drought conditions worsen respondents' economic expectations, but I find no evidence that this effect differs with exposure to Chinese projects. Thus, although droughts generate adverse economic consequences, the evidence does not suggest that these consequences are systematically larger in China-exposed locations.

Columns 2 and 3 address the second concern by examining whether the main interaction

varies with respondents' trust in government and perceived government capability. I find no evidence of differential effects along either dimension: drought conditions reduce support for democracy among China-exposed respondents with both high and low levels of trust and perceived capability, while having no discernible effect among unexposed respondents.[36] Thus, while drought conditions generate some differential political responses among individuals exposed to Chinese projects, the evidence does not suggest that these differences in political evaluations themselves account for the differential effect on support for democracy.

5.2.2 Learning About Regime Performance

A deterioration in evaluations of the incumbent government need not imply a change in preferences over political systems. If, however, individuals interpret their government's response to drought conditions as informative about the performance of the broader political system, the regime-learning mechanism outlined in section 2 generates a clear prediction. Adverse experiences should reduce support for democracy among individuals living in democracies, but increase support for democracy among individuals living in autocracies.

Table 10 examines this prediction. I find no evidence of such differential updating. Drought conditions reduce support for democracy among individuals exposed to Chinese development projects in both democracies and autocracies, and the interaction does not differ significantly across regime types. This pattern provides evidence against an interpretation in which individuals use drought conditions to learn about the relative performance of the political system under which they live.[37]

This result is consistent with an important distinction between evaluations of the incumbent political system and preferences over political systems. Table B3 shows that a country's Polity score is unrelated to individuals' support for democracy (Column 1), but significantly predicts individuals' evaluations of how democratic their country is (Column 2). Thus, individuals' evaluations of the political system under which they live need not map directly into their preferences over democracy as a political system.

[36]Trust in government and perceived government capability are themselves affected by drought conditions and are therefore "bad controls." Thus, I interpret these results as descriptive rather than causal.

[37]This variable is derived from the polity measure (see Table B3) and is coded as one if a country consistently has a polity score of 0 or less across all survey years. The result is robust to alternative codings.

A related possibility is that the interaction reflects differences in governments' ability to respond to drought conditions. Table 11 therefore examines heterogeneity by local state capacity.[38] I find no evidence of differential effects: the interaction is comparable in areas with high and low levels of local state capacity. This makes it less likely that the main result reflects systematic differences in governments' capacity to respond to droughts.[39]

Table A12 additionally shows no evidence that the interaction differs between older and younger democracies, suggesting that the result does not depend on accumulated democratic experience or long-run institutional consolidation.[40]

Taken together, these results help narrow the interpretation of the main finding. On the Chinese-project side, the evidence weighs against several material explanations and is instead consistent with projects providing meaningful non-material exposure to China (although the precise content of this exposure cannot be identified with the available data). On the drought side, I find evidence of a backlash against the incumbent: adverse conditions reduce trust in government and perceived government capability.

Backlash alone, however, does not explain the main result. Drought conditions, for example, reduce trust in government among individuals without Chinese exposure, yet their support for democracy remains unchanged. The decline in democratic support therefore cannot be explained by backlash alone and appears to require an additional non-material input associated with exposure to China. The evidence is thus consistent with drought conditions creating circumstances in which individuals reassess their political environment, while exposure to China shapes how that reassessment translates into preferences over political systems.

[38] Given the absence of a direct local state capacity measure, I construct an index by summing across dummies indicating whether the respondent's village (or neighborhood) has a post office, a school, a police station, access to electricity, piped water, sewage, a health clinic, and market stalls.

[39] At first sight, this result may appear in tension with Table 9, where perceived government capability declines following drought conditions only among individuals exposed to Chinese projects. The two measures, however, capture different concepts. Perceived government capability measures respondents' evaluations of their government's ability, whereas local state capacity captures characteristics of the area in which respondents live. Perceptions of government capability may therefore respond to drought conditions even if the effect on support for democracy does not vary with underlying local state capacity.

[40] I measure the number of years a country has been a democracy since 1990 using the Polity dataset. The year 1990 is chosen as it is the first year in which all 16 countries are available.

6 Conclusion

The paper shows that drought conditions and exposure to Chinese development projects jointly shape support for democracy. Droughts reduce support for democracy only among individuals exposed to Chinese projects, with no comparable effect among those without such exposure or those exposed to World Bank projects. I find evidence against several material explanations for this heterogeneity and show that Chinese projects provide meaningful non-material exposure to China, although the precise content of this exposure cannot be identified with the available data. On the drought side, adverse conditions generate a backlash against the incumbent, but this backlash alone does not explain changes in regime preferences. Taken together, the findings are consistent with drought conditions creating circumstances in which individuals reassess their political environment, while exposure to China shapes how that reassessment translates into preferences over political systems.

The paper opens up numerous avenues for future research. Together, these directions offer an exciting and policy-relevant research agenda. I highlight two such areas below.

How is China perceived? An important avenue for future research is to better understand the content of these local signals. In this paper, I interpret Chinese development projects broadly as providing non-material exposure to China and its approach to governance and development. Such projects may make salient centralized authority, state-led development, organizational effectiveness, China's broader geopolitical presence, its nondemocratic political system, or some combination of these features. Disentangling these dimensions would help clarify what individuals learn from exposure to foreign development projects and which features of alternative governance models become politically consequential under adverse conditions. More generally, understanding how citizens perceive foreign development actors, and how these perceptions shape domestic political preferences, offers a promising avenue for future work.[41]

[41] A growing literature examines how Chinese development finance shapes political attitudes, with mixed findings. Bai et al. (2022) find that Chinese infrastructure aid improves perceptions of recipient governments, while Eichenauer et al. (2021) and Blair et al. (2022) find no evidence that exposure improves attitudes toward China in Latin America and Africa, respectively. Wellner et al. (2025), by contrast, find more favorable attitudes toward China, while Freytag et al. (2024) document increased democratic values following exposure to Chinese aid in Latin America. Related work examines the relationship between Chinese development finance and democratic backsliding (Bader, 2015; Li, 2017; Hess and Aidoo, 2019; Gamso, 2019).

Tangible outcomes. A second avenue for future research concerns whether changes in regime preferences translate into tangible political behavior. Table A13 provides suggestive evidence in this direction. Using an index of political engagement—combining participation in community meetings, raising issues collectively, and attendance at demonstrations—I find some evidence that drought conditions reduce political engagement differentially among individuals exposed to Chinese development projects. The individual outcomes are less consistent, however, and the overall evidence remains suggestive. Understanding whether changes in support for democracy translate into changes in political participation, and through which forms of political behavior, is therefore an important avenue for future research.

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8 Tables and Figures

Table 1: Summary Statistics

	(1) Full Sample	(2) Eastern Africa	(3) Western Africa	(4) Southern Africa
A. Support for Democracy				
Respondent supports democracy (cond.)	0.859	0.872	0.872	0.818
	(0.348)	(0.334)	(0.334)	(0.386)
Respondent supports democracy (uncond.)	0.682	0.678	0.725	0.636
	(0.466)	(0.467)	(0.446)	(0.481)
Respondent indifferent to politics	0.206	0.222	0.168	0.223
	(0.404)	(0.416)	(0.374)	(0.416)
B. Erosion of Democracy				
Respondent doesn't support one party rule	0.741	0.701	0.833	0.699
	(0.438)	(0.458)	(0.373)	(0.459)
Respondent doesn't support army rule	0.798	0.837	0.769	0.765
	(0.402)	(0.370)	(0.422)	(0.424)
Respondent doesn't support one man rule	0.833	0.851	0.839	0.795
	(0.373)	(0.356)	(0.368)	(0.404)
C. Drought Index				
Drought index	0.485	0.487	0.663	0.265
	(0.800)	(0.765)	(0.712)	(0.901)
Observations	128988	61208	37870	29910

Notes: The table displays mean sample characteristics and standard deviations (in parentheses) for the main outcome and regressor of interest. Panel A displays the share of individuals who indicate they support democracy vs. any other system of government (conditional on them not having answered that they are indifferent between democracy and other systems or on them having answered "don't know", and unconditionally) as well as the share of individuals who are indifferent to or don't know anything about politics. Panel B displays the share of respondents who don't support (i) one party rule, (ii) army rule, and (iii) one man rule. Panel C summarizes the 12 months Standardized Precipitation Evapotranspiration Index (SPEI). The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. Column 1 displays the characteristics across the full sample, while Columns 2—4 split the sample by regions in Africa. All summary statistics are calculated across all survey rounds.

Table 2: Extreme Weather Events and the Support for Democracy

	Respondent supports democracy	Respondent doesn't support one party rule	army rule	one man rule
	(1)	(2)	(3)	(4)
Drought index	-0.011**	-0.022***	0.001	-0.011*
	(0.005)	(0.006)	(0.005)	(0.006)
Mean of outcome	0.859	0.741	0.798	0.833
Effect of one drought (2 SDs)	-2.56%	-5.94%	0.25%	-2.64%
Household controls	Yes	Yes	Yes	Yes
Cell fixed effects	Yes	Yes	Yes	Yes
Month by year fixed effects	Yes	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes	Yes
Observations	63890	76487	75951	75466

Notes: The table displays OLS regressions of various dummy variables on the 12 months Standardized Precipitation Evapotranspiration Index (SPEI) as well as a variety of household controls, all of which are described in the main text. The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Regressions include grid cell and month by year fixed effects and cluster standard errors at the grid cell level. The outcome in Column 1 is a dummy variable indicating support for democracy (vs. other systems of government), while the outcomes in Columns 2—4 are dummies indicating whether a respondent doesn't support one party rule (Column 2), army rule (Column 3), and one man rule (Column 4).

Table 3: The Exposure to Development Projects

	Respondent supports democracy					
	(1)	(2)	(3)	(4)	(5)	(6)
Drought index	-0.001	0.002	0.001	0.006	0.005	0.008
	(0.006)	(0.007)	(0.008)	(0.008)	(0.008)	(0.010)
Drought index x Chinese project (50km)	-0.025***					
	(0.008)					
Drought index x Chinese project (100km)		-0.027***				
		(0.008)				
Drought index x World Bank project (50km)			-0.013			
			(0.009)			
Drought index x World Bank project (100km)				-0.020**		
				(0.009)		
Drought index x World Bank project (50km)					-0.011	
					(0.010)	
Drought index x World Bank project (100km)						-0.011
						(0.012)
Coefficient of exposure to project	-0.026	-0.025	-0.012	-0.014	-0.006	-0.003
p-value: Coefficient of exposure to project	[0.002]	[0.001]	[0.083]	[0.034]	[0.502]	[0.782]
Mean of outcome			0.859			
Effect of one drought (2 SDs) (no project exposure)	-0.23%	0.47%	0.23%	1.40%	1.16%	1.86%
Effect of one drought (2 SDs) (project exposure)	-6.05%	-5.82%	-2.79%	-3.26%	-1.40%	-0.70%
Household controls	Yes	Yes	Yes	Yes	Yes	Yes
Country by year effects	Yes	Yes	Yes	Yes	Yes	Yes
Cell fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes	Yes	Yes	Yes
Observations	63890	63890	63890	63890	49687	40763

Notes: The table displays OLS regressions of a dummy variable indicating support for democracy (vs. other systems of government) on the 12 months Standardized Precipitation Evapotranspiration Index (SPEI), an interaction of the SPEI index with a dummy variable indicating whether the respondent lives within a radius of 50km or 100km of a Chinese or World Bank project, said dummy itself, as well as a variety of household characteristics, all of which are described in the main text. The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Regressions include country × year and grid cell fixed effects and cluster standard errors at the grid cell level.

