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New Challenges: Early Warning Systems and Governance

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Bonn, Germany

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New Challenges for EW – Lessons from Japan



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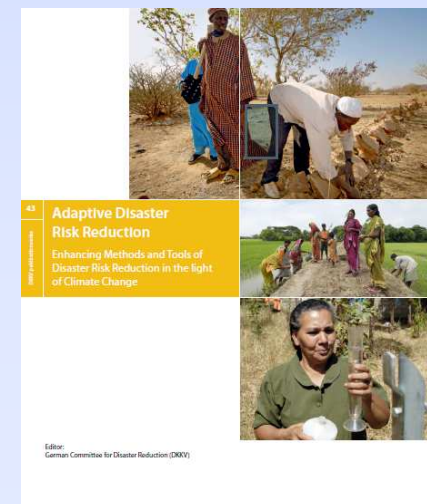
1. EW systems often focus on sudden-onset hazards, less attention is given to complex problems, e.g. cascading risks or migration
2. EW and the role of public and private institutions has to be critically reviewed in the context of the Japan disaster





New Challenges for EW

1. Linking different temporal and spatial as well as functional scales
2. EW systems have to better account for dynamic vulnerability and changing risk patterns
3. EW systems have to go beyond technical systems – thus Governance has to be part of it
4. New trends in climate change and socio-economic development have to be considered in EWs



Climate Change & EW

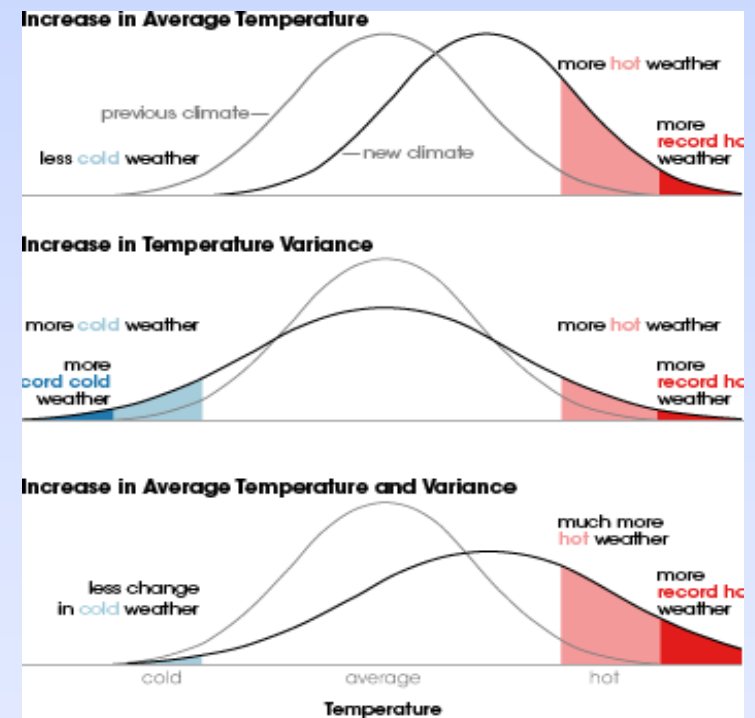


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- CC is expected to lead to an increase in weather-related extreme events and different environmental conditions (e.g. sea-level rise)
- Combination of expected increases in extreme weather events and stresses that emerge from both rapid and slow - creeping changes.
- Socio-economic components and trends influence and change vulnerability over time
- Risk patterns are simply becoming more complex and uncertain





EW a key tool to link DRR and CCA

- DRR aims at mitigating the impacts of those extreme events and therefore needs to become an integral part of CCA
- CCA community has not sufficiently answered on how EW can also promote adaptation (compared to coping)
- EWS has to be receptive to change to address both rapid and slow-creeping hazards under climate change conditions
- In the light of climate change EWSs have to be improved in terms of basic risk scenarios (hazard and vul. Scenarios)
- EWSs have to go beyond an alert system –they have to function also as a communication tool between different stakeholders (Governance dimension)

Last Mile Risk Communication, Decision Making & Response



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- The LAST MILE is key to people centered and effective EWSs
- Decisions to not evacuate or prepare for disaster risk include among other factors, e.g. Lack of information, awareness, religious, social and economic aspects
- Need and challenge to develop and implement separate governance strategies to address the discrete processes.
- Knowledge of dynamic exposure is important when EWSs aim to provide guidance for effective response and gender specific needs.



