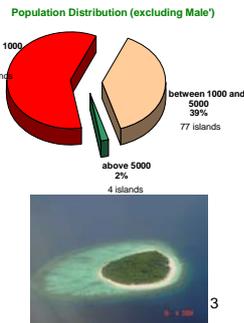


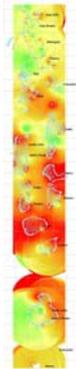
Vulnerability Indicators

- Highest elevation 1.5m above sea level
- 97% of all inhabited islands reported perennial beach erosion and 64% of them undergo severe erosion
- Wide dispersal of population across very small islands
- Remoteness and inaccessibility of islands
- Extremely high economic dependence on tourism
- High import dependence
- High diseconomies of scale,
- High transportation costs



Tsunami strikes: 26 December 2004

- Waves up to 4 metres struck shortly after 9am
- Only 9 islands escaped flooding
- Displaced and homeless: **15,000**
- Totally evacuated islands: 13
- 1/3 of population affected
- Infrastructure damage across the country
- Destroyed 62% of the value of GDP



Setting the recovery targets

- Disaster relief
- Macro-economic recovery and livelihoods revival
- Community empowerment
- Environmental protection
- Public services



Recovery Targets

- Education - Schools rehabilitated to pre-tsunami levels
- Health - Facilities in all affected islands fully functional
- Water and Sanitation - Adequate safe drinking water available in all islands, improved sanitation facilities in all tsunami affected islands
- Housing - Permanent houses for all IDP's
- Sustainable livelihood - Livelihood restored and economic activities improved and expanded
- Tourism - Increased tourist arrivals and DM plans developed
- Power - Generators and power systems fully functional
- Environment and Disaster Risk Management – Environmental Contingency Plans, Reef Impact Assessment completed, Disaster risk assessments and early warning system established
- Enhancing Mitigation and Redevelopment (The safer islands Programme) – Regional development and population consolidation, Development of larger islands with better economic opportunities

Shelter

- Status
 - 21 islands from 7 atolls with temporary shelters
 - Total no. of apartments in housing units: 855
 - 100% of total shelters have been completed.
 - 15,000 people displaced immediately after tsunami.
 - 3,464 people returned either to newly reconstructed or their own repaired house.
 - Total IDP stands at 8,273 with 17% living in their own damaged house, 22% hosted in others' houses and 61% living in temporary shelters.
- Lessons Learned
 - The needs of the community changed from time to time due to uncertainties among themselves
 - Community integration
 - Beneficiary assistance by different donors to compensate for loss of assets
 - Need to ensure equity between affected communities and other communities in order to avoid social conflicts



Livelihood

- Sustainable livelihood - Livelihood restored and economic activities improved and expanded
 - The recovery and reconstruction effort is implemented so that the rural population is not thrown into poverty.
 - Critical assistance is not limited to providing immediate relief, but also focuses on rebuilding skills and assets for the future, so that beneficiaries are less vulnerable and more resilient to shocks.
 - The programme is designed to promote meaningful participation of affected rural people in the recovery effort and to focus on improving skills of beneficiaries.
 - The programme adopts a collaborative and complementary approach with other donors and stakeholders, strengthening cooperation and linkages.



Livelihood

- Lessons Learned:
 - Limitations on validation of damage assessment and beneficiary identification due to logistical difficulties led to system abuse.
 - High cost of participatory needs assessment, lack of agreement within communities leading to delays in delivery
 - Disproportionately negative impact of such delays on most needy people
 - Defined methodologies need to be developed and used consistently by all partners
 - Tough policy decisions needed to be taken immediately after disaster with regard to level of assistance and period of assistance
 - Increased funding requirement than first estimated. High funding gap in all areas of livelihood rehabilitation



Livelihood

- Lessons Learned:
 - Different donors dictating different implementation requirements
 - Limited co-ordination and data sharing between donor agencies
 - Subsequent delays in delivery resulting in loss of trust of beneficiaries towards government/donor agencies
 - Need to have quick disbursement arrangements, but very few donor agencies use such arrangements
 - Limited staff and capacities of GOM agencies, especially at atoll and island level to effectively manage, coordinate and deliver relief and rehabilitation assistance
 - Initial assessment needs to be more thorough, comprehensive and systematic.



