



International Institute for  
Applied Systems Analysis  
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science for global insight

# Envisioning desirable pathways for the Indus Basin

2 June 2018



# Systems Approach needed!

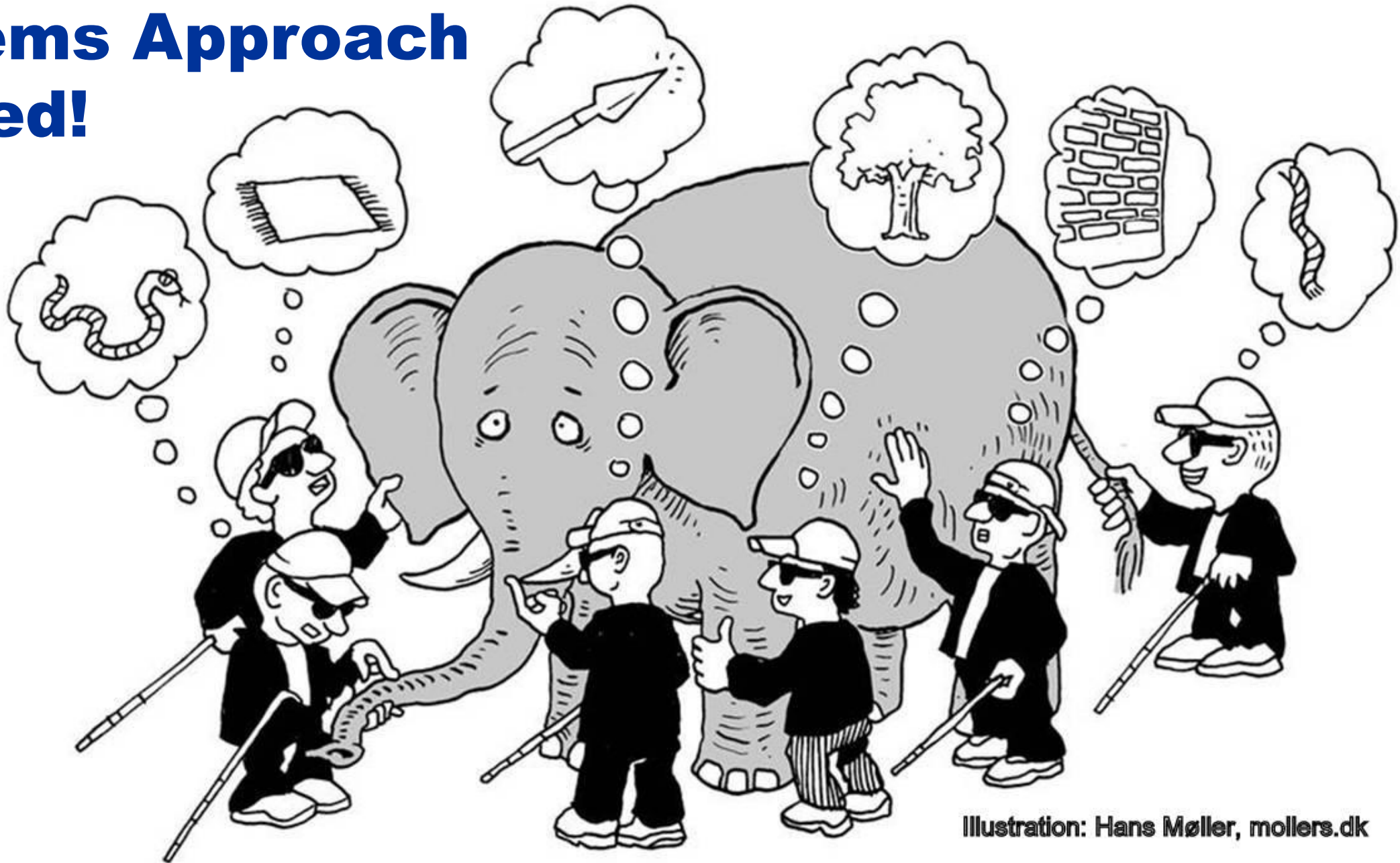


Illustration: Hans Møller, mollers.dk

**FORECAST ...**

**... fails in complex realities**

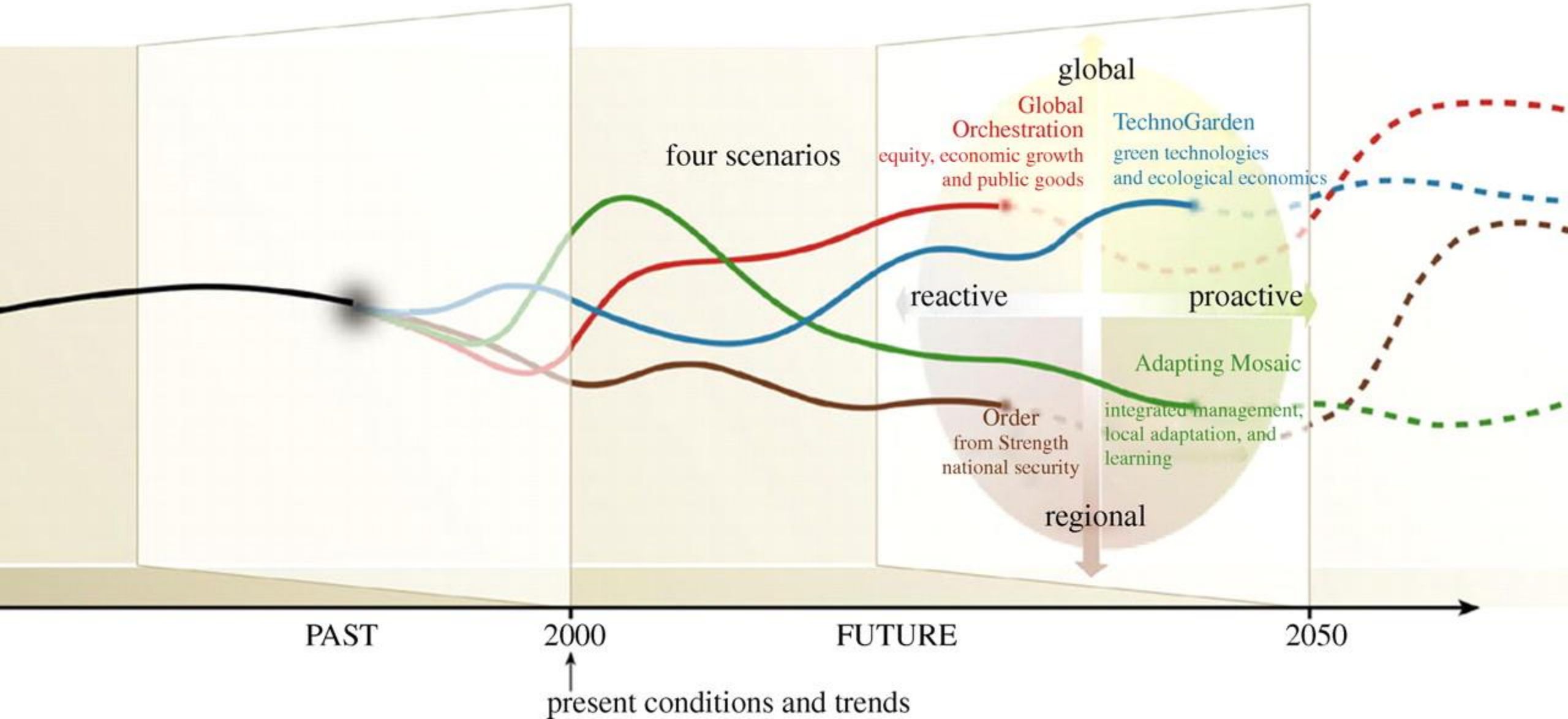


# Scenarios

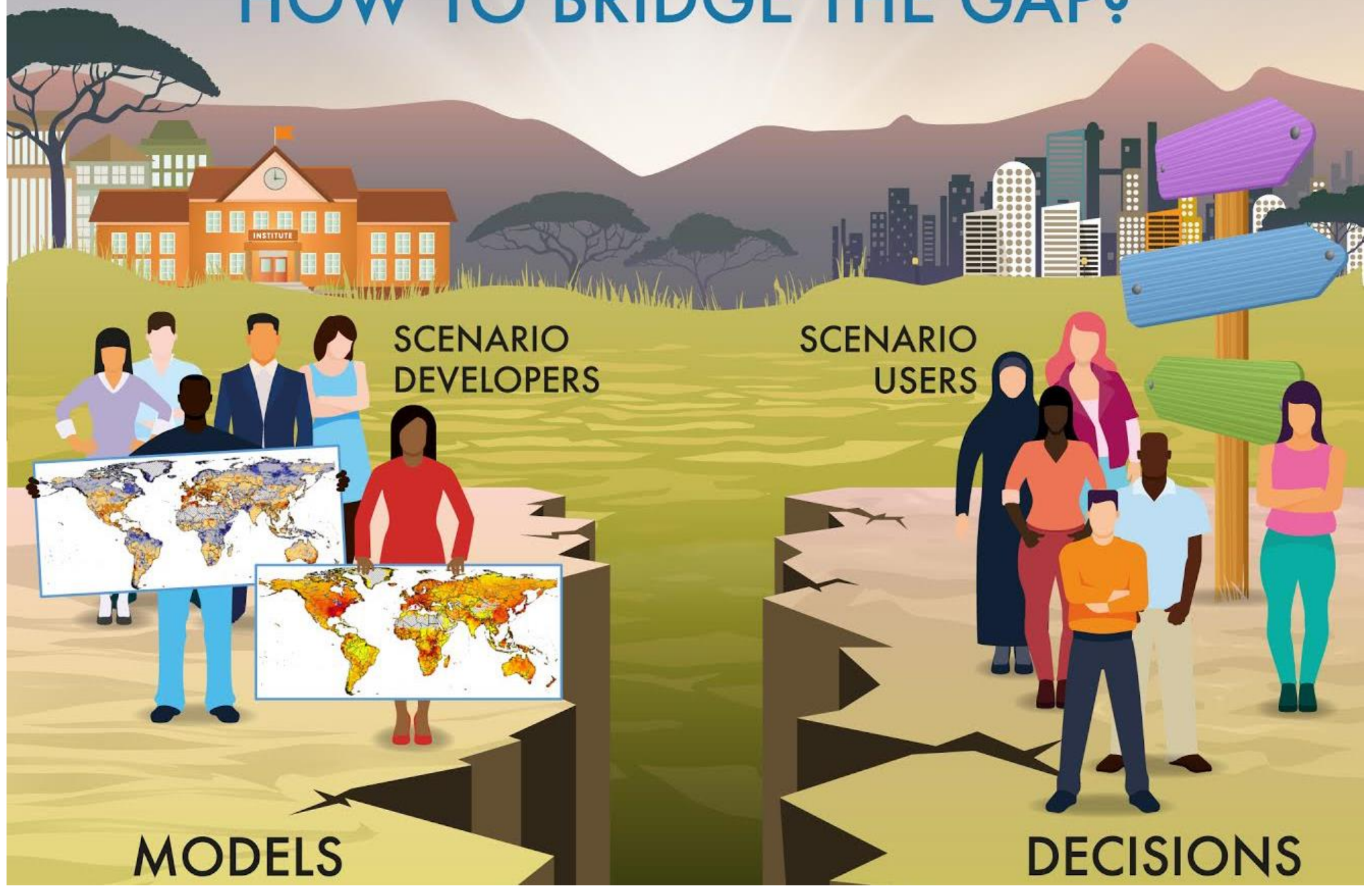
Consistent and coherent descriptions of alternative hypothetical futures that reflect different perspectives on past, present, and future developments, which can serve as a basis for action.

*Philippe van Notten*