LAST-MILE – Padang / Indonesia

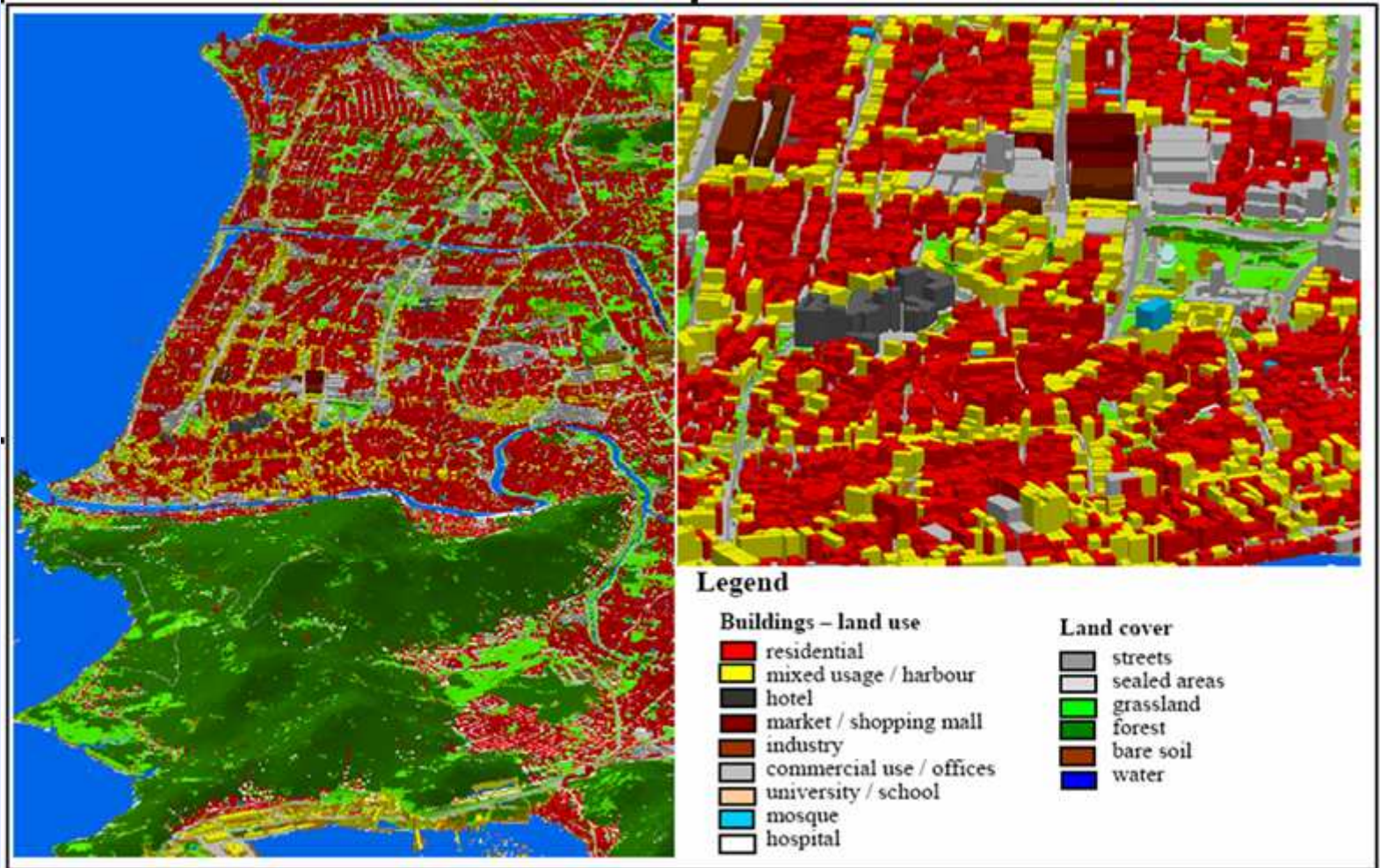


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LAST-MILE – Dynamic Exposure

