Supporting national level adaptation with evidence-based approaches:

Research and innovation in support of National Adaptation Plans (NAPs)

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CAS 2021 Virtual Dialogue Sessions: Climate resilience food systems for Africa: From evidence to action
13 January 2021

Lets consider a few cases … related to an

Open NAP case for Malawi

Case study 1

- **Hurricane Katrina and famine in Chikwawa, a district in Malawi**

US/Gulf region …. Japan … South Africa …. Malawi …. Chikwawa

Case study 1

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- **Lessons:**
  - Many systems are connected in complex ways over multiple spatial scales
  - Understanding the full system – in this case the maize supply chain, is key to understanding the risk of food insecurity

Case study 2

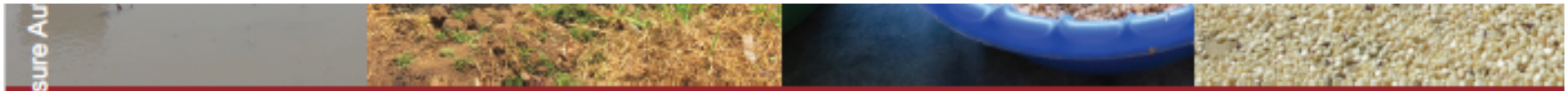
- **Cyclone Idai**
  - Followed by Cyclone Kenneth
  - Flooding destroyed housing, crops
  - Followed by Fall Army Worms
  - Followed by droughts

- **Lessons:**
  - Focus on systems and the full cycle of factors that affect the outcomes
  - Not all important determinant factors will be climate-related
  - Some factors will be regional or global

Case study 3

- Contribution of agriculture to GDP and impacts of drought

- Lets look at a national assessment of risk for the agricultural sector for Malawi, based on a study published by the World Bank in 2015



AGRICULTURE GLOBAL PRACTICE TECHNICAL ASSISTANCE PAPER

MALAWI

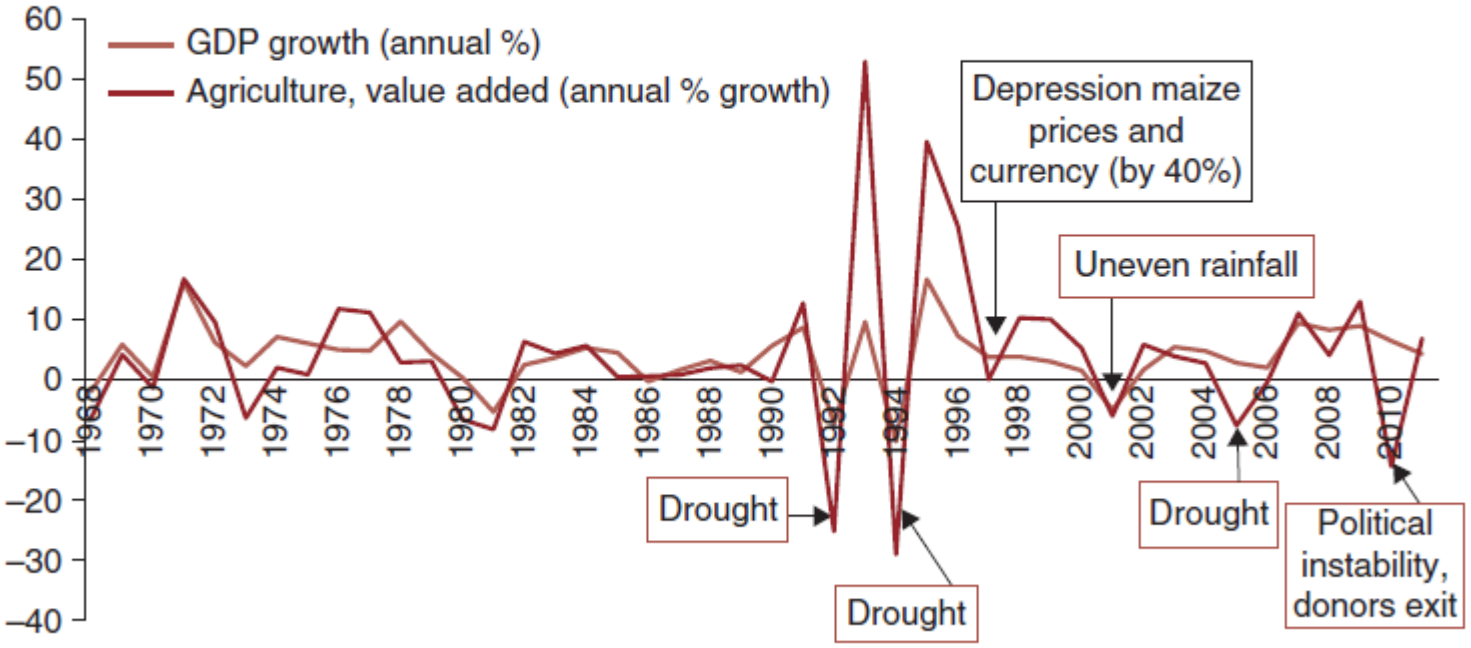
AGRICULTURAL SECTOR RISK ASSESSMENT

Åsa Giertz, Jorge Caballero, Diana Galperin, Donald Makoka,
Jonathan Olson, and George German

