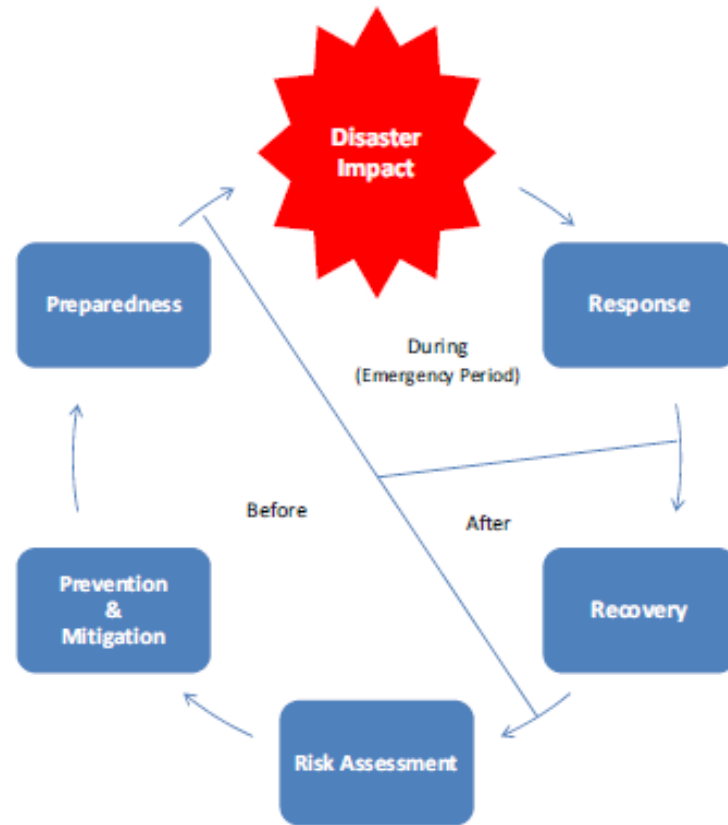




Development of Disaster-related Statistics Framework (DRSF)

**5th Asia-Pacific Disaster-related Statistics
Expert Group Meeting
Incheon, Republic of Korea
20-22 September, 2017**



Ref.: Thailand Department of Disaster Prevention and Mitigation



- Statistics that are *fit for purpose*
 - Need to meet demands for policy development in local context
 - Inputs into calculation of indicators
 - Understanding of risk (Sendai Framework Priority #1)
- Review of data sources, methodologies,
 - Possibilities for revisions or addendums



Feedback Summaries (selected)

- Tier system for basic range of statistics
 - Minimum requirements for pilot implementation
- Links to global indicators and FDES
 - Adjustments in presentations of tables and some of the concepts
- Countries have their own systems for identifying hazards
 - However there is a need for clarity on the scope of DRSF
- Public safety, awareness, education and preparedness of public
- Possibilities to link with hazard mapping initiatives and continue work to develop population exposure statistics



Feedback Summaries (selected)

- Institutional arrangements, data sources (Ch.6)
 - Collaborate with TF MEED, focusing on roles of institutions
- Data sharing
- Guidance on Metadata
- Media reports
- Possibilities for revisions for official database



Research Agenda

- Study work of UN-Habitat and others on statistics for sustainable cities for developing statistics on vulnerability
- Environmental condition measurement at scale relevant to disasters risk
- Hazard types and categories (?)



Drafting Work Plan

- Maintain current draft and survey for 3 addl' weeks
 - 1st revision (Oct.-Nov.), incl. editorial revisions
- 2nd round of online consultation (3 weeks)
 - 2nd revision (Dec.-Jan.)
- Submission of final Draft DRSF 1.0 (March)



1) Introduction

- Executive Summary
 - *To be drafted*
- Scope and Coverage of DRSF
- The need, objectives of international methodological Guidance
- Stock-taking & relationships with other frameworks

2) Main concepts and related frameworks

- Identifying and counting disaster occurrences and magnitude
- Disaster Risk
- Material Impacts and Economic Loss
- Affected Population
- Disaster risk reduction activities

3) Statistical Classifications and Definitions in DRSF

- Hazard type
- Direct material impacts classification
- Disaster risk reduction characteristic activities

4) Principles for Implementation

- Statistical coordination
- Metadata
- Dissemination

5) DRSF Data Items: Basic Range of Disaster related statistics

6) Data Sources and Strategy for Data Collection

- *To be finalized*

7) Research Agenda

- *To be drafted*

8) Annex of references, links to good practices, ...etc.

