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AHEAD OF THE STORM: PREPARING MALAWI'S ECONOMY FOR THE 2026/27 EL NIÑO AND MACROECONOMIC INSTABILITY

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KEY MESSAGES

- A severe "2026/27 El Niño build-up" could reduce Malawi's GDP by over 6.0% (in output value), cut household consumption by 7.04%, weaken exports by 6.71%, and disrupt trade, transport, and agro-processing sectors.
- Urban households may face a severe cost-of-living crisis, with incomes declining by 6.42% and rural households by 4.43%, while maize and rice prices could rise by at least 22%.
- Malawi must urgently shift toward drought-tolerant and early maturing crops, water efficient irrigation and harvesting technologies, climate smart agriculture, as well as localized early warning and climate advisory services.
- Accelerate procurement of domestic maize to restock the Strategic Grain Reserves before market pressures intensify as the agrifood system could contract by 19.86% and maize production could decline by 14% under severe El Nino.

1. INTRODUCTION

Emerging global forecasts of a "possible 2026/27 super El Niño building-up" present major risks to Malawi's agriculture, food systems, water resources, and macroeconomic stability due to the country's heavy dependence on rain-fed agriculture and climate-sensitive rural livelihoods. Agriculture contributes 22.3% of GDP, employs about 64% of the labor force, and supports nearly 85% of rural households, making the economy highly vulnerable to El Nino events[2]. For the 2026/2027 agricultural season, Global climate outlooks indicate a high probability of a strong El Niño

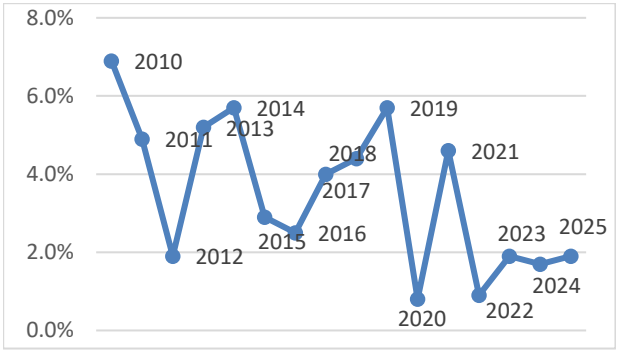


Fig 1. Malawi GDP growth: 2010 – 2026*, WB.

[1] Please cite this brief as: PANGAPANGA-PHIRI I. Ngoma J, Namaona E, Kakwera M, Fiwa L, and Chiwatakwenda A. (2026). **Ahead of the Storm: Preparing Malawi's Economy for the 2026-2027 El Nino and Macroeconomic Instability. Policy Brief.** Center for Agricultural Research and Development (CARD), Lilongwe University of Agriculture and Natural Resources, Bunda College, Lilongwe.
[2] Department of Disaster Management Affairs (DoDMA). 2016. Malawi Drought 2015 – 2016. Post Disaster Needs Assessment. World Bank and Government of Malawi. Lilongwe, Malawi

comparable to the 2015/16 event[3], which affected 24 of Malawi's 28 districts, reduced maize production by 30–34%, left about 6.5 million people food insecure, and contributed to reduced economic growth[4] from 5.6% in 2014 to 2.5% in 2016 (Fig 1). Since 1980, Malawi has experienced multiple El Niño episodes associated with prolonged dry spells, erratic rainfall, crop failures, rising food prices, and macroeconomic instability. More recently, the 2023/24 El Niño caused severe mid-season dry spells across Southern and Central Malawi while Northern Malawi experienced excessive rainfall, leaving over 4.4 million people food insecure. These El Nino events[5] heightened maize prices, reduced labor opportunities, and declined household purchasing power, highlighting Malawi's deep exposure to climate variability and the urgent need to strengthen climate resilience, adaptive infrastructure, diversified food systems, and anticipatory planning.

2. DATA AND METHODS.

We employed climate-risk modeling using historical and future climate datasets to assess Malawi's preparedness for the anticipated 2026/27 El Niño event, (Fig 2A-B) as in equation one[6].