Table 4: Local Conditions Do Not Act as Alternative Mechanisms

	Respondent supports democracy	
	(1)	(2)
Drought index	0.000	0.003
	(0.006)	(0.006)
Drought index x inactive Chinese project (50km)	-0.008	
	(0.015)	
Drought index x active Chinese project (50km)	-0.027***	
	(0.008)	
Drought index x inactive Chinese project (100km)		-0.004
		(0.015)
Drought index x active Chinese project (100km)		-0.028***
		(0.008)
Coefficient of inactive exposure to project	-0.008	-0.001
p-value: Coefficient of inactive exposure to project	[0.621]	[0.923]
Coefficient of active exposure to project	-0.026	-0.025
p-value: Coefficient of active exposure to project	[0.002]	[0.001]
Mean of outcome	0.859	
Effect of one drought (2 SDs) (no project exposure)	0.00%	0.70%
Effect of one drought (2 SDs) (inactive project exposure)	-1.86%	-0.23%
Effect of one drought (2 SDs) (active project exposure)	-6.05%	-5.82%
Household controls	Yes	Yes
Country by year effects	Yes	Yes
Cell fixed effects	Yes	Yes
SEs clustered at cell level	Yes	Yes
Observations	63890	63890

Notes: The table displays OLS regressions of a dummy variable indicating support for democracy (vs. other systems of government) on the 12 months Standardized Precipitation Evapotranspiration Index (SPEI), an interaction of the SPEI index with a dummy variable indicating whether in a radius of, respectively, 50km or 100km from where the respondent resides a Chinese project will exist in the future ("inactive project") or already exists ("active project"), said dummy itself, as well as a variety of household characteristics, all of which are described in the main text. The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Regressions include country × year and grid cell fixed effects and cluster standard errors at the grid cell level.

Table 5: Local Employment Correlates with Development Projects

	Respondent is employed				
	(1)	(2)	(3)	(4)	(5)
Chinese project: 10km	0.026**				
	(0.012)				
Chinese project: 20km | not 10km		0.008			
		(0.014)			
Chinese project: 30km | not 20km			-0.001		
			(0.014)		
Chinese project: 40km | not 30km				-0.016	
				(0.013)	
Chinese project: 50km | not 40km					-0.006
					(0.014)
Mean of outcome			0.345		
Household controls	No	No	No	No	No
Country by year effects	Yes	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes	Yes	Yes
Observations	128446	117480	112171	108364	104560

Notes: The table displays OLS regressions of a dummy variable indicating whether the respondent is employed on a dummy variable indicating whether the respondent lives within a radius of, respectively, 10km, 20km, 30km, 40km, or 50km of a Chinese project. Columns 2—5 are conditional on not living within a radius of 10km, 20km, 30km, or 40km of a project. Regressions include country × year and region fixed effects and cluster standard errors at the grid cell level.

Table 6: Excluding Income as a Mechanism

	Respondent supports democracy			
	(1)	(2)	(3)	(4)
Drought index	0.000	0.003	0.001	0.004
	(0.006)	(0.007)	(0.006)	(0.007)
Drought index x Chinese project (50km)	-0.033***		-0.026**	
	(0.010)		(0.012)	
Drought index x Chinese project (100km)		-0.030***		-0.027**
		(0.010)		(0.011)
Coefficient of exposure to project	-0.033	-0.027	-0.025	-0.023
p-value: Coefficient of exposure to project	[0.002]	[0.002]	[0.050]	[0.023]
Mean of outcome		0.859		
Effect of one drought (2 SDs) (no project exposure)	0.00%	0.70%	0.23%	0.93%
Effect of one drought (2 SDs) (project exposure)	-6.98%	-6.29%	-5.82%	-5.36%
Household controls	Yes	Yes	Yes	Yes
Drop individuals within [ ]km of project	10km	10km	20km	20km
Country by year effects	Yes	Yes	Yes	Yes
Cell fixed effects	Yes	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes	Yes
Observations	58844	58844	56197	56197

Notes: The table replicates Columns 1 and 2 of Table 3, but drops individuals living within 10km and 20km of a Chinese project in Columns 1—2 and 3—4, respectively.

Table 7: Exposure to Different Sectors of Development Projects

	Respondent supports democracy			
	(1)	(2)	(3)	(4)
Drought index	-0.003	-0.001	-0.005	-0.005
	(0.006)	(0.006)	(0.006)	(0.006)
Drought index x gov./infrastructure project	-0.018			
	(0.011)			
Drought index x health/education project		-0.027***		
		(0.011)		
Drought index x transport project			-0.029*	
			(0.016)	
Drought index x energy project				-0.032**
				(0.015)
Coefficient of exposure to project	-0.021	-0.028	-0.033	-0.036
p-value: Coefficient of exposure to project	[0.080]	[0.006]	[0.039]	[0.017]
Mean of outcome		0.859		
Effect of one drought (2 SDs) (no project exposure)	-0.70%	-0.23%	-1.16%	-1.16%
Effect of one drought (2 SDs) (project exposure)	-4.89%	-6.52%	-7.68%	-8.38%
Household controls	Yes	Yes	Yes	Yes
Country by year effects	Yes	Yes	Yes	Yes
Cell fixed effects	Yes	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes	Yes
Observations	63890	63890	63890	63890

Notes: The table displays OLS regressions of a dummy variable indicating support for democracy (vs. other systems of government) on the 12 months Standardized Precipitation Evapotranspiration Index (SPEI), an interaction of the SPEI index with a dummy variable indicating whether the respondent lives within a radius of 75km of four types of Chinese development projects, said dummy itself, as well as a variety of household characteristics, all of which are described in the main text. The sectors of development projects are: (i) "government and civil society" and "other social infrastructure", (ii) "health" and "education", (iii) "transport", and (iv) "energy generation and supply". The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Regressions include country × year and grid cell fixed effects and cluster standard errors at the grid cell level.

Table 8: Excluding News Exposure as a Mechanism

	Respondent supports democracy	
	(1)	(2)
Drought index	-0.001	0.008
	(0.008)	(0.008)
Drought index x Chinese project (50km)	-0.049***	
	(0.015)	
Drought index x consumes news	-0.000	
	(0.007)	
Drought index x Chinese project (50km) x consumes news	0.026*	
	(0.016)	
Drought index x Chinese project (100km)		-0.061***
		(0.016)
Drought index x consumes news		-0.007
		(0.007)
Drought index x Chinese project (100km) x consumes news		0.039***
		(0.015)
Coefficient of exposure to project & no-news	-0.050	-0.053
p-value: Coefficient of exposure to project & no-news	[0.001]	[0.000]
Coefficient of exposure to no project & news	-0.001	0.001
p-value: Coefficient of exposure to no project & news	[0.827]	[0.914]
Coefficient of exposure to project & news	-0.024	-0.022
p-value: Coefficient of exposure to project & news	[0.008]	[0.004]
Mean of outcome	0.859	
Household controls	Yes	Yes
Country by year effects	Yes	Yes
Cell fixed effects	Yes	Yes
SEs clustered at cell level	Yes	Yes
Observations	63860	63860

Notes: The table displays OLS regressions of a dummy variable indicating support for democracy (vs. other systems of government) on the 12 months Standardized Precipitation Evapotranspiration Index (SPEI), an interaction of the SPEI index with a dummy variable indicating whether the respondent lives within a radius of 50km or 100km of a Chinese project, said dummy itself, an interaction of the SPEI index with a dummy variable indicating whether the respondent regularly consumes news (TV, radio, or newspapers), said dummy itself, an interaction of project exposure and news consumption, a triple interaction, as well as a variety of household characteristics, all of which are described in the main text. The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Regressions include country × year and grid cell fixed effects and cluster standard errors at the grid cell level.

Table 9: Other Political Beliefs

	Trust in government	Trust in institutions	Capabilities of government
	(1)	(2)	(3)
Drought index	-0.028**	-0.048***	0.001
	(0.012)	(0.012)	(0.015)
Drought index x Chinese project (50km)	-0.053**	-0.003	-0.063***
	(0.022)	(0.020)	(0.021)
Coefficient of exposure to project	-0.081	-0.051	-0.062
p-value: Coefficient of exposure to project	[0.000]	[0.016]	[0.011]
Mean of outcome	0.000	0.000	0.000
Effect of one drought (2 SDs) (no project exposure)	-0.056SD	-0.096SD	0.002SD
Effect of one drought (2 SDs) (project exposure)	-0.162SD	-0.104SD	-0.124SD
Household controls	Yes	Yes	Yes
Country by year effects	Yes	Yes	Yes
Cell fixed effects	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes
Observations	77182	77087	77149

Notes: The table displays OLS regressions of three indices of political beliefs on the 12 months Standardized Precipitation Evapotranspiration Index (SPEI), an interaction of the SPEI index with a dummy variable indicating whether the respondent lives within a radius of 50km of a Chinese project, said dummy itself, as well as a variety of household characteristics, all of which are described in the main text. The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Regressions include country × year and grid cell fixed effects and cluster standard errors at the grid cell level. The outcome variables are indices of underlying dummy variables constructed by (a) averaging the dummy variables in each category and (b) standardizing this measure. The trust in government index contains dummies indicating the share of respondents who trust (a) the president, (b) parliament, and (c) local government. The trust in institutions index contains dummies indicating the shares of individuals who trust (a) the police, (b) the courts, or (c) the army. The capabilities of government index contains dummies indicating whether the respondent believes that the government is capable of (a) managing the economy, (b) managing health services, (c) managing education services, or (d) fighting corruption.

Table 10: Democracy vs. Autocracy

	Respondent supports democracy	
	(1)	(2)
Drought index	-0.001	0.003
	(0.007)	(0.007)
Drought index x Chinese project (50km)	-0.021**	
	(0.009)	
Drought index x country is autocratic	-0.007	
	(0.017)	
Drought index x Chinese project (50km) x country is autocratic	-0.018	
	(0.018)	
Drought index x Chinese project (100km)		-0.026***
		(0.009)
Drought index x country is autocratic		-0.011
		(0.018)
Drought index x Chinese project (100km) x country is autocratic		0.004
		(0.019)
Coefficient of exposure to project & democracy	-0.022	-0.023
p-value: Coefficient of exposure to project & democracy	[0.024]	[0.008]
Coefficient of exposure to no project & autocracy	-0.007	-0.009
p-value: Coefficient of exposure to no project & autocracy	[0.635]	[0.608]
Coefficient of exposure to project & autocracy	-0.047	-0.030
p-value: Coefficient of exposure to project & autocracy	[0.014]	[0.086]
Mean of outcome	0.859	
Household controls	Yes	Yes
Country by year effects	Yes	Yes
Cell fixed effects	Yes	Yes
SEs clustered at cell level	Yes	Yes
Observations	63890	63890

Notes: The table displays OLS regressions of a dummy variable indicating support for democracy (vs. other systems of government) on the 12 months Standardized Precipitation Evapotranspiration Index (SPEI), an interaction of the SPEI index with a dummy variable indicating whether the respondent lives within a radius of 50km or 100km of a Chinese project, said dummy itself, an interaction of the SPEI index with a dummy variable indicating whether the respondent lives in an autocracy, an interaction of project exposure and autocracy, a triple interaction, as well as a variety of household characteristics, all of which are described in the main text. The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Regressions include country × year and grid cell fixed effects and cluster standard errors at the grid cell level.