- *To be finalized*



Seeking feedback online...

- Overall, descriptions of concepts, purpose scope of measurement, sufficiently clear?
- Alignment with internationally-agreed terminologies and indicators clear and correct?
- Comments on scope and presentation of variables in basic range tables
- Additional references? Case studies/examples?



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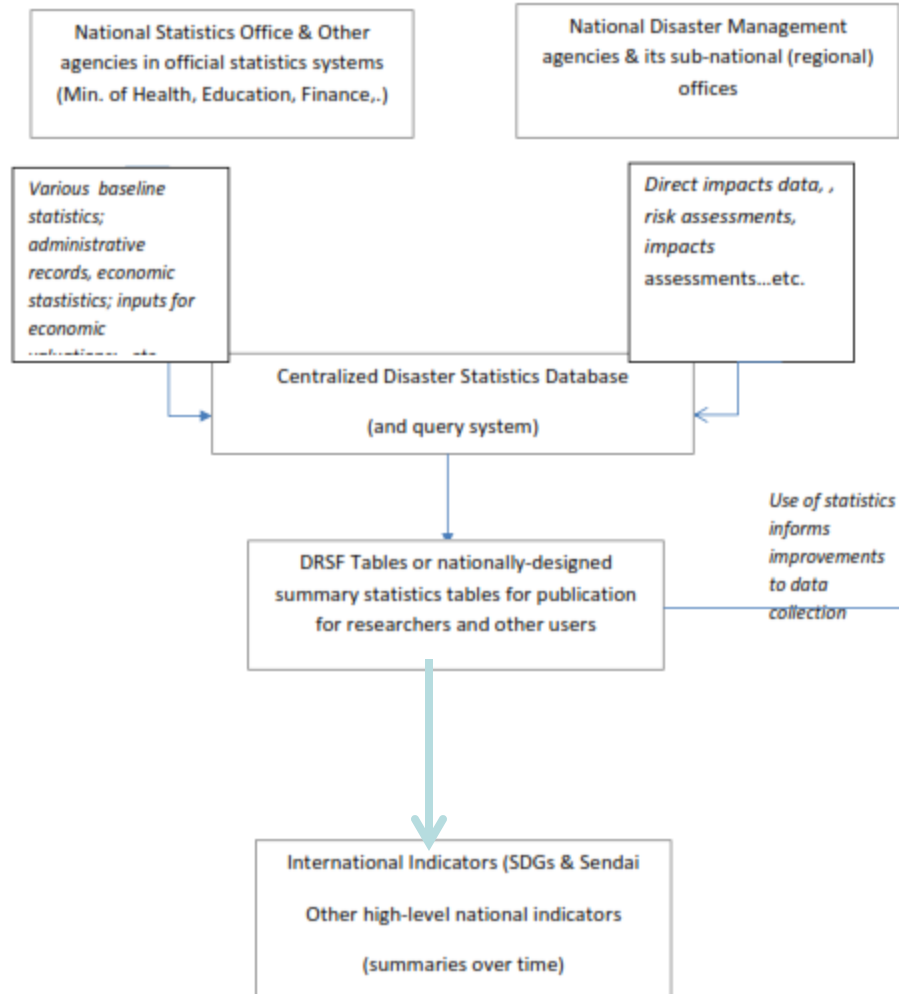
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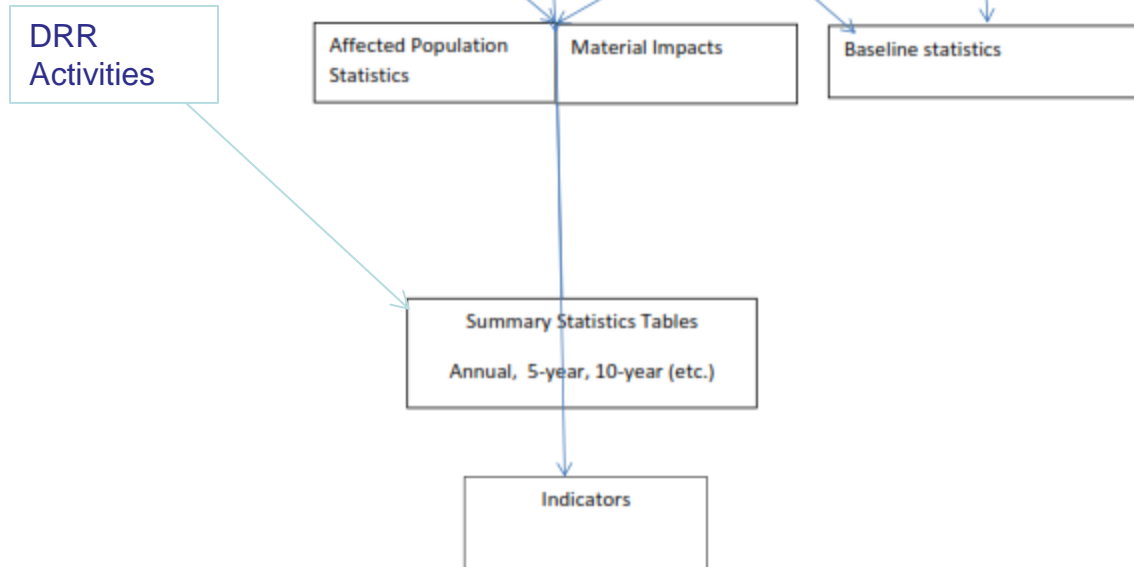
Linking with other initiatives