WORLD BANK GROUP REPORT NUMBER 99941-MW

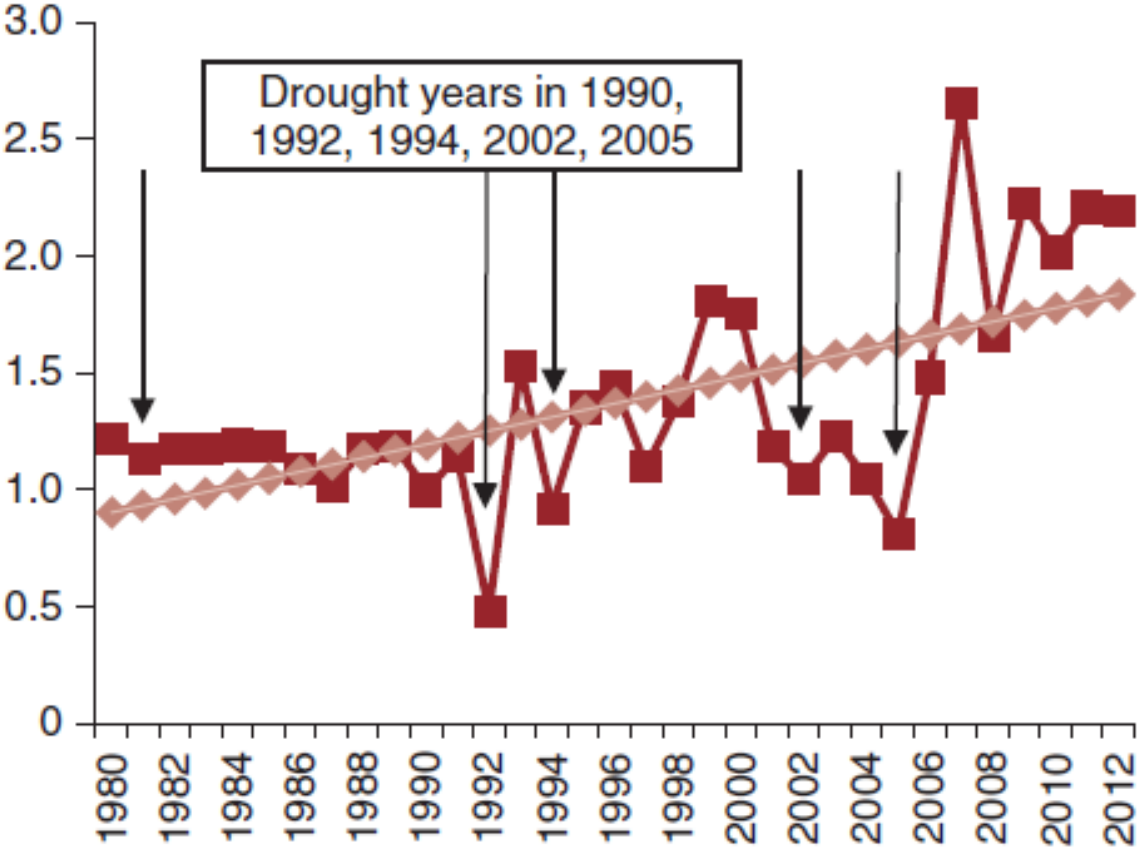
DECEMBER 2015

FIGURE ES.1. GDP AND AGRICULTURAL VALUE ADDED (% GROWTH) IN MALAWI, 1968–2011



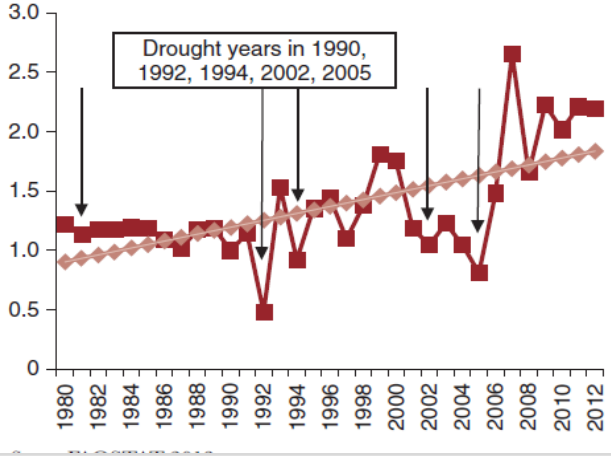
Source: World Development Indicators (WDI) 2014.