Table 11: The Role of State Capacity

	Respondent supports democracy	
	(1)	(2)
Drought index	-0.004	-0.002
	(0.008)	(0.009)
Drought index x Chinese project (50km)	-0.040*	
	(0.021)	
Drought index x state capacity	0.000	
	(0.001)	
Drought index x Chinese project (50km) x state capacity	0.004	
	(0.004)	
Drought index x Chinese project (100km)		-0.032*
		(0.017)
Drought index x state capacity		0.000
		(0.001)
Drought index x Chinese project (100km) x state capacity		0.002
		(0.003)
Coefficient of exposure to project & lower state capacity	-0.044	-0.034
p-value: Coefficient of exposure to project & lower state capacity	[0.025]	[0.023]
Coefficient of exposure to no project & higher state capacity	-0.004	-0.001
p-value: Coefficient of exposure to no project & higher state capacity	[0.646]	[0.899]
Coefficient of exposure to project & higher state capacity	-0.040	-0.032
p-value: Coefficient of exposure to project & higher state capacity	[0.015]	[0.013]
Mean of outcome	0.859	
Household controls	Yes	Yes
Country by year effects	Yes	Yes
Cell fixed effects	Yes	Yes
SEs clustered at cell level	Yes	Yes
Observations	63284	63284

Notes: The table displays OLS regressions of a dummy variable indicating support for democracy (vs. other systems of government) on the 12 months Standardized Precipitation Evapotranspiration Index (SPEI), an interaction of the SPEI index with a dummy variable indicating whether the respondent lives within a radius of 50km or 100km of a Chinese project, said dummy itself, an interaction of the SPEI index with a variable measuring local state capacity, an interaction of project exposure and state capacity, a triple interaction, as well as a variety of household characteristics, all of which are described in the main text. The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Regressions include country × year and grid cell fixed effects and cluster standard errors at the grid cell level.

A Appendix Tables and Figures

Table A1: Exposure to Development Projects, Summary Statistics

	(1) Full Sample	(2) Eastern Africa	(3) Western Africa	(4) Southern Africa
A. Exposure to Chinese Projects				
Chinese project (100km): active	0.338	0.397	0.247	0.347
	(0.473)	(0.489)	(0.431)	(0.476)
Chinese project (50km): active	0.213	0.260	0.173	0.178
	(0.409)	(0.439)	(0.378)	(0.382)
Chinese project (100km): inactive	0.183	0.163	0.216	0.178
	(0.386)	(0.369)	(0.411)	(0.382)
Chinese project (50km): inactive	0.128	0.116	0.156	0.115
	(0.334)	(0.320)	(0.363)	(0.318)
B. Exposure to World Bank Projects				
World Bank project (100km): active	0.701	0.765	0.893	0.355
	(0.458)	(0.424)	(0.310)	(0.479)
World Bank project (50km): active	0.586	0.626	0.774	0.286
	(0.493)	(0.484)	(0.418)	(0.452)
World Bank project (100km): inactive	0.097	0.069	0.100	0.142
	(0.296)	(0.253)	(0.300)	(0.349)
World Bank project (50km): inactive	0.116	0.097	0.155	0.103
	(0.321)	(0.297)	(0.362)	(0.304)
C. Geographical Overlap				
Active Chinese and World Bank projects (100km)	0.297	0.357	0.246	0.253
	(0.457)	(0.479)	(0.431)	(0.435)
Active Chinese and World Bank projects (50km)	0.179	0.226	0.172	0.104
	(0.383)	(0.418)	(0.378)	(0.306)
Observations	128988	61208	37870	29910

Notes: The table displays mean and standard deviations (in parentheses) of dummy variables indicating exposure to active and inactive Chinese and World Bank development projects. Active development projects are projects that are, at the time of the interview, either ongoing or recently finished, whereas inactive development projects are projects that, at the time of the interview, have not yet started (see main text). Panels A and B summarize the shares for Chinese and World Bank projects, respectively. Panel C summarizes the geographical overlap of these projects. Column 1 displays the characteristics across the full sample, while Columns 2—4 split the sample by regions in Africa. All summary statistics are calculated across all survey rounds.

Table A2: Extreme Weather Events and Exposure to Alternative Governance Models

	Respondent will be exposed to:			
	Chinese project		World Bank project	
	50km	100km	50km	100km
	(1)	(2)	(3)	(4)
Drought index	-0.005	-0.003	-0.021**	0.009
	(0.011)	(0.011)	(0.011)	(0.010)
Mean of outcome	0.128	0.183	0.116	0.097
Household controls	Yes	Yes	Yes	Yes
Country by year fixed effects	Yes	Yes	Yes	Yes
Cell fixed effects	Yes	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes	Yes
Observations	76828	76828	76828	76828

Notes: The table displays OLS regressions of dummy variables indicating whether a respondent lives within 50km or 100km of a location where a Chinese or World Bank project will be built in the future on the 12 months Standardized Precipitation Evapotranspiration Index (SPEI), as well as a variety of household characteristics, all of which are described in the main text. The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Regressions include country × year and grid cell fixed effects and cluster standard errors at the grid cell level.

Table A3: Impacts in Rural and Urban Areas

	Respondent supports democracy	
	(1)	(2)
Drought index	-0.001	0.002
	(0.006)	(0.007)
Drought index x Chinese project (50km)	-0.030**	
	(0.014)	
Drought index x urban	0.002	
	(0.008)	
Drought index x Chinese project (50km) x urban	0.008	
	(0.016)	
Drought index x Chinese project (100km)		-0.027**
		(0.012)
Drought index x urban		0.003
		(0.008)
Drought index x Chinese project (100km) x urban		-0.000
		(0.014)
Coefficient of exposure to project & rural	-0.031	-0.025
p-value: Coefficient of exposure to project & rural	[0.023]	[0.024]
Coefficient of exposure to no project & urban	0.001	0.004
p-value: Coefficient of exposure to no project & urban	[0.922]	[0.640]
Coefficient of exposure to project & urban	-0.021	-0.023
p-value: Coefficient of exposure to project & urban	[0.024]	[0.007]
Mean of outcome	0.859	
Household controls	Yes	Yes
Country by year effects	Yes	Yes
Cell fixed effects	Yes	Yes
SEs clustered at cell level	Yes	Yes
Observations	63134	63134

Notes: The table displays OLS regressions of a dummy variable indicating support for democracy (vs. other systems of government) on the 12 months Standardized Precipitation Evapotranspiration Index (SPEI), an interaction of the SPEI index with a dummy variable indicating whether the respondent lives within a radius of 50km or 100km of a Chinese project, said dummy itself, an interaction of the SPEI index with a dummy variable indicating urban residence, an interaction of project exposure and urban residence, a triple interaction, as well as a variety of household characteristics, all of which are described in the main text. The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Regressions include country × year and grid cell fixed effects and cluster standard errors at the grid cell level.

Table A4: The Role of Market Access

	Respondent supports democracy	
	(1)	(2)
Drought index	-0.002	0.004
	(0.008)	(0.009)
Drought index x Chinese project (50km)	-0.028*	
	(0.015)	
Drought index x no market access	-0.003	
	(0.006)	
Drought index x Chinese project (50km) x market access	0.005	
	(0.016)	
Drought index x Chinese project (100km)		-0.036**
		(0.014)
Drought index x no market access		-0.007
		(0.007)
Drought index x Chinese project (100km) x market access		0.016
		(0.014)
Coefficient of exposure to project & no market access	-0.029	-0.032
p-value: Coefficient of exposure to project & no market access	[0.036]	[0.006]
Coefficient of exposure to no project & market access	-0.004	-0.003
p-value: Coefficient of exposure to no project & market access	[0.472]	[0.617]
Coefficient of exposure to project & market access	-0.027	-0.022
p-value: Coefficient of exposure to project & market access	[0.004]	[0.006]
Mean of outcome	0.859	
Household controls	Yes	Yes
Country by year effects	Yes	Yes
Cell fixed effects	Yes	Yes
SEs clustered at cell level	Yes	Yes
Observations	62671	62671

Notes: The table displays OLS regressions of a dummy variable indicating support for democracy (vs. other systems of government) on the 12 months Standardized Precipitation Evapotranspiration Index (SPEI), an interaction of the SPEI index with a dummy variable indicating whether the respondent lives within a radius of 50km or 100km of a Chinese project, said dummy itself, an interaction of the SPEI index with a dummy variable indicating market access, an interaction of project exposure and market access, a triple interaction, as well as a variety of household characteristics, all of which are described in the main text. The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Regressions include country × year and grid cell fixed effects and cluster standard errors at the grid cell level.

Table A5: Robustness of Results to Income and Conflict Controls and Conley Standard Errors

	Respondent supports democracy			
	(1)	(2)	(3)	(4)
Drought index	-0.002	-0.002	-0.000	0.003
	(0.008)	(0.009)	(0.005)	(0.006)
Drought index x Chinese project (50km)	-0.038***		-0.023***	
	(0.011)		(0.008)	
Drought index x Chinese project (100km)		-0.022*		-0.027***
		(0.011)		(0.008)
Coefficient of exposure to project	-0.040	-0.024	-0.023	-0.023
p-value: Coefficient of exposure to project	[0.000]	[0.022]	[0.007]	[0.002]
Mean of outcome		0.859		
Effect of one drought (2 SDs) (no project exposure)	-0.47%	-0.47%	0.00%	0.70%
Effect of one drought (2 SDs) (project exposure)	-9.31%	-5.59%	-5.36%	-5.36%
Household controls	Yes	Yes	Yes	Yes
Income and conflict controls	Yes	Yes	No	No
Country by year effects	Yes	Yes	Yes	Yes
Cell fixed effects	Yes	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	No	No
Conley SEs	No	No	Yes	Yes
Observations	43897	43897	64026	64026

Notes: Columns 1 and 2 replicate Columns 1 and 2 of Table 3, but additionally control for income and conflict. The controls, which correspond to the outcomes in Table B4, are: (i) a dummy variable indicating the respondent's economic expectations, (ii) two variables ranging from 1 (always) to 5 (never) indicating how often the respondent's household has gone without food or cash in the past year, (iii) the log of nightlights in the respondent's grid cell, and (iv) a dummy indicating whether the respondent's grid cell has been exposed to conflict. Columns 3 and 4 similarly replicate Columns 1 and 2 of Table 3, but follow Conley (1999) and use a spatial correction with a threshold of 300km.

Table A6: Views on China and International Organizations

	(1) Full Sample	(2) Eastern Africa	(3) Western Africa	(4) Southern Africa
A. General Views				
Chinese aid is useful	0.622	0.630	0.668	0.555
	(0.485)	(0.483)	(0.471)	(0.497)
Best model for my country: China	0.279	0.295	0.278	0.255
	(0.449)	(0.456)	(0.448)	(0.436)
Best model for my country: US	0.347	0.333	0.412	0.288
	(0.476)	(0.471)	(0.492)	(0.453)
Best model for my country: UN/WB	0.055	0.052	0.061	0.052
	(0.228)	(0.221)	(0.240)	(0.223)
Most influence on my country: China	0.314	0.378	0.218	0.324
	(0.464)	(0.485)	(0.413)	(0.468)
Most influence on my country: US	0.240	0.256	0.252	0.196
	(0.427)	(0.437)	(0.434)	(0.397)
B. Chinas has [...] on my country				
a lot of economic influence	0.806	0.796	0.836	0.785
	(0.396)	(0.403)	(0.370)	(0.411)
a positive influence	0.734	0.747	0.769	0.669
	(0.442)	(0.435)	(0.421)	(0.471)
C. Factors explaining positive Chinese image				
Infrastructure and business investments	0.577	0.597	0.527	0.605
	(0.494)	(0.491)	(0.499)	(0.489)
D. International Organizations				
United Nations do a good job (0-10)	6.732	6.933	6.860	6.274
	(2.646)	(2.685)	(2.531)	(2.663)
World Bank does a good job (0-10)	6.726	6.971	6.938	5.971
	(2.630)	(2.663)	(2.489)	(2.622)
Observations (Panels A, B, C)	29948	15558	8400	5990
Observations (Panel D)	23486	10913	6582	5991

Notes: The table displays mean sample characteristics and standard deviations (in parentheses) for a variety of variables related to China and international organizations. The variables in the table indicate (a) whether China's overall economic development assistance is doing a good job of meeting the country's needs, (b) which country or international organization is the best model for the future development of the respondent's country, (c) which country has the most influence on the respondent's country, (d) whether China has a lot of economic influence on the respondent's country, (e) whether China has a positive economic and political influence on the respondent's country, (f) whether infrastructure and business investments are factors explaining the positive Chinese image, (g) whether the United Nations do their job well, and (h) whether the World Bank does its job well. Variables in Panels A, B, and C rely on data from the sixth round of the Afrobarometer surveys, while the two questions in Panel D are from the second round of the Afrobarometer surveys.

