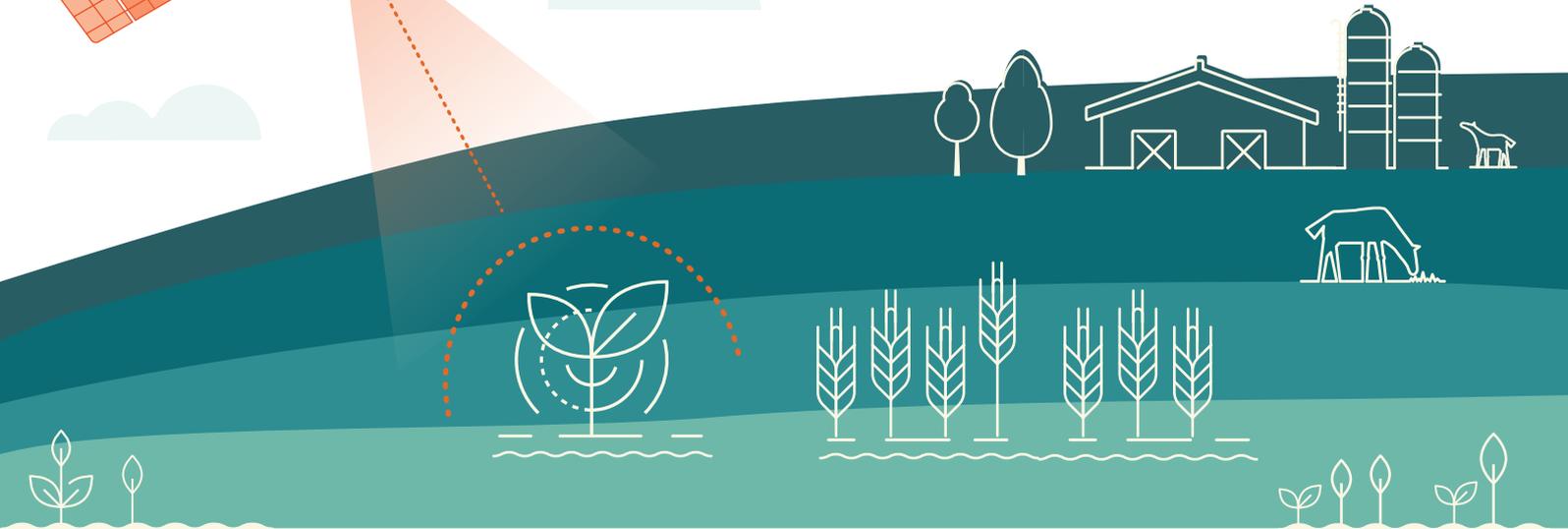


# Faster and Better Risk Indicators: Introducing The Next Generation Drought Index (NGDI) Platform



Disaster Risk Financing  
& Insurance Program



 Global Risk  
Financing Facility

Supporting Early Action to Climate Shocks, Disasters, and Crises



# Why Strengthen Drought Risk Monitoring?

The number affected by food insecurity is on the rise, compounded by the effects of climate change and COVID-19. The most vulnerable communities are hit hardest by climate hazards such as drought events. **This makes drought monitoring more important than ever to help diminish the threat to food security.**

More Reliable Drought  
Risk Information



**RAINFALL PREDICTIONS**  
*(one of many)*

Lowers the Threats to  
Food Security



**746  
MILLION**

**PEOPLE CURRENTLY  
SUFFER FROM  
SEVERE FOOD INSECURITY**



**ANOTHER  
150  
MILLION+**

**PEOPLE COULD BE  
PUSHED INTO EXTREME  
POVERTY IN 2021**



## Robust Drought Models for Reliable Action

There is growing evidence that the impact of extreme weather events can be mitigated via disaster risk financing and anticipatory action. Drought risk indicators support more timely financial response and can be computed months before the actual harvest. **More reliable risk models improve the speed of response during extreme events, resulting in:**



○ Livelihoods and Agricultural Assets Protected



○ Fiscal Impact Minimized



○ Lives Saved





# The Main Elements To Drought Risk Modeling



## 01 Comprehensive Earth Observation and Hazard Data

Global network of satellites provides continuous coverage of drought characteristics, such as weather, vegetation and soil conditions.



RAINFALL



SOIL MOISTURE



CROP HEALTH



Spearheaded by the World Bank's Disaster Risk Financing and Insurance Program (DRFIP), in close partnership with the European Space Agency's Center for Earth Observation (ESA/ESRIN), the Next Generation Drought Index (NGDI) platform provides access to the latest and most reliable drought risk information in a fully integrated manner. By offering operational, pre-processed satellite data of high-quality, it provides decision-makers and technical clients with state-of-the-art information on drought risk monitoring and financing.

## 02 Vulnerability Data

Collaborative development process to link hazard and vulnerability.



