ASIA – PACIFIC CLIMATE CHANGE ADAPTATION FORUM

ROLE OF SCIENCE IN ADAPTIVE DEVELOPMENT

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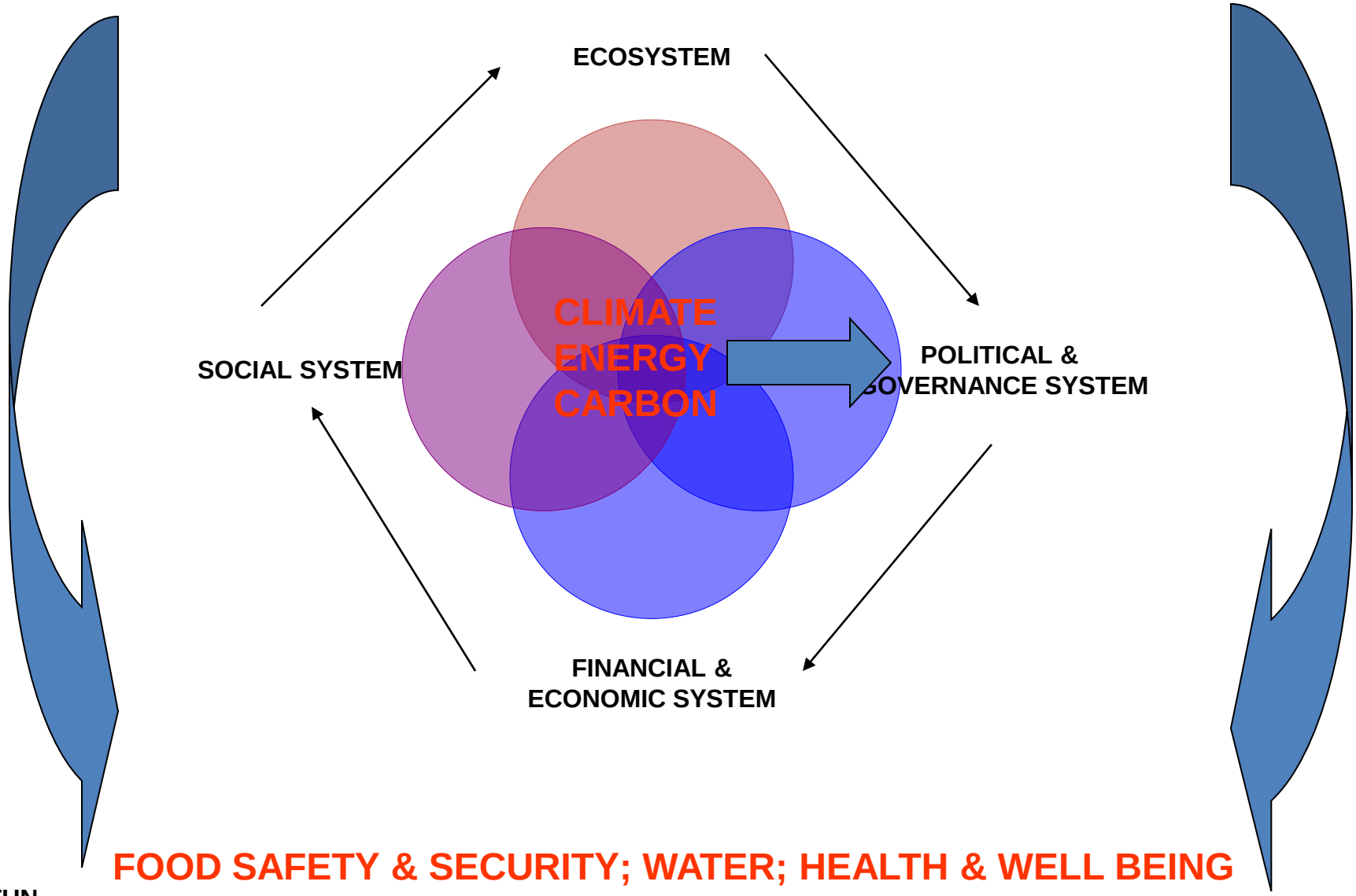
GREAT TRANSFORMATIONS

Systems & Systemic Drivers



FOOD SAFETY & SECURITY; WATER; HEALTH & WELL BEING

NAY HTUN

ROLE OF SCIENCE IN ADAPTIVE DEVELOPMENT

Developing *coherent & supportive* policy

SCIENCE

- Natural,
- Physical
- Social.
- Political

KNOWLEDGE

- Contemporary
- Traditional

WISDOM

DEVELOPMENT

- PREVENTIVE
- SUSTAINED
- RESILIENT

ENLIGHTENED

TRANSFORMATIONAL

SOME EMERGING CONCERNS AND THE IMPERATIVE NEED FOR PREVENTION AND ADAPTATION

ATMOSPHERE – HYDROSPHERE- LITOHSPHERE SYSTEM

The coastal zones.

- **ACIDIFICATION: COx; S Ox; Nox**

Ph decreased from ~ 8.2 to 8.1 since industrial revolution and projected to decrease additional 0.2 to 0.3 by end of century.

- **DISSOLVED OXYGEN DECREASE "Dead Zones"**

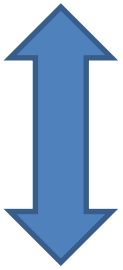
7,722 sq miles in Gulf of Mexico; 145,000 sq. miles in Baltic Sea; globally more than 400 coastal dead zones.

- **ALIEN INVASIVE SPECIES.**

Transboundary.: Atmospheric, transportation & travel Ballast water discharge.

MAJOR GAPS IN SCIENCE

CHANGES IN OCEAN CHEMISTRY,& BIODIVERSITY ARE EXPECTED TO AFFECT MARINE ORGANISMS, MANGROVES, CORAL REEFS, FUNCTIONING OF ESTUARIES, WETLANDS. FRESH WATER QUANTITY AND QUALITY.



MAJOR IMPLICATIONS ON SOCIAL ECONOMIC DEVELOPMENT, FOOD; HUMAN HEALTH; HUMAN SECURITY