# Example: Millennium Ecosystem Assessment



# HOW TO BRIDGE THE GAP?



SCENARIO  
DEVELOPERS

SCENARIO  
USERS

MODELS

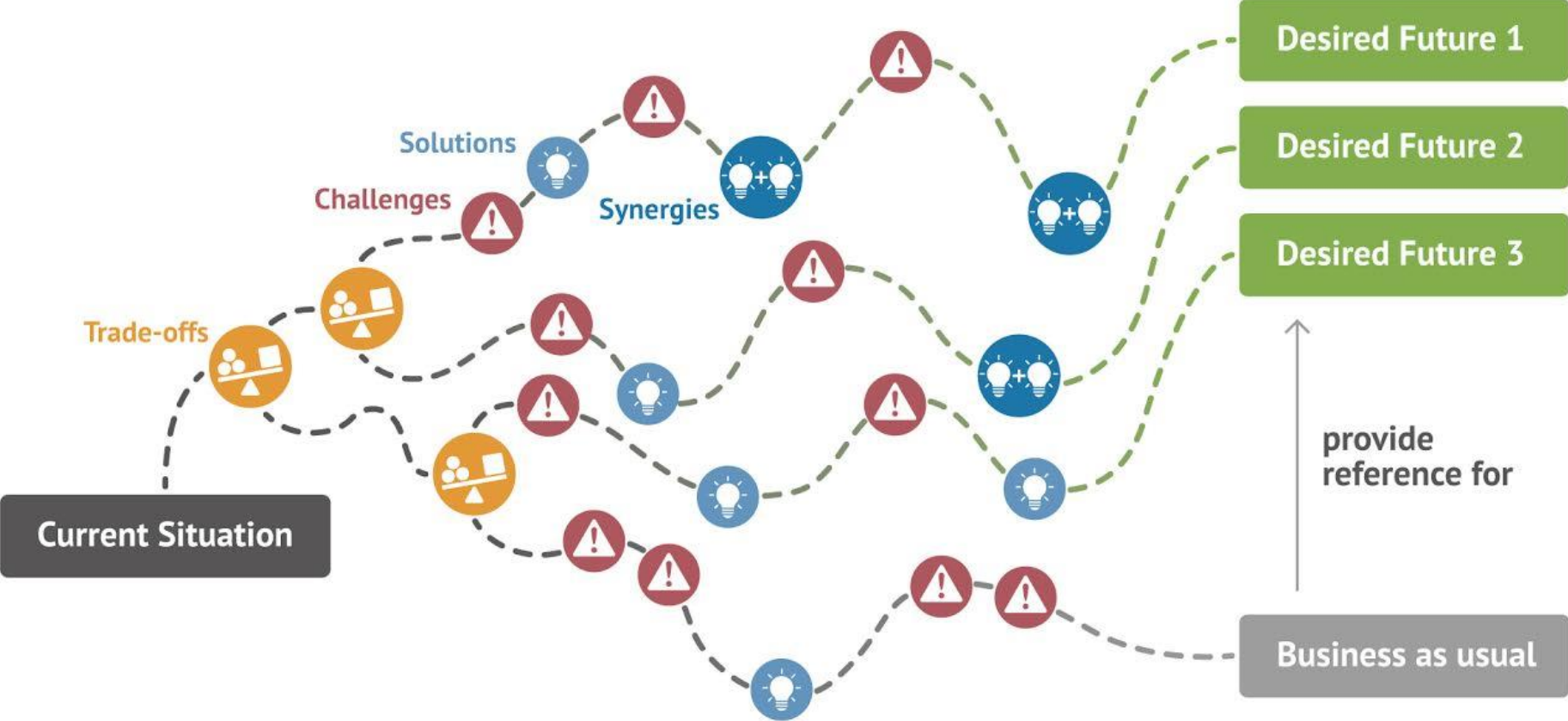
DECISIONS

A world map in a light blue color scheme, centered on the Atlantic Ocean. A specific region in South America, likely the Andes, is highlighted with a brown and green topographic map overlay. The text 'EXTERNAL Scenarios' is positioned on the left side of the map, and 'INTERNAL Pathways, Strategies' is positioned on the right side, near the highlighted region.

**EXTERNAL**  
***Scenarios***

**INTERNAL**  
***Pathways,***  
***Strategies***

INTERNAL (PATHWAYS, STRATEGIES)



Past & present —————> Possible future

EXTERNAL (SCENARIOS)



