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Sustainable Water Partnership (SWP)

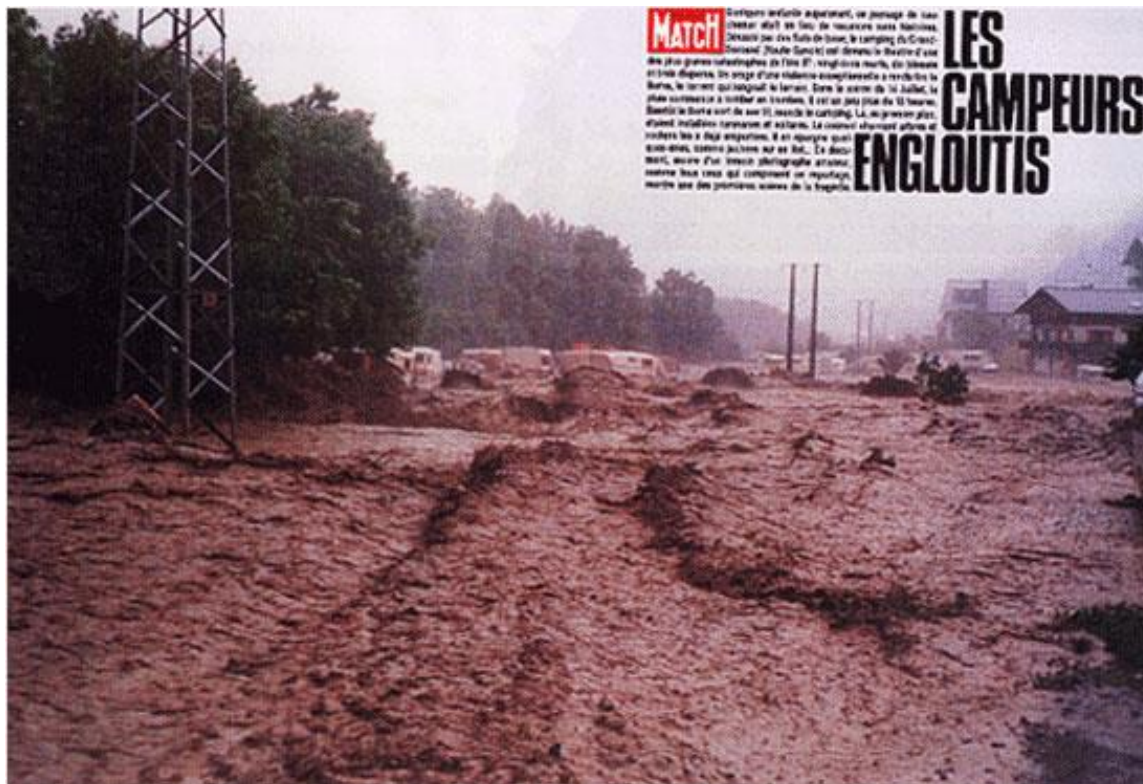
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The CEO Water Mandate

