



Food and Agriculture
Organization of the
United Nations

INCREASE THE RESILIENCE OF LIVELIHOODS TO THREATS AND CRISES

Risk Monitoring, Analyses and Assessments in FAO

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Resilience Team FAO



Resilience in FAO's strategic framework

Vision: World free from hunger and malnutrition

Global Goal:

Reduction of hunger and malnutrition

Elimination of poverty through economics and social progress

Sustainable management of natural resources

SO1

Eradicate hunger, food insecurity and malnutrition

SO2

Increase and improve **productivity** and the provision of goods and services from agriculture, forestry and fisheries in a **sustainable** manner

SO3

Reduce **rural poverty**

SO4

Enable more inclusive and efficient **food systems** at local, national and international levels

SO5

Increase the **resilience** of livelihoods to threats and crises

Resilience to shocks

Resilience as an institutional condition for reducing hunger

Resilience in terms of sustainable production and agroecosystem stresses

Resilience in terms of social poverty dimension

Resilience in terms of market and food chain dimension

Resilience to stresses



FAO'S RESILIENCE WORK IS DEFINED AROUND 3 MAIN GROUPS OF SHOCKS



Natural Hazards and Disasters

- *Climatic/geological extreme events, e.g., floods, drought, hurricanes, typhoons, earthquakes.*



Food Chain Crises

- *Transboundary animal/ plant/ aquatic/ forest pests and diseases, food safety, e.g., Avian Influenza, FMD, PPR, locusts, armyworms, cassava mosaic, fruit flies, mycotoxins, etc.*



Protracted Crises and Conflict

- *A combination of recurring, simultaneous & lengthy factors (e.g., conflict/drought/locusts/FMD) leading to a breakdown of livelihoods;*
- *Insufficient governance and institutional capacity to deal with them.*



PILLARS OF STRATEGIC PROGRAMME 5

1. Risk Govern Governance

Strengthen capacities of national institutions for risk reduction and crises management
(Policies, strategies, plans, investment programmes, coordination, resource mobilization, etc..)

2. Risk information, analysis, assessment

Identify and monitor threats, assess risks, map and analyze vulnerability/resilience for Early Warning & Early Action
(GIEWS, EMPRES, IPC, RIMA, Damage & Loss Assessment, etc..)

Resilience of livelihoods to Shocks

3. Prevention and Mitigation

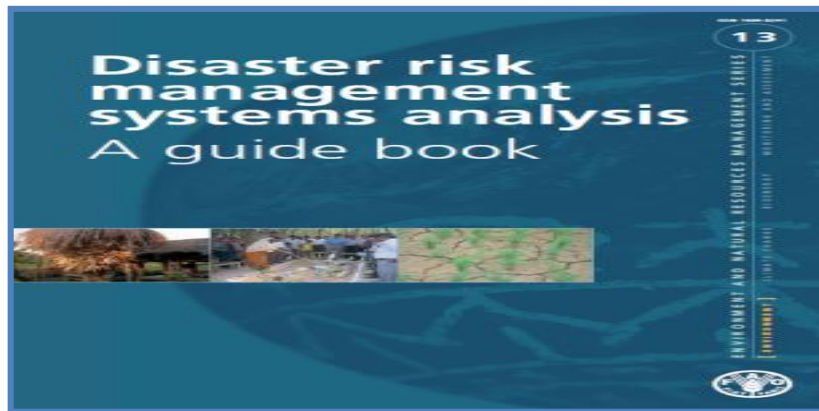
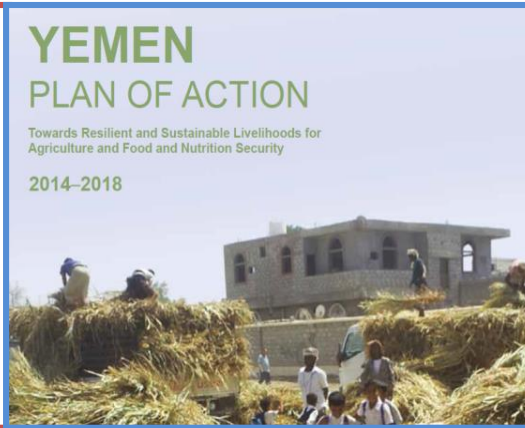
Strengthen capacities of households, communities and national institutions to prevent, mitigate and reduce impacts of threats and crises
(Guidelines, standards, improved technologies /good practices, livelihoods diversification, e.g., drought tolerant crops, soil & water conservation, nutrition education, savings/loans schemes, cash-based support.

