



# Project Overview Plan

## Early Warning Strengthening Project\*

Update of 30 April 2005

**\* UN Flash Appeal Project TSU-REG-05/CSS06-REGION.  
*Evaluation and Strengthening of Early Warning Systems in Countries  
Affected by the 26 December 2004 Tsunami***



UNESCO-IOC

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### **4. ACRONYMS**

# 1. INTRODUCTION

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## 1.1 Scope of the Project Overview Plan

This Project Overview Plan describes the ISDR-coordinated multi-partner project to support the strengthening of early warning capacities of countries of the Indian Ocean, following the tsunami catastrophe of 26 December 2004. The project aims to provide an overall integrated framework for strengthening early warning systems in the region, primarily for tsunamis, but also recognizing the context of multiple hazards, risk management and risk reduction. The project is supported through the United Nations Flash Appeal for the affected countries as project TSU-REG-05/CSS06-REGION.

The plan revises and extends the original project proposal, based on developments over the period January – April 2005. It will continue to be periodically updated over 2005-2006 to reflect changing circumstances and project progress.

In this document, the project is referred to as the *Early Warning Strengthening Project*.

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## 1.2 Background

The Indian Ocean tsunami was triggered by 9.0-magnitude earthquake near Sumatra in Indonesia. While many people are believed to have died in the earthquake, the main cause of death was trauma and drowning from the flux of seawater and waves pouring into coastal areas without warning. The death toll is believed to be over 300,000 people.

Early warning systems for tsunami have been in place in the Pacific Ocean region for many years, coordinated by multilateral mechanisms under the Intergovernmental Oceanographic Commission (IOC), of UNESCO. If effective tsunami early warning systems had been in place in the Indian Ocean region, many thousands of lives could have been saved. Following the event, there have been continuing high levels of anxiety about further tsunamis and a number of false alarms and panic.

The United Nations Flash Appeal in respect to the tsunami, issued on 6 January 2005, included a US\$ 8,000,000 proposal "*Evaluation and Strengthening of Early Warning Systems in Countries Affected by the 26 December 2004 Tsunami*" that was submitted by the International Strategy for Disaster Reduction's Platform for the Promotion of Early Warning (UNISDR/PPEW) (see [www.unisdr-earlywarning.org](http://www.unisdr-earlywarning.org)), with substantial input from UNESCO-IOC. Early warning was also included by the United Nations Development Programme (UNDP) as an element of one of their Flash Appeal proposals.

The proposal outlined a partnership approach to supporting the integrated development of tsunami early warning systems, recognising the numerous UN and other organisations that contribute to improving countries' disaster risk management and risk reduction, including early warning systems. In particular, the project supports UNESCO-IOC in its leadership to establish the core elements of a tsunami early warning system.

The Early Warning Strengthening Project was well received by donors. The current status as of 30 April 2005 includes donations from Japan (US\$4,000,000), Sweden (US\$1,400,000) and Norway

(US\$1,400,000) and pledges from the European Commission (US\$2,600,000), Finland (US\$1,300,000) and Germany (US\$390,000) – approximate figures – amounting to a total of about US\$11,000,000. Discussions are being undertaken with other potential donors.

Although the original Flash Appeal was confined to a sub-set of affected countries, there is now general agreement among most parties including donors that an effective early warning system needs to involve all countries in the Indian Ocean Region. The Early Warning Strengthening Project therefore will endeavour to encompass all countries, as appropriate to their needs, capacities and risks faced.

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### 1.3 Project objectives and benefits

The objectives and expected benefits of the Early Warning Strengthening Project were stated in the brief original proposal as follows.