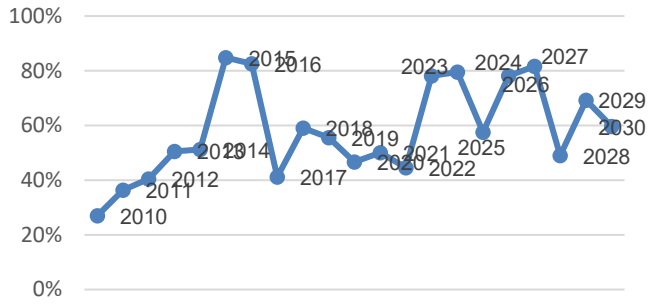


Fig 2A. Drought Stress Index for Malawi: 2010 – 2030*


eNation

Malawi reacts to El Nino alert

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"At this point, we cannot tell whether we will experience reduced rainfall or not, but there are chances of below-normal rainfall," she said.

Mtilatila added that Malawi could start experiencing warm temperatures as early as June this year ahead of the onset of the rainy season.

According to the World Meteorological Organisation (WMO), the El Niño phenomenon is expected to develop from mid-2026, affecting global temperature and rainfall patterns.

Meanwhile, the Department of Disaster Management Affairs (Dodma) said yesterday it is collaborating with various stakeholders to prepare for possible humanitarian responses.

Dodma Commissioner Wilson Moleni told *The Nation* yesterday that they are already working with ministries, departments and agencies as well as donors to work out a response plan.

Experts have since urged both government and farmers to take early action to reduce the risk of hunger and crop losses.

Centre for Agricultural Research and Development director Innocent Pangapanga-Phiri acknowledged that there are strong indications that the country could face one of the worst El Niño episodes in recent years.

He advised authorities to

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Fig 2B. There are chances of below normal rainfall, DCCMS Director Mtilatila.

$$ENR^t = \vartheta^1 TA^t + \vartheta^2 RD^t + \vartheta^3 SMS^t + \vartheta^4 CWD^t + \vartheta^5 TR^t + \varepsilon^t \quad \ldots\ldots\ldots (1)$$

We analysed climate variability based on the past El Nino events and risks, rainfall and temperature anomalies, longest dry spell days, lowest rainfall days, and drought stress index using the ERA5 0.25° and CMIP6 0.25°. We further reviewed existing literature to isolate secondary socio-economic, agricultural, food security, and vulnerability from the Malawi Government, World Bank, FEWS NET, IFPRI, FAO, and MVAC to assess likely implications on maize productivity, food prices, strategic grain reserves, and rural livelihoods (Table 1). In addition, we conducted scenario-based

[3] Botha, Blessings Nyanjagha; Nkoka, Francis Samson; Mwumvaneza, Valens. 2018. Hard Hit by El Nino: Experiences, Responses and Options for Malawi. World Bank. http://hdl.handle.net/10986/30037.

[4] Anderson Weston, Mazvita Chiduwa, Joachim De Weerdt, Xinshen Diao, Jan Duchoslav, Zhe Guo, Henry Kankwamba, Andrew Jamali, Joseph Nagoli, James Thurlow and Liangzhi You. 2024. Mitigating the impact of El Nino on hunger in Malawi. Strategy Support Program. International Food Policy Research Institute and National Planning Commission.

[5] Pangapanga-Phiri I, Makoka D, Jumbe C, Chilongo T, Phiri H, Kamkwamba H, Kalimbira A, Maonga B, Mtethiwa A, and Machila K. 2023. The 2023-24 El Nino: The Uncertainties and Opportunities for the 2023-24 Agricultural Season in Malawi. Policy Brief 2010010123. Center for Agricultural Research and Development, LUANAR, Lilongwe, Malawi.

[6] Among other variables like longest dry spell days, includes El Nino Risk (ENR), Temperature Anomaly (TA) since 1980, Rainfall Deficit (RD), Temperature Rise (TR), Soil Moisture Stress (SMS), Crop Water Demand (CWD), and unknown parameters (ϑ)

analyses to assess the potential economic impacts of a 2026/27 El Niño event and identify the sectors most vulnerable to climate-induced shocks. Using a Computable General Equilibrium (CGE) model and autoregressive distributive lag model, we quantify the likely effects on production, incomes, prices, trade, and overall economic performance, thereby providing evidence to guide anticipatory interventions and targeted policy responses aimed at mitigating likely adverse impacts and strengthening national resilience.