4. Preparedness and response

Strengthen capacities of national institutions and stakeholders to prepare for and respond to crises and disasters.
(Guidelines, standards and practices for emergency preparedness; timely/nutrition/gender-sensitive response to save livelihoods, e.g., LEGS, simulations, provision of inputs/equipment/training .

PILLAR 1:

GOVERN CRISES AND DISASTER RISKS



NATIONAL CAPACITIES OF GOVERNMENT AND PUBLIC ORGANIZATIONS STRENGTHENED TO FORMULATE AND PROMOTE RISK REDUCTION AND CRISIS MANAGEMENT

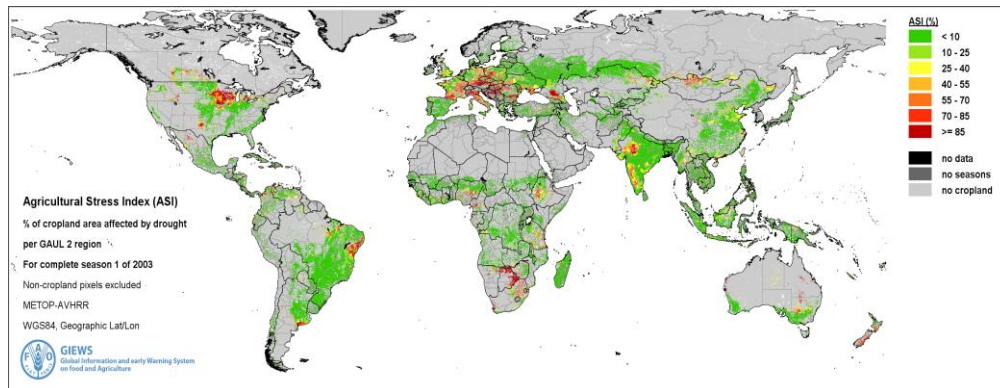
EXAMPLES:

- Formulation of **DRR/M strategies and plans**
- Development of **Resilience strategies and Plans** (South Sudan, Yemen, et)
- Support to formulation of **Agricultural strategies** (WBGS, Oman, Sudan)
- Support to formation of **Food Security and Nutrition Policies** (Sudan, Uganda, etc..)

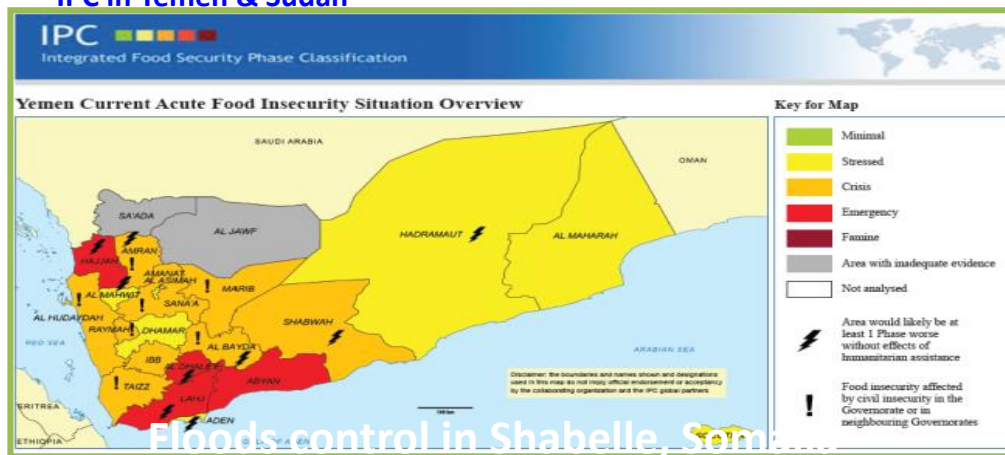
PILLAR 2:

RISK INFORMATION, ANALYSIS, ASSESSMENT

Agricultural Stress Index System (ASIS)



IPC in Yemen & Sudan



Floods control in Shabelle, Somalia

COUNTRIES AND REGIONS PROVIDE REGULAR INFORMATION AND EARLY WARNING AGAINST POTENTIAL, KNOWN AND EMERGING THREATS

EXAMPLES:

- Risk profiling/assessment (Jordan, Lebanon, Zimbabwe, WBGs, etc.)
- Integrated Food Security Phase Classification (IPC): Sudan, Nigeria, Senegal, Uganda, Tajikistan, DRC, Malawi, Guinea, Ivory Coast, Mauritania, Senegal.
- Resilience Index Measurement and Analysis (RIMA): Somalia, Kenya, Sudan, South Sudan, Ethiopia, Uganda, Niger, Burkina Faso, Tanzania, Malawi and Nigeria, WBGs
- EMPRES (Animal health/Plant protection): surveillance, detection, monitoring for Early Warning and Early Action
- GIEWS (collects, analyses & disseminates data/information on food supply/demand & markets)

PILLAR 3:

APPLY PREVENTION AND MITIGATION MEASURES TO CRISES & DISASTERS



Water harvesting



Energy saving technology



Access to natural resources

COUNTRIES REDUCE RISKS AND
VULNERABILITY AT HOUSEHOLD AND
COMMUNITY LEVEL

EXAMPLES:

- **Agroforestry:** For soil conservation/mitigate soil erosion, act as windbreaks, stabilize riverbanks, protect against landslides and floods.
- **Water harvesting and conservation (rainwater harvesting):** Technologies & practices that use less water, reduce water loss, and increase overall water productivity during droughts.
- **Energy saving technology:** To reduce deforestation, for income generation, reduced pollution, etc..
- **Land tenure, access to natural resources (water, land, trees, pasture, transhumance routes, etc.) related work**