- UNECE Task Force on Extreme Events & Disasters
- UN Regional Commissions
- UN Expert Group on Statistical Classifications
- Inter-secretariat working group on National Accounts (ISWGNA)
- UN Expert Group on Environment Statistics (FDES)
- UNGGIM
- Climate change statistics....





| Event ID | Region code | Region | Area affected shapefile (if available) | Hazard type | Year | Emergency start | Emergency end |
|----------|-------------|---------------|--|-------------|------|-----------------|---------------|
| 25116 | 011 | North cove | | Drought | 2016 | 12-Jul | 21-Jul |
| 25116 | 012 | Central metro | | Drought | 2016 | 12-Jul | 21-Jul |
| 25216 | 011 | South bay | | Drought | 2016 | 07-Jul | 08-Aug |
| 35116 | 012 | Central metro | | Flood | 2016 | 12-Dec | 30-Dec |





Sample tables/case studies

Sample Table 3: Evacuations in the Philippines by Hazard Type and Geographic Region

| | | DISPLACED | | |
|-----------------------------|---|---------------|-----------------|-----------------|
| | | geophysical | meteorological | total |
| PHILIPPINES | Region I (Ilocos) | | 567,177 | 567,177 |
| | Region II (Cagayan Valley) | | 724,559 | 724,559 |
| | Region III (Central Luzon) | | 2,227,691 | 2,227,691 |
| | Region IV-A (Calabarzon) | | 561,932 | 561,932 |
| | Region IV-B (Mimaropa) | | 44,183 | 44,183 |
| | Region V (Bicol) | | 2,131,495 | 2,131,495 |
| | Region VI (Western Visayas) | 99 | 2,471,882 | 2,471,981 |
| | Region VII (Central Visayas) | 465047 | 870,617 | 1,335,664 |
| | Region VIII (Negros Island Region) | | 1,949,110 | 1,949,110 |
| | Region IX (Zamboanga Peninsula) | | 3,600 | 3,600 |
| | Region X (Northern Mindanao) | | 73,003 | 73,003 |
| | Region XI (Davao Region) | | 207,057 | 207,057 |
| | Region XII (Soccksargen) | | 129,368 | 129,368 |
| | Region XIII (Caraga) | | 536,806 | 536,806 |
| | National Capital Region (NCR) | | 264,323 | 264,323 |
| | Cordillera Administrative Region (CAR) | | 239,936 | 239,936 |
| | Autonomous Region of Muslim Mindanao (ARMM) | | 27,116 | 27,116 |
| National total (unadjusted) | | 465146 | 13029855 | 13495001 |