# Pathways Elements & Spatial representation



**Challenges**



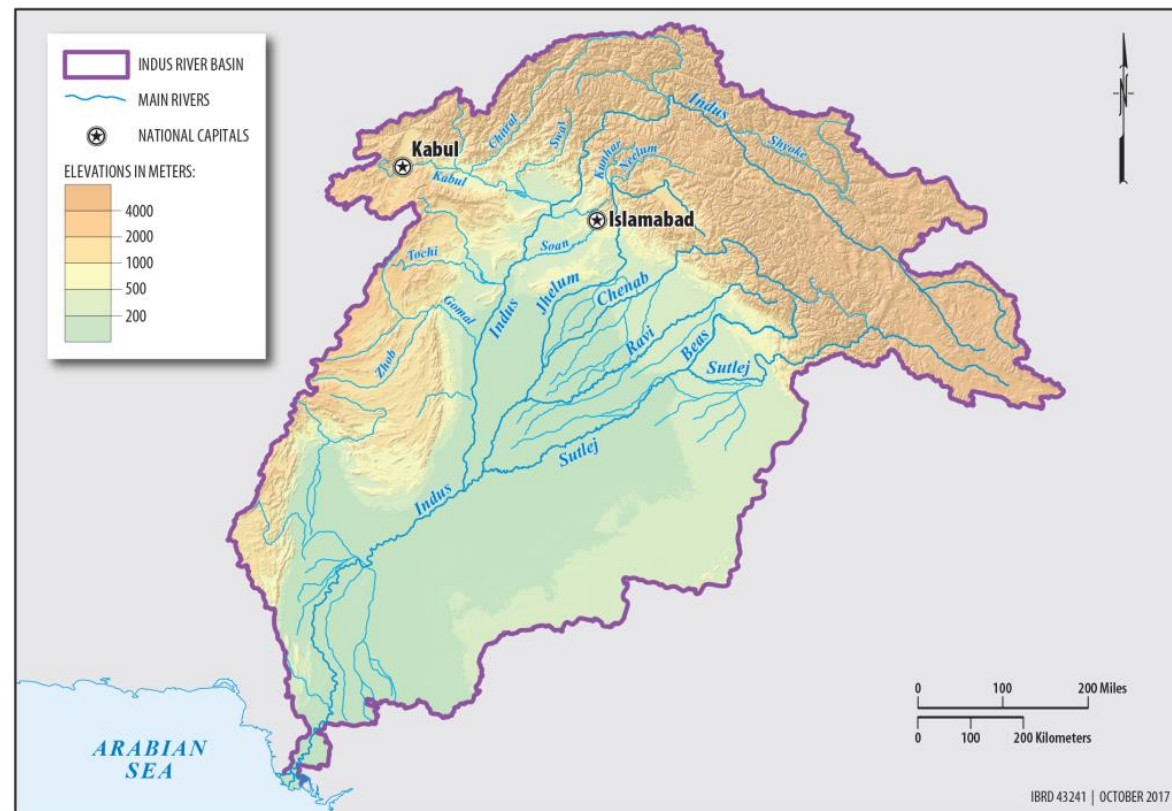
**Trade-offs**



**Solutions**



**Synergies**



VIDEO

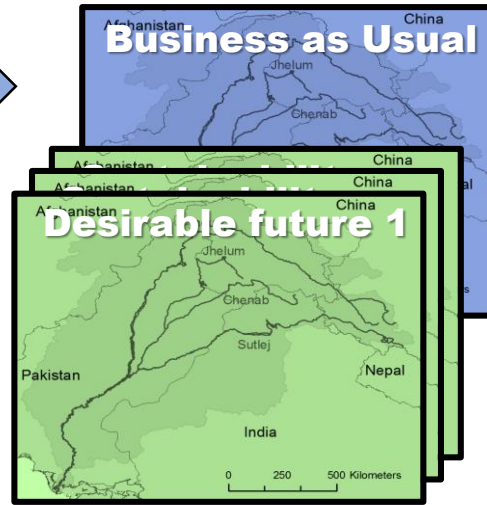
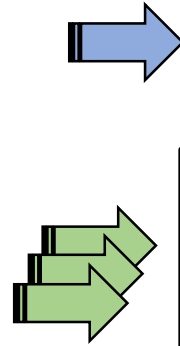
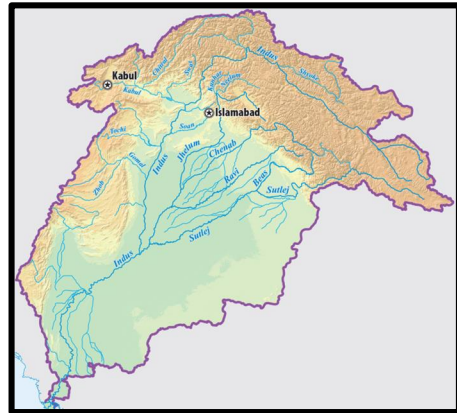
# CURRENT SITUATION

is a basis for

# STAKEHOLDER PATHWAYS

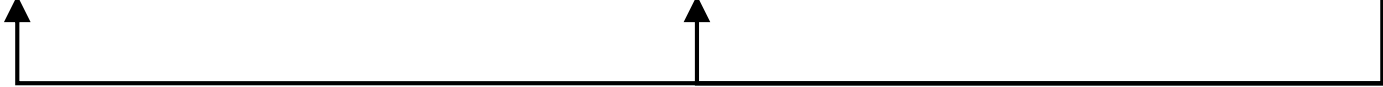
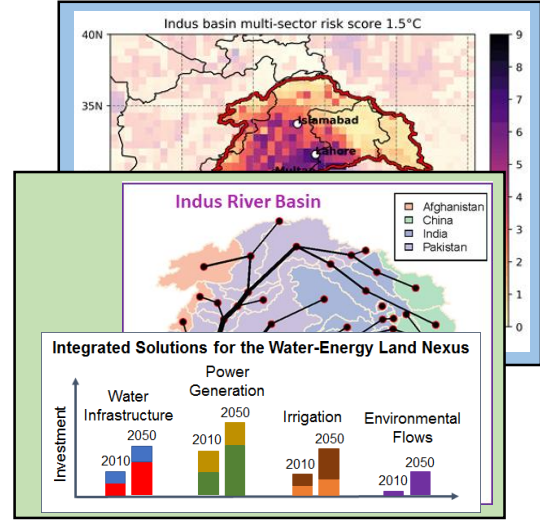
provide input for

# MODEL PATHWAYS



provide feedback and ...