Table A7: Support for China and Exposure to Chinese Development Projects

	Support for China						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Chinese project (10km)	0.120**						
	(0.045)						
Chinese project (20km)		0.115**					
		(0.041)					
Chinese project (30km)			0.118***				
			(0.037)				
Chinese project (40km)				0.114***			
				(0.037)			
Chinese project (50km)					0.101**		
					(0.036)		
Chinese project (75km)						0.093**	
						(0.039)	
Chinese project (100km)							0.063
							(0.042)
Mean of outcome				1.502			
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SEs clustered at country level	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	28107	28107	28107	28107	28107	28107	28107

Notes: The table reports cross-sectional OLS regressions of an index of support for China on dummy variables indicating whether the respondent lives within Xkm of a Chinese development project, where $X \in \{10, 20, 30, 40, 50, 75, 100\}$. The support for China index is constructed by summing over three variables from Table A6: (i) whether China's economic development assistance is viewed as doing a good job, (ii) whether China is considered the best model for the country's future development, and (iii) whether China is perceived as having a positive economic and political influence. The regressions include country fixed effects and cluster standard errors at the country level. The data are drawn from the sixth round of the Afrobarometer surveys.

Table A8: Robustness of Results to Grid Cells Observed Over Time

	Respondent supports democracy				
	(1)	(2)	(3)	(4)	(5)
Drought index	-0.016**	0.005	0.007	-0.006	-0.003
	(0.007)	(0.008)	(0.009)	(0.005)	(0.006)
Drought index x Chinese project (50km)		-0.039***		-0.027***	
		(0.010)		(0.008)	
Drought index x Chinese project (100km)			-0.033***		-0.025***
			(0.011)		(0.007)
Coefficient of exposure to project		-0.026	-0.025	-0.033	-0.028
p-value: Coefficient of exposure to project		[0.002]	[0.001]	[0.000]	[0.000]
Mean of outcome			0.859		
Effect of one drought (2 SDs)	-3.73%				
Effect of one drought (2 SDs) (no project exposure)		1.16%	1.63%	-1.40%	-0.70%
Effect of one drought (2 SDs) (project exposure)		-6.05%	-5.82%	-7.68%	-6.52%
Household controls	Yes	Yes	Yes	Yes	Yes
Cell fixed effects	Yes	Yes	Yes	Yes	Yes
Month by year fixed effects	Yes	No	No	Yes	Yes
Country by year effects	No	Yes	Yes	No	No
SEs clustered at cell level	Yes	Yes	Yes	Yes	Yes
Observations	28590	28589	28589	63890	63890

Notes: Columns 1 through 3 replicate the main results from Table 2 and Table 3, restricting the sample to grid cells observed in all five survey rounds. Columns 4 and 5 replicate Columns 1 and 2 of Table 3, but replace the grid cell and country-by-year fixed effects with grid cell and month-by-year fixed effects.

Table A9: Functional Form and Symmetry of Drought Index

	Respondent supports democracy			
	(1)	(2)	(3)	(4)
Drought dummy	-0.001	0.012		
	(0.017)	(0.018)		
Drought dummy x Chinese project (50km)	-0.037			
	(0.023)			
Drought dummy x Chinese project (100km)		-0.064***		
		(0.024)		
Drought index (dry)			0.004	0.007
			(0.008)	(0.009)
Drought index (dry) x Chinese project (50km)			-0.031**	
			(0.013)	
Drought index (wet)			-0.008	-0.005
			(0.013)	(0.015)
Drought index (wet) x Chinese project (50km)			-0.013	
			(0.032)	
Drought index (dry) x Chinese project (100km)				-0.028**
				(0.012)
Drought index (wet) x Chinese project (100km)				-0.025
				(0.028)
Coefficient of exposure to project	-0.038	-0.052		
p-value: Coefficient of exposure to project	[0.055]	[0.006]		
Coefficient of exposure to project (dry)			-0.027	-0.022
p-value: Coefficient of exposure to project (dry)			[0.025]	[0.035]
Coefficient of exposure to project (wet)			-0.021	-0.030
p-value: Coefficient of exposure to project (wet)			[0.479]	[0.178]
Mean of outcome	0.859			
Household controls	Yes	Yes	Yes	Yes
Country by year effects	Yes	Yes	Yes	Yes
Cell fixed effects	Yes	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes	Yes
Observations	63890	63890	63890	63890

Notes: The table examines the functional form of the drought measure and the symmetry of its political effects. Columns 1 and 2 replace the continuous 12-month SPEI index with a dummy indicating extreme drought conditions, defined as SPEI1 > 2 (based on the 1-month SPEI index). Columns 3 and 4 decompose the drought index into its dry (positive values) and wet (negative values) components to test for asymmetric effects. All specifications replicate the interaction framework from Table 3, including interactions with exposure to Chinese development projects (50km and 100km radii), household controls, country-by-year and grid cell fixed effects, and standard errors clustered at the grid-cell level.

Table A10: Robustness of Results to Different Radii

	Respondent supports democracy	
	(1)	(2)
Drought index	-0.003	-0.003
	(0.006)	(0.006)
Drought index x Chinese project (20km)	-0.021**	
	(0.009)	
Drought index x Chinese project (30km)		-0.018**
		(0.008)
Coefficient of exposure to project	-0.025	-0.021
p-value: Coefficient of exposure to project	[0.011]	[0.023]
Mean of outcome	0.859	
Effect of one drought (2 SDs) (no project exposure)	-0.70%	-0.70%
Effect of one drought (2 SDs) (project exposure)	-5.82%	-4.89%
Household controls	Yes	Yes
Country by year effects	Yes	Yes
Cell fixed effects	Yes	Yes
SEs clustered at cell level	Yes	Yes
Observations	63890	63890

Notes: The table replicates Columns 1 and 2 of Table 3, but changes the radius of exposure to Chinese development projects to 20km and 30km (instead of 50km and 100km).

Table A11: Economic Expectations, Government Trust, and Perceived Capability

	Economic expectations	Respondent supports democracy	
	(1)	(2)	(3)
Drought index	-0.014*	-0.000	0.000
	(0.007)	(0.006)	(0.006)
Drought index x Chinese project (50km)	-0.014	-0.026***	-0.025***
	(0.013)	(0.008)	(0.008)
Drought index x trusts government		-0.001	
		(0.003)	
Drought index x Chinese project (50km) x trusts government		0.007	
		(0.006)	
Chinese project (50km) x trusts government		-0.016***	
		(0.005)	
Drought index x capable government			-0.004
			(0.003)
Drought index x Chinese project (50km) x capable government			0.004
			(0.006)
Chinese project (50km) x capable government			-0.009*
			(0.005)
Coefficient of exposure to project	-0.028		
p-value: Coefficient of exposure to project	[0.044]		
Coefficient of exposure to project & low trust/capability		-0.026	-0.025
p-value: Coefficient of exposure to project & low trust/capability		[0.002]	[0.003]
Coefficient of exposure to no project & high trust/capability		-0.002	-0.004
p-value: Coefficient of exposure to no project & high trust/capability		[0.799]	[0.515]
Coefficient of exposure to project & high trust/capability		-0.020	-0.025
p-value: Coefficient of exposure to project & high trust/capability		[0.045]	[0.013]
Mean of outcome	0.621	0.859	
Household controls	Yes	Yes	Yes
Country by year effects	Yes	Yes	Yes
Cell fixed effects	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes
Observations	52446	63478	63468

Notes: Column 1 replicates Column 1 of Table 3, but changes the outcome to a dummy variable indicating the respondent's economic expectations. Columns 2 and 3 display OLS regressions of a dummy variable indicating support for democracy (vs. other systems of government) on the 12 months Standardized Precipitation Evapotranspiration Index (SPEI), an interaction of the SPEI index with a dummy variable indicating whether the respondent lives within a radius of 50km of a Chinese project, said dummy itself, an interaction of the SPEI index with an index of trust in government (Column 2) or perceived government capability (Column 3), an interaction of project exposure with these indices, a triple interaction, as well as a variety of household characteristics, all of which are described in the main text. The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Regressions include country × year and grid cell fixed effects and cluster standard errors at the grid cell level.

Table A12: Old Democracies vs. Young Democracies

	Respondent supports democracy	
	(1)	(2)
Drought index	-0.012	-0.019
	(0.012)	(0.013)
Drought index x Chinese project (50km)	-0.047***	
	(0.018)	
Drought index x no yrs as democracy	0.001	
	(0.001)	
Drought index x Chinese project (50km) x no yrs as democracy	0.001	
	(0.001)	
Drought index x Chinese project (100km)		-0.014
		(0.015)
Drought index x no yrs as democracy		0.001*
		(0.001)
Drought index x Chinese project (100km) x no yrs as democracy		-0.001
		(0.001)
Coefficient of exposure to project & young democracy	-0.060	-0.032
p-value: Coefficient of exposure to project & young democracy	[0.001]	[0.029]
Coefficient of exposure to no project & old democracy	-0.012	-0.017
p-value: Coefficient of exposure to no project & old democracy	[0.315]	[0.161]
Coefficient of exposure to project & old democracy	-0.057	-0.032
p-value: Coefficient of exposure to project & old democracy	[0.001]	[0.025]
Mean of outcome	0.859	
Household controls	Yes	Yes
Country by year effects	Yes	Yes
Cell fixed effects	Yes	Yes
SEs clustered at cell level	Yes	Yes
Observations	63890	63890