*“The project will link the available technical capacities on tsunami early warning with humanitarian and emergency management capacities. It will quickly implement the first steps to establish effective tsunami warning capacities in the region, in particular though facilitating an interim warning capacity based on existing national and international capacities, supporting a conference to achieve technical specification and political consensus on the design of an appropriate early warning system, developing networks among practitioners and authorities concerned with all hazards, conducting regional meetings of relevant practitioners for both training and coordination aims, developing interim information materials for practitioners and community leaders, providing necessary coordination and support for the affected countries, and developing educational support and demonstration projects. The activities will be carried over an 18 month period, with greatest effort concentrated in the first six months.”*

*“The benefits of the proposed activities will be improved public confidence and security, a rapid boosting of the capacities for action and planning by public authorities in the countries affected, authoritative information products needed by the humanitarian community, and a sound basis for coordination and informed implementation of tsunami warning systems in the region.”*

The period since the project's urgent drafting in early January has seen many developments, such as initiatives by the affected countries and the results of several international and regional meetings. Activities supported by the project include steps by UNESCO-IOC to upgrade ocean observing systems and to implement an interim tsunami watch system and the conduct of training and coordination meetings (see 2.3). The design of the Early Warning Strengthening Project is evolving in response to these developments.

Among other things, the original proposal's two phases, on warning system development and preparedness activities, are being pursued in parallel, and more emphasis is being given to integrating the tsunami early warning system development into countries' other natural hazard warning systems and disaster risk management and reduction activities. This follows the direction provided by the *Hyogo Framework for Action 2005-2015*, the primary outcome from the World Conference on Disaster Reduction held in Kobe, Hyogo, Japan, 18-22 January 2005, (see <http://www.unisdr.org/wcdr/intergover/official-doc/L-docs/Final-report-conference.pdf>)

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## 1.4 Resources

As of 30 April 2005 approximately US\$ 6,800,000 had been received for the Early Warning Strengthening Project. With the remaining pledges, an overall budget of US\$ 11,250,000 is being worked to. Further contributions will be welcomed and used to extend the project in areas of priority need.

As part of the Mid Term Review of the Flash Appeal, coordinated by the UN Office for the Coordination of Humanitarian Affairs (OCHA) in late March, UNESCO-IOC prepared a further request for US\$ 12,000,000 to support activities in establishing core capabilities beyond the preparatory work possible under the present project. The request is elaborated in the document prepared by UNESCO-IOC and ISDR titled *Progress and further requirements for the development of a Tsunami Warning and Mitigation System for the Indian Ocean*<sup>1</sup> (see document IOTWS-II/5, <http://ioc.unesco.org/indotsunami/mauritius05/mauritius05.htm>). Donor responses at the Mauritius coordination meeting amounted to nearly half of the request (see [http://ioc.unesco.org/indotsunami/mauritius05/mauritius05\\_outcome.htm](http://ioc.unesco.org/indotsunami/mauritius05/mauritius05_outcome.htm)).

The construction of a fully functioning, effective tsunami early warning system for the Indian Ocean will require many tens of millions of dollars for the core elements alone. In addition, sustained and substantial funding will be needed to develop the necessary preparedness and mitigation measures in the countries of the region, including public awareness and education, and to build broad-based national capacities for multi-hazard risk management and risk reduction. Further proposals to this end will be developed under the project.

It is important to recognise that substantial resources are being provided by the countries of the region, bilateral donors and many other organisations. Examples include India's commitment of around US\$ 30,000,000 to develop its national system, Thailand's offer of a US\$ 10,000,000 to support a multi-partner regional early warning system fund, the offers of Germany, Australia and other countries of several tens of millions to support core system development, USAID's support project of US\$ 12,000,000, and UNEP's commitment of US\$ 1,000,000 to support environmental assessments and related activities. The International Federation of Red Cross and Red Crescent Societies (IFRC) and other non-government organisations bring significant financial and other resources to the support of early warning related activities.

The Early Warning Strengthening Project is seeking linkages and synergies with the various other initiatives. In some cases, the partners directly involved in the project bring to the table their own resources, which can be substantial and can provide opportunities for mutual leveraging and expanding project activities. Efforts are being made to extend the work of the project through such means.

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<sup>1</sup> The Mauritius document *Progress and further requirements* and this Project Overview Plan are complementary. *Progress and further requirements* includes elements of the present document, but has more details on core system implementation needs than are provided here.

## 2. PROJECT DESIGN AND IMPLEMENTATION

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### 2.1 Project strategic framework

A strategic framework is being progressively elaborated by the ISDR secretariat and a consortium of partners as a tool to help guide, coordinate and monitor progress on the Early Warning Strengthening Project. The framework comprises the following five major components.