... revisions suggestions

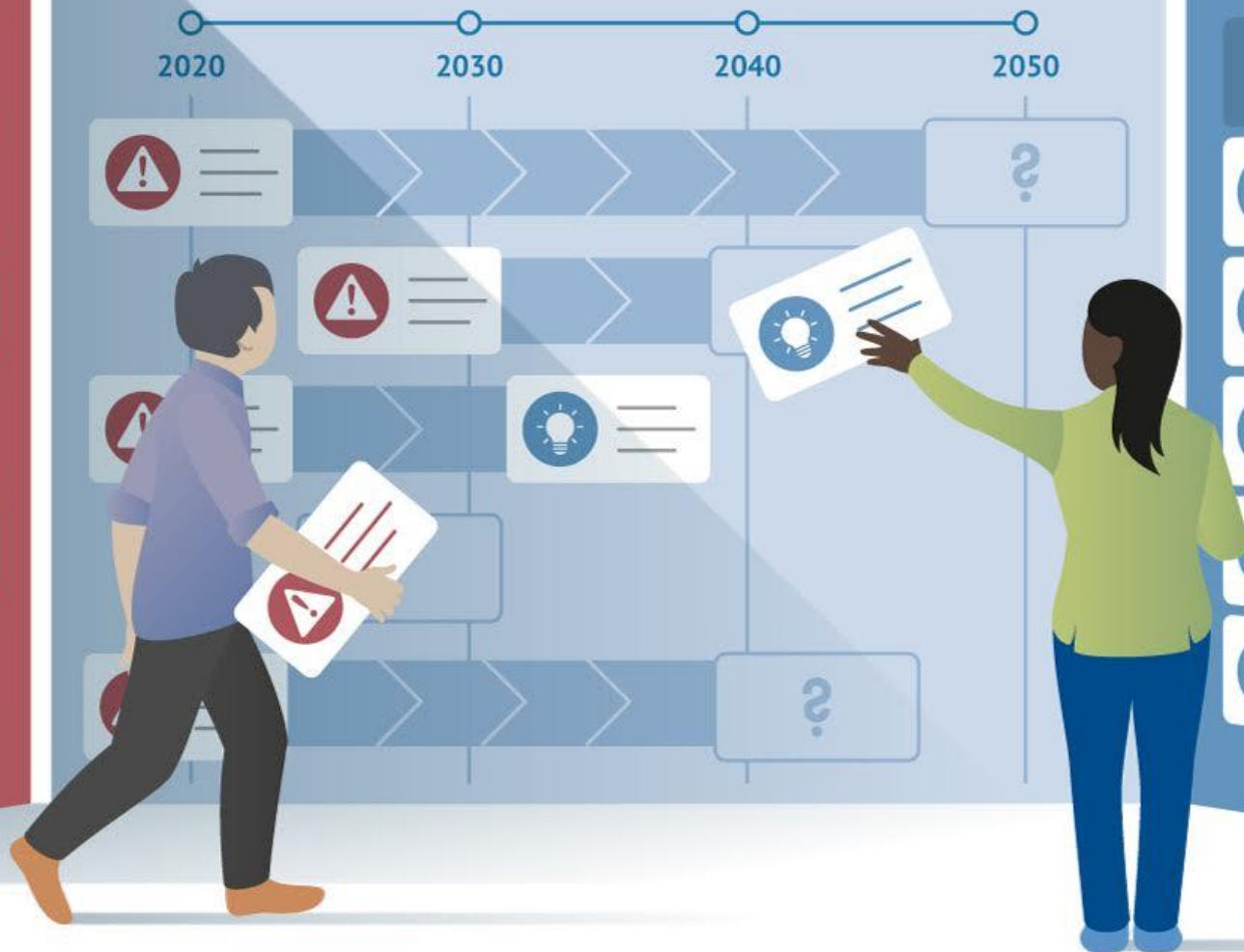


# Thanks



# CHALLENGES

# PATHWAYS

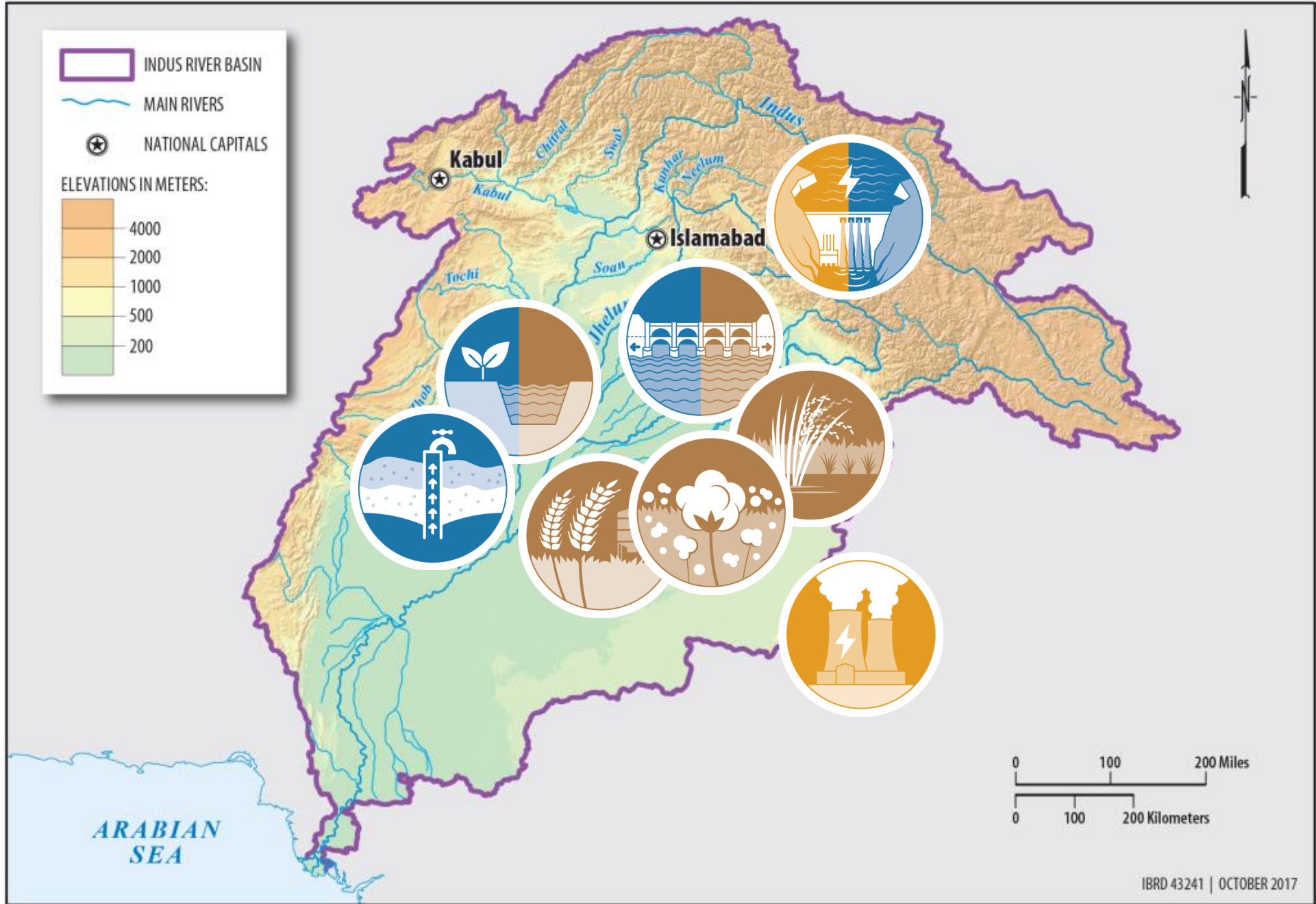


# SOLUTIONS



# STEP 1

# CURRENT SITUATION

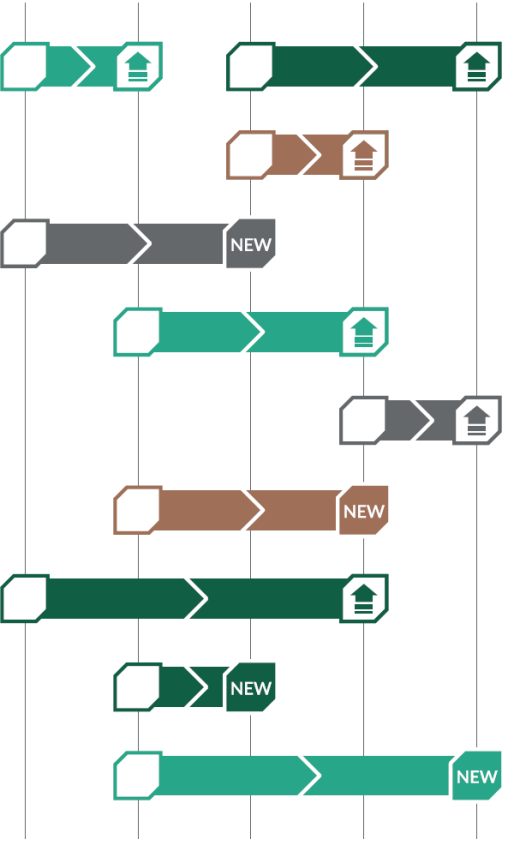
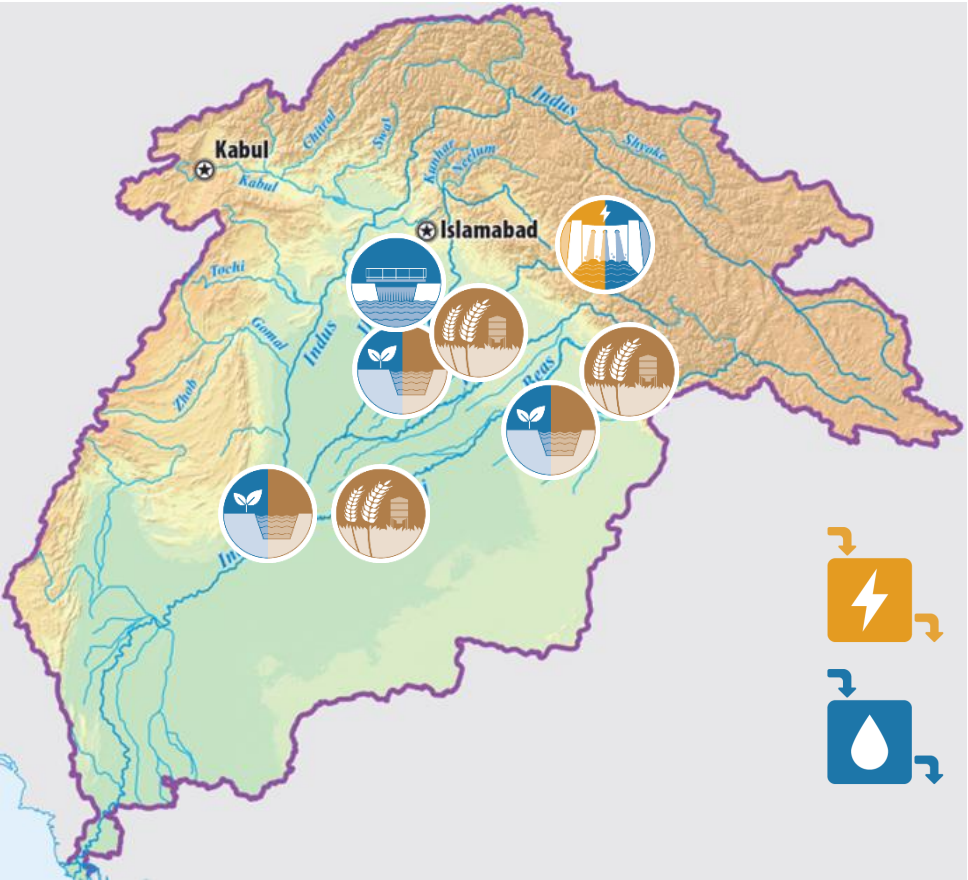


