The Role of Science as a Public Good in Policymaking

Lessons from the 2004 Indian Ocean Tsunami

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"Science is not merely the pursuit of knowledge. It is society's most dependable mechanism for navigating uncertainty, protecting lives, and shaping better policy."

Science protects populations only when translated into policy, institutions and financing that serve all people.

WASH Or Oral rehydration therapy | Preparedness & Emergency Management

Antibiotics and vaccines | Surveillance & disease epidemiology

THE WHO SOUTH-EAST ASIA REGION

2 Billion+

People in the Region

11

Member States

33 Million

Highest Birth Cohort

High Risk

Disasters & Outbreaks

Disproportionate

Disease Burden

Fragile

Health System

Science-guided policy is not a preference -- it is a survival imperative.

26 DECEMBER 2004

The Indian Ocean Tsunami

9.0 - 9.1
Richter Scale Earthquake

227,000+
Lives Lost

1.7M
People Displaced

6
SEARO Countries Affected

WHO SEARO RESPONDED

27 December 2004 -- within 24 hours

1. Operations Room activated 24/7
2. 100-day strategic plan
3. Global staff deployed
4. Task Forces established

SCIENCE GUIDING EVERY ACTION

Rapid Assessment

Scientific tools mapped injuries, displacement and contamination within 24 to 48 hours.

Disease Surveillance

Real-time data shared across all agencies. Result: no major outbreaks recorded.

Supply Management

80+ technical guidelines. WHO-standard drug protocols applied across all 6 countries.

Mental Health

Evidence base mandated psychosocial care as a formal priority in all recovery plans.

THE RESULT

"There have been no major outbreaks of communicable diseases."

WHO SEARO, The Tsunami and After: WHO's Role (2005)

Science, acting through evidence,
protected over 1.7 million displaced people.

FROM RESPONSE TO LASTING REFORM

Tsunami scientific evidence was institutionalised into three enduring policy pillars.

01

12 WHO Benchmarks

02

National Health Emergency authorities

03

South-East Asia Regional Health Emergency Fund

World Health Organization

South-East Asian Region

South-East Asia Regional Health Emergency Fund (SEARHEF)

Because emergency response cannot be delayed

2007	24 hrs	49	USD 8M+
Adopted at 60th WHO Regional Committee, Bhutan	Disbursement window -- based on mortality evidence	Emergencies supported across 10 countries	Total disbursed since 2008

SEARHEF 2.0 (2026): Fund increased to USD 3 million -- science driving institutional evolution.

THE PROOF -- NEPAL EARTHQUAKE, 2015

7.8 magnitude. A decade of preparedness. A different outcome.

1. **Medical Camp Kits & emergency inflatable field hospitals**
2. **Supplies deployed within hours**
3. **SEARHEF disbursed within one day**
4. **No post-disaster disease outbreaks**

"Ten years later, the Nepal earthquake proved that the Region has learnt its lessons well."

SCIENCE CROSSING BORDERS

Tsunami-born reforms protected the entire Region -- including countries not affected in 2004.

India	Myanmar	Sri Lanka	Indonesia	All 11 States
Cyclone Fani	Cyclone Nargis health cluster	Strengthened emergency systems	Improved disease surveillance	HEOCs and Rapid Response Teams

KEY MESSAGES

1. **Translate:** Science saves lives only when embedded in policy, institutions and financing -- not left in reports.

2. **Remember:** Scientific knowledge is institutional memory. Apply it to the next emergency.

3. **Share:** Science is a public good only when shared equitably

4. **Lead:** Trust in science is built through accountable delivery.

"Science is a public good.
When placed at the service of people,
it transforms disaster into preparedness
and vulnerability into resilience."

Thank You