Table 1. Historical effects of El Nino events in Malawi

El Niño Episode	Main Climate Conditions in Malawi	Implications on Maize Productivity	Food Prices & Food Security Effects	Strategic Grain Reserves (SGR) Pressure	Implications for Smallholder Farmers
2000/02	Erratic rainfall, floods followed by dry spells	Maize production declined sharply from about 2.5 million MT to 1.7 million MT, contributing to one of Malawi's worst food crises. Water shortages	Maize prices increased dramatically, rising from around MK4/kg to above MK40/kg in some markets, worsening food insecurity.	Grain reserves were depleted after NFRA sold large portions of reserves before the crisis, reducing emergency response capacity.	Millions faced food shortages, while poor farmers lost purchasing power and failed to access farm inputs and credit.
2004/05	Severe drought and prolonged dry spells	Significant crop failure, especially maize in southern and central regions. Water shortages	Nearly 5 million people require emergency food assistance due to food shortages.	Increased dependence on imports and ADMARC interventions to stabilize maize supply.	Smallholders experienced declining yields, income losses, and heightened vulnerability to hunger.
2009/10	Moderate El Niño with localized dry conditions	Reduced maize productivity in drought-prone districts though impacts were less severe nationally. Water shortages	Rising localized food prices and reduced household food stocks.	Government faced pressure to maintain maize stocks and stabilize prices.	Rain-fed farming households experienced income instability and reduced resilience.
2015/16	One of the strongest El Niño events globally; severe drought and prolonged dry spells	Agricultural production reportedly declined by nearly 30%, with major maize losses (40%) nationwide. Water shortages	Food inflation increased significantly, while 6.2 million required humanitarian assistance.	Strategic grain reserves came under severe pressure as government increased maize imports and relief distribution.	Smallholder farmers experienced widespread crop failure, livestock stress, income decline, and asset depletion.
2018/19	El Niño associated with erratic rainfall and flooding in some regions	Crop losses occurred due to both dry spells and flood-related damage. Water shortages	Increased market instability and food access challenges in vulnerable districts.	Greater need for food reserve management and emergency response coordination.	Farmers faced repeated climate shocks, weakening recovery from previous drought episodes.
2023/24	Severe El Niño-induced mid-season dry spells and localized flooding	Malawi projected a maize deficit of approximately 560,000 - 600,000 MT following severe dry spells. Water shortages	Up to 40% of the population was projected to require food assistance, while maize prices increased sharply.	Government declared a State of Disaster amid low food stocks and increasing pressure on SGR management.	Smallholder farmers experienced widespread crop failure, declining incomes, rising vulnerability, and increased dependence on humanitarian support.

3. SELECTED KEY FINDINGS AND IMPLICATIONS

3.1. Macroeconomic Impacts of possible 2026/27 El Nino in Malawi:

Climate simulation results suggest that escalating El Niño-related shocks significantly weaken Malawi's macroeconomic stability through declining domestic demand, reduced trade performance, rising inflation, and worsening fiscal and external vulnerabilities (Fig 3). Under severe shock scenarios, GDP value could decline by over 6%, while consumption may fall by up to 7.04%, reflecting worsening food insecurity, reduced purchasing power, and deteriorating household welfare. Export earnings and imports are projected to contract due to weakened agricultural production and constrained foreign exchange inflows, while investment may turn negative under severe shocks, signaling declining investor confidence. Rising food shortages are also expected to increase inflationary pressures, while falling public and private savings could reduce government capacity to finance development and social protection programmes. At the same time, widening trade deficits and increasing foreign savings indicate growing dependence on external financing and heightened external sector vulnerability.