# STEP 3

# Desired Future Pathway

2018

2050



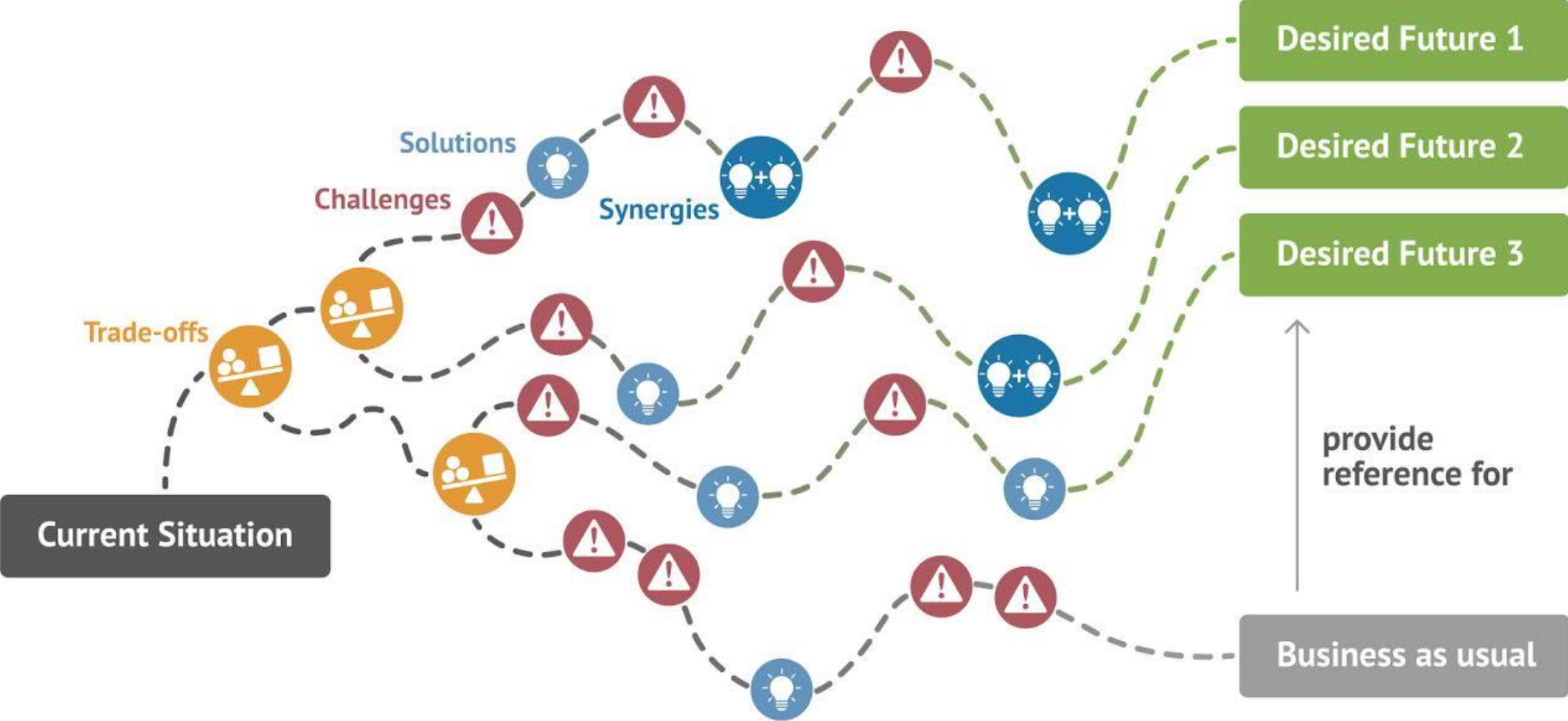








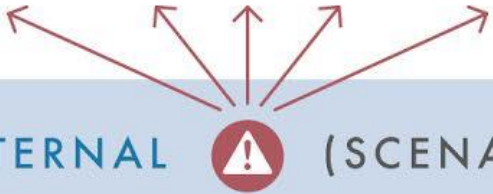
INTERNAL (PATHWAYS, STRATEGIES)



Past & present —————> Possible future

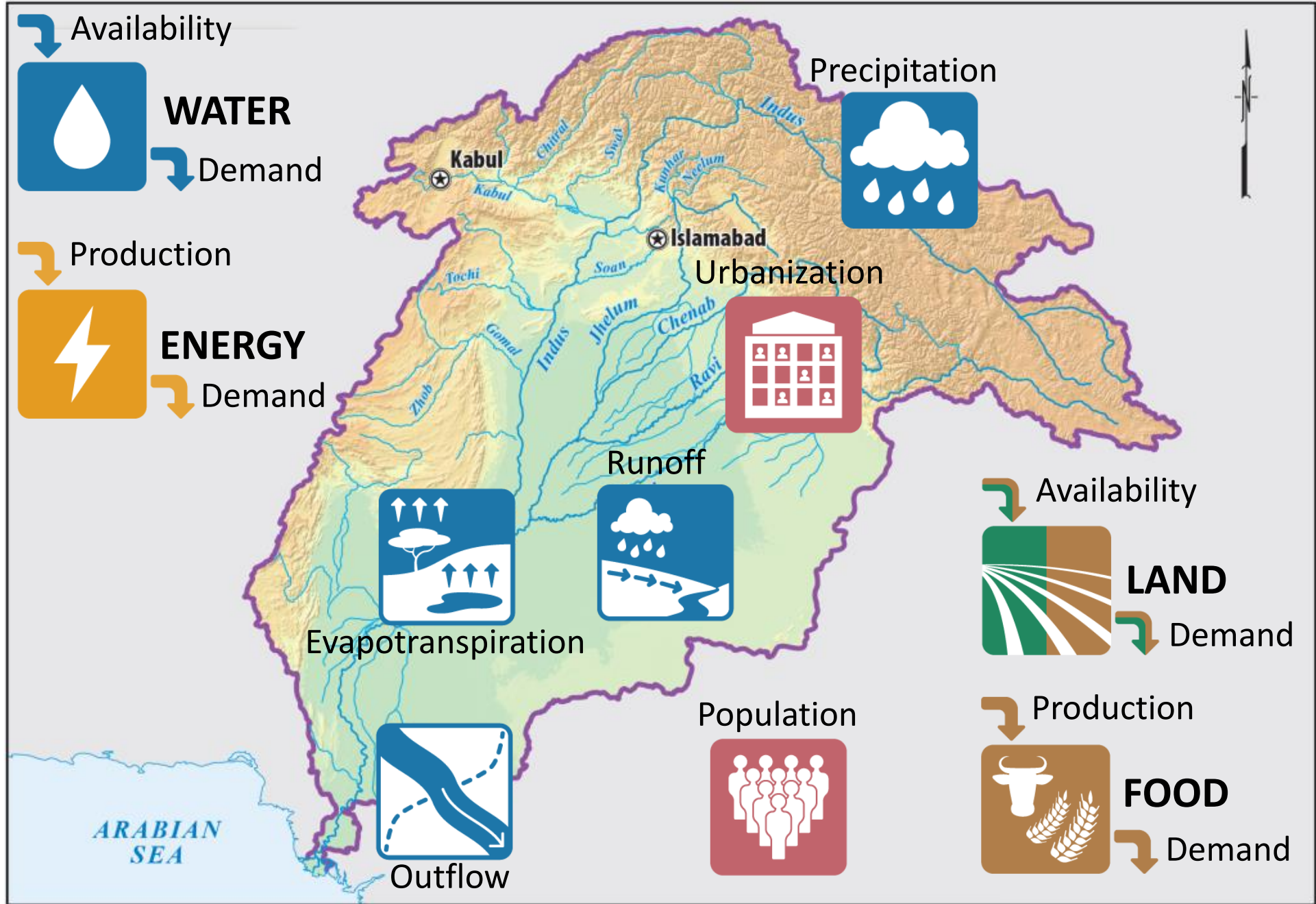
provide reference for

EXTERNAL (SCENARIOS)