#### 1. Core system implementation

Obtain regional consensus on the nature of a tsunami early warning system, design its core elements, particularly the observing system, national tsunami warning centres, and permanent regional coordination mechanisms, and commence initial strengthening and implementation steps.

#### 2. Integrated risk management

Integrate the tsunami early warning system into national disaster risk management and reduction mechanisms, seeking synergies with other hazard early warning systems and strengthening national capacities for tsunami-related disaster risk management and risk reduction.

#### 3. Public awareness and education

Develop and disseminate information products on tsunami, early warning and risk reduction, tailored to local languages and cultures, targeting key intermediaries such as public officials, teachers, and community leaders, and develop and promote mass media materials and campaigns.

#### 4. Community-level approaches

Implement community-level pilot activities to test and demonstrate good practices, including hazard and vulnerability assessment, organisational strengthening, community participation, warning system operation, capacity building, evacuation planning, and the design and construction of shelters and other works.

#### 5. Coordination

Establish the mutual understandings, agreements, information resources, networks, support capacities and decision-making mechanisms needed to ensure the effective implementation of the project and its early warning system objectives.

Section 2.4 provides further details on the project's intentions with respect to each of the components, including planned activities and the partners involved.

The framework is also being considered by partners as a useful means to guide the development of the early warning system more generally, beyond the scope of present project (see section 2.3). Specific results and indicators are under development.

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### 2.2 Project implementation

The Early Warning Strengthening Project is operated as a single integrated project, with all project donations pooled into a single sub-account of the Tsunami Trust Fund managed by OCHA.

Nevertheless, the different donors each have specific requirements, according to their national law or administrative procedure, which must be met. In some cases specific project proposals have been or are being developed by ISDR-PPEW in order to satisfy these requirements before the donor can release the offered funds.

The project is being undertaken in partnership with the specialist UN and other organizations listed in the original proposal, although collaboration is not restricted to these organisations. More than half of the funds received by the ISDR will be transferred to partners to support their contributions to the project, as set out in written agreements.

In particular, an agreement is now in place that will provide support of up to US\$ 3,550,000 to UNESCO-IOC for the costs of activities proposed in the IOC project document of 3 February 2005. This includes, among other things the upgrading of the Indian Ocean sea level gauge network, national assessments and coordination meetings, information product generation, and the major coordination meetings organised by UNESCO-IOC in Paris, France, 3-8 March and Grand Baie, Mauritius, 14-16 April. The two coordination meetings have been instrumental in laying down the foundations for developing the technical specifications and establishing the regional intergovernmental framework for an Indian Ocean tsunami early warning system (see <http://ioc.unesco.org/indotsunami/>)

An agreement is soon to be signed with the World Meteorological Organization (WMO) to provide US\$ 500,000 support for the upgrading of the meteorological communications capacities and systems in the region used to transfer tsunami data and warnings.

Discussions are underway on support to other relevant organisations concerned with disaster preparedness and disaster reduction, including UNDP, UNESCAP, ADRC, ADPC, UNU, UNV and UNEP. A number of work elements and agreements are under consideration and the work plans will be made available in due course. ISDR secretariat personnel are being placed in the Indian Ocean region to work better support partners in the region.

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### **2.3 Coordination mechanisms**

As already noted, UNESCO-IOC is providing the leadership and coordination to develop the core early warning system elements, including using its intergovernmental mechanisms and its technical networks to mobilize national and regional agreement and action to design and build the core elements of the early warning system. Three critical objectives are the implementation of national tsunami early warning centres, the upgrading of ocean observation systems and the establishment of a permanent regional coordination mechanism for the tsunami early warning system. WMO is working closely with UNESCO-IOC to ensure the coordination of the oceanic and meteorological tasks of the project and to integrate the tsunami system into other natural hazard warning systems.

Several meetings held with the support of the Early Warning Strengthening Project have contributed to the coordination of the project and to the formulation of more specific plans.