FIGURE 3.1. MAIZE YIELDS (MT/ha), 1980–2012

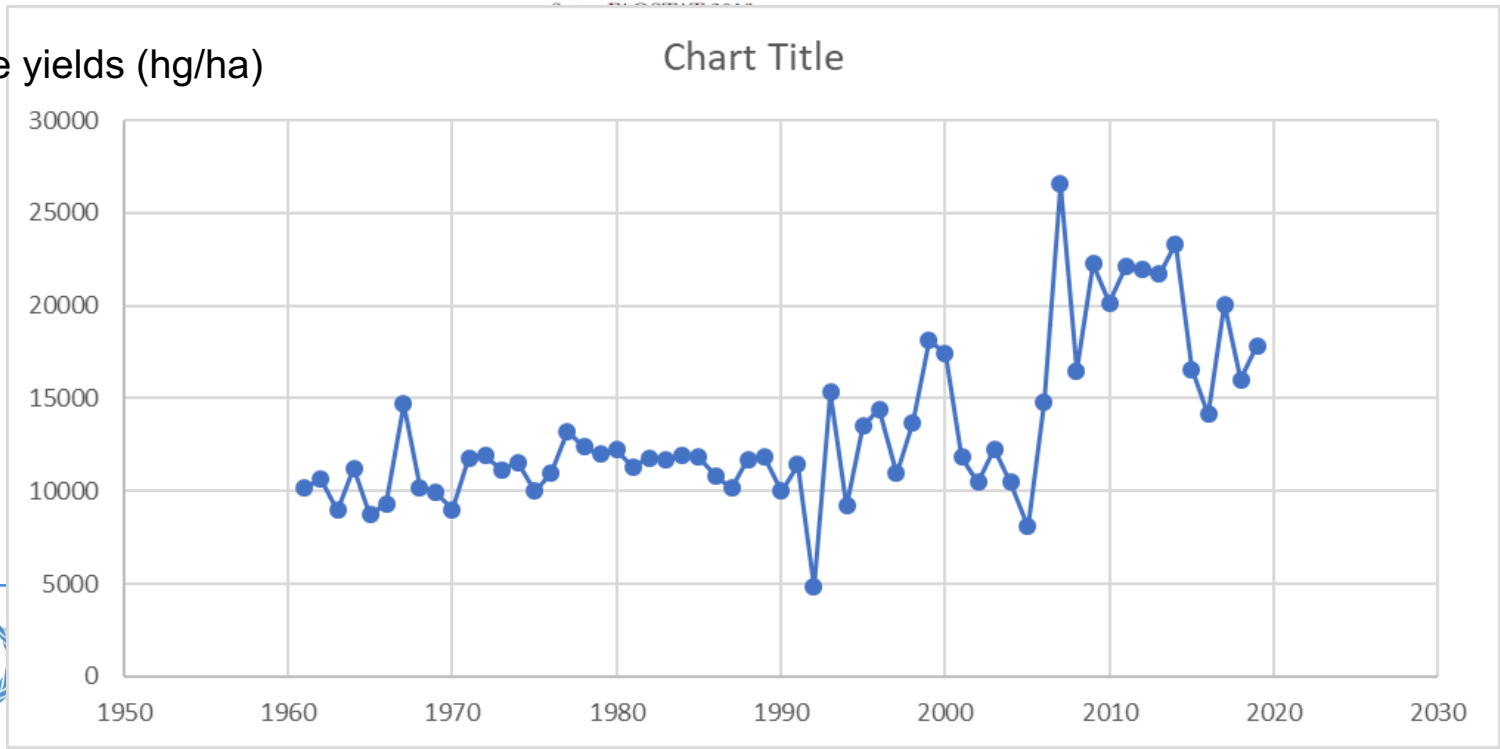


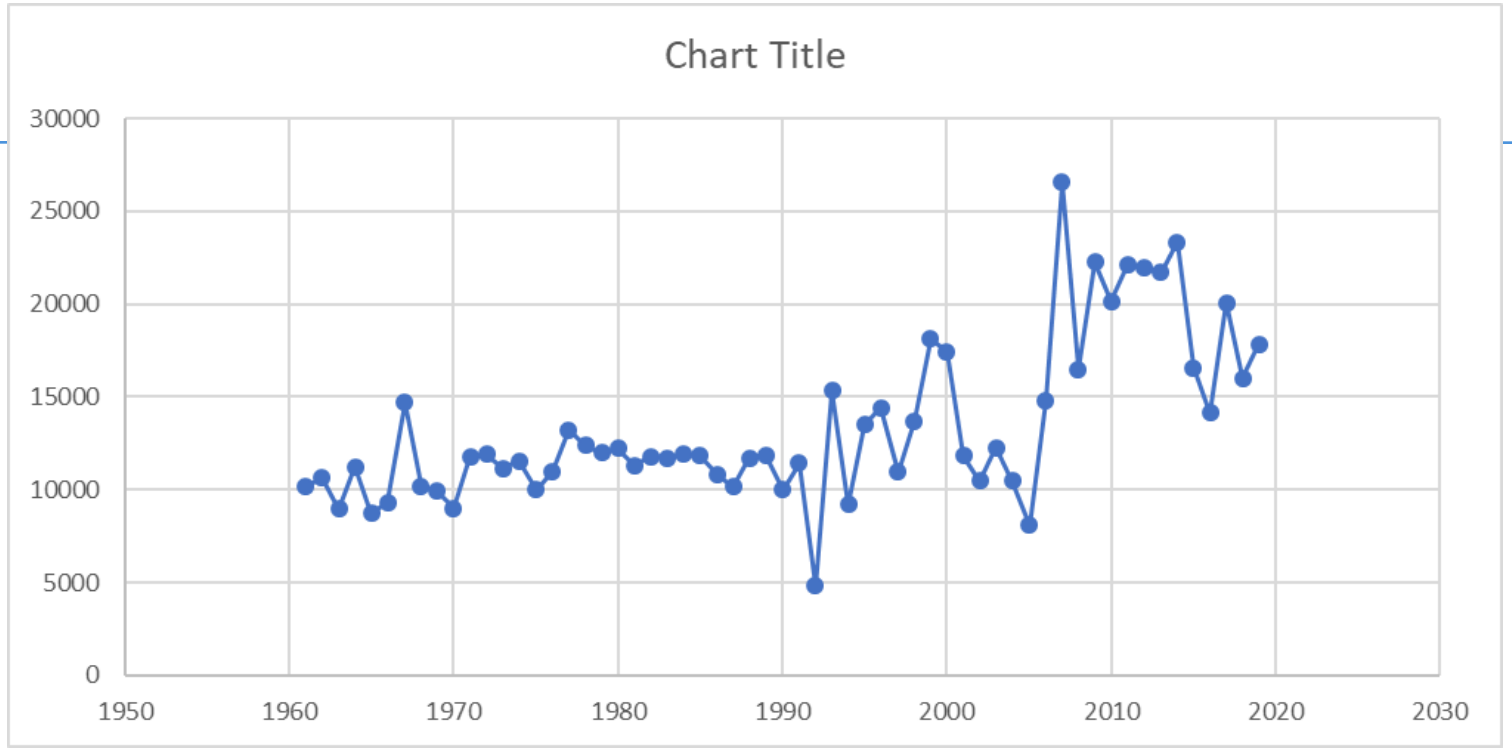
Source: FAOSTAT 2013.