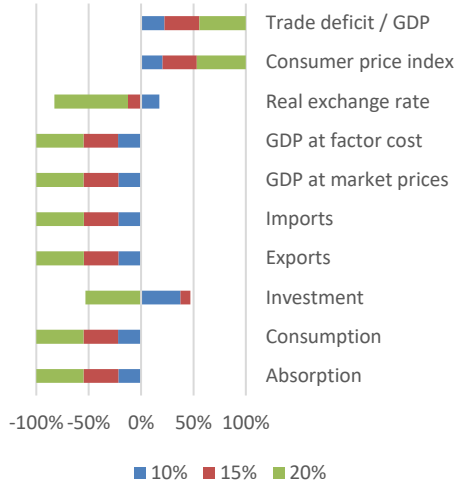


Fig. 3. Macroeconomic impact of 2026/27 El Nino

3.2. Sectoral Impacts of 2026/27 El Nino in Malawi

El Niño-related shocks have severe and uneven impacts across Malawi's economy, with agriculture remaining the most vulnerable sector due to its heavy dependence on rainfall. El Niño-related shocks have severe and uneven impacts across Malawi's economy, with agriculture, livestock, water, energy, trade, and food systems remaining highly vulnerable due to their strong dependence on rainfall and climate-sensitive production systems (Fig. 4). Under the severe 20% shock scenario, the agricultural sector contracts by 18.27% compared to only 1.46% in the non-agricultural sector, highlighting the economy's strong exposure to climate-sensitive production systems. Food crops experience the largest declines, particularly oil seeds (-32.83%), pulses (-26.11%), fruits (-22.59%), vegetables (-22.17%), roots and tubers (-21.63%), and maize (-13.95%), posing major risks to food security and rural livelihoods. Livestock production also declines significantly due to water

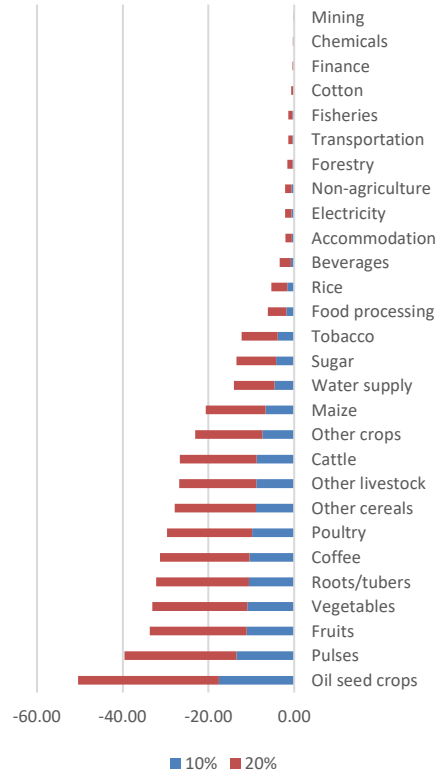


Fig 4. Sectoral impacts of El Nino

shortages, reduced feed availability, and heat stress, while export crops such as tobacco and coffee contract, reducing foreign exchange earnings. Although non-agricultural sectors experience relatively smaller declines, food processing, water supply, trade, transportation, and accommodation services are still contracted due to weakened agricultural supply, lower demand, and infrastructure stress. Overall, we observe proposed super El Nino weakening the Malawi economy through declining agricultural production, reduced agro-industrial activity, weakened trade performance, and rising pressure on social public services[7].

3.3. Impact of Agricultural Commodity Prices

El Niño-related shocks significantly distort output prices across Malawi's economy, with the largest impacts concentrated in agriculture and food systems due to declining production, supply shortages, and market disruptions (Fig. 5). Under the severe 20% shock scenario, agricultural output prices increased sharply by 21.43%, while all crop prices rise by 26.18% and food crop prices by 25.48%, reflecting substantial supply constraints caused by droughts, prolonged dry spells, and reduced agricultural productivity. Maize prices increase by 22.07%, posing major risks to food affordability and household welfare given maize's central role in Malawi's food system. Other food commodities record even larger price increases, including rice (43.75%), sugar (30.46%), vegetables (27.69%), fruits (27.00%), roots and tubers (27.22%), pulses (26.85%), and oil seed crops (24.95%), suggesting widespread food inflation and increasing risks of malnutrition and poverty among vulnerable populations. Export crop prices also rise significantly, particularly tobacco (33.75%) and cotton (26.65%), largely reflecting reduced domestic supply and market shortages. Livestock prices increase moderately due to declining feed availability and water stress, with cattle prices increasing by 17.21% and poultry by 16.10%. In contrast, most non-agricultural sectors experience declining output prices due to weakened economic demand and reduced industrial activity. Industrial output prices fall across several sectors including electricity and gas (-8.79%), chemicals (-6.77%), construction (-3.81%), and manufacturing-related activities, reflecting reduced production capacity and economic slowdown. Similarly, service sector output prices decline substantially, particularly in wholesale and retail trade