PILLAR 4: PREPAREDNESS AND RESPONSE TO CRISES AND DISASTERS



Flood control along Shabelle
river in Somalia



Livestock shelter



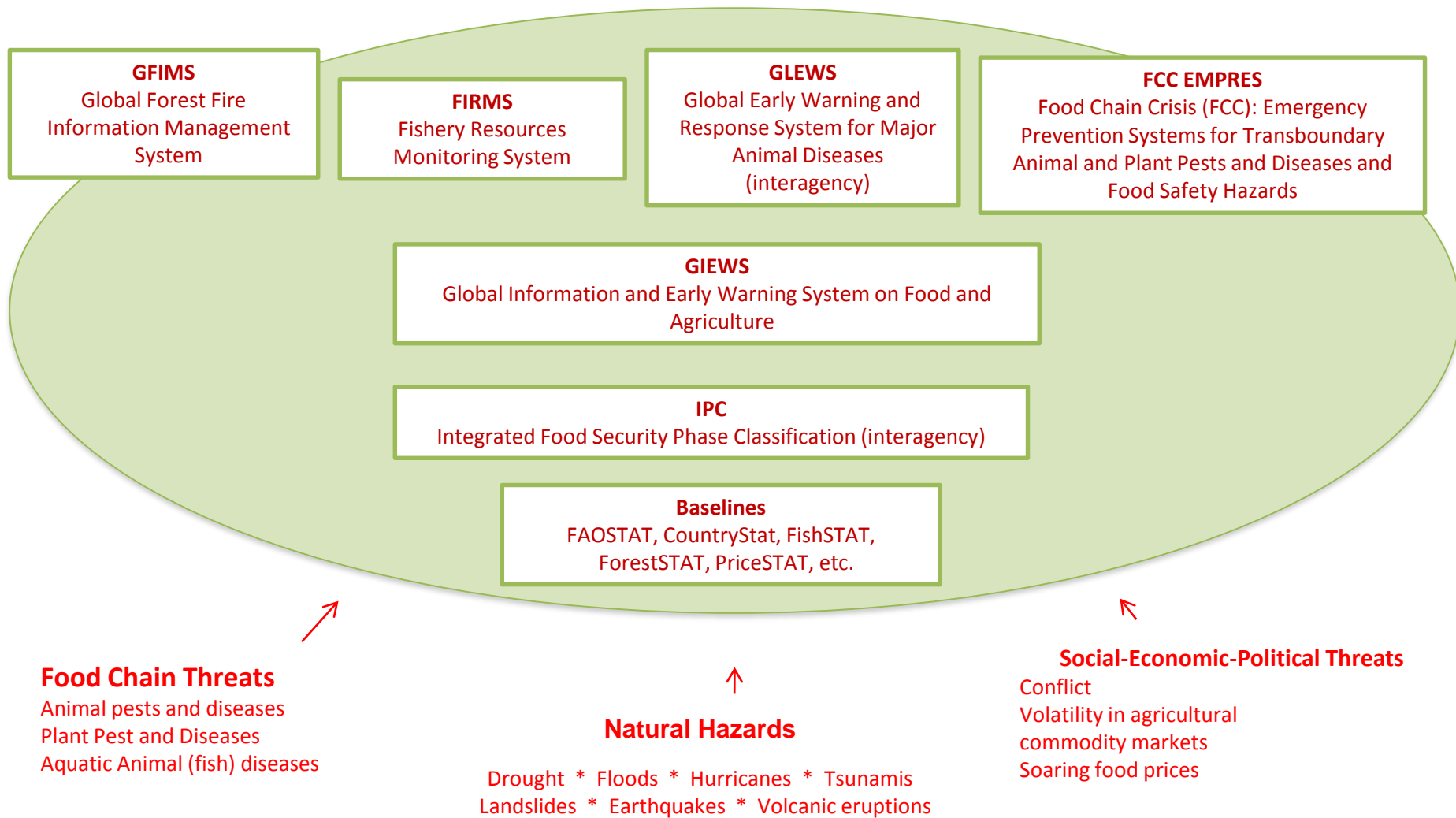
Cash for work

COUNTRIES AND REGIONS AFFECTED BY
DISASTERS AND CRISES PREPARE FOR,
AND MANAGE EFFECTIVE RESPONSES

EXAMPLES:

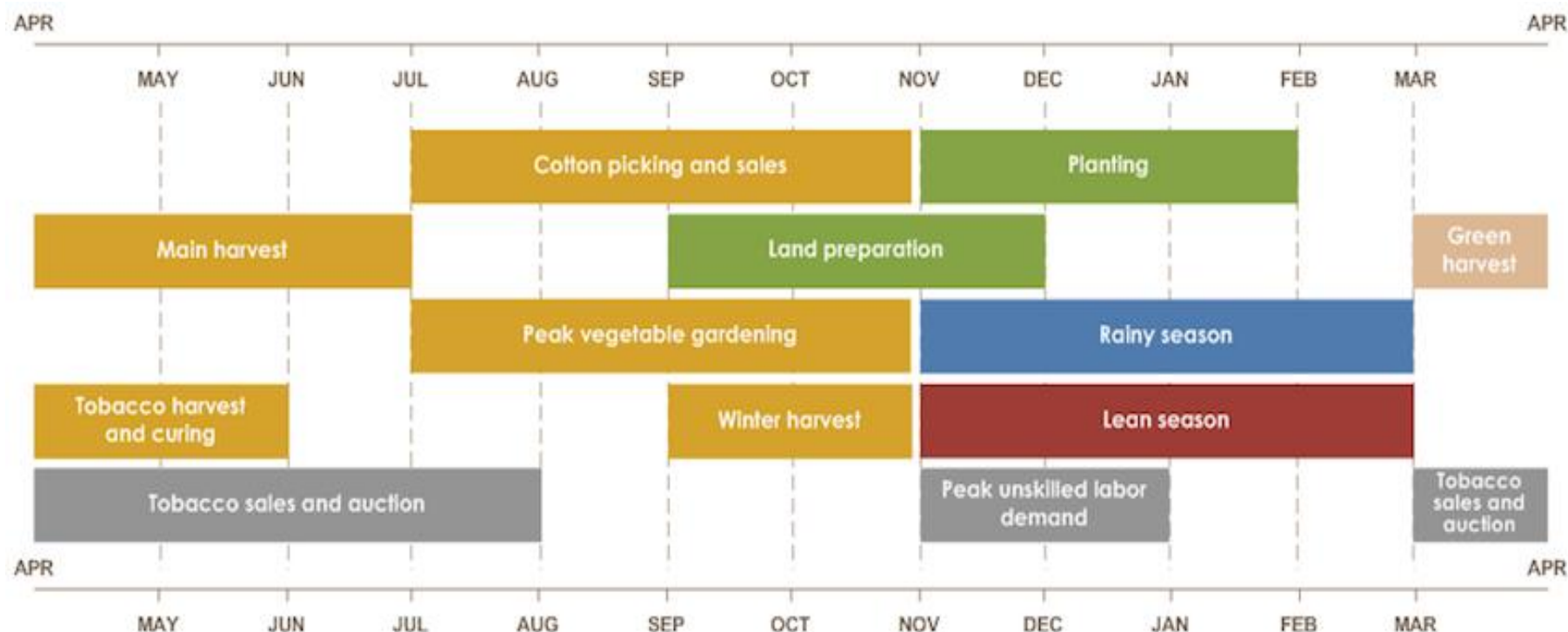
- Formulation of guidelines and standards (LEGS, Fisheries emergency guidance & good practices)
- Provision of inputs , equipment and services (seeds, fertilizers, animal feed and shelter, training, cash-based support, etc.)
- Provision of surge capacity support (Technical and operations)