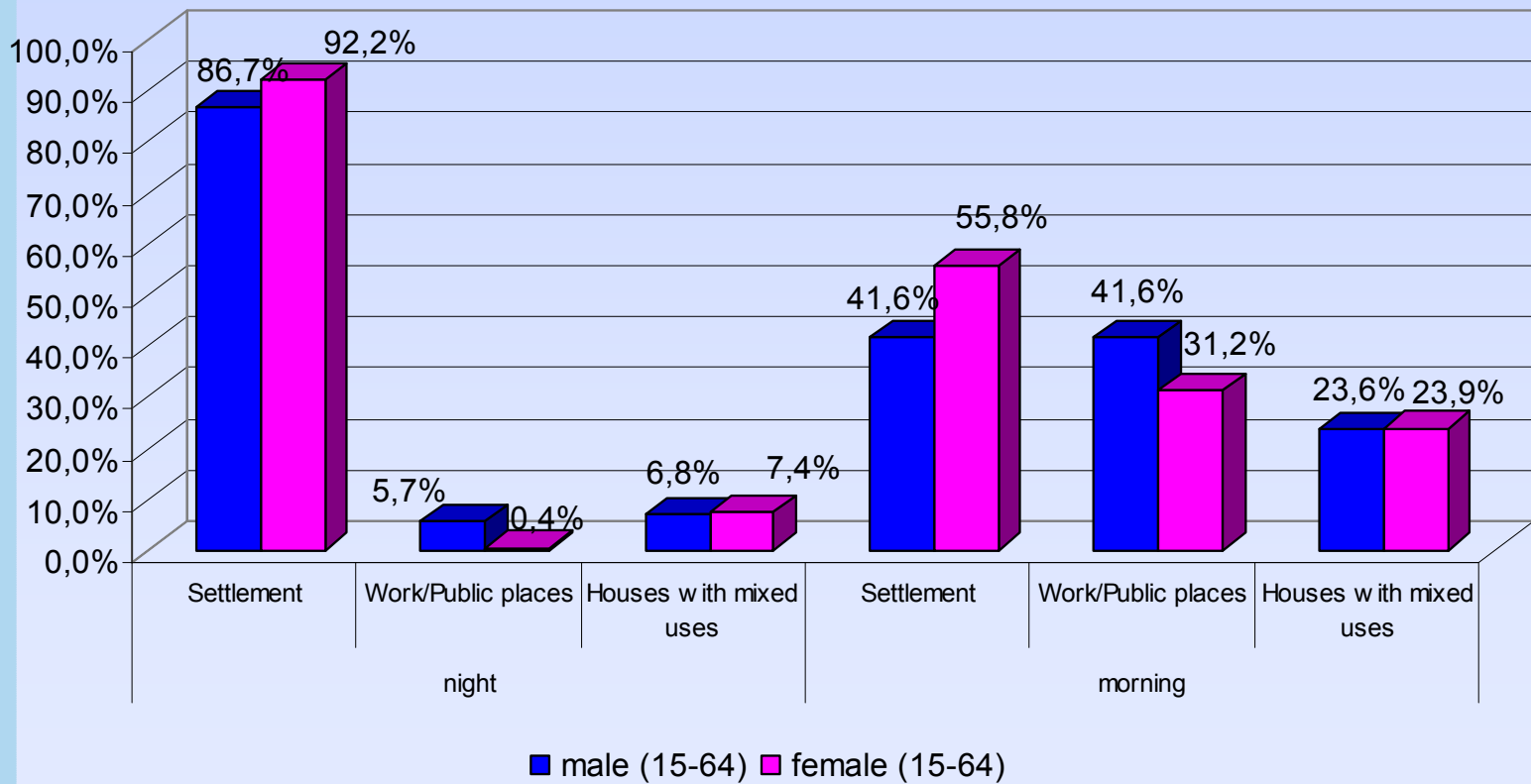


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%-age of Population Groups by Time and Building Use (In Hazard Zone)