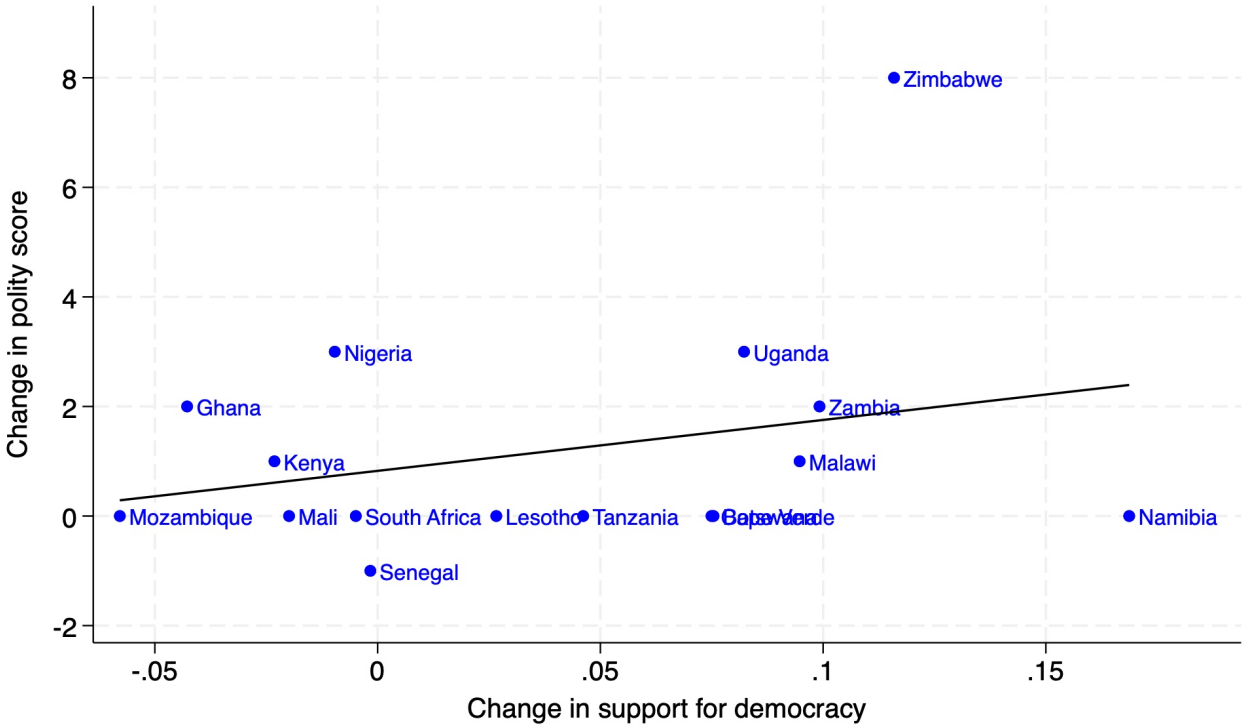
Notes: The table displays OLS regressions of a dummy variable indicating support for democracy (vs. other systems of government) on the 12 months Standardized Precipitation Evapotranspiration Index (SPEI), an interaction of the SPEI index with a dummy variable indicating whether the respondent lives within a radius of 50km or 100km of a Chinese project, said dummy itself, an interaction of the SPEI index with a variable counting the number of years the country the respondent lives in has been a democracy, an interaction of project exposure and the number of years as a democracy, a triple interaction, as well as a variety of household characteristics, all of which are described in the main text. The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Regressions include country × year and grid cell fixed effects and cluster standard errors at the grid cell level.

Table A13: Support for Democracy and Political Engagement

	Index	Community meeting	Raise issue	Attended demonstrations
	(1)	(2)	(3)	(4)
Lagged drought index	0.011	0.008	0.003	0.001
	(0.014)	(0.006)	(0.007)	(0.004)
Lagged drought index x Chinese project (50km)	-0.035*	-0.008	-0.026***	-0.001
	(0.020)	(0.009)	(0.009)	(0.006)
Coefficient of exposure to project	-0.025	0.000	-0.023	0.000
p-value: Coefficient of exposure to project	[0.245]	[0.972]	[0.016]	[0.942]
Mean of outcome	0.000	0.631	0.513	0.118
Effect of one drought (2 SDs) (no project exposure)	0.022SD	2.54%	1.17%	1.69%
Effect of one drought (2 SDs) (project exposure)	-0.050SD	0.00%	8.97%	0.00%
Household controls	Yes	Yes	Yes	Yes
Country by year effects	Yes	Yes	Yes	Yes
Cell fixed effects	Yes	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes	Yes
Observations	76104	77521	77373	76472

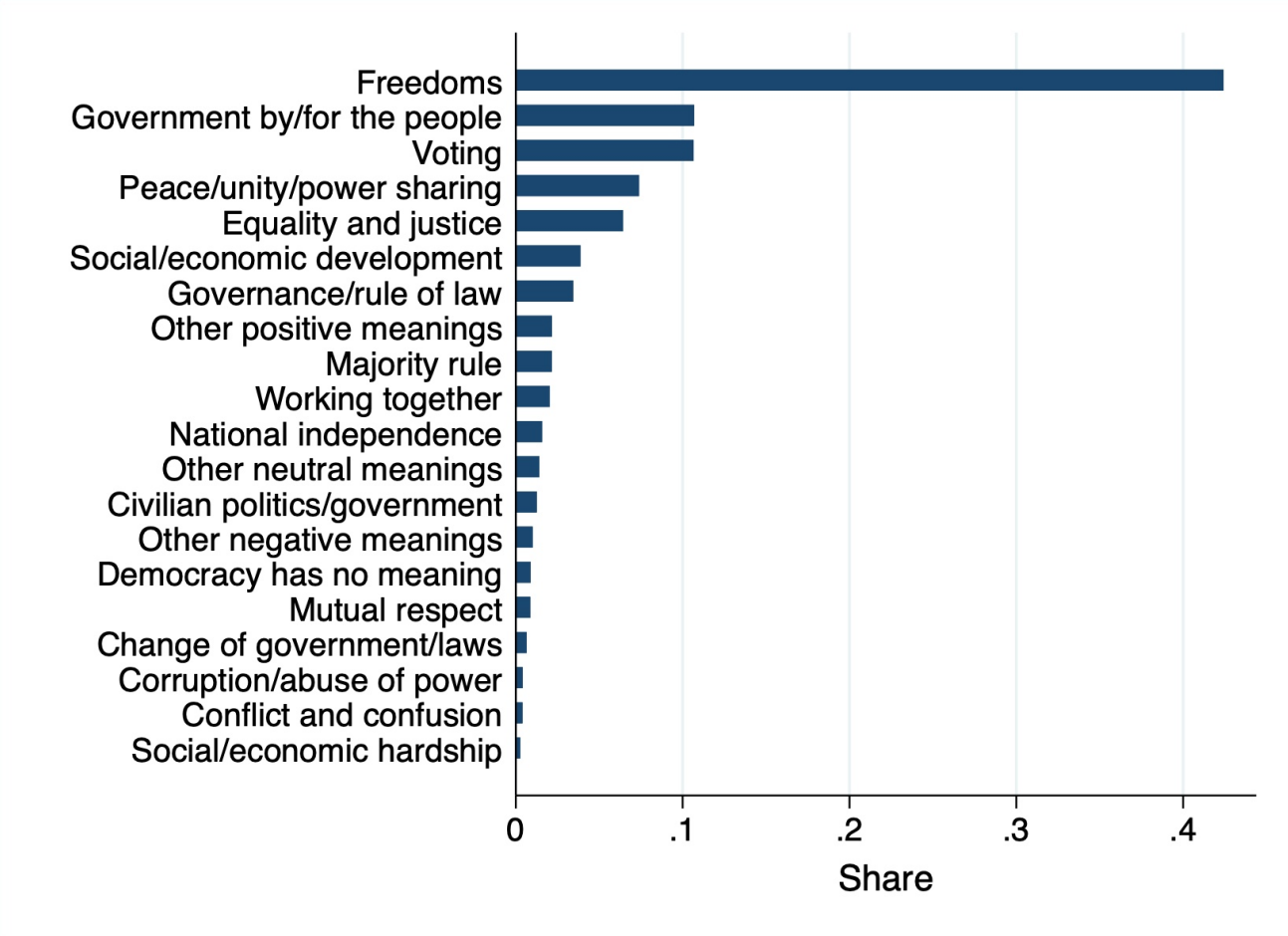
Notes: The table replicates Column 1 of Table 3 using alternative outcomes. Columns 2—4 are indicators for whether, in the past 12 months, the respondent (i) attended a community meeting, (ii) joined others to raise an issue, or (iii) attended a demonstration, respectively. Column 1 reports a standardized index constructed as the first principal component of these three outcomes.

Figure A1: Long-run Changes in Polity Score and Support for Democracy



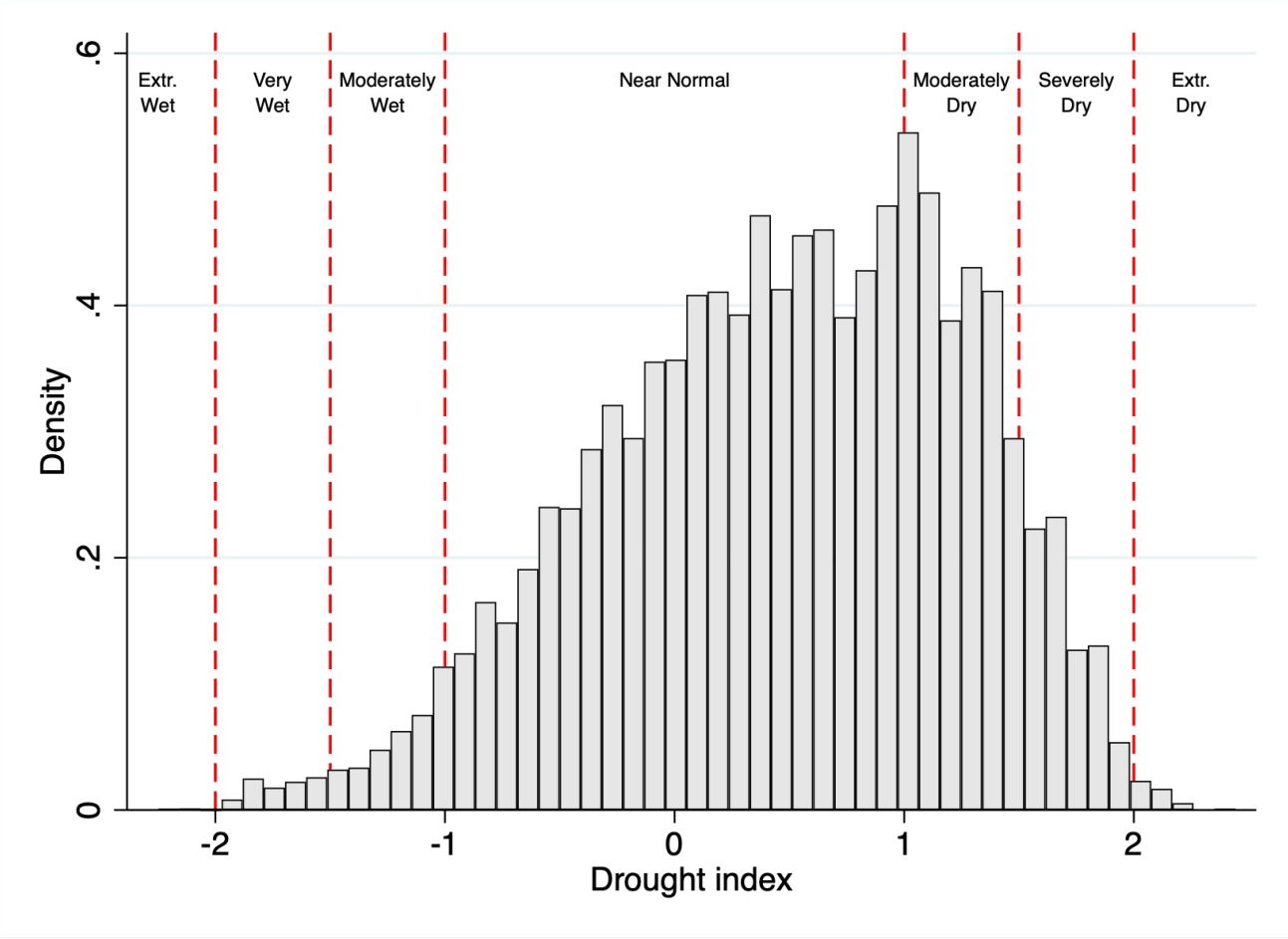
Notes: The figure displays a scatter plot and a fitted regression line of the change in the country-level polity score and the change in the country-level support for democracy. The change is calculated as the difference between the first (2002 or 2003) and last (2014 or 2015) year a country appears in the data.