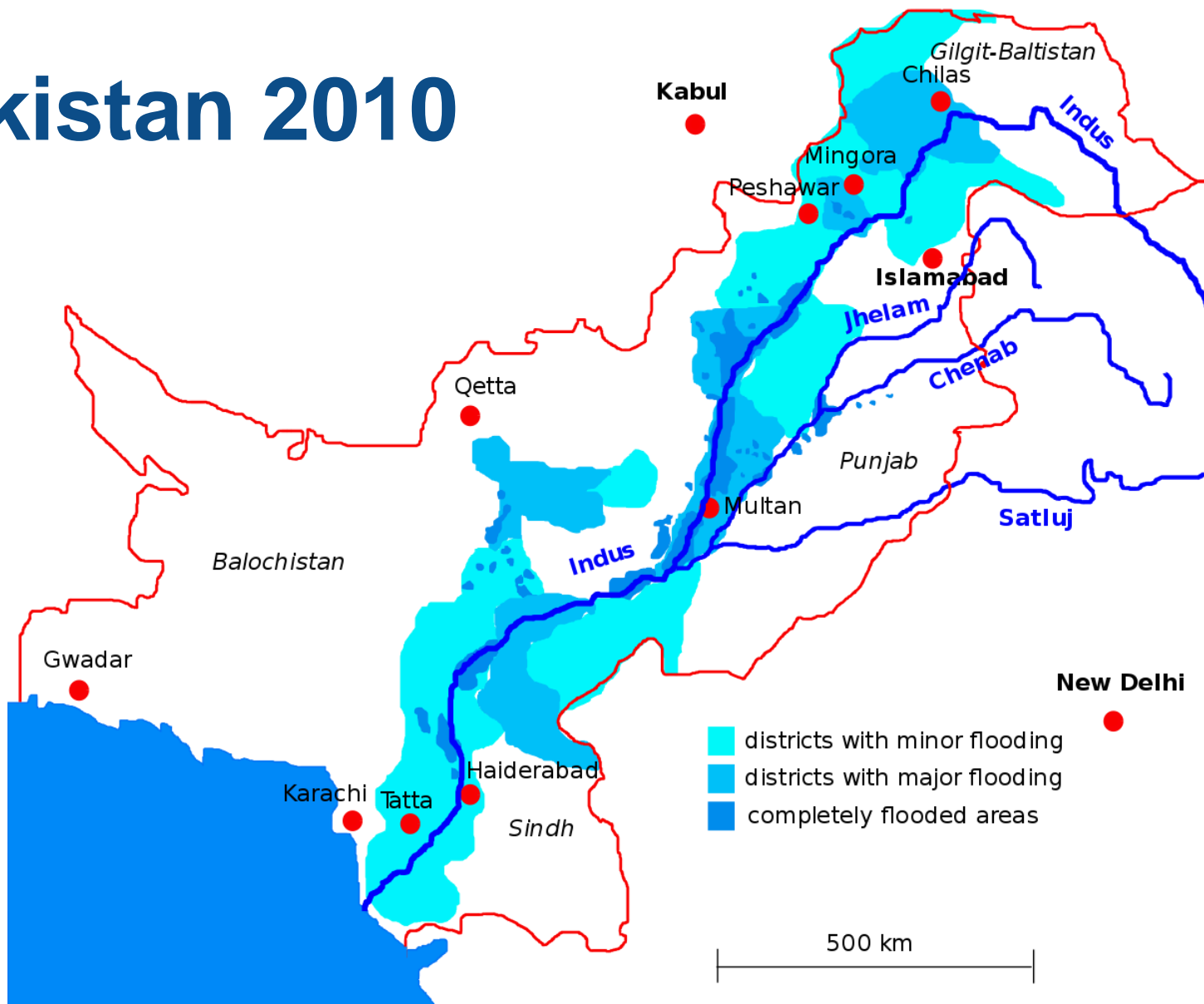


Bastille Day 1987





Pakistan 2010





Similar recent events

Summer 1998 – China

Summer 2007 – UK

Winter 2010 – Queensland (AUS)

Recent hurricanes Harvey and Irma



Types of inland floods

- Flash floods
 - Overbank river flooding
 - Pluvial flooding
- (may combine)