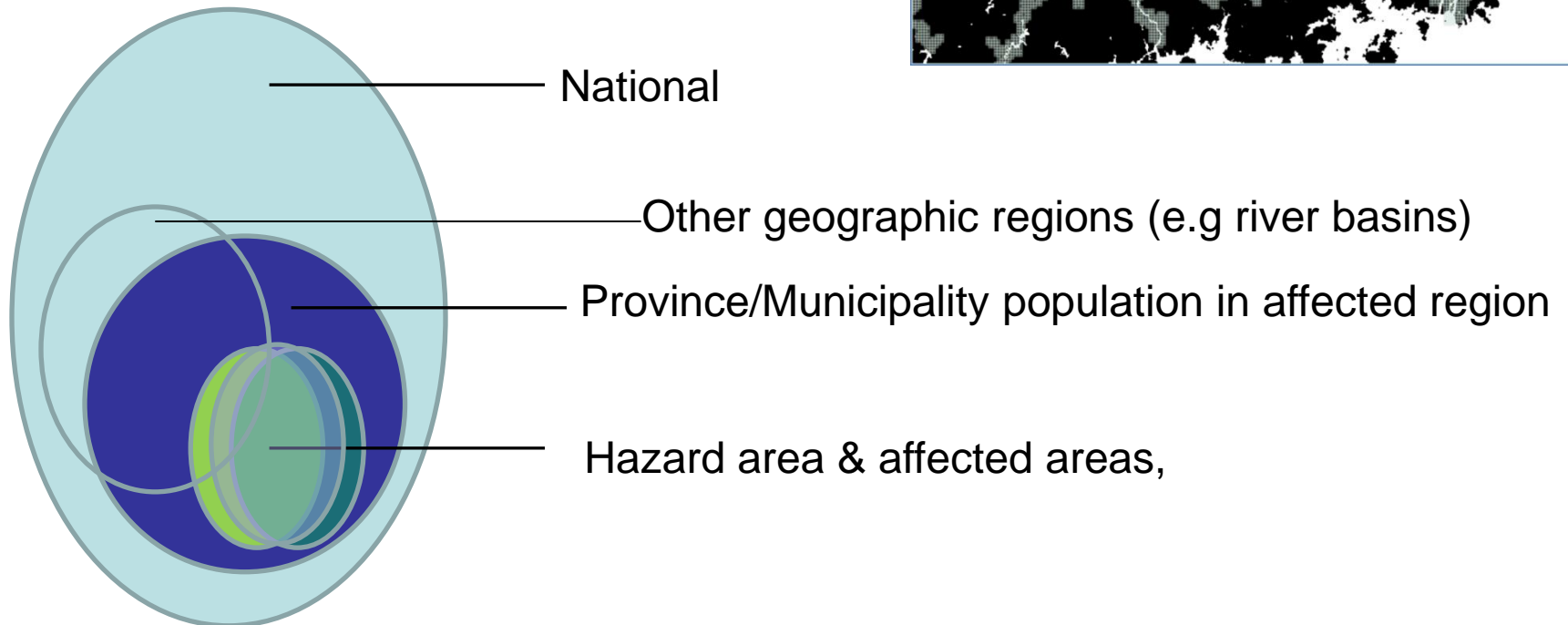
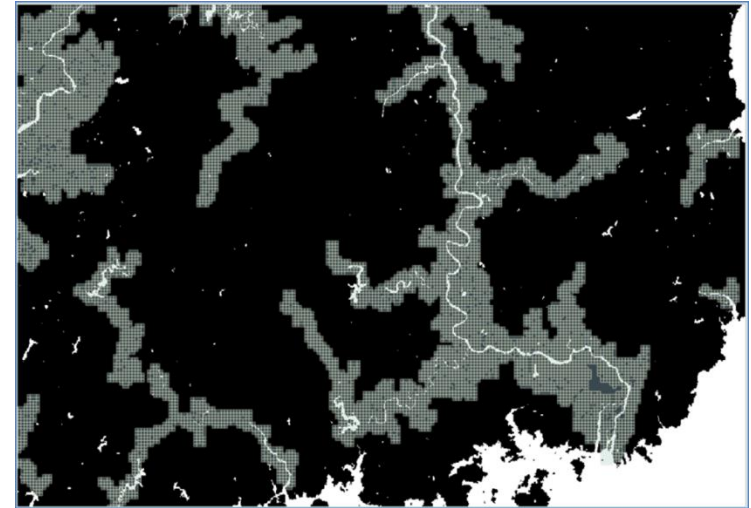
Geography of a Disaster