FIGURE 3.1. MAIZE YIELDS (MT/ha), 1980–2012



Maize yields (hg/ha)



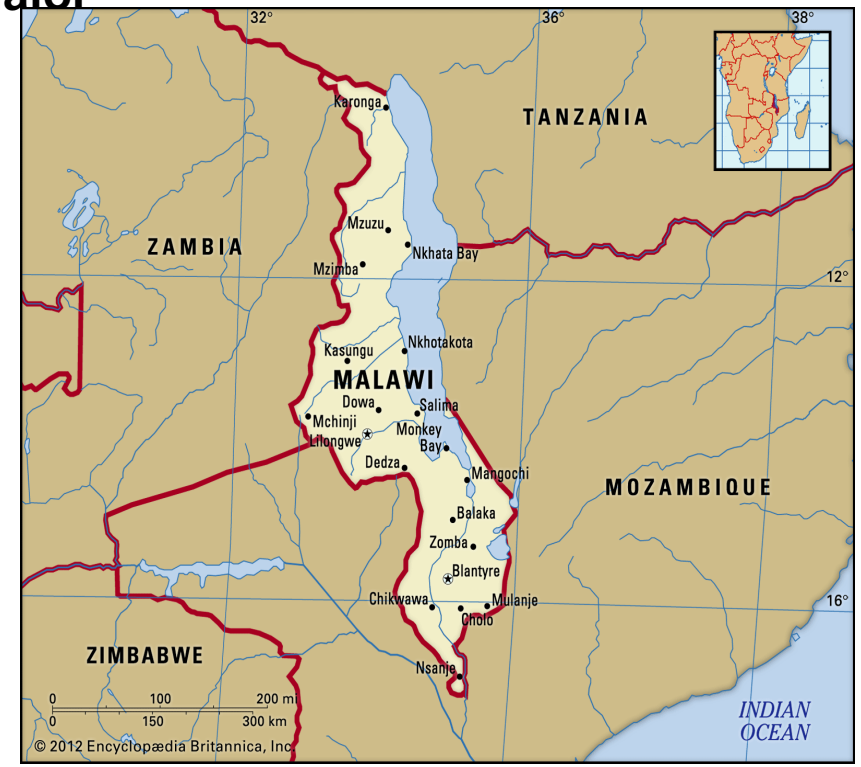


- Suggestions for developing broader evidence:

a) Obvious that climate conditions became more variable from the 1990 onwards
b) Use the peaks to understand yield gaps and potential for improving productivity
c) Besides looking at drops in yield due to drought, also look at what was done to recover, and what were other shocks (climate-related or otherwise)
d) Ultimately, aim to reduce correlation between agric GDP and climate variables

Case study 4

- **Transforming agriculture through major irrigation schemes**



- **Background:**
  - Ag production mostly rain-fed, with increasing droughts and weather variability, makes sense to invest in irrigation
  - Lake Malawi a major water source

- **Obvious solution then is to irrigate extensively**
  - And indeed the Greenbelt Initiative is a major investment strategy to do just this

- **There is a but ….**

Case study 4

- **Transforming agriculture through major irrigation schemes**

- **But Lake Malawi is also critical in other ways:**
  - Lake Malawi is a major biodiversity hotspot – endemic fish species – Cichlids, etc … "the Galapagos of fresh water fishes"
  - Lake Malawi flows into the Shire River, source of 98% of electricity for the country (hydro)
  - A pipeline is also being constructed to deliver drinking water to the major city of Lilongwe (200 km away) in the near future

- The **trade-offs** between major irrigation expansion and the above major uses of the lake are another example of national decision-making as part of adaptation

Sampling of needs for National decision makers – long list …

- What are risks to national food security and to contribution of agriculture to the national economy?
- How should risk to agriculture be fully and optimally managed? How best address needs of the most vulnerable now and in the future, with respect to the <2 degree temperature target?
- When will climate change lead to collapse of key products and processes? What activities should be discontinued, adjusted or transferred to areas?
- What are costs and benefits? What are trade-offs between major solutions?
- How do different factors interact over the production cycle to affect outcomes?
- What policies will unlock success in agriculture and food security now and in the medium- and long-term?
- **Etc …**

FINALLY THE NAP …

The NAP is the main vehicle for coordinating adaptation activities nationally, linking to regional and global processes, and of course integrating subnational and local processes and actions

It is the interface to the UNFCCC/Paris Agreement climate finance system

The guidelines for NAPs were carefully negotiated by all Parties to the Convention – in a truly Party-driven, bottom-up approach