Risk Information Monitoring, Analysis, Assessments



Hazard Mapping and Hazard Calendar

When do hazards occur?





Earth Observation



[Seasonal Global Indicators](#)

[Global Indicators](#)

[Country Indicators](#)

[Partners](#)

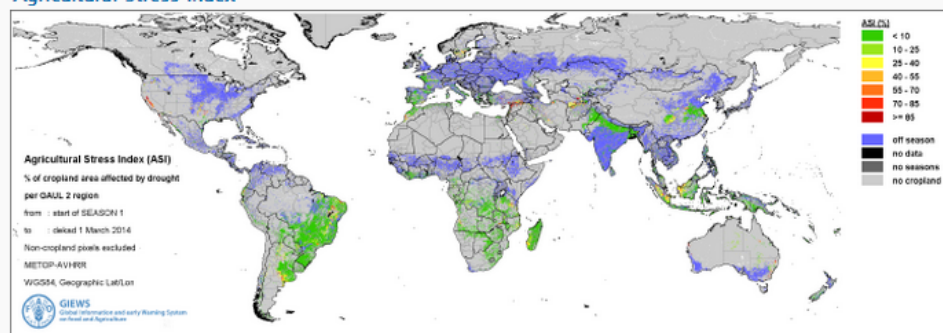
[Reference](#)

Global Information and Early Warning System on Food and Agriculture (GIEWS) monitors the condition of major foodcrops across the globe to assess production prospects. To support the analysis and supplement ground based information, GIEWS utilizes remote sensing data that can provide a valuable insight on water availability and vegetation health during cropping seasons. In addition to rainfall estimates and the Normalized Difference Vegetation Index (NDVI), GIEWS and FAO NRC Division have developed the Agricultural Stress Index (ASI), a quick-look indicator for early identification of agricultural areas probably affected by dry spells, or drought in extreme cases.

Latest Update: Dekad 2 Sep 2015

Global

Agricultural Stress Index



Seasonal Global Indicators

[Agricultural Stress Index](#)

[Mean Vegetation Health Index](#)

Global Indicators

[NDVI Anomaly](#)

[Vegetation Condition Index](#)

[Vegetation Health Index](#)

[Estimated Precipitation](#)

[Precipitation Anomaly](#)



