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POLICY BRIEF

ADAPTATION · WATER & FOOD · SUDAN

The Rains Failed. Plan the Winter Season Now

A water-and-power plan for Sudan's irrigated winter crop, after drought hit the sorghum belt.

3Bi Research Team

7 October 2026

Drought Hit Sudan's Sorghum Belt. The Winter Season Is the Second Chance — Plan Its Water and Power Now

Poor rains hit Sudan's sorghum belt this season. The irrigated winter crop needs a water-and-power plan before planting.

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Poor El Niño rains have hit Sudan's rainfed sorghum belt, making the irrigated winter season the second chance for this year's harvest. We ask the agriculture and energy ministries to publish a joint water-and-power plan for it within 30 days.

3Bi Research Team | Policy Brief | 7 October 2026

The Ask

Within the next 30 days, Sudan's Ministry of Agriculture and Irrigation and the Ministry of Energy and Oil should publish a joint water-and-power plan for the 2026/27 winter season: how much reservoir water each irrigated area can count on, which pumping stations get power first, and which solar-pumping projects will be fast-tracked. The rains have already failed across much of the rainfed sorghum belt, so the winter season is now the cheapest chance Sudan has to recover part of this year's harvest. A plan costs very little to write. Without one, scarce Nile water and scarce power will be shared out by default, after farmers have already decided what to plant.

Why Now

On 5 October 2026, seven international humanitarian organisations, working with Sudan's Food Security and Livelihoods (FSL) Cluster, warned that the next four months could decide whether Sudan's hunger crisis deepens in 2027. They pointed to poor and erratic rainfall and worsening El Niño-driven drought as threats to the main harvest, which runs from about October 2026 to January 2027, and noted that nearly 29 million people already face acute food insecurity (Norwegian Refugee Council, joint press release, 5 October 2026; Danish Refugee Council, 5 October 2026). A woman farmer in Kass, South Darfur, told them: "We planted twice, and nothing grew well" (Norwegian Refugee Council, 5 October 2026).

The official data say the same. The June–September rainy season brought below-average rainfall over most cropping areas, which FAO links to the ongoing El Niño. In Sennar and Gedaref, two states that together produce about a quarter of Sudan's sorghum, the main staple, seasonal rainfall was about 20% and 30% below the long-term average. By September, FAO's Agricultural Stress Index showed severe drought on up to 55% of cropland in Sennar and up to 70% in Gedaref (FAO GIEWS Country Brief: Sudan, 24 September 2026). The US Climate Prediction Center's hazards outlook for 1–7 October reports 90-day rainfall deficits of more than 100 mm in western and southern Sudan and drought-damaged vegetation in western Sudan (NOAA Climate Prediction Center, Africa Hazards Outlook, 1–7 October 2026).

The window is the winter irrigation season, which is being prepared now. The Nile Basin Initiative's outlook for October–December 2026 says Sudan "should expect little relief" and "must continue to plan for continued water scarcity". It expects Blue Nile and Main Nile flows to keep receding from



October, the Dinder and Rahad rivers to fall toward low flow, and irrigation demand to rise as farmers prepare for the winter season (Nile Basin Initiative, Seasonal Hydrological Outlook OND 2026, September 2026). On 6 October 2026, the Minister of Energy and Oil told the electricity sector's regular meeting that the ministry wants power from alternative sources to make the winter and summer farming seasons succeed. He directed the renewable-energy department to work with the states on a list of proposed solar-powered projects, so that guarantees can be arranged under the new electricity law (Alhakim News, 6 October 2026). That list is the obvious starting point for a plan.

The Evidence

First, the rainfed harvest is already compromised, so the winter season carries more weight than usual. Planting of the 2026 cereal crops ended in mid-August, for harvest from November. Poor rains hit germination and crop establishment, with the largest deficits in the south-eastern cropping areas (FAO GIEWS, 24 September 2026). Sudan entered this season from a weak base. National cereal production in 2025 was about 5.2 million tonnes, about 22% below 2024 and 19% below the previous five-year average, according to the government-led Crop and Food Supply Assessment. Import needs for 2026 are forecast at about 2.8 million tonnes, mostly wheat, and FAO doubts the country's financial and logistical capacity to secure them (FAO GIEWS, 24 September 2026). Every tonne of wheat or vegetables grown under irrigation this winter is a tonne Sudan does not have to buy abroad with foreign currency it does not have.

Second, the water for that winter season is limited, and the Nile data show it. At Khartoum on the Blue Nile and at Halfaya on the Main Nile, water levels in July and August 2026 were about 1 to 4 metres below normal. In Khartoum, exceptionally low river levels affected the intake pumps at major drinking-water plants and caused temporary shutdowns. The Dinder and Rahad rose only modestly (Nile Basin Initiative, OND 2026 outlook). Sudanese media reported the same pattern in July, with water stations south of Omdurman and in Bahri going out of service as the Blue Nile receded (Morasleen, 22 July 2026). The Nile Basin Initiative's own advice for Sudan is to optimise reservoir operations to conserve water for dry-season irrigation, domestic supply and hydropower, to prioritise efficient water allocation during the winter irrigation season, and to focus planning on "drought-year storage management rather than flood response" (Nile Basin Initiative, OND 2026 outlook). That is a call for an allocation plan, and nobody has published one.