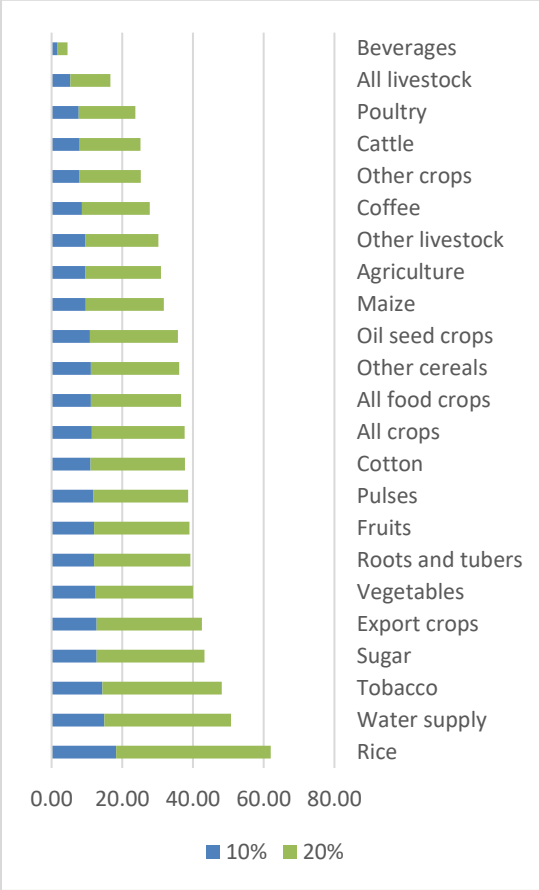


Fig 5. El Nino impacts on agricultural output prices

[7] FEWSNET. 2024. Crisis (IPC Phase 3) persists in south due to below-average crop production. https://fews.net/southern-africa/malawi/food-security-outlook/june-2024.

(-8.50%), finance and insurance (-6.56%), education (-5.03%), health services (-5.25%), and transportation (-3.60%), suggesting weakening domestic demand and broader macroeconomic stress. Overall, the findings demonstrate that severe El Niño shocks could trigger strong food price inflation alongside declining prices in non-agricultural sectors, thereby worsening food insecurity, reducing household welfare, and deepening macroeconomic imbalances in Malawi. Government must therefore fast-track the release of financing to the National Food Reserve Agency (NFRA) and the Agricultural Development and Marketing Corporation (ADMARC) to enable timely procurement of staple foods before speculative traders and vendors drive prices upward through hoarding and market manipulation.

3.4. Impact on Agricultural Household Income and Consumption

El Niño-related shocks could substantially reduce agricultural incomes and consumption levels across both rural and urban households in Malawi, with the effects intensifying as the severity of the shock increases (Fig 6). Under the severe 20% shock scenario, household income declines by 5.29%, while rural (HHD-R) and urban (HHD-U) household incomes fall by 4.53% and 6.42%, respectively, suggesting that urban households may experience stronger indirect effects through rising food prices, reduced economic activity, and declining employment opportunities. Across income groups, wealthier households experience relatively larger proportional income losses, particularly among urban households, where income declines range from 5.03% for the poorest quintile to 6.43% for the richest quintile. In rural areas, household income losses range from 2.43% among the poorest households to 5.41% among the richest quintile, reflecting broad disruptions across agricultural production systems. Household consumption also declines across all groups, indicating worsening welfare and reduced purchasing power during climate shocks. Urban households experience the sharpest consumption declines, with reductions reaching 6.31% among urban households and above 5% across most urban income groups under the severe scenario, while rural household consumption declines remain comparatively smaller but still significant. Poor households experience notable reductions in both income and consumption, highlighting heightened vulnerability to food price increases and livelihood shocks. Generally, severe El Niño events could weaken household welfare[8], deepen poverty, reduce food access, and widen socio-economic vulnerabilities across Malawi.