- The Scoping Meeting on the Development of Tsunami Early Warning Systems, held directly after the conclusion of the World Conference on Disaster Reduction in Kobe, 22 January 2005, was organised by ISDR-PPEW in collaboration with UNESCO-IOC and the Japan Meteorological Agency (JMA). The meeting of national representatives, UN organizations and experts considered initiatives to develop tsunami early warning systems in the Indian Ocean region. The programme may be found at:

[http://www.unisdr.org/ppew/tsunami/pdf/IOTWS\\_scopingmtg.pdf](http://www.unisdr.org/ppew/tsunami/pdf/IOTWS_scopingmtg.pdf)

- The Dialogue for High Level Administrative Policymakers on Establishing a Tsunami Early Warning Mechanism in the Indian Ocean was held in Tokyo, Japan, 22-24 February 2005. Organised by ISDR-PPEW and the Asian Disaster Reduction Center, this event combined a mix of presentations, site visits and discussions to enable regional leaders to gain insight into tsunami risks and early warning systems.  
<http://www.unisdr.org/ppew/tsunami/pdf/japan-proposal.pdf>  
<http://www.unisdr.org/ppew/tsunami/pdf/japan-schedule.pdf>
- The International Coordination Meeting for the Development of Tsunami Warning and Mitigation System for the Indian Ocean within a Global Framework, was organised by UNESCO-IOC in Paris, 3-8 March 2005. This meeting of national representatives and experts reached consensus on several key issues concerning the design and organisation of the warning system, (see meeting report including communiqué at [http://ioc.unesco.org/indotsunami/paris\\_march05.htm](http://ioc.unesco.org/indotsunami/paris_march05.htm)).
- The Second Coordination Meeting for the Development of Tsunami Warning and Mitigation System for the Indian Ocean meeting was organised by UNESCO-IOC in Grand Baie, Mauritius, 14-16 April 2005, in order to advance the coordination of plans and activities and to seek donor support for the next phases of development. (See <http://ioc.unesco.org/indotsunami/mauritius05/mauritius05.htm>)

ISDR-PPEW is providing the overall coordination of the Early Warning Strengthening Project, with emphasis on the strategic overview and planning, facilitating partnerships and partner activities, meeting donor requirements, and providing information. ISDR will also undertake specific tasks and initiatives related to the mandates of the ISDR, including placing staff in UN regional centres, in Bangkok and Nairobi, to support countries.

An ad hoc *Project Advisory Group* has been convened by ISDR-PPEW to promote wide engagement and coordination across the whole project, particularly for preparedness activities and integration into disaster risk management and risk reduction. The group comprises the many UN and regional organisations concerned with the project, namely UNESCO-IOC, WMO, UNDP, OCHA, UNEP, UNESCAP, UNU, UNV, ITU, IFRC, ADPC, and ADRC. It met on the margins of the Paris and Mauritius meetings.

The Project Advisory Group has recommended, and is actively supporting, the development of a systematic matrix description of roles and activities related to the project, based on the project strategic framework set out in 2.1 above. The matrix will provide a means to identify needs and track progress on the project, and will generally assist in the orderly and coordinated achievement of the warning system.

A web-based information system on the Early Warning Strengthening Project is being developed by ISDR-PPEW with assistance from UNU-EHS, in order to make project plans and reports readily available to all stakeholders. The system will support the development of the abovementioned matrix and will assist in project management and reporting. The Project Advisory Group has proposed that consideration be given to extending the information system to cover other projects relevant to the tsunami early warning system development, including national-level projects.

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## 2.4 Project components

The project activities are organised around the five components of the project strategic framework, as set out in the following pages. Some activities contribute to more than just one component.