- Geography of a Disaster
- Timing of a Disaster



Scale of Analysis





- *Risk = f(Hazard, Vulnerability, Capacity)*
of people and infrastructure

- Impacts of Disasters



SDG Target 1.5:

“By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters”



Exposure, vulnerability, coping capacity

- Of Population
- Of land and infrastructure, basic services



Impacts and Costs of Disaster Risk Reduction



DRR Activities

- a scope of work “aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contributes to strengthening resilience...”
- Rationale
 - Understanding of current investments in order to see the benefits, identify gaps
 - Analyzing effective DRR means
 - Also critical inputs for estimating the economic costs
 - critical inputs for estimating the economic costs



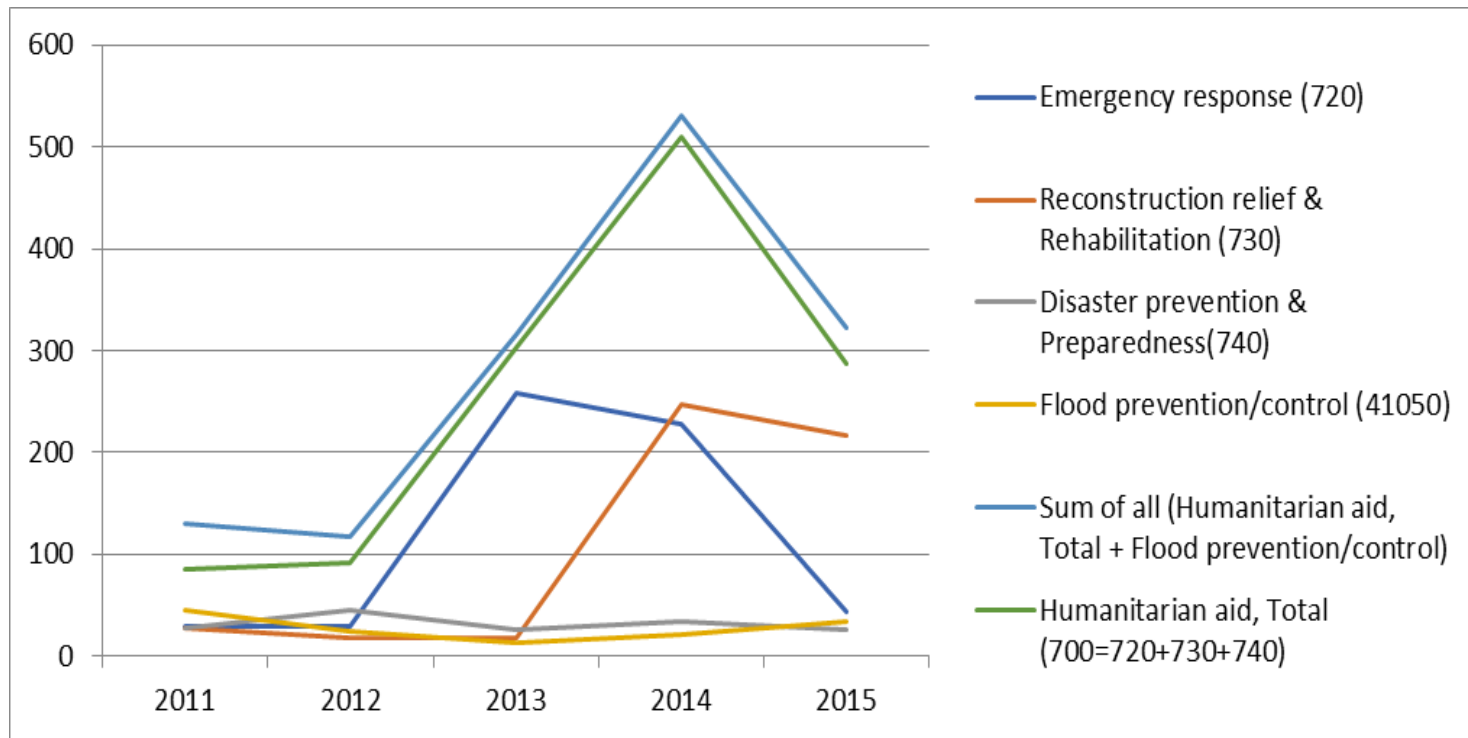
Two approaches

- Focused analysis of transfers and expenditures on a particular geographic region and time period where there is a large-scale disaster recovery underway.
- Produce functional accounts (satellite accounts) for transfers and expenditures with ***a DRR purpose***



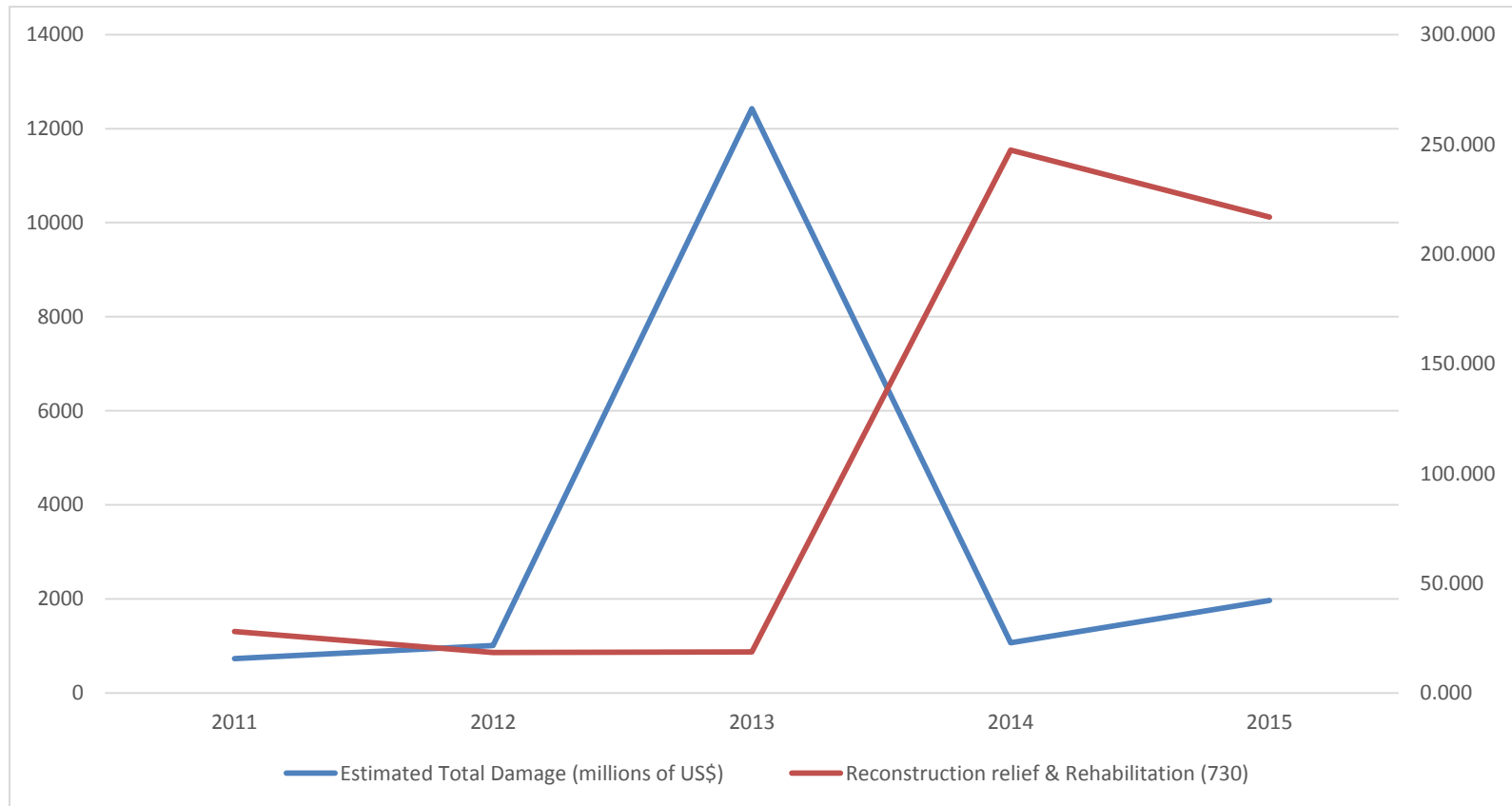
OECD.Stat Humanitarian Aid:

- three sectors-Reconstruction Relief & Rehabilitation, Emergency Response, and Disaster Prevention & Preparedness
- OECD estimates 80% of humanitarian assistance goes to conflict-related settings





Comparison of Damages and ODA Inflows for Reconstruction Relief, and Rehabilitation, Philippines 2011-2015



Source: OECD.Stat and CRED-EMDAT



Impacts to People

- Deaths or missing
- Injured or ill
- Displaced
- Dwellings damaged
- Los of jobs/occupations
- Receiving Aid
- Otherwise affected

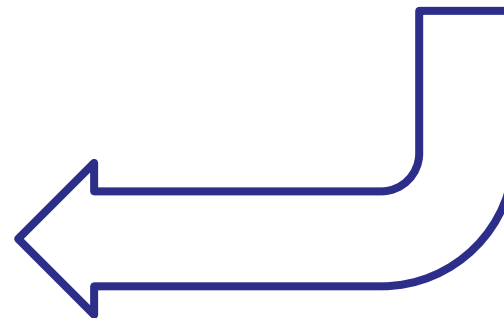
| |
|---------------------------------------|
| Health services |
| No. of people |
| Length of time |
| Educational services |
| No. of people |
| Length of time |
| Public administration services |
| No. of people |
| Length of time |
| Water services |
| No. of people |
| Length of time |
| Other Basic Services |
| No. of people |
| Length of time |
| Total Disruptions |
| No. of people |
| Length of time |

DRSF Table D2a: Disruptions to Basic services from a Disaster

2.5 Critical infrastructures [2.1.2], [2.1.3.1], [2.1.4]

- 2.5.1 Hospitals, health facilities
- 2.5.2 Education facilities
- 2.5.3 Other critical public administration buildings
- 2.5.4 Public monuments
- 2.5.5 Roads
- 2.5.6 Bridges
- 2.5.7 Airports
- 2.5.8 Piers
- 2.5.9 Railway Stations
- 2.5.7 Transport equipment
- 2.5.8 Electricity generation facilities
- 2.5.9 Electricity grids
- 2.5.10 ICT equipment
- 2.5.11 Dams
- 2.5.12 Water supply infrastructure
- 2.5.13 Water sewage & treatment systems
- 2.5.14 Agriculture and, livestock, fish stocks, and managed forests
- 2.5.15 Other non-public critical infrastructures

DRSF Table D1: Direct economic material impacts





Environmental Impacts

/

- <http://volcano.si.axismaps.io>



Impacts to Agriculture

To:

- the land itself, including the soil (accelerated erosion, landslide impacts, salination...)
- land developments (irrigation systems, greenhouses...)
- machinery, equipment, buildings
- growing (non-harvested) crops



Social Group Disaggregation

| | | | |
|--------------------------|------|-----|--------------|
| C2a1 - Age groups | | | TOTAL |
| 0-4 | 5-60 | 60+ | |

| | | |
|-----------------------------|--------|--------------|
| C2a2 - Gender groups | | TOTAL |
| Male | Female | |

| | | |
|--------------------------------------|-------|--------------|
| C2a3 - Urban/Rural population | | TOTAL |
| Urban | Rural | |

| | | |
|---|------|-----------------|
| C2a4 - Specific vulnerability groups | | NO TOTAL |
| Disabled | Poor | |



Multiple Counting