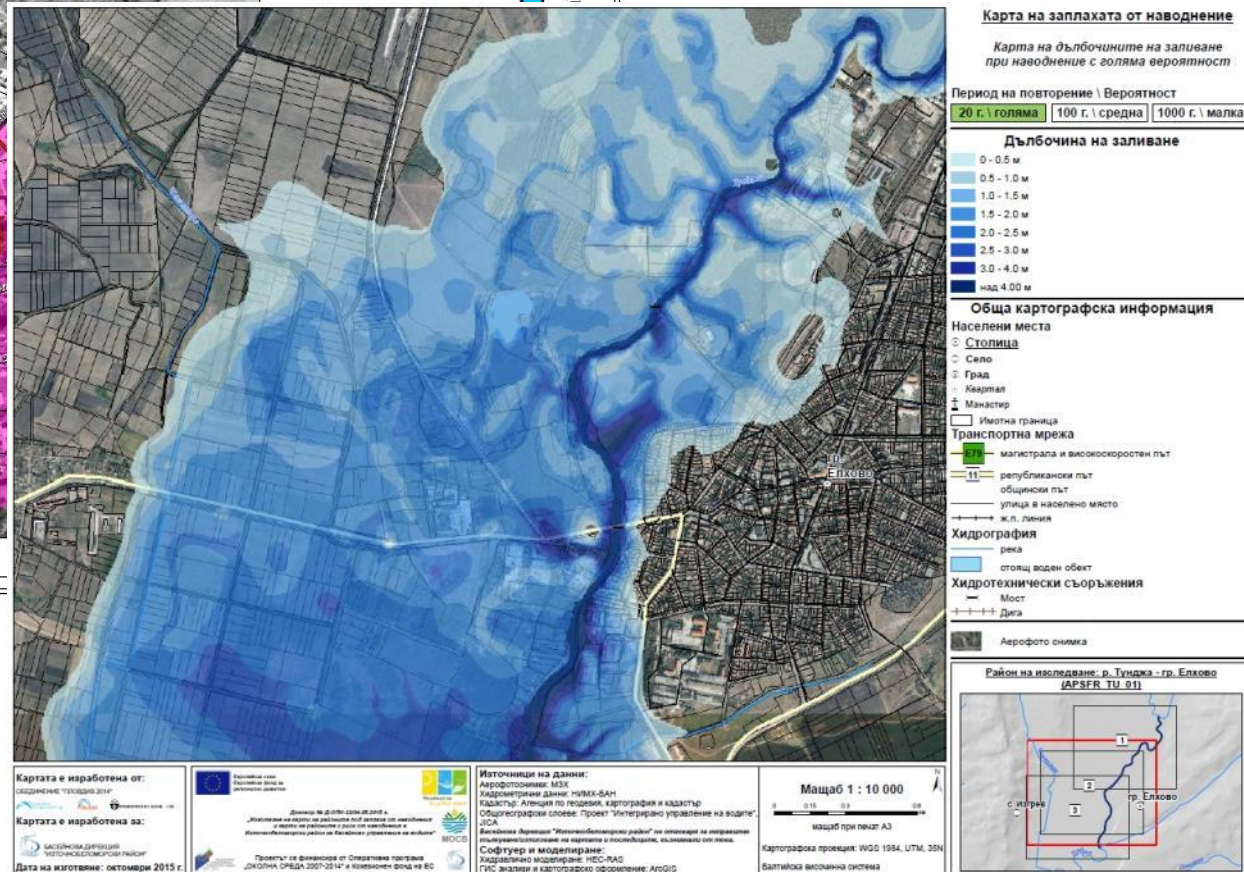