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## Project Component 1: Core system implementation

Objective	Obtain regional consensus on the nature of a tsunami early warning system, design its core elements, particularly the observing system, national tsunami warning centres, and permanent regional coordination mechanisms, and commence initial strengthening and implementation steps.
Main elements	Regional mechanism for coordination and exchange of data and warnings. Overall system design requirements. National and regional tsunami warning centres. Oceanic and seismic observation system. Tsunami risk assessments.
Primary actors	This component is led by UNESCO-IOC in close collaboration with national agencies, WMO. Other partners include the Pacific Tsunami Warning Center (PTWC) and other system experts.
Activities <sup>2</sup>	<ul style="list-style-type: none"><li>• Obtain political and technical consensus on system's key elements.</li><li>• Define the system technical requirements.</li><li>• Identify and confirm national tsunami warning centre responsibilities.</li><li>• Implement interim watch and warning system capacities.</li><li>• Upgrade ocean observing systems and data communications (GTS).</li><li>• Undertake national assessments, coordination and training missions.</li><li>• Upgrade bathymetry data sets and undertake tsunami risk modelling.</li><li>• Institute a mechanism for regional policy setting and coordination.</li><li>• Seek resources to implement fully-fledged tsunami early warning system.</li></ul>
Issues, gaps	Political factors are an issue, mainly in respect to sovereignty over data, the roles of national and regional centres, and the roles of external donors. The technical design requires detailed work but can draw on considerable expertise and experience elsewhere, from within the UNESCO-IOC community. Many countries are starting from scratch, with no prior experience in tsunami early warning. The fully functioning core system requires substantial additional inputs. The long-term sustainability of the system must be considered.
Indicators	Consensus agreement in place on the key elements of the TEWS. National commitments to collaborate and share data and warnings. Upgraded observation system in operation. An interim core warning system in operation. Regional coordination mechanism in place. National and regional tsunami warning centres functioning. Agreed and documented procedures for exchange of data and warnings. Plan in place, with resources identified, for substantive TEWS.
Resources	US\$ 4.0M projected from Early Warning Strengthening Project. US\$ 5.0M cash and in-kind support from Mauritius appeal. Substantial additional resources are required for the complete system.

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<sup>2</sup> For more specific information on Component 1 activities, refer to <http://ioc.unesco.org/indotsunami/>, and IOTWS-II/5 at <http://ioc.unesco.org/indotsunami/mauritius05/mauritius05.htm>,

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## Project Component 2: Integrated risk management

Objective	Integrate the tsunami early warning system into national disaster risk management and reduction mechanisms, seeking synergies with other hazard early warning systems and strengthening national capacities for tsunami-related disaster risk management and risk reduction.
Main elements	National institutional and legislative frameworks. Integrated, multi-sector capacities. Multi-hazard early warning systems. Warning dissemination and preparedness. National and local risk assessments. Vertical integration between national bodies and local communities.
Primary actors	This component is led by a partnership among UNDP, ISDR, UNEP, OCHA, WMO, UNESCAP, UNESCO-IOC, ADPC, ADRC, and others.
Activities	<ul style="list-style-type: none"><li>• Prepare assessments of national frameworks, mechanisms and capacities for disaster risk management and risk reduction relevant to tsunamis.</li><li>• Based on the Hyogo Framework for Action 2005-2015, prepare guidance on the priorities for developing an effective people-centred tsunami early warning system.</li><li>• Make assessments of early warning systems for other hazards such as typhoons and promote dialogue on the opportunities for synergies with tsunami early warning.</li><li>• Support dialogue on tsunami issues with other hazard early warning entities.</li><li>• Develop methodology for multi-sector vulnerability assessment.</li><li>• Undertake capacity building in the assessment of tsunami and related coastal risks.</li><li>• Support training activities including curriculum development.</li><li>• Support national platforms for integrated risk management and risk reduction.</li><li>• Promote integration of tsunami early warning into CCA/UNDAF processes.</li><li>• Promote plans, project proposals and resources mobilization to build capacities.</li></ul>
Issues, gaps	The project will need to respond to the wide variation in the level of national capacities and experience of risk management and risk reduction. A primary challenge will be to simultaneously address tsunami warning system needs and overall disaster risk management needs and to not lose sight of either. The Hyogo Framework for Action 2005-2015 provides a basis for identifying and addressing key priorities. The project will identify gaps in basic capacities that will require additional long-term resources to deal with.
Indicators	Published assessments of national disaster risk management and risk reduction capacities with respect to integrated early warning systems. Guidance document based on the Hyogo Framework of Action. National tsunami warning centres working as an integral part of national disaster risk management and risk reduction mechanisms. Tsunami early warning systems well integrated with other hazard early warning systems. Vulnerability assessment methodology agreed and available. Wide participation in planning and implementing warning systems. Warning distribution channels are documented and effective. Training needs identified and priorities met. Plans and project proposals prepared, and resources mobilized.
Resources	US\$ 2.0M projected from Early Warning Strengthening Project. Ongoing partner in-kind support. Substantial additional resources are required to support necessary capacity development in risk management and risk reduction.