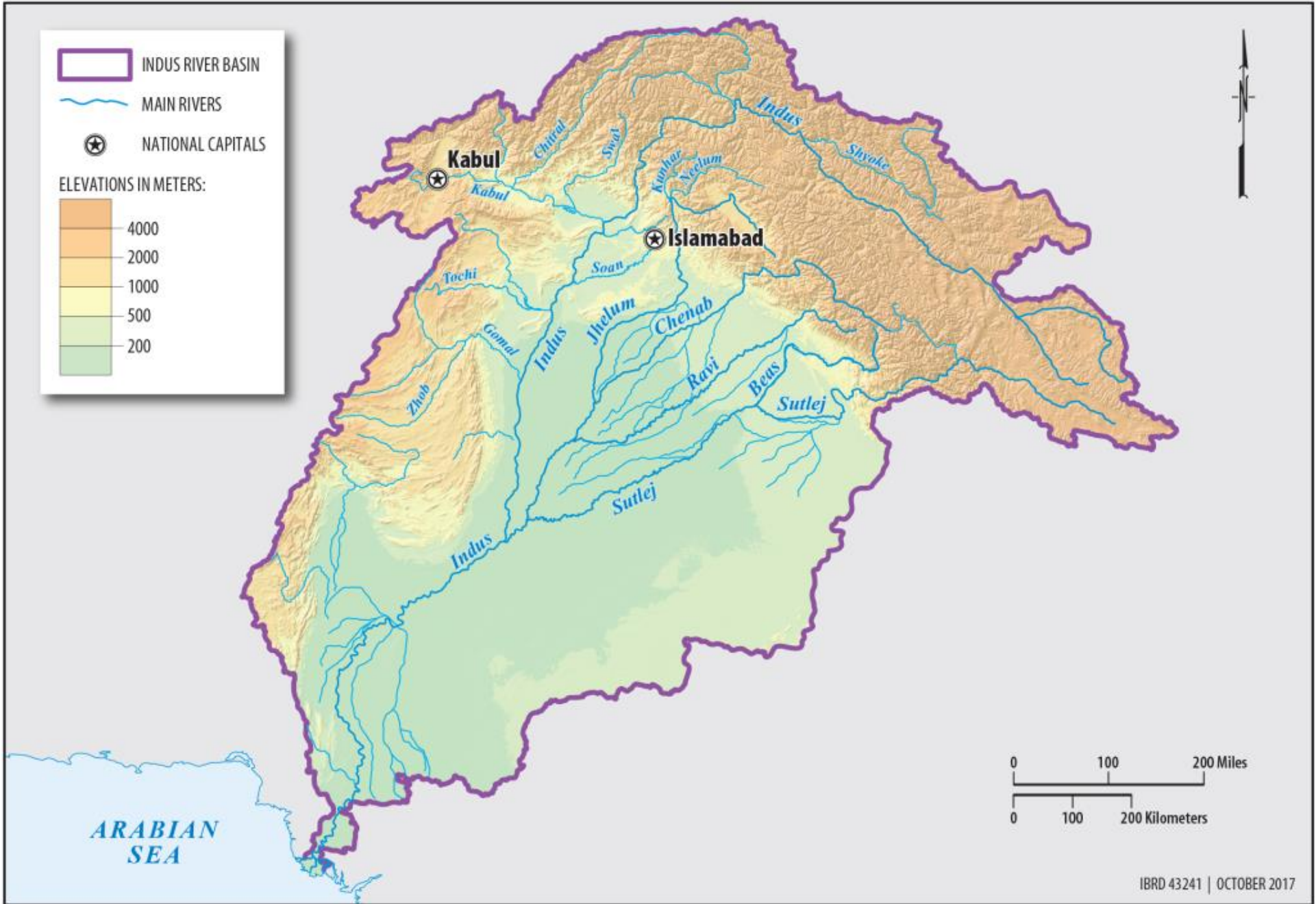
# STEP 1

# CURRENT SITUATION



# STEP 1

# CURRENT SITUATION

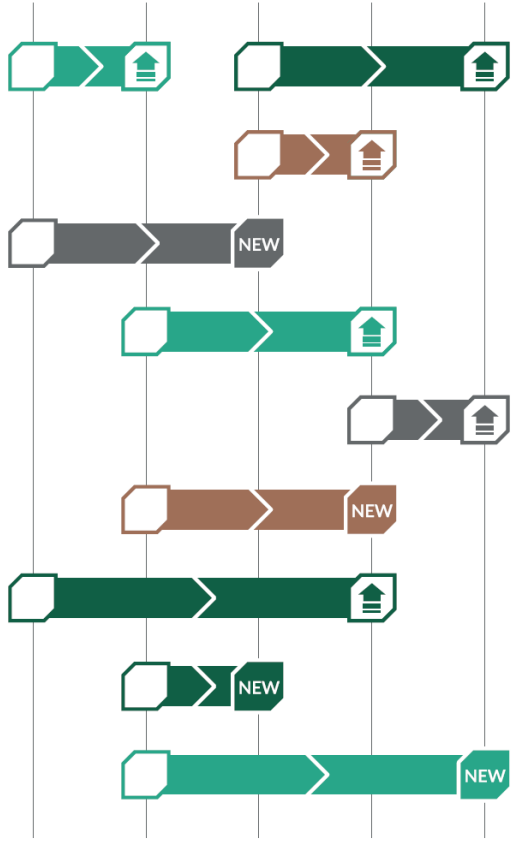
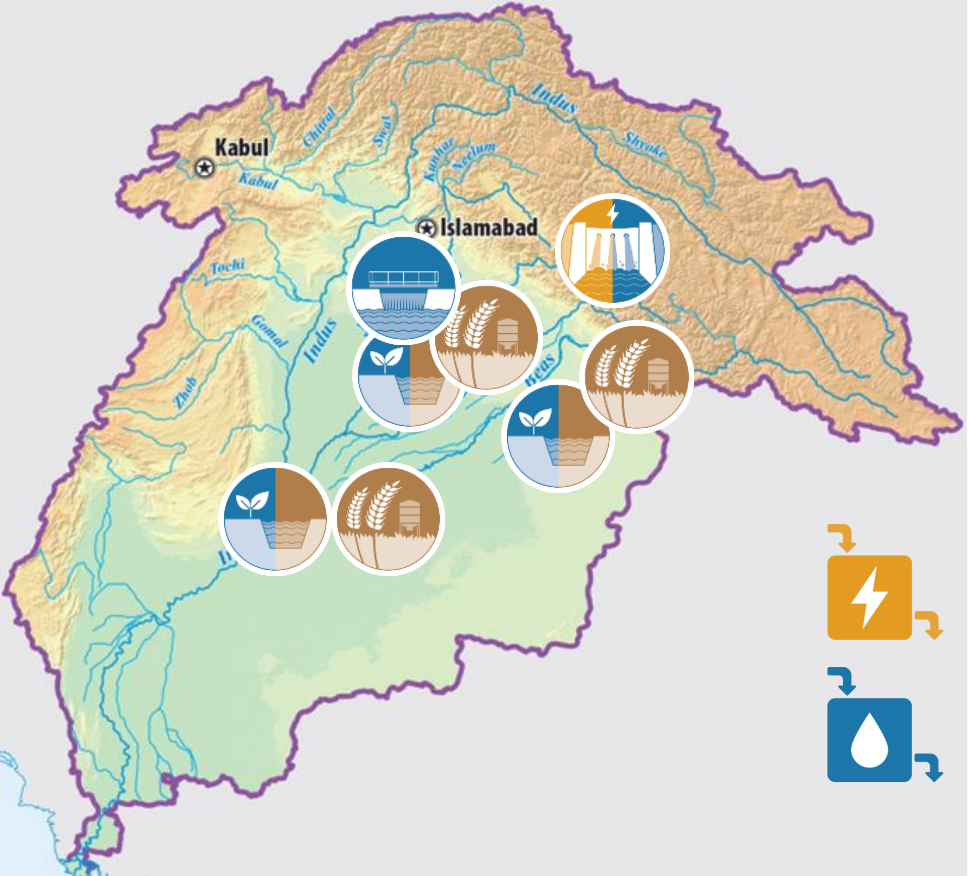


# STEP 2

# Business as Usual Pathway

2018

2050

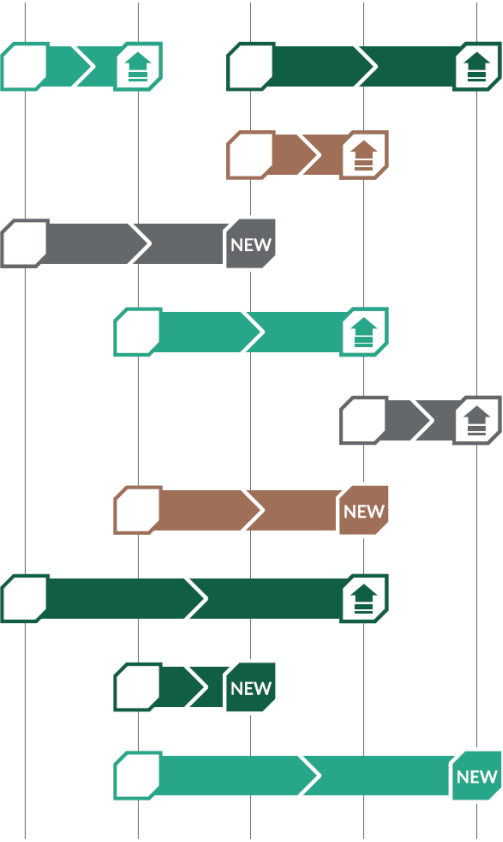
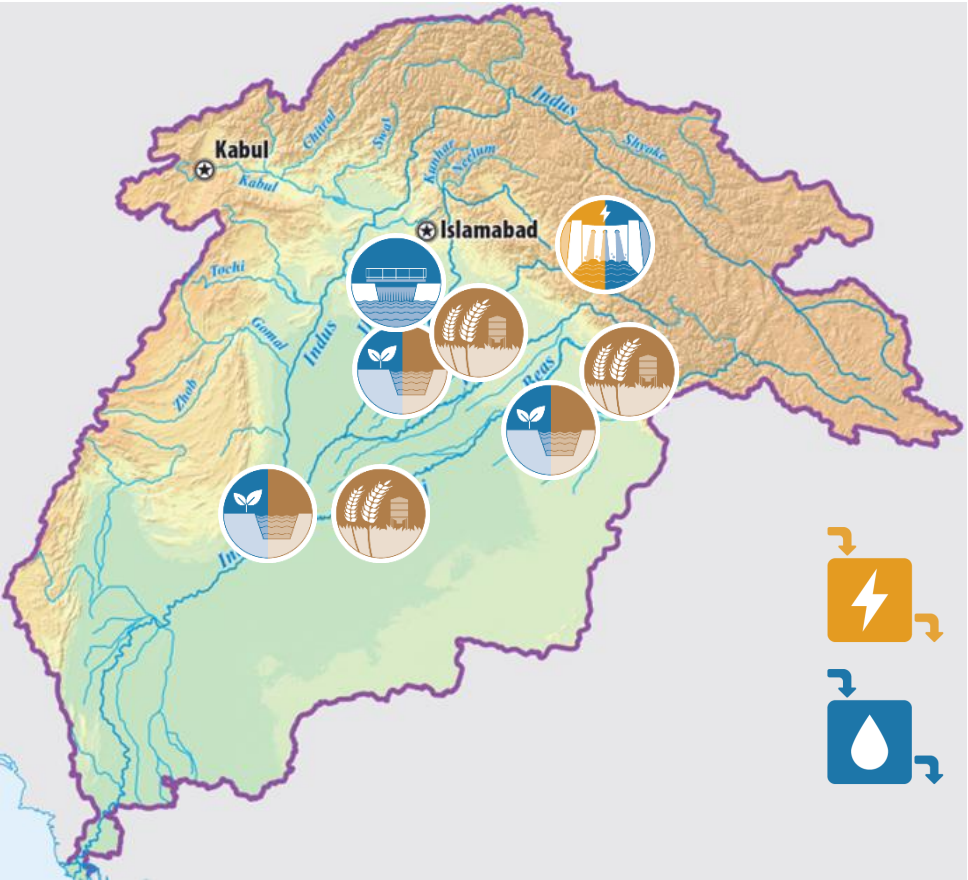