PANDEMIC



DROUGHT

HAZARD



VULNERABILITY



HUNGER



POVERTY

## 03 Impact and Financial Risk

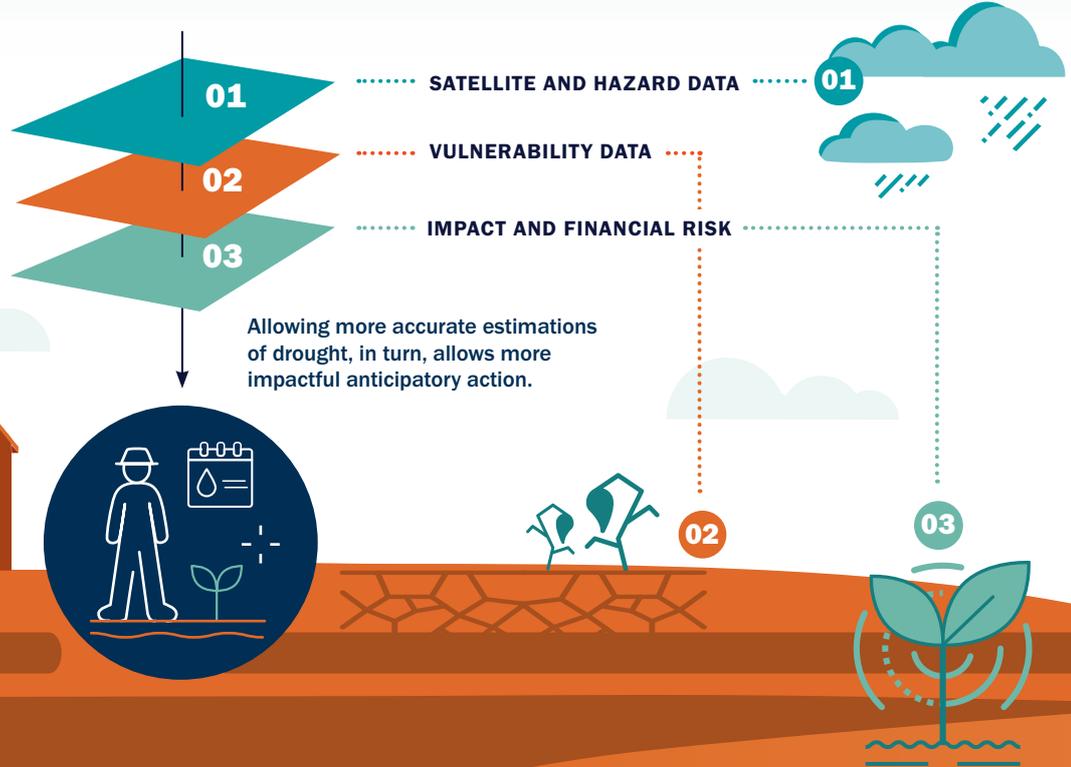
Risk assessment integrating various components of social, financial and economic vulnerability, and supported by advanced sensitivity analyses.





# The NGDI Platform Provides More Reliable Drought Risk Information

In the face of climate change, data on past drought characteristics are often only a partial indication of potential future events. Statistical techniques adopted by the NGDI — such as detrending and pattern identification — help generate an entire catalog of potential events **that is a better predictor of the future.**



## NGDI is unique in several ways.

Through a combination of unique expertise, satellite technology and simplified design processes, it aims to provide access to the latest and most reliable drought risk information.

**The NGDI relies on:**



I Clients generate their own drought risk indicators from a wide selection of pre-processed models and data sets.

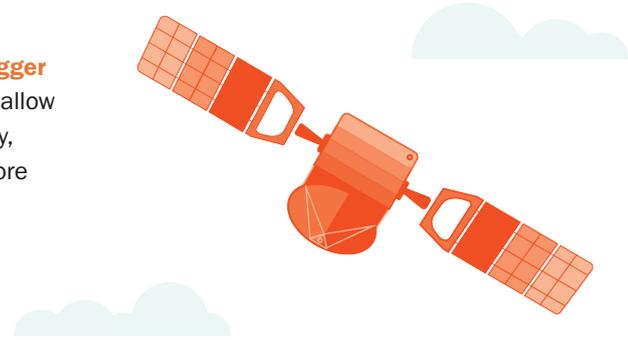


II The NGDI platform does not assume a “best” dataset or index to monitor drought. Instead, it offers a wide range of variables to be combined into higher-performance drought indicators.



III Users benefit from more accurate estimations of drought risk and in turn, more impactful insurance applications, anticipatory action and early response finance.

**Understanding past, present, and possible future drought impact pathways enables the development of more reliable financial response products that trigger when needed, leading to a reduction of basis risk.** These improvements in turn allow the full spectrum of risk financing instruments to be utilized in a more reliable way, paving the way to more cost-efficient drought risk financing strategies and to a more impactful response to food insecurity overall.



## The Disaster Risk Financing and Insurance Program

(DRFIP) is part of the World Bank Group's Finance, Competitiveness and Innovation Global Practice. DRFIP has provided advisory services on disaster risk financing and insurance to more than 60 countries worldwide. The program works along four priority areas to support governments, farmers, homeowners and SMEs, and the poorest and most vulnerable.

## Disaster Risk Financing & Insurance Program



## European Space Agency

The partnership between the World Bank's Disaster Risk Financing and Insurance Program (DRFIP) and the European Space Agency's Center for Earth Observation (ESA/ESRIN) is a cornerstone of the NGDI platform. It leverages satellite technology and predictive analytics for improved financial response to shocks. Through the ESA partnership, NGDI facilitates access to high-quality, operational data to support decision-making and at-scale implementation.

For more information, please contact:

Antoine Bavandi [abavandi@worldbank.org](mailto:abavandi@worldbank.org)

Markus Enenkel [menenkel@worldbank.org](mailto:menenkel@worldbank.org)

Christoph Aubrecht [christoph.aubrecht@esa.int](mailto:christoph.aubrecht@esa.int)