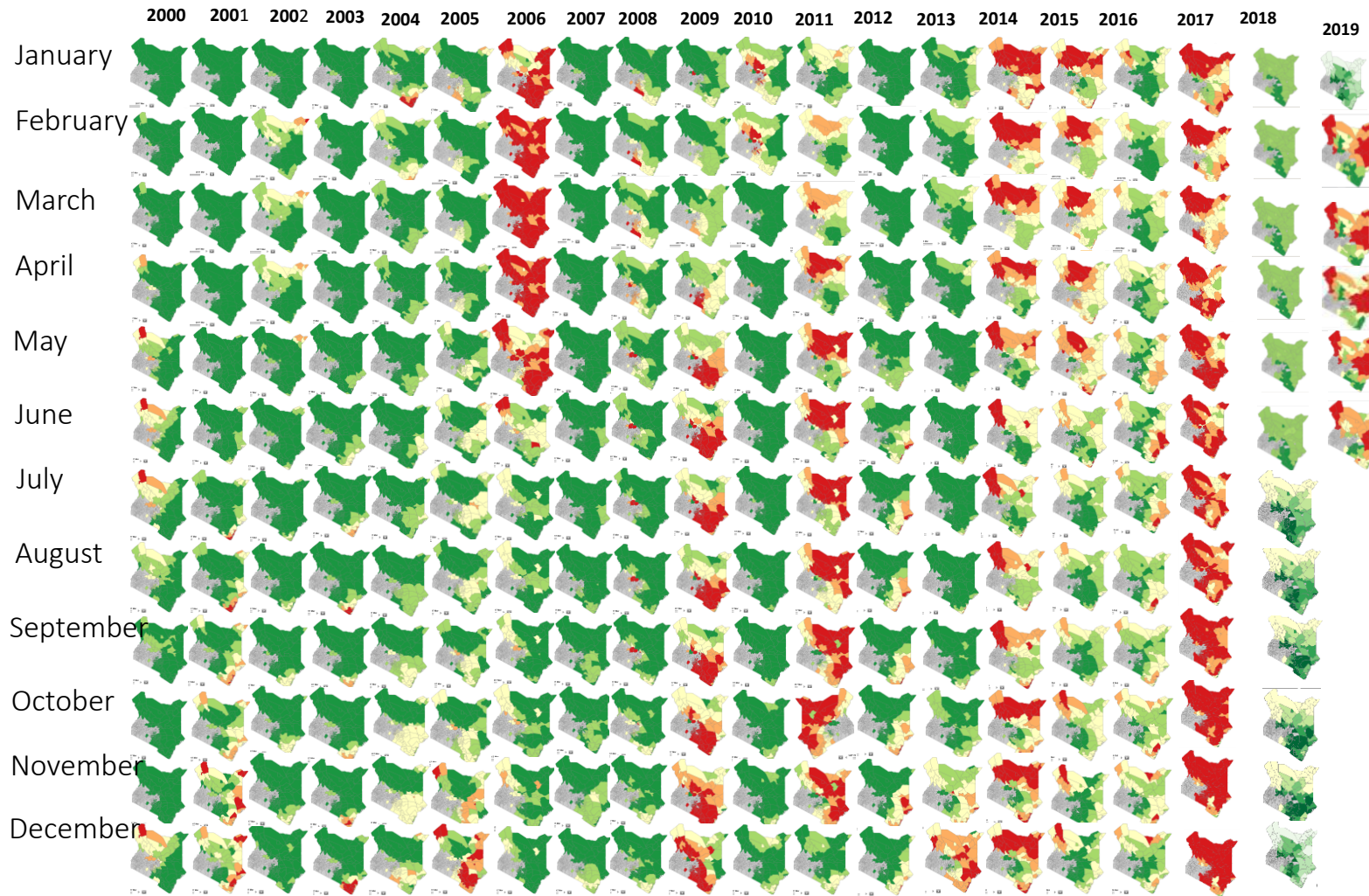
Agricultural Stress Index System (ASIS)

www.fao.org/giews/earthobservation

- Monitoring and early warning system for agricultural droughts;
- Used for implementation of Early Action and mitigation activities;
- Trigger for payment of indexed agricultural insurance;
- Independent variable to build yield forecast models;
- Tool for carrying out specific studies – For instance time Series Analysis of El Niño