Objectives of NAPs and the PA global goal of adaptation

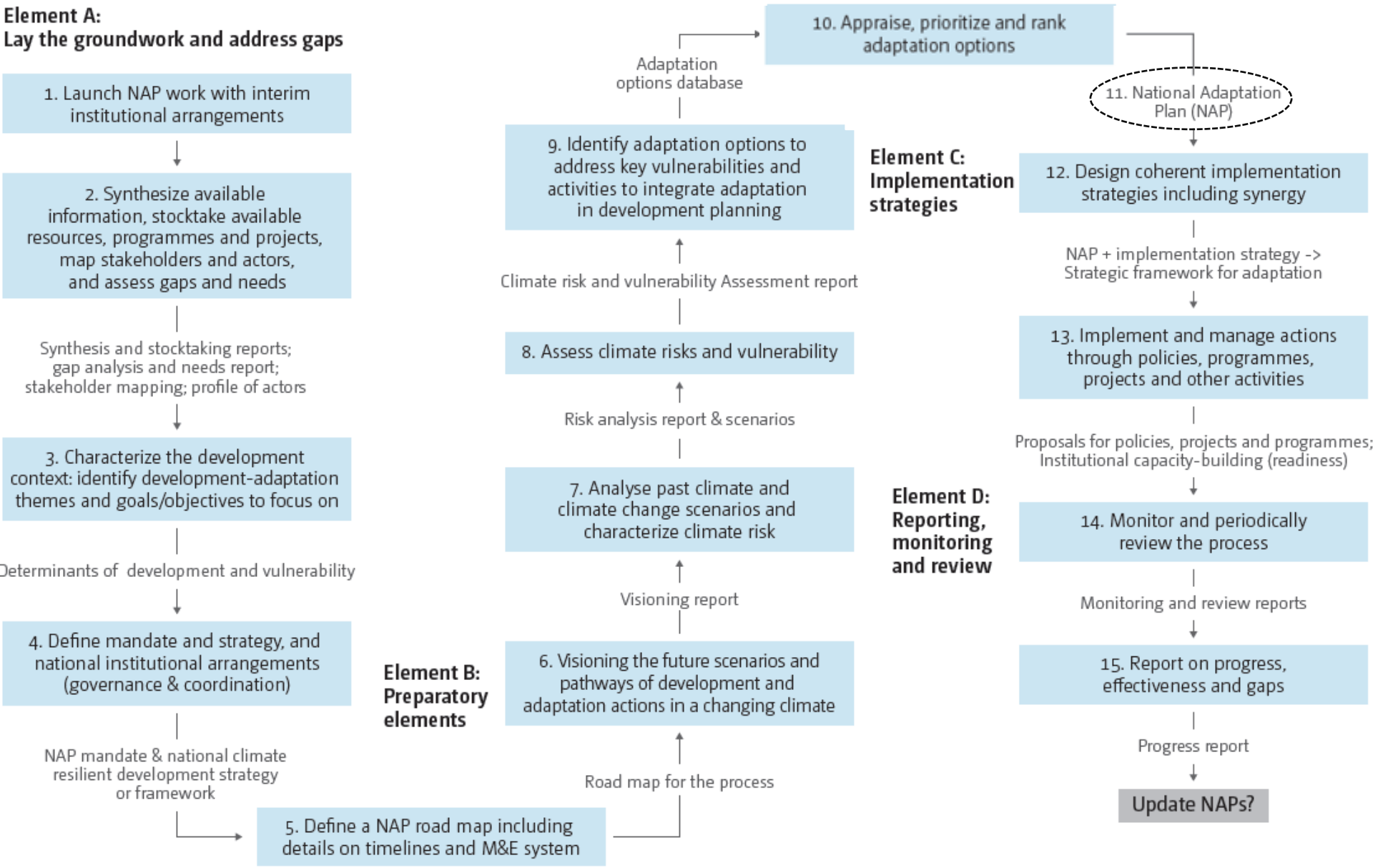
- The process to formulate and implement NAPs was established by the COP in 2010, through decision 1/CP.16 para.15, to enable the LDC Parties (and other developing country Parties) to formulate and implement NAPs
  - with a view to identifying **medium- and long-term adaptation needs** and **developing and implementing strategies and programmes to address those needs**. In the same decision, it invited other developing country Parties to employ the modalities formulated to support NAPs
  - Funding for the formulation and implementation of NAPs is specified in the GCF governing instrument.
- **Objectives of the NAP process (decision 5/CP.17) are:**
  a) To **reduce vulnerability** to the impacts of climate change, by **building adaptive capacity** and **resilience**;
  b) To **facilitate the integration of climate change adaptation**, in a coherent manner, into relevant new and existing policies, programmes and activities, in particular development planning processes and strategies, within all relevant sectors and at different levels, as appropriate.

Objectives of NAPs and the PA global goal of adaptation

- **Aligns very well with the global goal of adaptation (Article 7 of the Paris Agreement)**