Figure A2: The Meaning of Democracy



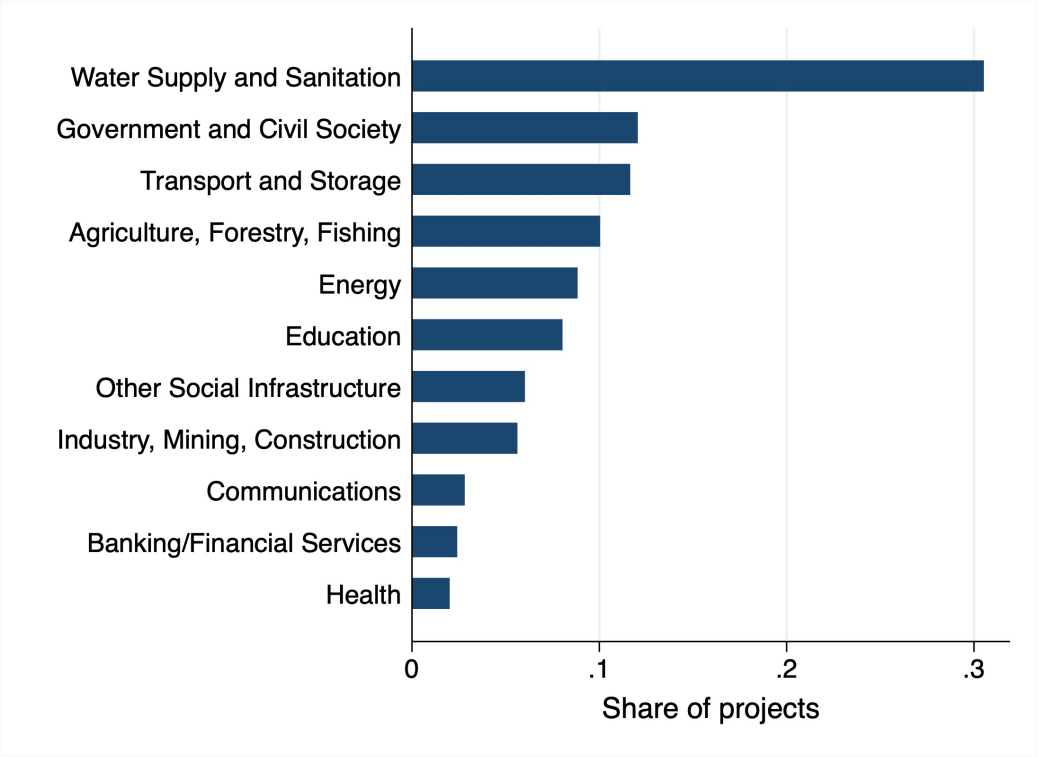
Notes: The figure displays the answers by respondents to the question "what does democracy mean to you?". The question was only asked in survey rounds 3 and 6.

Figure A3: Distribution of the Drought Index

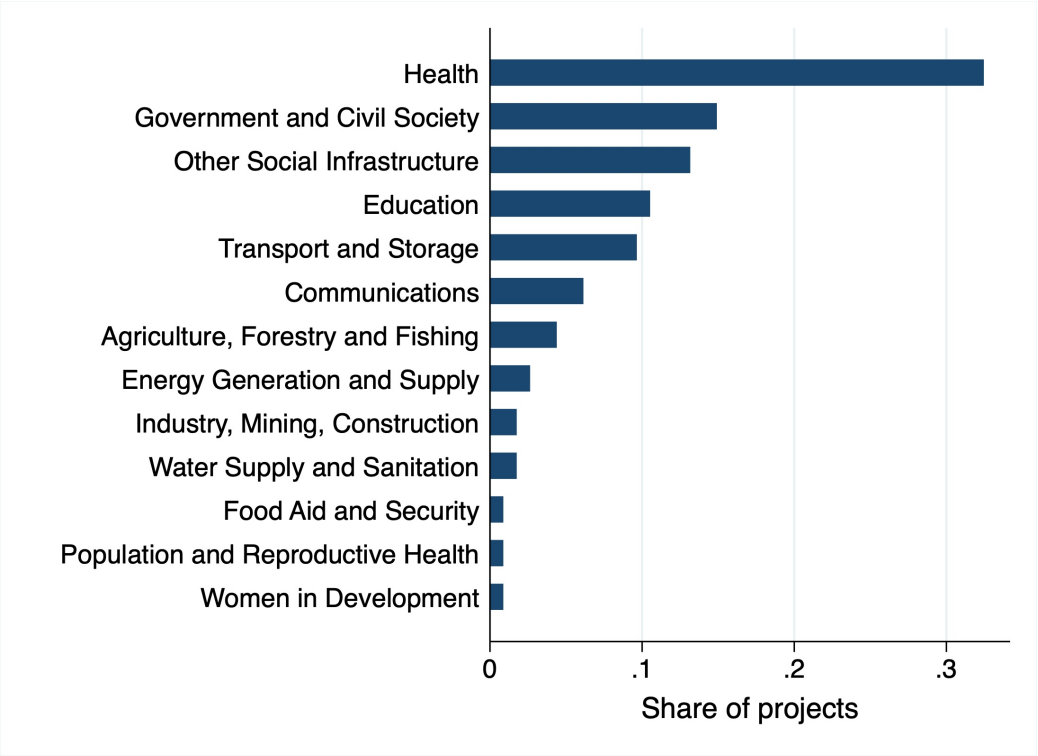


Notes: The figure displays the distribution of the 12 months Standardized Precipitation Evapotranspiration Index (SPEI). The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Vertical lines correspond to thresholds within the drought index.

Figure A4: Development Projects funded by the World Bank and China by Sector



(a) World Bank Development Projects



(b) Chinese Development Projects

Notes: The figure displays the share of development projects funded by the World Bank (Panel A) and China (Panel B) by sector across time, excluding any water and sanitation, environmental, and emergency projects.

B Data Appendix (Online)

Afrobarometer data: additional information. Panels A, B, C and D of Table B1 provide further summary statistics for various political variables. Panels A, B, and C display three groups of variables relating to trust in government, the capabilities of the government, and trust in institutions. All these measures show that around half of the respondents trust the government, its institutions, and/or view it to be capable in providing various services. Panel D displays the share of respondents who believe their country to be a full democracy (23.2%), a democracy with minor problems (37.8%), a democracy with major problems (31.2%), or not a democracy (7.7%). For each group of the variables displayed in Panels A, B, and C, I also construct an index by (a) averaging the dummy variables in each category and (b) standardizing this measure. For the variables in Panel D of Table B1, I create a variable ranging from 1 to 4, where 1 indicates "not a democracy" and 4 indicates "full democracy."

To validate the responses in the survey, Table B2 presents OLS regressions of coding 1 of my main outcome variable on different household characteristics. The table shows that older respondents, respondents who completed at least high school, male respondents, black respondents, religious respondents, and respondents who are politically aligned with the party in power are more likely to support democracy. The respondent's employment status does not correlate significantly with the support for democracy and being white and having an occupation that is affected by climate change correlates negatively with the support for democracy.

Table B3 provides further validation of the responses in the Afrobarometer. The table regresses various answers from the Afrobarometer on the polity score.[42] Column 1, relying on coding 1 of the support for democracy, shows that there is no correlation between this outcome and the "true" level of democracy in a country. Column 2 uses the variable ranging from 1 to 4 measuring how democratic people think their country is (see Panel D in Table B1) to show that people who live in a more democratic country view their country as more democratic. The outcome in Column 3 (4) [5] is an index created from variables in Panel A of Table B1 (Panel C of Table B1) [Panel B of Table B1], as described above. As can be seen, individuals living in

[42]The polity2 measurement comes from the Polity5 project (Marshall and Gurr, 2020). This index, widely used in the literature (e.g., Burke and Leigh, 2010; Fuchs-Schündeln and Schündeln, 2015; Besley and Persson, 2019; Tabellini and Magistretti, 2025), ranges from -10 (autocracy) to $+10$ (democracy).

more democratic countries display higher trust in government and institutions, and view their government as more capable. The directions of the significant correlations found in Columns 2—5 validate the Afrobarometer data. The fact that my main outcome in Column 1 is not correlated with the level of democracy in a country is not surprising. The outcome I study is distinct from other, more standard, political outcomes studied, i.e., my outcome measures an individual's belief about the "optimal system." There is a priori no reason to believe that such a belief is systematically correlated with the level of democracy in a country in the short-run.

Weather data: additional information. There is a large literature documenting negative economic impacts of weather variations (e.g., Dell et al., 2014; Carleton and Hsiang, 2016). Table B4 regresses five potentially weather-affected outcomes on the drought index used in this paper. In Columns 1—3, I rely on three proxies for income available from the Afrobarometer surveys: (positive) economic expectations, food availability, and cash availability.[43] A one standard deviation increase in the drought index (i) reduces individuals' economic expectations by 3.7 percentage points, (ii) reduces food availability by 0.065 points (on a 5 point scale), and (iii) reduces cash availability by 0.061 points (on a 5 point scale). Column 4 presents results relying on yet another proxy for income: the log of nightlights within the grid cell of the respondent.[44] A drought reduces the luminosity of a grid cell. Finally, in Column 5, I rely on another outcome that is widely documented to be affected by droughts: conflict.[45] As expected, droughts increase the probability that a respondent's grid cell is exposed to a battle/conflict event. Overall, Table B4 validates the drought index used in this paper.[46]

[43]The Afrobarometer does not have reliable income data, which is why I rely on proxies. The three questions are: (i) "looking ahead, do you expect the following to be better or worse: your living conditions in 12 months time?"—I convert the 5-scale answers provided by respondents into a dummy indicating a positive outlook; (ii) "over the last year, how often, if ever, have you or your family gone without enough food to eat?"—I flip the scale of the answers provided to a variable ranging from 1 to 5 with 1 indicating "always" and 5 indicating "never"; (iii) "over the past year, how often, if ever, have you or your family gone without cash income?"—I flip the scale of the answers provided to a variable ranging from 1 to 5 with 1 indicating "always" and 5 indicating "never".

[44]I download the widely used grid cell level nightlights data from 1992 to 2013 here (last accessed: May 8, 2024).

[45]I download the Armed Conflict Location & Event Data Project (ACLED) database for all years of my sample. I follow Harari and La Ferrara (2018) in defining dummy variables capturing conflict exposure. The variable used in this table is the "battle" dummy: it indicates having experienced a conflict classified as a battle of any kind (regardless whether control of geographies changes).

[46]As the outcomes in Columns 4 and 5 are at the grid cell (and yearly) level, I lag the drought index by one year (i.e., 12 months) to allow the impacts to be visible at this aggregation.

Table B1: Summary Statistics of Political Beliefs

	(1) Full Sample	(2) Eastern Africa	(3) Western Africa	(4) Southern Africa
A. Trust in Government				
Respondent trusts president	0.622	0.646	0.562	0.652
	(0.485)	(0.478)	(0.496)	(0.476)
Respondent trusts parliament	0.556	0.593	0.487	0.576
	(0.497)	(0.491)	(0.500)	(0.494)
Respondent trusts local government	0.513	0.545	0.472	0.506
	(0.500)	(0.498)	(0.499)	(0.500)
B. Capabilities of Government				
Gov. cap. of managing economy	0.485	0.480	0.420	0.574
	(0.500)	(0.500)	(0.494)	(0.494)
Gov. cap. of managing health	0.615	0.611	0.565	0.682
	(0.487)	(0.487)	(0.496)	(0.466)
Gov. cap. of managing education	0.652	0.667	0.560	0.736
	(0.476)	(0.471)	(0.496)	(0.441)
Gov. cap. of fighting corruption	0.433	0.423	0.409	0.478
	(0.495)	(0.494)	(0.492)	(0.500)
C. Trust in Institutions				
Respondent trusts police	0.539	0.530	0.510	0.588
	(0.498)	(0.499)	(0.500)	(0.492)
Respondent trusts courts	0.622	0.642	0.552	0.671
	(0.485)	(0.479)	(0.497)	(0.470)
Respondent trusts army	0.672	0.694	0.658	0.649
	(0.470)	(0.461)	(0.474)	(0.477)
D. Is your Country a Democracy?				
Not a democracy	0.077	0.097	0.072	0.052
	(0.267)	(0.296)	(0.258)	(0.221)
Democracy with major problems	0.312	0.316	0.334	0.279
	(0.463)	(0.465)	(0.472)	(0.448)
Democracy with minor problems	0.378	0.386	0.365	0.382
	(0.485)	(0.487)	(0.481)	(0.486)
Full democracy	0.232	0.201	0.229	0.288
	(0.422)	(0.401)	(0.420)	(0.453)
Observations	128705	61074	37750	29881

Notes: The table displays mean sample characteristics and standard deviations (in parentheses) for a variety of political preferences. Panel A displays the share of respondents who trust (a) the president, (b) parliament, and (c) local government. Panel B reports summary statistics for four variables indicating whether the respondent believes that the government is capable of (a) managing the economy, (b) managing health services, (c) managing education services, or (d) fighting corruption. Panel C displays the shares of individuals who trust (a) the police, (b) the courts, or (c) the army. Panel D presents the share of individuals who view their country as (a) not a democracy, (b) a democracy with major problems, (c) a democracy with minor problems, and (d) a full democracy. Column 1 displays the characteristics across the full sample, while Columns 2—4 split the sample by regions in Africa. All summary statistics are calculated across all survey rounds from the Afrobarometer surveys.