# STEP 3

# Desired Future Pathway

2018

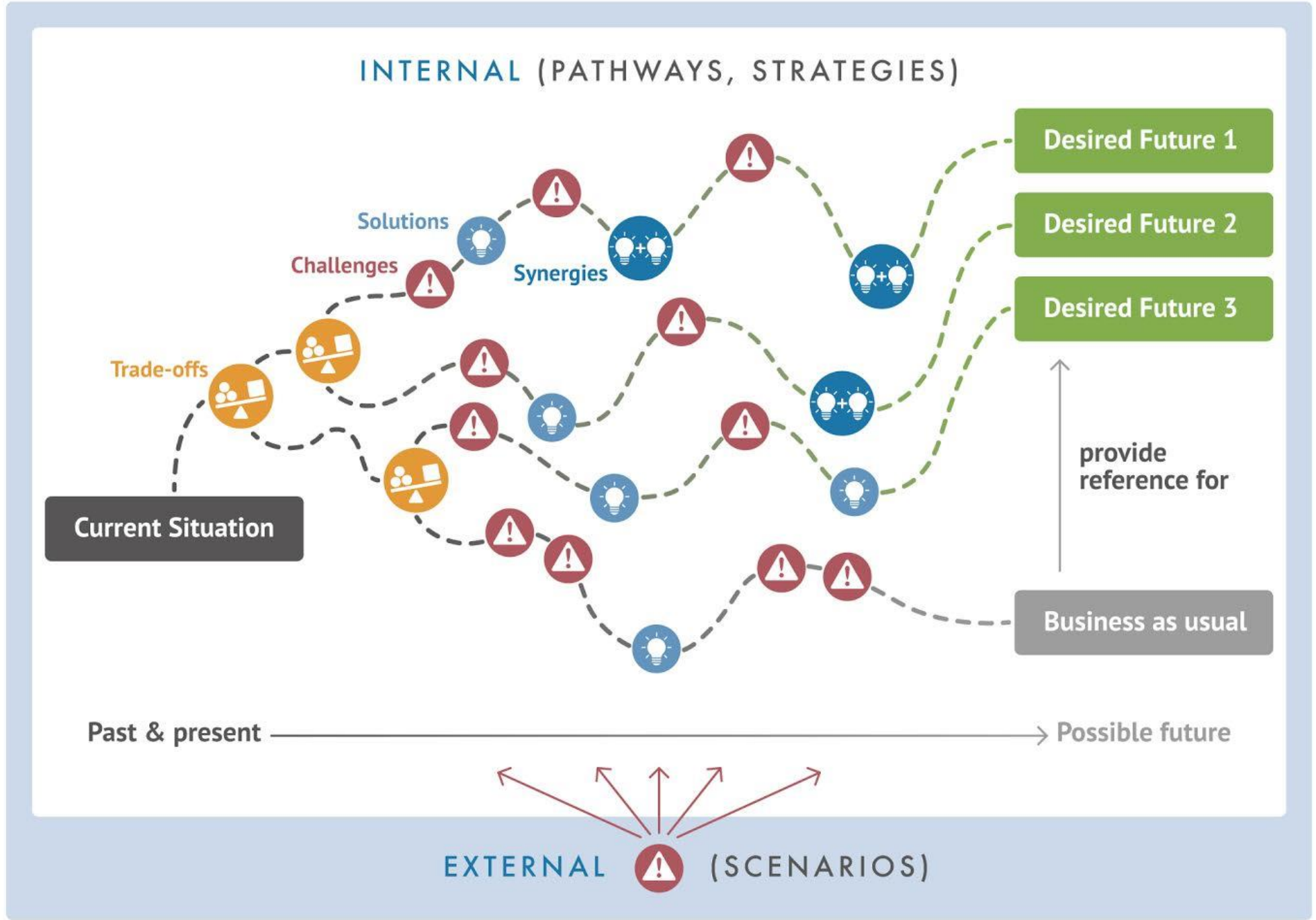
2050



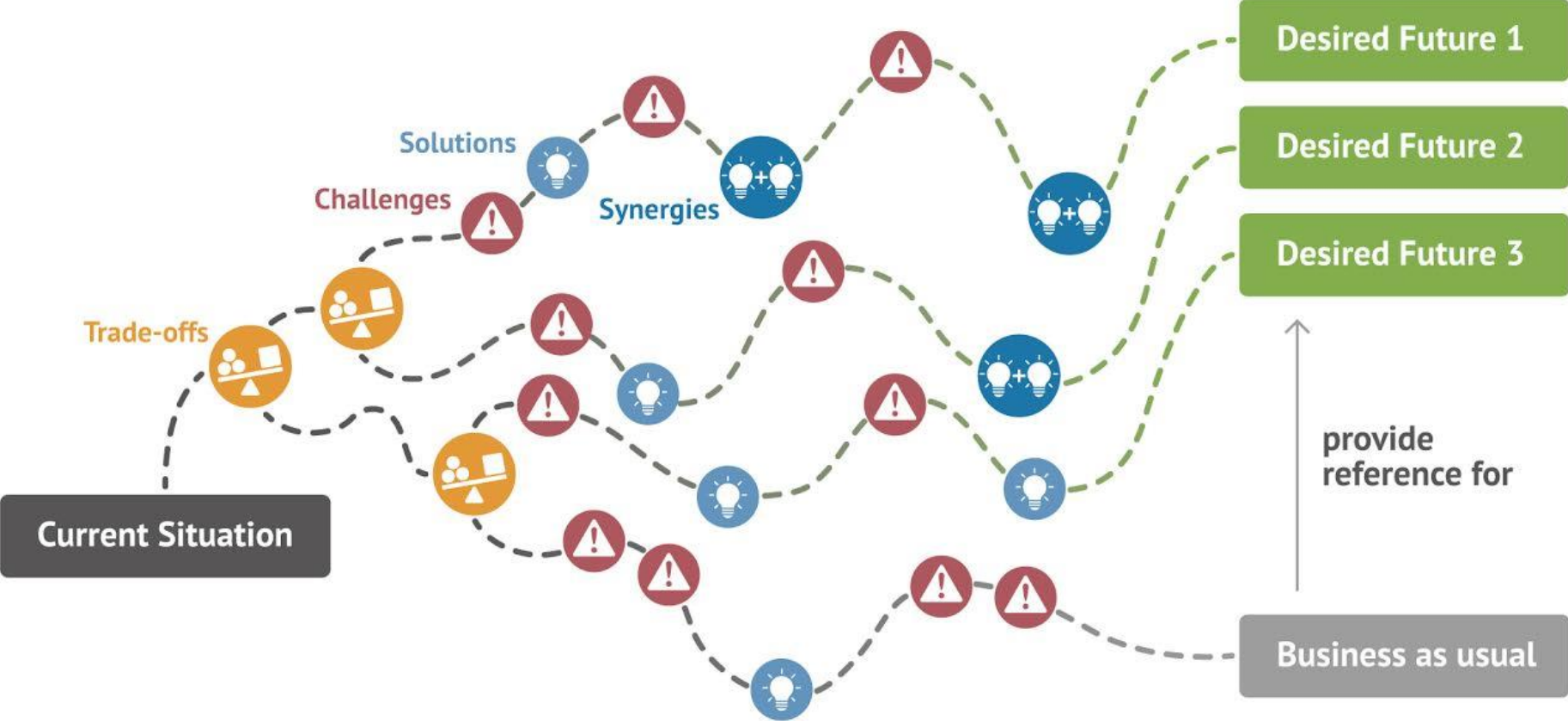


# Robustness of Pathways

**STEP 4** 



INTERNAL (PATHWAYS, STRATEGIES)



Past & present —————> Possible future

EXTERNAL (SCENARIOS)