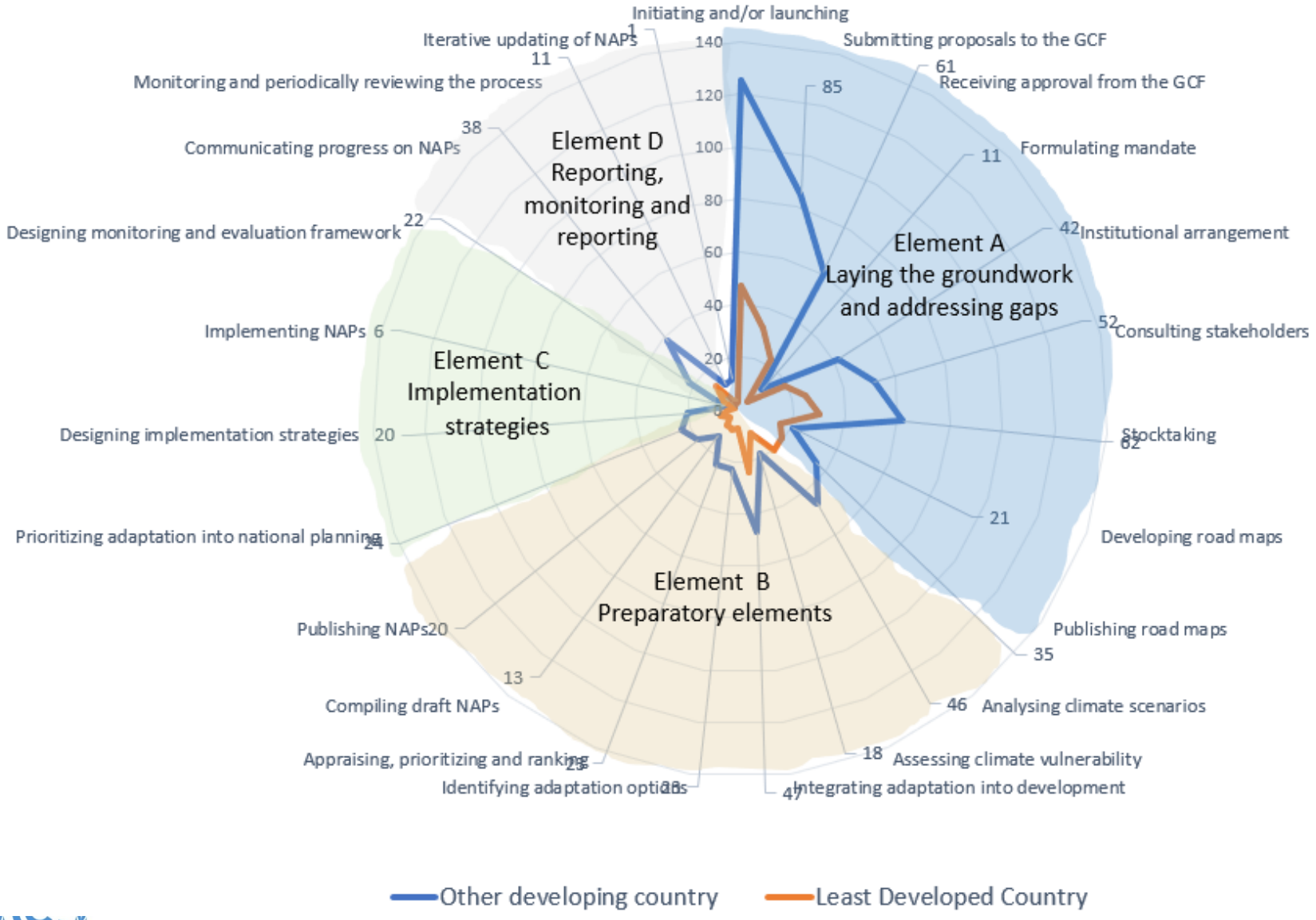
  Enhancing adaptive capacity, strengthening resilience and **reducing vulnerability** to climate change**,** with a view to contributing to **sustainable development** and ensuring an adequate adaptation response in the context of the **global temperature limit of less than 2°C.**

Sample process to formulate and implement a National Adaptation Plan



Note: Steps (in boxes) and their outputs that act as inputs for subsequent steps are shown.
Abbreviations: M&E = monitoring and evaluation, NAP = national adaptation plan.

Measures undertaken in the process to formulate and implement national adaptation plans as at 17 November 2020



What are some of the neat things we are doing?