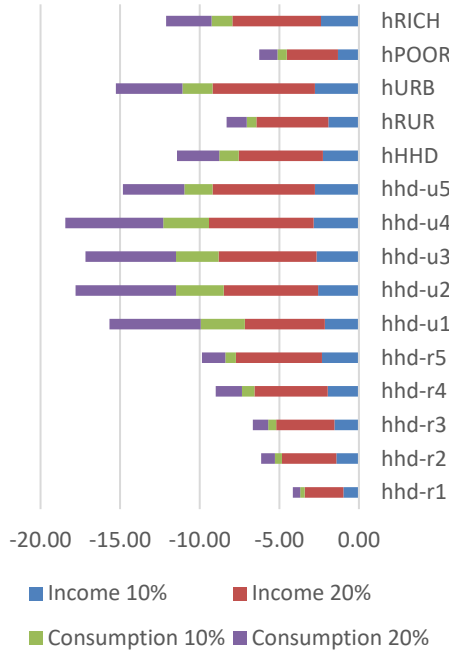


Fig 6. El Nino's impacts on households

[8] McCarthy, N., Kilic, T., Brubaker, J., Murray, S., & de la Fuente, A. (2021). Droughts and floods in Malawi: impacts on crop production and the performance of sustainable land management practices under weather extremes. *Environment and Development Economics*, *26*(5–6), 432–449. doi:10.1017/S1355770X20000455

4. POLICY STRATEGIES FOR MALAWI'S 2026/27 EL NIÑO READINESS

Policy Areas	Immediate Action(Next 3 Months)	Medium-Term Action(4–12 Months)
Comprehensive Water Management and Resilient Water Infrastructure	Remove import duties and VAT on solar-powered micro-irrigation kits and water-harvesting equipment. With thorough hydrological monitoring, manage the high water levels in Lake Malawi.	**Expand efficient communal irrigation investments**, including water harvesting technologies to protect crop failures from projected 2026/27 dry spells. Encourage box ridges, mulching, and swales to conserve and allow water infiltration in smallholder fields. **Harness water resources from its abundant water bodies**, including Lake Malawi, rivers, and reservoirs, to expand sustainable year-round irrigation systems that reduce dependence on erratic rainfall and strengthen national food security.
	Identify and map geographic hotspots vulnerable to severe heat stress and water shortages.	**Rehabilitate communal boreholes, construct earth dams** and build solar-powered water troughs to prevent high cattle mortality.
Strategic Grain Reserves (SGR) and Fiscal Policy	Designate a line and fast-track financing the NFRA and ADMARC to purchase cereal and grain- foods for stocking the SGR and price stabilization during 2026/27 El Nino.	**Accelerate purchasing of domestic** maize through NFRA and ADMARC. Implement shock sensitive targeted and scalable social support as well as climate smart enhanced public works programme to buffer vulnerable households against rising food prices. Target vulnerable population with food and nutrition program.
Early Warning Systems and Climate Advisory Services	Expand localized weather forecasting, digital climate advisory platforms, community radio dissemination systems, and extension outreach.	**Expand district-specific climate advisory services**, hydrological monitoring, and localized early warning dissemination systems for farmers, water managers, and disaster response institutions.
Agricultural Diversification	Restructure the Agricultural Subsidy Programme packages to pivot away from moisture-sensitive crop varieties.	**Swap standard seed packages for drought-tolerant, early-maturing varieties** of maize, sorghum, millet, sweet potatoes, and cassava, while promoting agro-processing and value addition.
Monetary Policy	Issue specialized regulatory relief or affordable credit lines or agri-finance to small- and medium-sized agribusinesses to cushion them from macro-liquidity tightening.	**Utilize targeted monetary policy tools** to manage the projected consumer price index surge driven by supply chain disruptions and food shortages. Support farmers recovery in agricultural production through agri-insurance.
Energy & Utilities	Deploy off-grid and utility-scale solar MAREP related projects to counter the drop in hydro-power generation.	**Equip regional water boards with backup solar powered pumping systems** to maintain domestic water access when water tables drop.
Integrated Watershed and Environmental Management:	Scale up afforestation, watershed restoration, wetland protection, and sustainable land management interventions	**Scale up** afforestation, watershed restoration, wetland protection, and sustainable land management interventions
Institutional Coordination and Disaster Preparedness	Formally establish the unified 2026/27 El Niño Anticipatory Action Taskforce led by DoDMA, DCCMS, and DWR to centralize data-sharing and operational.	**Trigger pre-arranged emergency financing** and logistics weeks before weather shocks hit to maximize efficiency.

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