LAST-MILE – Dynamic Exposure and Gender

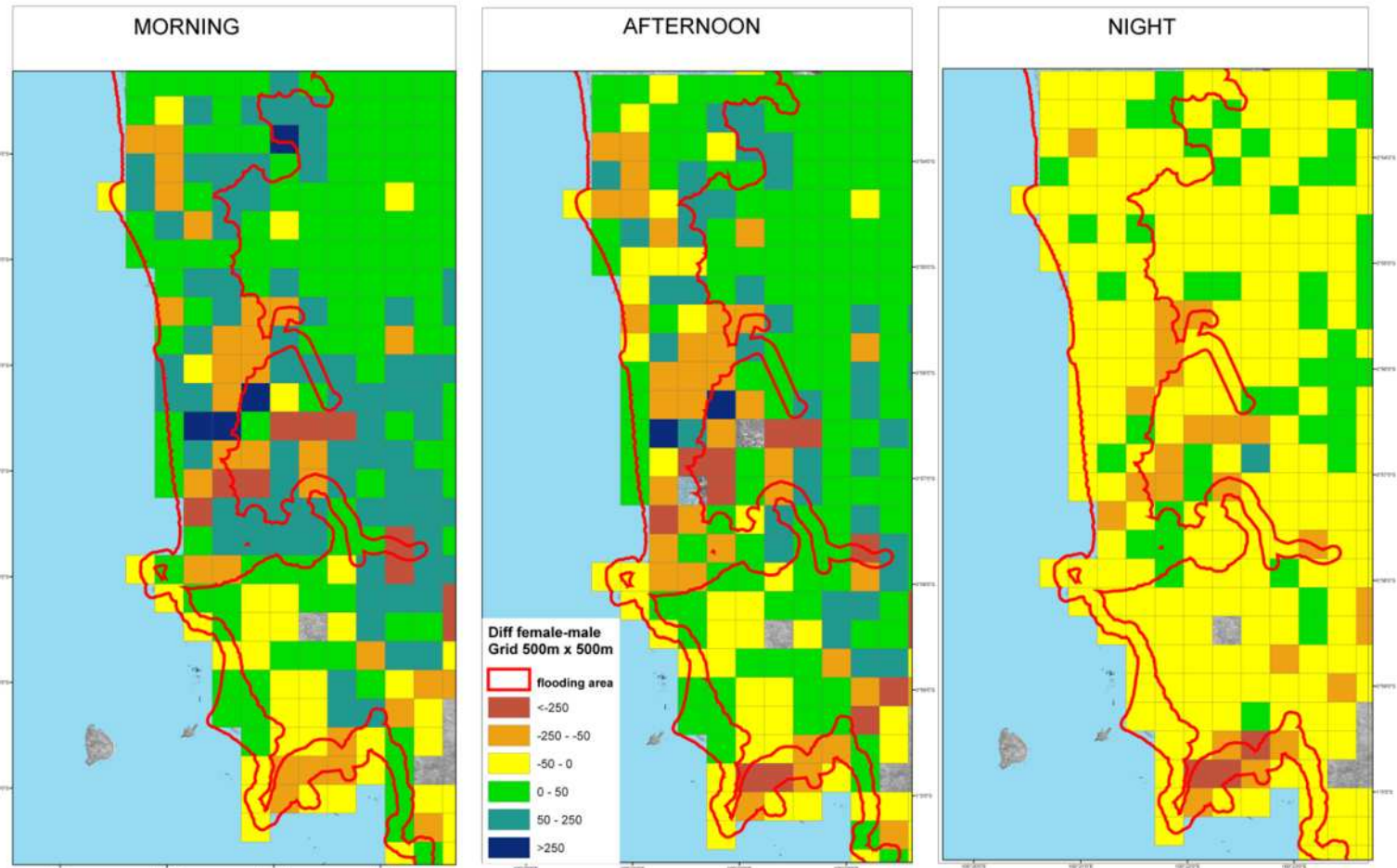


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1:30.000



Last Mile Evacuation and Early Warning