Housing – reconstructions

- **Housing - Permanent houses for all IDP's**
 - Maldives has adopted the build back better principles integrated in reconstruction.
 - Sound construction methods and quality
- **Needs:**
 - 2987 needed reconstruction in 49 islands of 17 Atolls.
 - 530 completed.
 - 1456 on going and completed before 3rd quarter of 2007
 - 266 houses tendered not yet started.
 - 973 not yet tendered due to the recent construction in Maldives.
 - 125 houses remains unfunded



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Housing - reconstruction

- **Lessons Learned:**
 - Set standards for donors on the design performance of the houses
 - Project management was coordinated by HIRU as a single coordination unit
 - Developed a beneficiary selection criteria consistent amongst the donors
 - beneficiary procedures led to community conflicts between host and IDP communities
 - Dual tendering process contributed to the speed of implementation
 - Inflation due to large scale projects from US\$ 24,000 to US\$ 50,000 the cost of the house.
 - Inflation in the cost of transportation.



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Housing - repair

- **Needs**
 - 6675 houses needed repairs
 - 2732 houses in 19 islands repair completed.
 - 2352 houses repair on going
- **Lessons Learned:**
 - Lack of technical capacity
 - High transportation cost and difficulties in logistics
 - Increase in the price of construction materials due to construction boom
 - Difficulty of entertaining a fluid community opinion



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Harbour repair and reconstruction

- Repair and reconstruction of harbour infrastructure in order to rebuild the lives and livelihood
- Repair and reconstruction of quay walls and sea walls
- **Needs**
 - 82 harbours were damaged.
 - 11 harbours completed.
 - 13 harbours on going repair.
 - 29 harbours, funding is secured.
 - 24 harbours proposed for funding.
 - 29 harbours unfunded.
- **Lessons Learned:**
 - With delays in repair leading to further damages and exacerbating the condition of the infrastructure
 - Donor non-delivery following a commitment over a year
 - Too many harbours were identified for the programme
 - The cost of repair and reconstruction much higher than expected – funding gap



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Tourism

Tourism sector contribution to GDP – 30% direct, 70% indirect.

- Increased tourist arrivals
- DM plans developed
- Occupancy rates of resorts restored to pre-tsunami level
- **Needs**
 - Out of the 21 resorts damaged/closed: 6 were completely destroyed. Except 2 all are fully operational. Those 2 that have not opened will undergo complete reconstruction.
 - Over 250m \$ business loss; over 100m \$ reconstruction cost
 - Arrivals in 2005 fell to 395,000 from that of 616,000 in 2004, which was a negative growth of 34% compared to that of 2004. Arrivals recovered almost up to 2004 level by the end of 2006. With a growth of 8.5% over 2004, arrivals by the end of this year is expected to be in the range of 650,000.
 - Tourism revenue which fell to 912m Rufiyaa in 2005 recovered to reach 1,835m in 2006, which was a 101% growth.
 - International air traffic movements which dropped to 81% in 2005 compared to that of 2004, recovered to 90% by the end of 2006.



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Tourism

- **Lessons Learned:**
 - Importance of preparedness,
 - It is important to have disaster preparedness plans at the resorts level and at the national level.
 - It is important to have trained personnel to implement the DRR plans, should a disaster strike.
 - It is important to have good coordination at the national level.
 - Transport, communication and other logistics are essential to tackle issues during a disaster.
 - It is important to provide financial relief for recovery to the affected tourist establishments.
 - It is important to increase promotional and marketing activities.