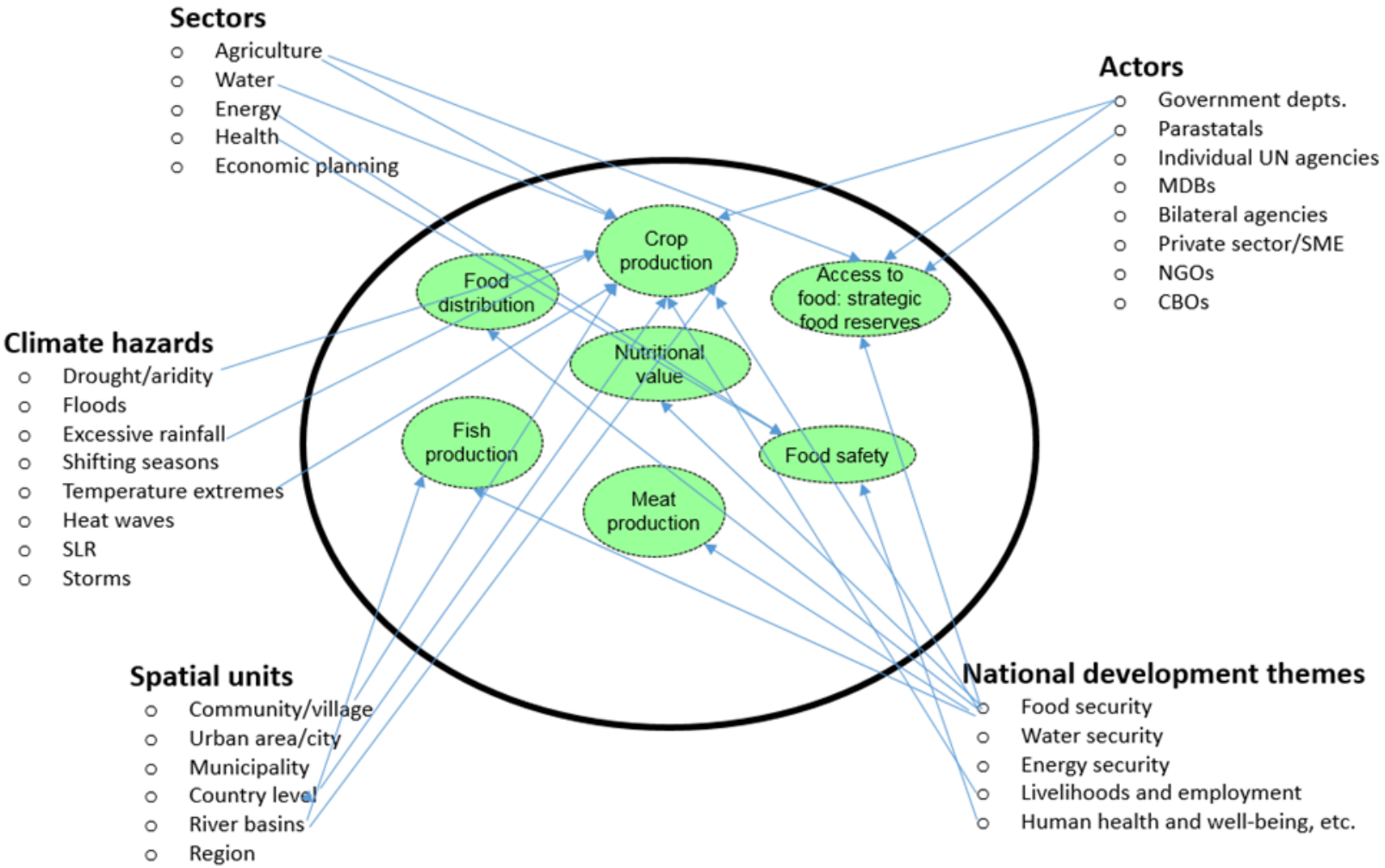
- Developing a framework that integrates role of different actors, hazards, SDGs, sectors etc – into the NAP-SDG iFrame, by taking a systems approach

- Mobilizing different experts and anyone with an input to make, through the Open NAP initiative – full launch this year

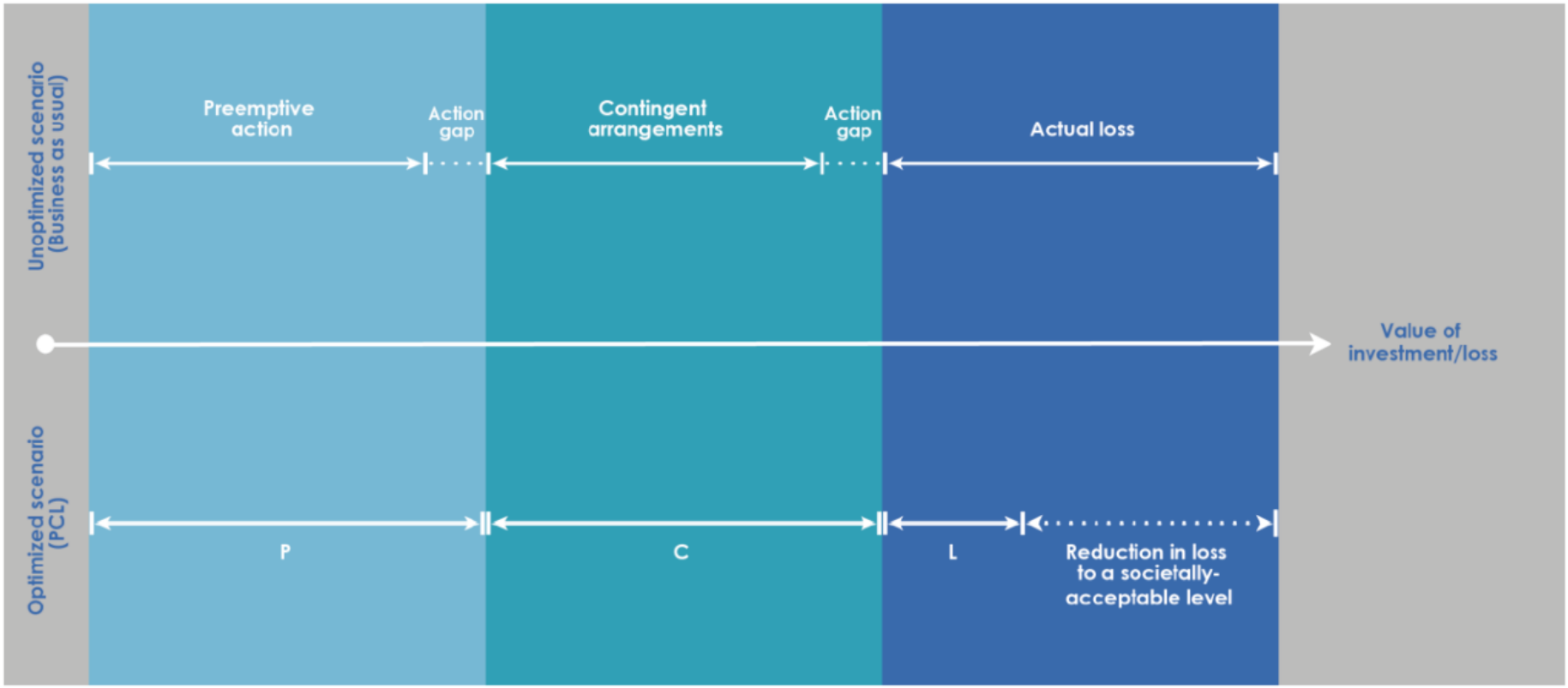
- Expanding on the concept of a risk-based approach to adaptation, through additional guidance with new thinking