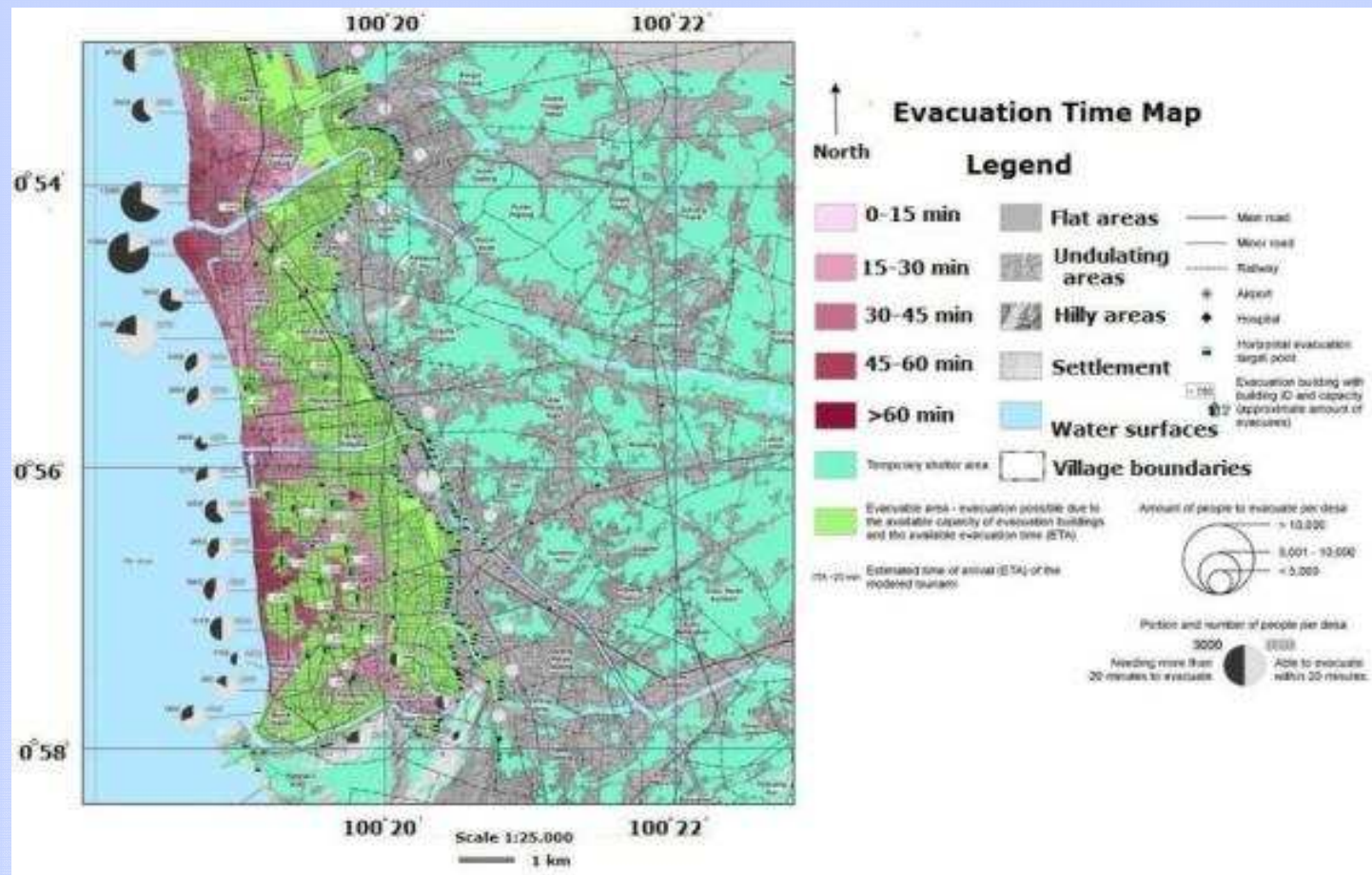
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Padang- near field tsunami -travel time - 10-30 minutes