Third, the cost of running pumps on diesel has jumped, which makes solar pumping a resilience measure, not a luxury. FAO reports that the national average diesel price almost doubled between March and August 2026, when it was more than twice its level a year earlier, raising production and transport costs (FAO GIEWS, 24 September 2026). Limited availability and high prices of fuel and other inputs, and reduced access to agricultural credit, were already holding back production (FAO GIEWS, 24 September 2026). Meanwhile, sorghum prices more than doubled in most monitored markets between January and August, and millet prices rose by



77% (FAO GIEWS, 24 September 2026). Irrigated farms that pump with diesel face the highest input costs at exactly the moment their output matters most. The energy minister's 6 October instruction to list solar projects for agriculture recognises this (Alhakim News, 6 October 2026). The question is whether that list is ready before winter planting or after it.

The strongest objection is that a plan does not create water. If the Nile is low, it is low, and a document from Port Sudan or Khartoum will not change what reaches the canals. That is true, and we are not claiming a plan will make up this year's shortfall. What a plan changes is who gets the water that exists, and when farmers find out. The Nile Basin Initiative is explicit that observed river levels and reservoir releases, not rainfall alone, will decide flows this season, and that operational decisions should rest on those observations (Nile Basin Initiative, OND 2026 outlook). Farmers who know in October how much water their scheme can expect can choose what and how much to plant. Farmers who learn in January that the canal has run dry lose their seed, fuel and labour as well as their crop.

A second objection is that solar pumping is too slow and too expensive to matter this season. Some of it will be. We are not recommending a national solar-irrigation programme before December. We are recommending that the ministry finish the list it has already ordered, rank it by how quickly each project can deliver, and say publicly which ones will be supported this season and which will wait. A short, honest list attracts donor and private finance more easily than a long wish list, and the guarantees the minister mentioned can only be arranged for projects that have been named.

A third objection is that food assistance, not farm planning, is what matters now. Humanitarian funding remains essential, and the 5 October call asks donors to sustain it. But the same call also asks them to invest in the livelihoods and food systems that help prevent future hunger (Norwegian Refugee Council, 5 October 2026). A winter-season plan is the part of that agenda Sudan's own ministries can deliver without waiting for anyone.

Addressing the Counter-Case

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What 3Bi Recommends, Specifically

First, by early November 2026, the Ministry of Agriculture and Irrigation should publish a winter-season water allocation for the main irrigated schemes, based on current reservoir storage and observed river levels. It should state how much water each scheme can expect, the planting area that water supports, and the order in which supply will be cut if flows fall further. It should follow the Nile Basin Initiative's advice to put drinking water and dry-season irrigation first and to manage storage on the assumption of a drought year.

Second, within the same period, the Ministry of Energy and Oil should complete the list of solar-powered agricultural projects that the minister ordered on 6 October and publish it in ranked form. Projects that can deliver pumping capacity before the winter crop's peak water demand should come first. The ministry should say which projects will receive guarantees under the new electricity law this season.

Third, the two ministries should agree a short power-priority schedule for irrigation pumping stations for the winter season, so that the gains the energy minister expects in November reach the pumps that feed the winter crop.

Fourth, donors and the FSL Cluster should treat the irrigated winter season as part of the harvest-protection agenda set out on 5 October, including support for seed, fuel and solar pumping in the schemes the allocation plan identifies.

Fifth, 3Bi will track whether an allocation plan and a ranked solar list are published, using Nile Basin Initiative and FAO updates and the Arabic- and English-language energy and agriculture press. We will publish a follow-up by the end of December 2026.



Sourcing & Contact

Primary sources: Norwegian Refugee Council, "Sudan's harvest at risk as millions face worsening hunger in 2027" (joint press release by Action Against Hunger, CARE International, the Danish Refugee Council, the International Rescue Committee, the Norwegian Refugee Council, Mercy Corps and World Vision International Sudan, with the Sudan FSL Cluster), 5 October 2026; Danish Refugee Council, same press release, 5 October 2026; FAO Global Information and Early Warning System (GIEWS), "GIEWS Country Brief: The Republic of the Sudan", 24 September 2026 (via ReliefWeb); Nile Basin Initiative, "Nile Basin Seasonal Hydrological Outlook and Advisory, October–November–December 2026 Season", September 2026; NOAA Climate Prediction Center, "Africa Hazards Outlook for DOS/FEWS NET, 1–7 October 2026"; Alhakim News, "الوزير يلتقي قادة الكهرباء" (Energy minister meets electricity leaders), 6 October 2026; Morasleen, "مستويات النيل تتراجع وتهدد محطات المياه وأنظمة الري في السودان" (receding Nile levels threaten water stations and irrigation schemes in Sudan), 22 July 2026. For methodology questions or to propose a correction, contact 3Bi's Research Team via 3bisudan.org.

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