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Rehabilitation of Schools

Schools rehabilitated to pre-tsunami levels

- Out of the 315 schools, 9 schools were completely damaged, 31 schools had heavy structural damages, 24 schools were slightly affected,
- 52 boundary walls were collapsed
- 10 percent of furniture and teaching materials were lost/damaged
- Re-reconstruction and renovation works of 28 schools, 3 pre schools completed.
- Major rehabilitations works of Educational Training Centre for Children at K. Maafushi completed.
- Phase II of rehabilitation works, construction works of 20 Teacher Resource Centres, 6 pre-schools and 28 boundary walls and re-construction works of 16 schools are currently on-going.



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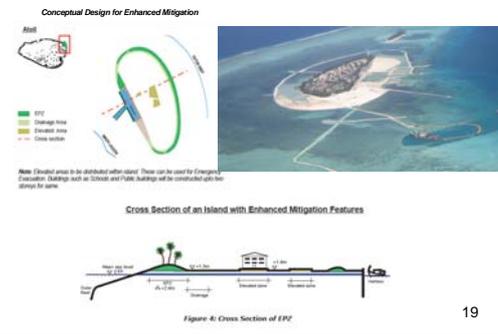
Rehabilitation of Schools

Lessons Learned:

- Donor agencies expected community contribution as part of Tsunami Rehabilitation package.
- Co-operation and contribution given by the community during the first few weeks after Tsunami has not come forth. This posed a major setback for the completion of school rehabilitation works in phase one.
- Cost estimations initially projected was to contract out major construction works to contractors and minor rehabilitations to be given to the community to save labour and other costs.
- Lack of community participation in the school rehabilitation works eventually forced the donor agency to reduce the number of schools initially proposed for the rehabilitations works in phase two.

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Enhancing Mitigation and Redevelopment



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Enhancing Mitigation and Redevelopment

- Enhance disaster mitigation and preparedness of selected islands
 - Wider environmental protection zones (Coastal protection)
 - Disaster mitigation measures
 - Community awareness
 - Elevated areas for vertical evacuation in the event of floods
 - Easy access in emergencies
- Status
 - Seven Islands are being identified as Safer Islands
 - Development would be in phases
 - Reclamation of one Safer island has been completed and ongoing work on another
 - Detailed risk assessment studies ongoing for 9 islands
 - The land area has been increased from 16Ha to 64Ha and also elevated to 1m or higher than original

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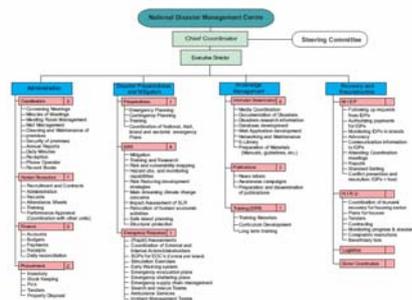
Enhancing Mitigation and Redevelopment

- Lessons Learned:
 - Difficulty to implement safe island features on a populated island especially if densely populated and not being reclaimed
 - Need to carry out detailed risk analysis studies to determine particular vulnerabilities of each island
 - High costs of implementing programmes



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Governance and institutional arrangements for Tsunami Recovery



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Governance and institutional arrangements

- Status
 - Establishment of the National Disaster Management Centre
 - Development of a Disaster Management Act
 - Multi hazard and all agencies approach
 - A draft National Disaster management plan has been prepared
 - Multi Hazard Community preparedness plans are being developed for the islands and Atolls
 - National Early Warning Plan
 - Seven Islands are being identified as Safer Islands
 - Disaster Risk Reduction has been incorporated into the 7th NDP and emphasis has been covered in different sectoral plans
- Lessons Learned:
 - Institutional arrangement and governance is a process in which the community has to be a stakeholder
 - Takes time to become functional

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Resilient recovery and sustainable development

Key influences:

- Livelihood facilitation
- Community preparedness
- Individual flexibility within islands
- Community participation in recovery programmes
- Flexibility in population relocation and consolidation
- Facilitate migration to ensure resilience communities
- Alternative livelihood opportunities such as industrial land area for fish processors to be part of relocation package
- Flexibility in land use plan
- Flexibility for beneficiary to add on following the donor/government input



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