- COVID is indirectly returning control of the adaptation narrative to the countries, and hopefully offering more opportunities for including widest inputs from different sources – plus all the lessons in risk management

A Systems Approach in addressing adaptation: example for food security



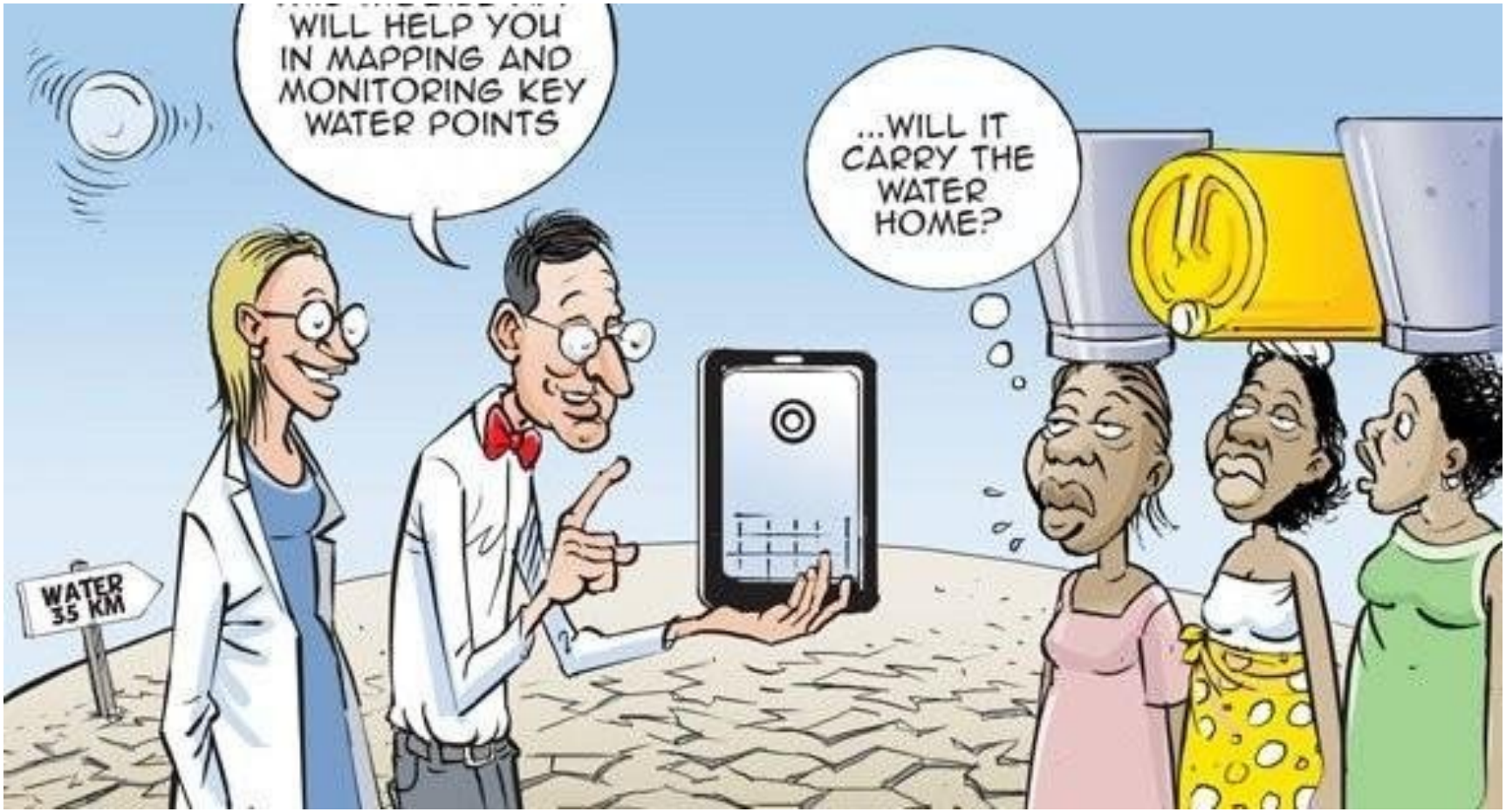
The PCL Framework



Source: Nassef, The PCL Framework: a strategic approach to comprehensive risk management in response to climate change impacts

In conclusion

- Take the time to understand national-level problems and questions that decision makers at the national level are grappling with
- The Internet is a useful thing, however, it is not the main source of data and information of what is being done or is needed
- Tell the frog in the boiling pot what it needs to know: probability risk over time
- Don’t get caught up in labels too much – we are running out of adjectives – smart, innovative, transformative, futuristic, etc ☺
- Do work that responds to the demand side, rather than being supply-driven only


WILL HELP YOU IN MAPPING AND MONITORING KEY WATER POINTS
...WILL IT CARRY THE WATER HOME?
WATER 35 KM

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