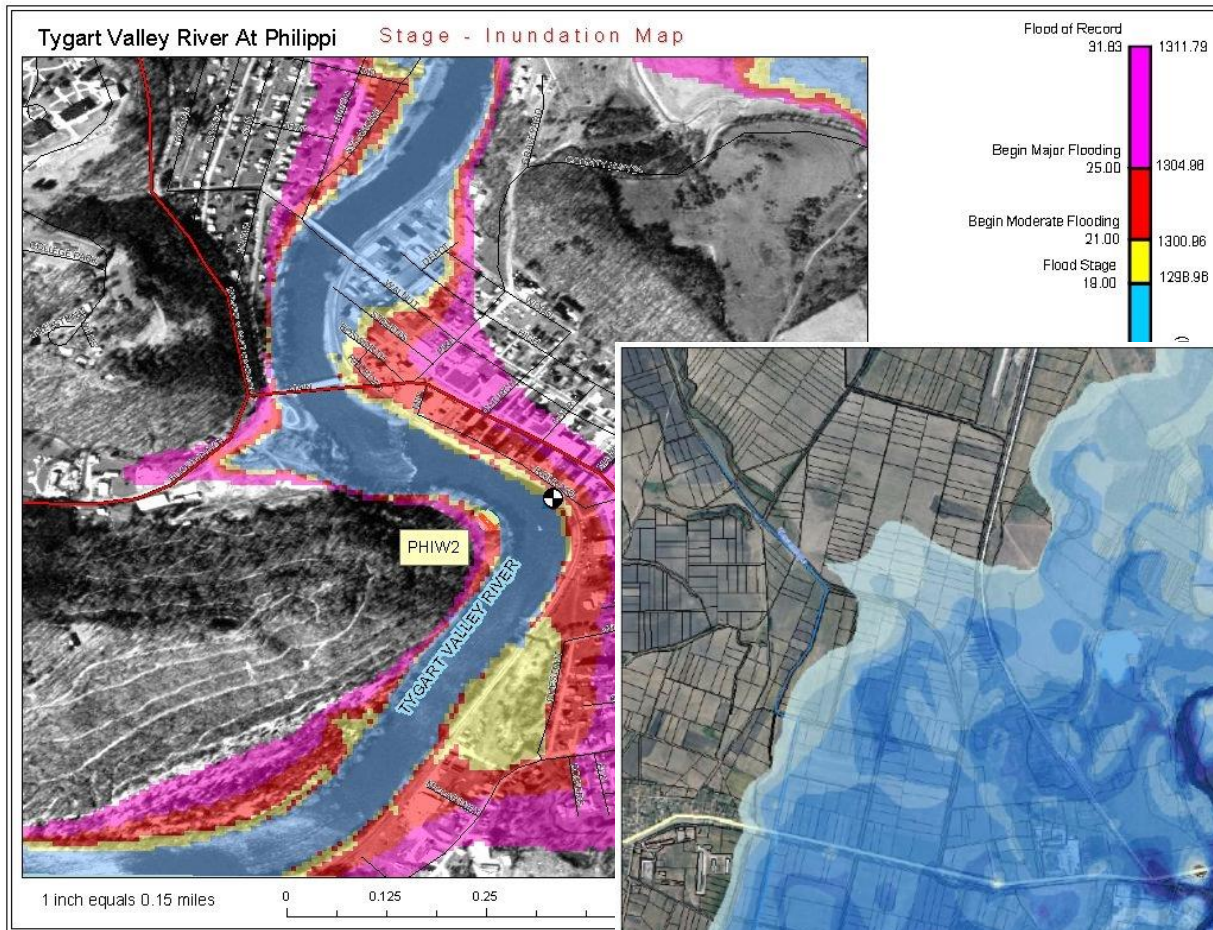