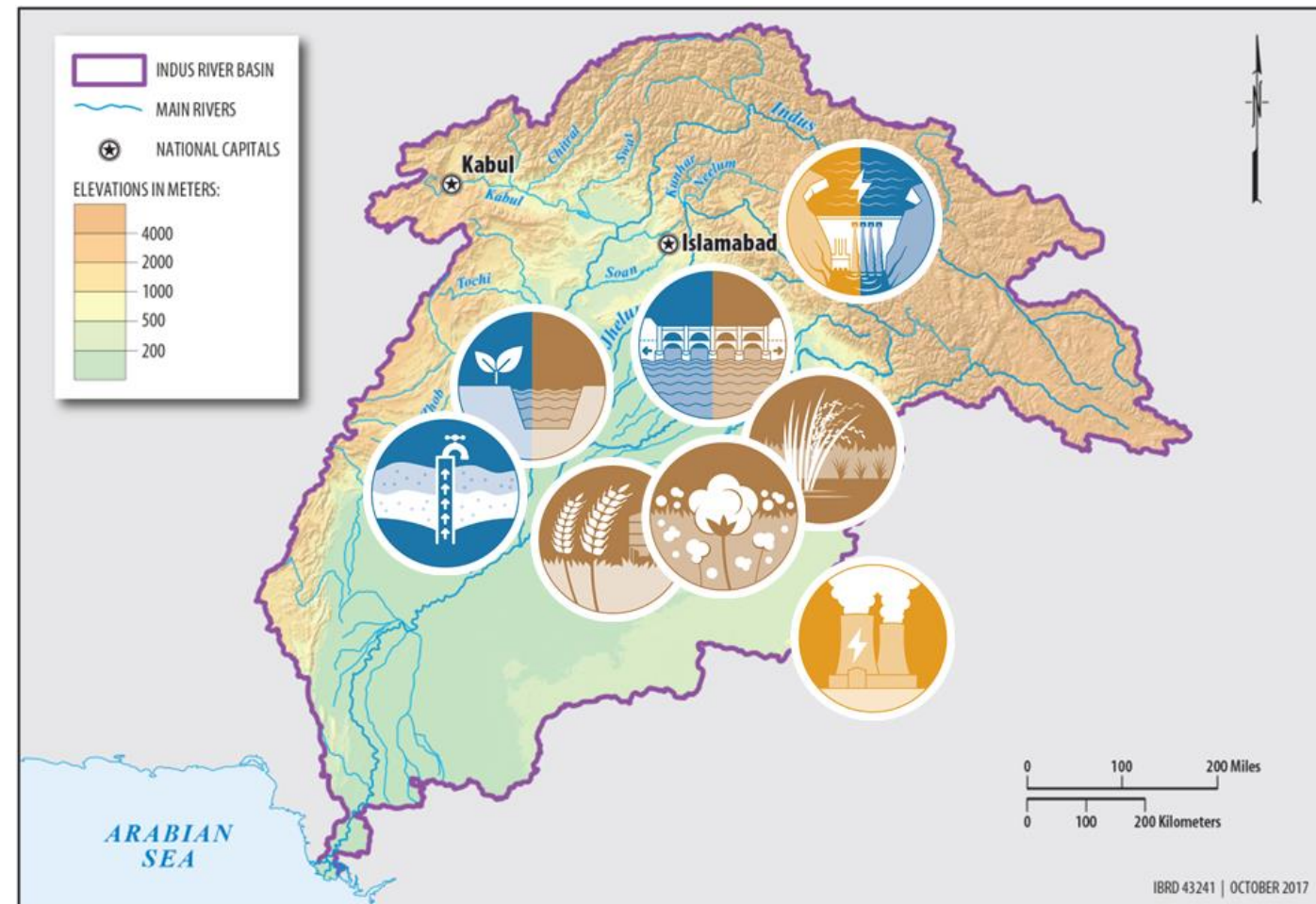
# STEP 1

# CURRENT SITUATION

Work in groups

- Current state
  - infrastructure,
  - socio-economic factors,
  - policies
- Main challenges

Presentations of group results

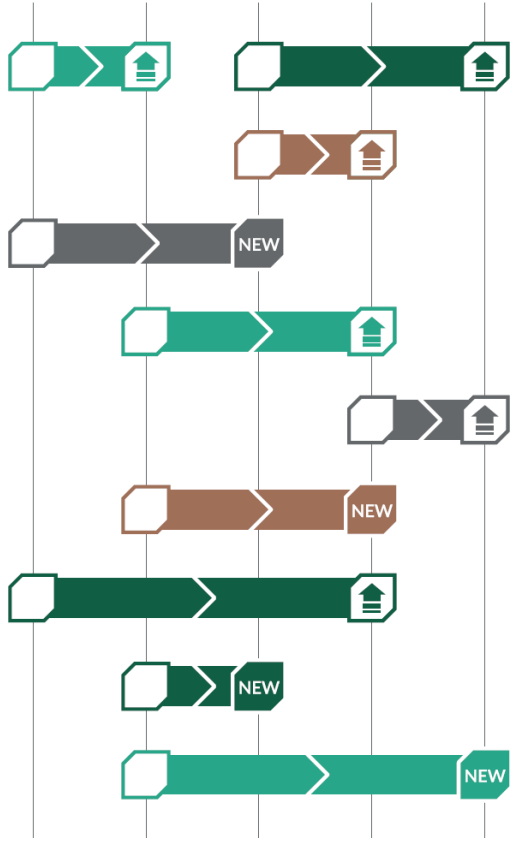
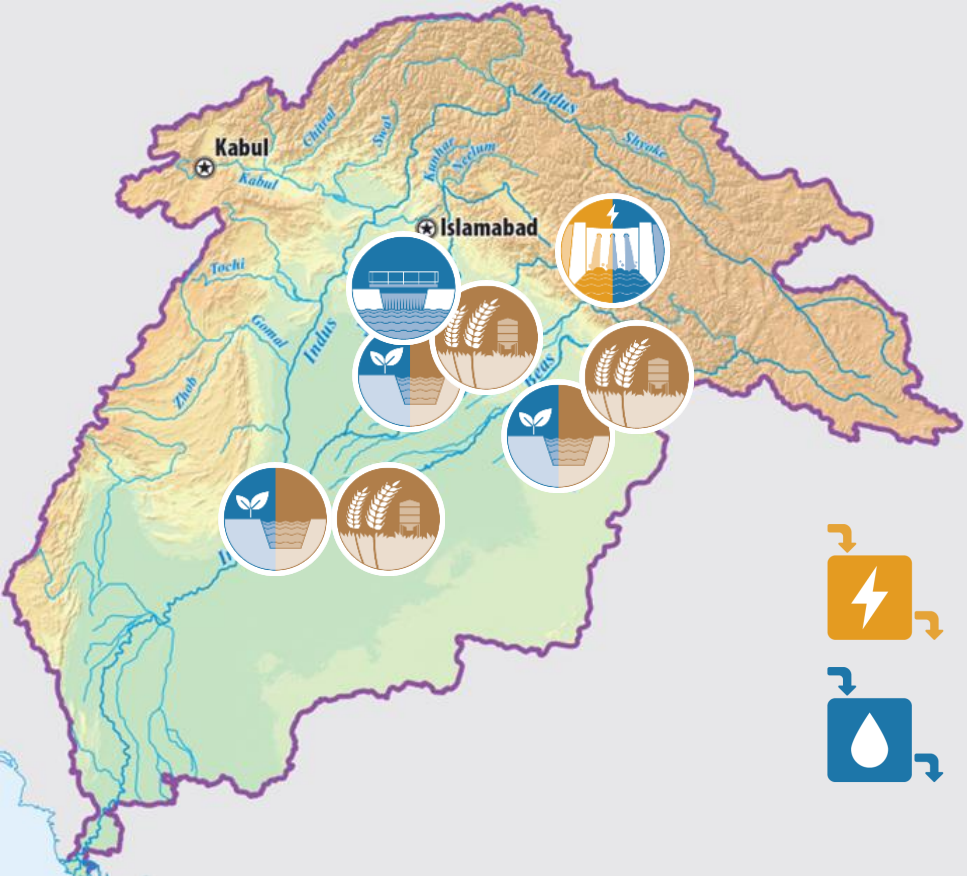


# STEP 2

# Business as Usual Pathway

2018

2050



## STEP 2

# Business as Usual Pathway

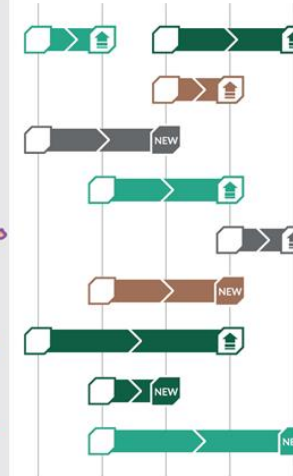
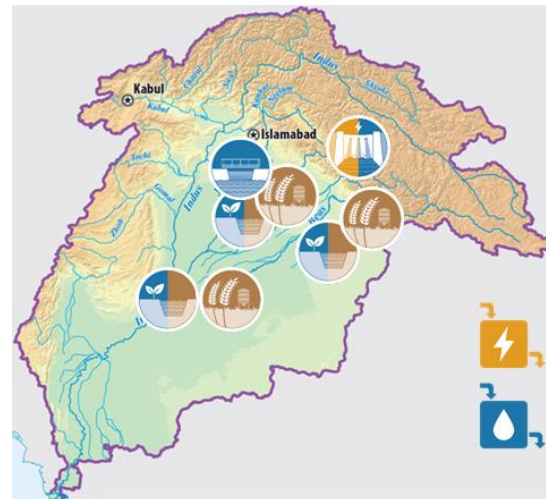
Work in groups

- use current state (previous step) as a reference
- discuss changes under the current trends in:
  - infrastructure,
  - socio-economic factors,
  - policies
- record changes:
  - on the map
  - on the timeline

Presentations of group results

2018

2050



# Why do we need a vision?