Source: DLR in the framework of the GITEWS project
2009

Last Mile Seychelles



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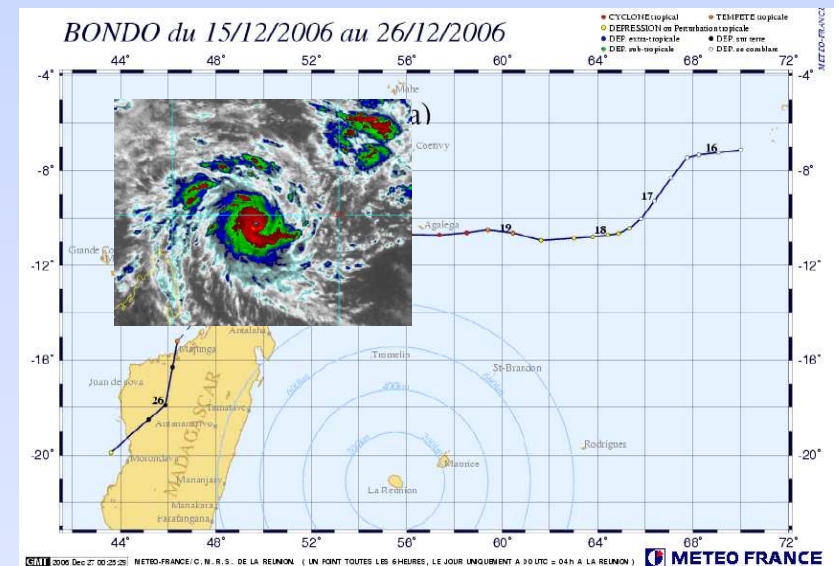
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Example:

- Seychelles- an intense tropical cyclone made direct landfall for the first time in history on the outer islands.
- A group of island workers had no proper facilities or infrastructure for evacuation.
- Some where evacuated by air at night while a group of six men had to take refuge in a drained concrete water tank.



Last Mile Seychelles



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EW Governance Linking different Levels