How to mitigate

- 1) Assess hazard
Qualify past floods, extrapolate
- 2) Identify vulnerabilities (populations & assets)
Combine exposure and sensitivity
- 3) Quantify damages
 - Immediate/direct
 - Indirect/longer term



Flood mapping





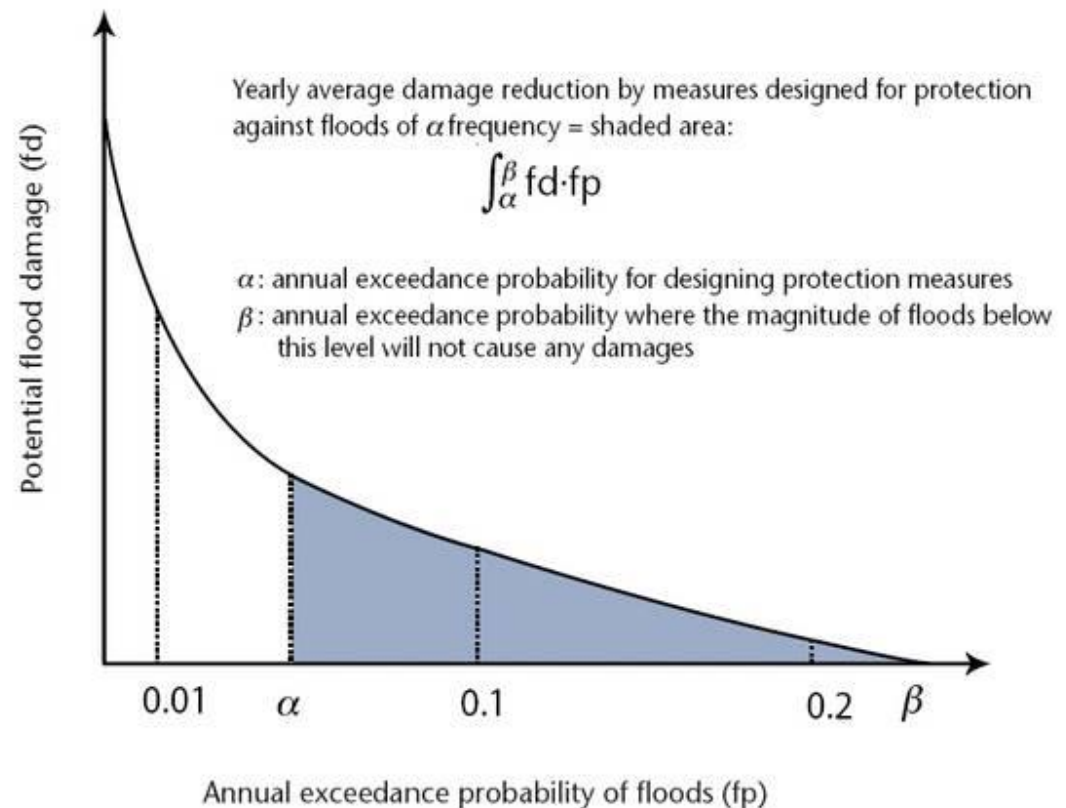
Range of solutions

- Grey infrastructure: dams, embankments, levees, floodwalls
- Green infrastructure: reforestation, wetlands, floodplains
- Policies: urban planning/zoning, buyback/relocation, upgrade/floodproofing, etc.
- Warning systems



Flood management: Qs

- What to protect?
(urban, semi-urban.
rural)
- At what level ?
- What level of risk
do we tolerate?
- Who pays?





Future of flood management?

1931 – 1935- 1938 floods in China

Pakistan:

At the time: “the rainstorms responsible for the floods are of a type that does not normally occur in this region”

Now: Studies saying that more frequent as part of long-term trend in South Asian Monsoon

Act of God?



Exacerbating trends

- Climate change, communities who have traditional knowledge or resilience to live in food areas - do not have experience and coping capacity to adapt to changes
- Population growth: poor communities settle in hazardous areas in search for a living – (Bangladesh, 2M char dwellers)



The Water Security Improvement (WSI) Process



Confirm and initiate



STEP 1

**Define geographic/technical/
institutional/temporal space**
(Toolkit #1)



STEP 2

Assess water risks
(Toolkit #2)



STEP 3

**Prepare water security action
plan (Toolkit #3) and fund it**
(Toolkit #4)



STEP 4

**Implement water security
actions** (Toolkit #5)



STEP 5

Monitor, evaluate and adapt
(Toolkit #6)

Check out
<https://www.swpwater.org/>



Eight WSI guiding practices

1. Pragmatic focus on specific water risks	What types of floods, what to protect?
2. Engagement and mobilization of water users	Awareness raising: risk, solutions, costs
3. A “systems thinking” approach	If we dam here, what happens there?
4. Robust decision-making to address uncertainties	What if larger flood?
5. Science-based, negotiated solutions	Trade-offs, what for non-protected areas?
6. Integrated solutions to produce tangible benefits	Combine infrastructure and other solutions, spread benefits
7. Adaptive management to improve over time	Monitor & review, beware of false sense of control
8. Sustainability through economic efficiency, environmental soundness, and social equity	CBA, environmental/social impact assessments



Parting words

- “What can be done, what should be done?”
- We have made progress, but we save lives not livelihoods



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THANK YOU

SWPwater.org



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Sustainable Water Partnership



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