Table B2: Correlates of the Support for Democracy: Household Characteristics

	Respondent supports democracy								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Household Characteristics									
Age	0.000***								
	(0.000)								
High school education or more		0.017***							
		(0.003)							
Male			0.015***						
			(0.003)						
Race: black				0.026***					
				(0.010)					
Race: white					-0.053**				
					(0.022)				
Religious						0.022***			
						(0.007)			
Aligned with political party in power							0.024***		
							(0.004)		
Employed (salaried)								0.003	
								(0.003)	
Occupation affected by climate change									-0.008*
									(0.004)
Mean of outcome					0.859				
Cell fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month by year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	101941	102750	102935	97120	97120	101724	70122	102596	50235

Notes: The table displays OLS regressions of a dummy variable indicating support for democracy (vs. other systems of government) on a variety of household characteristics. Regressions include grid cell and month by year fixed effects and cluster standard errors at the grid cell level.

Table B3: Correlates of Political Preferences and Polity Measurement

	Respondent supports democracy	How democratic is country?	Trust in government	Trust in institutions	Capabilities of government
	(1)	(2)	(3)	(4)	(5)
Polity score	0.000	0.079***	0.067***	0.033***	0.053***
	(0.003)	(0.009)	(0.009)	(0.008)	(0.009)
Mean of outcome	0.859	2.766	0.000	0.000	0.000
Cell fixed effects	Yes	Yes	Yes	Yes	Yes
Month by year fixed effects	Yes	Yes	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes	Yes	Yes
Observations	102935	114925	126715	126759	127050

Notes: The table displays OLS regressions of five outcomes on the polity measurement, a variable measuring the true level of democracy of a country and ranging from −10 (fully autocratic) to +10 (fully democratic). The outcomes are: (i) a dummy variable if the respondent supports democracy (vs. other systems of government), (ii) a variable ranging from 1 (not a democracy) to 4 (full democracy), indicating how much of a democracy respondents believe their country to be, and (iii) three indices measuring trust in government, trust in institutions, and the capabilities of the government. Each index is constructed in two steps. First, I average the components of the index, which are always dummy variables. Second, I standardize this average to get the final index. The trust in government index has three components: trust (a) in the president, (b) in parliament, and (c) in the local government. The institutions index has three components: trust (a) in the police, (b) in the courts, and (c) in the local army. The capabilities index has four components: the respondent's belief that the government is capable (a) of managing the economy, (b) of managing health services, (c) of managing education services, and (d) of fighting corruption. Regressions include grid cell and month by year fixed effects and cluster standard errors at the grid cell level.

Table B4: Validation of Drought Index

	Economic expectations	Food availability	Cash availability	Log(nightlights)	Conflict
	(1)	(2)	(3)	(4)	(5)
Drought index	-0.037***	-0.065***	-0.061***		
	(0.008)	(0.015)	(0.016)		
Lagged drought index				-0.020**	0.012*
				(0.008)	(0.006)
Mean of outcome	0.621	3.934	3.011	1.388	0.073
Household controls	Yes	Yes	Yes	Yes	Yes
Cell fixed effects	Yes	Yes	Yes	Yes	Yes
Month by year fixed effects	Yes	Yes	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes	Yes	Yes
Observations	52446	77747	77561	59313	77888

Notes: The table displays OLS regressions of various outcomes on the 12 months Standardized Precipitation Evapotranspiration Index (SPEI) as well as a variety of household characteristics, all of which are described in the main text. The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. The outcomes are: (i) a dummy variable indicating the respondent's economic expectations, (ii) two variables ranging from 1 (always) to 5 (never) indicating how often the respondent's household has gone without food or cash in the past year, (iii) the log of nightlights in the respondent's grid cell, and (iv) a dummy indicating whether the respondent's grid cell has been exposed to conflict. Regressions include grid cell and month by year fixed effects and cluster standard errors at the grid cell level.

C Robustness Tests (Online)

Heterogeneous treatment effects. The recent literature on heterogeneous treatment effects, summarized by De Chaisemartin and d'Haultfoeuille (2023) and Roth et al. (2023), shows that the assumption underlying simple TWFE regression is one of homogeneous treatment effects, i.e., β in equation (1) is assumed to be constant across geography and time.[47,48]

To my knowledge, the only paper that allows for continuous treatments at every period in the sample is de Chaisemartin et al. (2022). Intuitively, the procedure they propose is as follows (in the case of multiple time periods). First, one estimates the treatment effects they propose (relying on their "did_multiplegt" package) for each consecutive pair of time periods. In my case, given my five survey waves, this yields four estimates (i.e., one for survey waves two to three, a second for survey waves three to four, etc.). Each treatment effect essentially compares switchers (i.e., individuals who change their treatment from one period to the other) to stayers (i.e., individuals who did not change their treatment from one period to the other) conditional on them having had the same treatment status in the initial period (sections 4.3 and 5.3). Second, one calculates weights to take a weighted average and calculate the overall treatment effect (see Point 1 in Theorem 8 in section 5.3 for the weights).

While there are multiple differences between my set-up and theirs, two are especially relevant. First, there are no stayers in my sample as the values of the drought index always change for everyone (i.e., the weather is never the same at two time periods). Second, there are (almost) no individuals (or grid cells) with the same value of the drought index at the initial treatment period (i.e., the first time period of the two). The first issue can be resolved by specifying a number such that individuals whose treatment changes by less than said number between two subsequent periods act as "quasi-stayers." The second issue cannot be addressed and, if I run

[47] More specifically, the TWFE regressions, under a parallel trend assumption, estimate a weighted sum of treatment effects across geography and time, with some negative weights. Due to these negative weights, the overall treatment effect might, for example, be negative even if the treatment effect is positive for every unit $\times$ period.

[48] Three types of estimators have been proposed to address this issue. The first type applies to designs with binary and absorbing treatments (Borusyak et al., 2024; Callaway and Sant'Anna, 2021; Sun and Abraham, 2021). The second type extends this and applies to binary or discrete treatments (De Chaisemartin and d'Haultfoeuille, 2020; De Chaisemartin and d'Haultfoeuille, 2024). The third type of estimators allows for continuously distributed treatments, but imposes that all units start with no treatment (De Chaisemartin and d'Haultfoeuille, 2024). Neither directly applies to my setting as the drought index is continuously distributed at every period in my sample.

their procedure, significantly reduces the sample size in my case. Specifically, each estimator in the first step of the procedure is estimated with a sample size of roughly 800-1000 observations. Given that my original sample contains 129,002 observations, relying on at best 5,000 of these to conduct a robustness test is suboptimal. It follows that unfortunately even this procedure is not applicable in my setting.[49]

To at least improve on the homogeneous treatment effects assumption from my main results, I therefore rely on Wooldridge (2025). Wooldridge (2025) proposes a simple two-step procedure to deal with heterogeneous treatment effects. Step 1 of the procedure consists of running the TWFE regression at the desired "level of heterogeneity." In my case, I estimate equation (1) at the country level, yielding 16 βs. In terms of econometric assumptions, this assumes homogeneous treatment effects within each country (and over time). While this may still not be fully realistic, it is a step in the right direction since assuming that treatment effects are constant within a country is a much milder assumption than the assumption that they are constant across all 16 countries. Step 2 of the procedure aggregates these 16 βs by taking a simple average. I bootstrap standard errors.

Table C1 displays the final results of the procedure. The table shows that the main results from Table 2 are unchanged and therefore robust.

Sample selection. Sample selection refers to the possibility that: (i) natural disasters can affect the rollout of the Afrobarometer surveys, (ii) conditional on the rollout of the surveys, the Afrobarometer interviews different "types" of individuals, and (iii) individuals exhibit adaptation behavior (e.g., they migrate) due to natural disasters and thus change the composition of the sample.

Timing of survey. Table C2 regresses the number of days needed to conduct all interviews within a region or subregion (Columns 1—4) or the number of people interviewed within a region or subregion (Columns 5—8) on dummy variables indicating whether the region or subregion was hit by a (extreme) disaster (and a full set of unit and time fixed effects). With the exception

[49] If I nonetheless run their procedure, relying on a variety of different threshold values and bootstrapping standard errors, the resulting estimates are always positive and larger in magnitude than my estimates from Table 2.

of one coefficient, the table suggests that (extreme) disasters do not affect the outcomes, thus suggesting that neither droughts nor floods affect the timing of the survey.[50]

Balancedness of interviewees. Table C3 compares household and village characteristics between respondents interviewed before and after a (extreme) disaster hit a region where the interview process took more than one month. The table shows that the characteristics are largely balanced, thus suggesting that, conditional on the rollout of the survey, the Afrobarometer's targeting of individuals is not affected by natural disasters.

Similarly, Table C4 regresses the household characteristics on the continuous measure of the drought index and finds no correlation, confirming that the variables do not act as bad controls.

Adaptation behavior. There is ample evidence that individuals adapt to changes in the weather. The most concerning adaptation behavior in my case is migration (e.g., Burzyński et al., 2022; Castells-Quintana et al., 2022; Conte, 2022). There are two types of migration: across country migration and within country migration. To address the former, Table C5 reproduces Column 1 of Table 2 but, one by one, drops the four countries in my sample with the largest number of emigrants. The results remain unchanged. I unfortunately do not have data within country migration flows and therefore have to assume that individuals do not endogenously migrate away from drought hit regions within countries.

Leads and lags. Table C6 zooms in on Column 1 of Table 2 and makes the following adjustments. For Columns 1 and 2 the outcome is the same as the one used in the main results. However, Columns 3 and 4 rely on coding 2 of the main outcome (see main text). Additionally, Columns 1 and 3 add a 12 month lead of the drought index and Columns 2 and 4 add the same lead plus two lags. The main results do not change. This rules out pre-trends.

Other drought measurements. Table C7 considers two other ways of measuring droughts. Both confirm the main result. First, Columns 1 and 2 utilize a drought dummy and show that the main results from Table 2 are unchanged. Second, Column 3 relies on the 3 month drought index and three of its lags. As can be seen, the second lag has a significant negative effect,

[50]The results remain unchanged when regressing these outcomes on my continuous drought index.

similar in magnitude as the main effect in Column 1 of Table 2. This suggests that the impact of a drought shock on respondents' support for democracy is lagged by roughly half a year.