Predictive Livestock Early Warning System (PLEWS) Trend Analysis

Legend



The Integrated Food Security Phase Classification (IPC) Phases

Phase	Phase description			Priority response objective
Phase 2 Stressed	Even with humanitarian assistance, HHs have minimally adequate food consumption but is able to afford some essential non-food expenditures without engaging in irreversible coping strategies.			Disaster risk reduction, protection of livelihoods
Phase 3 Crisis	Even with humanitarian assistance, HHs have food consumption gaps with high or higher than usual acute malnutrition; OR HHs are marginally able to meet minimum food needs only with accelerated depletion of assets that will lead to food consumption gaps.	Food-insecure people (Phase 3 or higher)	Urgent action required	Protect livelihoods, reduce food consumption gaps and reduce acute malnutrition
Phase 4 Emergency	Even with humanitarian assistance, HHs have large food consumption gaps resulting in very high levels of acute malnutrition and excess mortality OR HHs have extreme loss of livelihood assets that will lead to large food consumption gaps in the short term.			Save lives and livelihoods
Phase 5 Famine / Catastrophe	Even with humanitarian assistance, HHs have an extreme lack of food and/or basic needs even with full employment of coping strategies. Starvation, death and destitution are evident.			Prevent widespread death and total collapse of livelihoods

Climate Impact Assessment and Climate Risk Screening

Modelling System for Agricultural Impacts of Climate Change (MOSAICC)

<http://www.fao.org/in-action/mosaicc/en/>

- Interdisciplinary and country-driven approach
- Ideal tool to carry out climate change impact assessment at the national level
- Build capacities in countries to understand potential climate change impacts
- Help policymakers with climate change adaptation strategies, programmes, projects and investments.

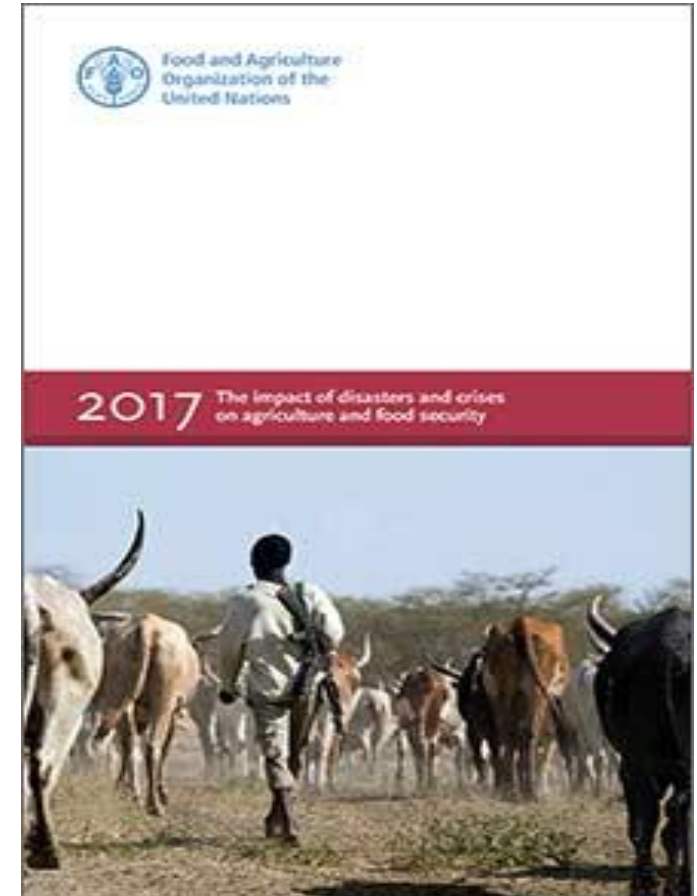
Climate Change Risk Assessment Platform

- Analyze past and future climate data
- Produce useful information and products for the development of climate-evidence base and climate-rational in investment projects

Damage and Loss Estimation in Agriculture and food Security

<http://www.fao.org/emergencies/resources/documents/resources-detail/en/c/1106859/>

- Integrated into the Sendai Framework (indicator C-2) and SDG agenda (1.5.2)
- Holistic approach to assessing the impact of various types of disasters in various country contexts in the entire sector (crops, livestock, fisheries, aquaculture and forestry);
- Can be used for evaluation of adaptation planning and for the calibration of impact risk assessments



Thank You!