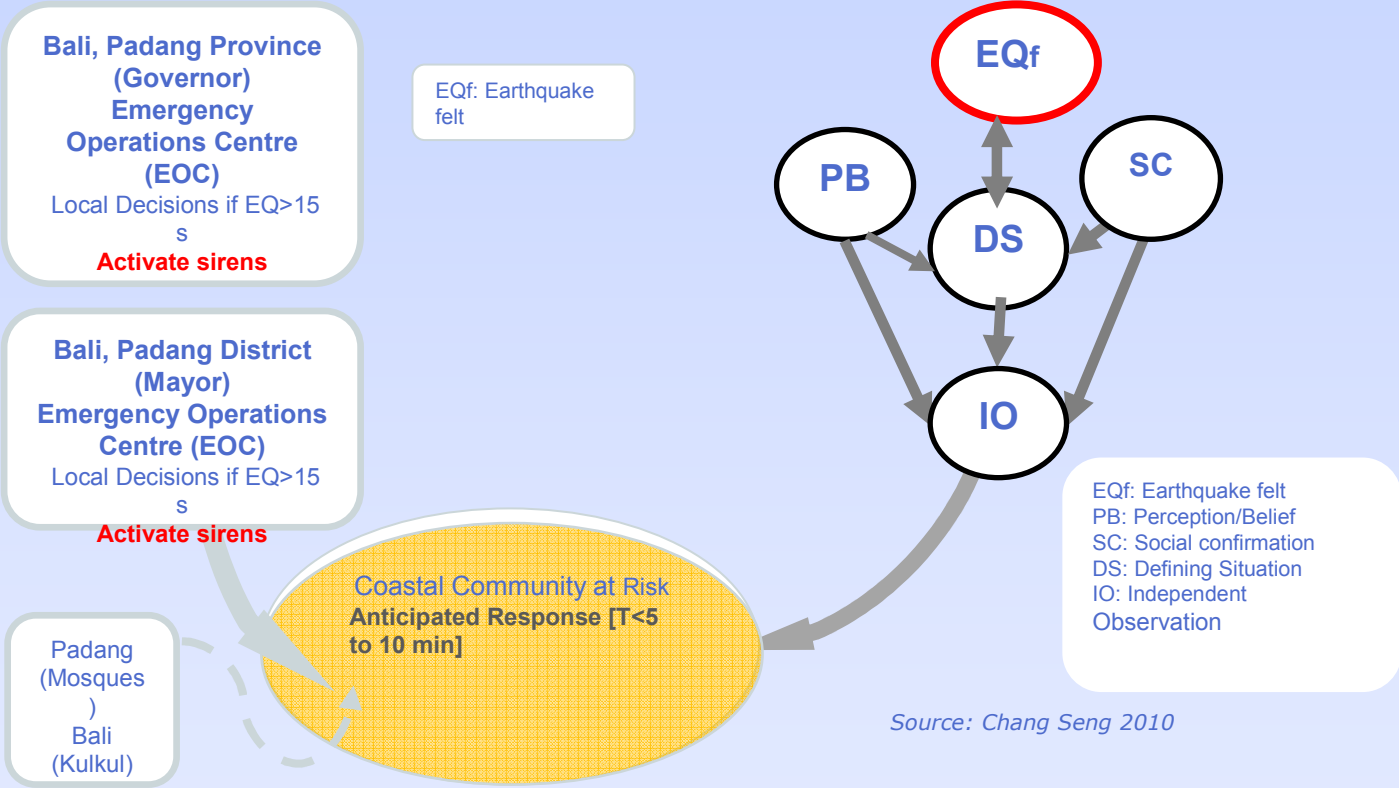


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Last Mile EW and Governance

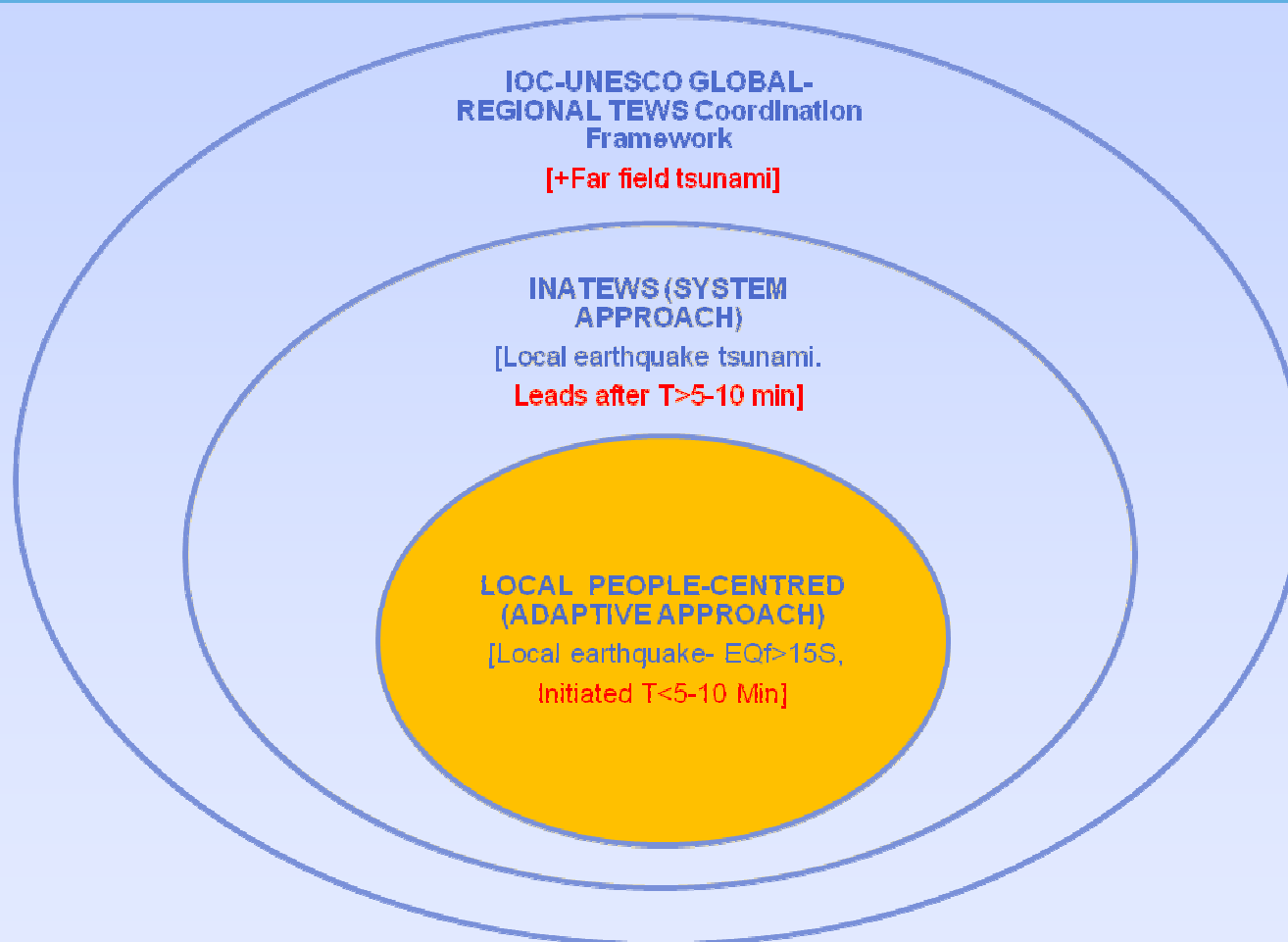


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Source: Chang-Seng 2010



Challenges in EW Governance

- Contest between linear top down technocratic approach and the local people approach.
- Local people approach is often undermined-lack of national legitimacy and financial support
- Lack of linkages between different governance levels
- Improving the institutional links and legitimacy of both approaches
- Countries with both poor / well functioning and established crisis management governance will be challenged to exercise effective risk communication when cascading disasters occur
- EW-Governance will also have to deal with upcoming challenges such as migration and displacement

Summary & Recommendations



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- EW needs to integrate and monitor combined effects of creeping and sudden-onset hazards in the light of climate change.
- EWSs have to account for socio-economic trends, dynamic exposure and also migration
- Effective risk communication in relation to multiple stressors and cascading crises/disasters
- EW Governance: improve the legitimacy of formal and informal institutions and link different systems and gov. Levels
- EW needs to be part of a broader and holistic risk reduction approach – including governance issues
- Develop and implement separate governance strategies to address the discrete risk perception



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