Six other robustness checks. Table C8 presents six further robustness checks. First, in Column 1, I follow Conley (1999) and use a spatial correction to calculate standard errors with a threshold of 300km. Second, Column 2 adds strata fixed effects (instead of grid cell fixed effects). In the Afrobarometer, every region (state) in each country has two strata: one for urban households and one for rural households. Third, Column 3 removes all controls. Fourth, Column 4 includes only age, gender, and education as controls. Fifth, Column 5 goes back to the original specification from equation (1), but adds weather controls (temperature and precipitation and their squares, measured in degrees Celsius and mm, respectively). Finally, Column 6 also relies on the main specification from equation (1), but adds village controls. My main specification is robust to all these alternative specifications.

Table C1: Heterogeneous Treatment Effects (Wooldridge, 2025)

	Respondent supports democracy	Respondent doesn't support one party rule	army rule	one man rule
	(1)	(2)	(3)	(4)
Drought index	-0.019**	-0.012**	-0.004	-0.008
	(0.005)	(0.006)	(0.006)	(0.005)
Mean of outcome	0.859	0.741	0.798	0.833
Effect of one drought (2 SDs)	-4.42%	-3.24%	-1.00%	-1.92%
Household controls	Yes	Yes	Yes	Yes
Cell fixed effects	Yes	Yes	Yes	Yes
Month by year fixed effects	Yes	Yes	Yes	Yes
Bootstrapped SEs	Yes	Yes	Yes	Yes
Observations	63890	76487	75951	75466

Notes: The table displays robustness checks to the main results in Table 2, following the procedure described in Wooldridge (2025). The coefficients displayed stem from OLS regressions of various dummy variables on the 12 month Standardized Precipitation Evapotranspiration Index (SPEI) as well as a variety of household controls, all of which are described in the main text. The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Regressions include grid cell and month by year fixed effects and cluster standard errors at the grid cell level. The outcome in Column 1 is a dummy variable indicating support for democracy (vs. other systems of government), while the outcomes in Columns 2—4 are dummies indicating whether a respondent doesn't support one party rule (Column 2), army rule (Column 3), and one man rule (Column 4). Step 1 of the procedure consists of country level regressions in the same spirit as the ones run in Table 2. Step 2 of the procedure aggregates these individual effects by taking a simple average. The standard errors are bootstrapped in step 2.

Table C2: Sample Selection: Rollout of Survey

	Nr. days needed for interviews				Nr. people interviewed			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Region hit by disaster	0.162				-2.015			
	(0.650)				(6.204)			
Subregion hit by disaster		0.068				2.283		
		(0.189)				(3.056)		
Region hit by extreme disaster			4.067**				15.104	
			(2.046)				(17.043)	
Subregion hit by extreme disaster				-0.934				4.608
				(0.954)				(10.265)
Mean of outcome	8.78	4.46	8.78	4.46	155	64.7	155	64.7
Region level	Yes	No	Yes	No	Yes	No	Yes	No
Subregion level	No	Yes	No	Yes	No	Yes	No	Yes
Region/Subregion fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Survey round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SEs clustered at region x survey level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	129002	129002	129002	129002	129002	129002	129002	129002

Notes: The table displays OLS regressions of a variable indicating the number of days needed to conduct all interviews within a (sub)region (Columns 1—4) or the number of people interviewed within a (sub)region (Columns 5—8) on a dummy variable indicating whether that region/subregion was hit by a disaster (i.e., a flood or drought) or an extreme disaster (i.e., an extreme flood or extreme drought). Regressions include (sub)region and survey wave fixed effects and cluster standard errors at the (sub)region × survey wave level.

Table C3: Sample Selection: Balance of Household and Village Characteristics

	Age	Educated	Male	Black	White	Religious	Politically aligned	Employed	Occ Affected
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Interviewed after disaster	-1.371*	0.024	0.016*	-0.010	-0.001	-0.016	-0.022	0.009	-0.003
	(0.757)	(0.040)	(0.009)	(0.033)	(0.014)	(0.015)	(0.029)	(0.033)	(0.032)
Region x survey wave fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SEs clustered at region x survey level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3442	3491	3503	3196	3196	3423	2149	3482	1788

	Post office	School	Police station	Electricity	Piped water	Sewage	Health clinic	Market stalls	Urban
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Interviewed after disaster	-0.002	-0.039	-0.023	-0.050	0.034	-0.070	-0.037	-0.003	0.002
	(0.042)	(0.039)	(0.044)	(0.057)	(0.052)	(0.041)	(0.055)	(0.058)	(0.061)
Region x survey wave fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SEs clustered at region x survey level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3412	3483	3416	3479	3477	3453	3414	3478	3336

	Age	Educated	Male	Black	White	Religious	Politically aligned	Employed	Occ Affected
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Interviewed after extreme disaster	-1.140	-0.011	0.009	0.054	0.025	0.017	-0.075	-0.093	-0.025
	(1.330)	(0.056)	(0.016)	(0.033)	(0.040)	(0.023)	(0.052)	(0.049)	(0.073)
Region x survey wave fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SEs clustered at region x survey level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1108	1111	1114	1114	1114	1086	657	1111	726

	Post office	School	Police station	Electricity	Piped water	Sewage	Health clinic	Market stalls	Urban
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Interviewed after extreme disaster	0.158	0.094	0.089*	-0.024	-0.279	-0.075	0.149*	0.154*	-0.249
	(0.151)	(0.088)	(0.040)	(0.183)	(0.170)	(0.063)	(0.067)	(0.073)	(0.200)
Region x survey wave fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SEs clustered at region x survey level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1114	1114	1114	1114	1114	1114	1109	1114	1114

Notes: The table compares household and village characteristics between respondents interviewed before and after a disaster (i.e., a flood or drought) or an extreme disaster (i.e., an extreme flood or extreme drought) hit a region where the interviewing process took more than one month. The coefficients come from a regression of the household or village characteristic in question on a dummy indicating whether the respondent was interviewed after the disaster or extreme disaster hit the region. Regressions include region $\times$ survey wave fixed effects and cluster standard errors at the region $\times$ survey wave level.

Table C4: Sample Selection: Further Balance of Household Characteristics

	Age	Educated	Male	White	Politically aligned
	(1)	(2)	(3)	(4)	(5)
Drought index	-0.152	0.001	0.000	-0.001	-0.001
	(0.117)	(0.004)	(0.001)	(0.001)	(0.007)
Cell fixed effects	Yes	Yes	Yes	Yes	Yes
Month by year fixed effects	Yes	Yes	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes	Yes	Yes
Observations	127300	128684	128985	121307	86163

Notes: This table regresses a variety of household controls on the 12 months Standardized Precipitation Evapotranspiration Index (SPEI). The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Regressions include grid cell and month by year fixed effects and cluster standard errors at the grid cell level.

Table C5: Sample Selection: International Migration

	Respondent supports democracy			
	(1)	(2)	(3)	(4)
Drought index	-0.011**	-0.015***	-0.014**	-0.015***
	(0.005)	(0.005)	(0.005)	(0.006)
Mean of outcome		0.859		
Effect of one drought (2 SDs)	-2.56%	-3.49%	-3.26%	-3.49%
Household controls	Yes	Yes	Yes	Yes
Uganda dropped	Yes	Yes	Yes	Yes
Zimbabwe dropped	No	Yes	Yes	Yes
Tanzania dropped	No	No	Yes	Yes
Senegal dropped	No	No	No	Yes
Cell fixed effects	Yes	Yes	Yes	Yes
Month by year fixed effects	Yes	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes	Yes
Observations	58886	55235	50082	47509

Notes: The table replicates Column 1 of Table 2 but, one by one, drops the countries in my sample with the highest number of emigrants (Uganda, Zimbabwe, Tanzania, Senegal).

Table C6: Robustness of Main Result to Inclusion of Leads and Lags

	Respondent supports democracy			
	Coding 1		Coding 2	
	(1)	(2)	(3)	(4)
Lead of drought index (1 year)	0.003	0.004	-0.002	-0.003
	(0.004)	(0.004)	(0.005)	(0.005)
Drought index	-0.015***	-0.015***	-0.026***	-0.025***
	(0.005)	(0.005)	(0.005)	(0.005)
Lagged drought index (1 year)		0.001		-0.010*
		(0.004)		(0.005)
Lagged drought index (2 years)		0.002		-0.006
		(0.004)		(0.005)
Mean of outcome	0.859		0.682	
Lead effect of one drought (2 SDs)	0.70%	0.93%	-0.59%	-0.88%
Effect of one drought (2 SDs)	-3.49%	-3.49%	-7.62%	-7.33%
Lagged effect of one drought (2 SDs)		0.23%		-2.93%
Lagged effect of one drought (2 SDs)		0.47%		-1.76%
Household controls	Yes	Yes	Yes	Yes
Cell fixed effects	Yes	Yes	Yes	Yes
Month by year fixed effects	Yes	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes	Yes
Observations	58078	58078	70449	70449

Notes: Columns 1 and 2 replicate Column 1 of Table 2, but add a one-year lead in Column 1 and a one-year lead and two lags of the drought index in Column 2. Columns 3 and 4 repeat the procedure but exchange the outcome to a second, complementary, measure of support for democracy.

Table C7: Robustness to Different Drought Measures

	Respondent supports democracy		
	(1)	(2)	(3)
Drought dummy	-0.093**	-0.091**	
	(0.046)	(0.045)	
Lagged drought dummy (1 year)		0.036	
		(0.028)	
Lagged drought dummy (2 years)		0.004	
		(0.015)	
3 Months drought index			-0.001
			(0.004)
Lagged drought index (3-6 months)			0.007
			(0.005)
Lagged drought index (6-9 months)			-0.009**
			(0.005)
Lagged drought index (9-12 months)			0.001
			(0.004)
Mean of outcome		0.859	
Household controls	Yes	Yes	Yes
Cell fixed effects	Yes	Yes	Yes
Month by year fixed effects	Yes	Yes	Yes
SEs clustered at cell level	Yes	Yes	Yes
Observations	63890	63890	63890

Notes: The table replicates Column 1 of Table 2, but changes the variable used to measure drought occurrences. Columns 1 and 2 rely on a dummy variable indicating a drought, constructed from the 12 months Standardized Precipitation Evapotranspiration Index (SPEI). The SPEI index is a standardized drought index, where negative values indicate wet weather conditions and positive values indicate drought-like conditions. A drought corresponds to a shock of approximately two standard deviations. Column 3 uses the 3 months version of the SPEI index (instead of the usual 12 months SPEI index used in the paper).

Table C8: Further Robustness Tests

	Respondent supports democracy					
	(1)	(2)	(3)	(4)	(5)	(6)
Drought index	-0.010**	-0.009**	-0.010**	-0.010**	-0.008*	-0.015***
	(0.005)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)
Mean of outcome	0.859					
Effect of one drought (2 SDs)	-2.33%	-2.10%	-2.33%	-2.33%	-1.86%	-3.49%
Selected household controls	No	No	No	Yes	No	No
Household controls	Yes	Yes	No	No	Yes	Yes
Village controls	No	No	No	No	No	Yes
Weather controls	No	No	No	No	Yes	No
Cell fixed effects	Yes	No	Yes	Yes	Yes	Yes
Strata fixed effects	No	Yes	No	No	No	No
Month by year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
SEs clustered at cell level	No	Yes	Yes	Yes	Yes	Yes
Conley SEs	Yes	No	No	No	No	No
Observations	64026	63264	102935	101768	63121	59405

Notes: The table replicates Column 1 of Table 2 but, in Column 1, follows Conley (1999) and uses a spatial correction with a threshold of 300km, in Column 2, includes strata fixed effects, in Column 3, removes all controls, in Column 4, includes only age, gender, and education as controls, in Column 5, controls for weather controls (temperature and precipitation and their squares, measured in degrees Celsius and mm, respectively), and, in Column 6, adds a variety of village controls, all of which are described in the main text.