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### Project Component 3: Public awareness and education

Objective	Develop and disseminate information products on tsunami, early warning and risk reduction, tailored to local languages and cultures, targeting key intermediaries such as public officials, teachers, and community leaders, and develop and promote mass media materials and campaigns.
Main elements	Accessible public information. Systematic training and education. Mass media products. Advocacy networks.
Primary actors	This component is led by a partnership of ISDR, IOC-ITIC, UNESCO, ASEAN, ADRC, ADPC, ABU, IFRC, UNV, and others.
Activities	<ul style="list-style-type: none"><li>• Collate example materials from tsunami and other relevant natural hazard awareness programmes.</li><li>• Conduct workshop of experts and practitioners to develop suites of information products.</li><li>• Design, translate, produce and disseminate publications for a range of audiences.</li><li>• Summarise and disseminate lessons learned from 26 December 2004.</li><li>• Prepare distribution plans in partnership with national authorities.</li><li>• Support information workshops and events for sector organisations.</li><li>• Conduct workshops for broadcast media and warning organisations.</li><li>• Develop mass media information products and promote their routine use.</li><li>• Support the development of national communications plans.</li></ul>
Issues, gaps	Public communication is highly dependent on the context and the targeted audience, so the activities will need to carefully define the communications intentions. Also, the message contents will need to be well managed, to ensure authority and accuracy, drawing on tsunami expertise. Reaching the masses is a large and expensive task; the project cannot directly undertake this but it can stimulate and support others' efforts in this direction.
Indicators	Interlocutor groups and officials have access to basic information products. National tsunami centres and disaster risk authorities have public information products for dissemination. Publications containing relevant accurate information are available as files for reproduction by relevant authorities and partners. Mass media products are available, with partnerships to promote their use. Regional interaction and support mechanisms for supporting advocacy are strengthened. National communication plans are in place.
Resources	US\$ 2.0M projected from the Early Warning Strengthening Project. Ongoing partner in-kind support. National resources.

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#### **Project Component 4: Community-level approaches**

Objective	Implement community-level pilot activities to test and demonstrate good practices, including hazard and vulnerability assessment, organisational strengthening, community participation, warning system operation, capacity building, evacuation planning, and the design and construction of shelters and other works.
Main elements	Strengthened community based tsunami risk management. Compilations of good practices on community action. Demonstrations of good practices. Gender perspectives recognised. Information on impacts and vulnerabilities.
Primary actors	This component is led by a partnership between ISDR, UNDP, IFRC and UNU, in close collaboration with ADPC, ADRC and NGOs.
Activities	<ul style="list-style-type: none"><li>• Collect, analyse, and publish data on impacts and vulnerability in selected locations.</li><li>• Develop rapid assessment methods for vulnerability.</li><li>• Collate and publicise good practices concerning community-based tsunami early warning and preparedness.</li><li>• Explore and strengthen community-based mechanisms for tsunami-related risk management and risk reduction.</li><li>• Promote, implement, test and demonstrate tsunami risk reduction and preparedness initiatives, including evacuation plans and shelters.</li></ul>
Issues, gaps	This component aims to provide ground truth for national and local activities, by generating accessible practical experience and undertaking quality targeted research and data gathering in pilot projects. It seeks to link a range of partner activities, including those of local NGOs, and to obtain synergies among them. It is recognised that the results will be subject to local context factors that may limit their general applicability.
Indicators	Quality data and analyses that provide insight and understanding. Tools for rapid assessment of vulnerability. Disseminated collections of good practices on community-based early warning systems. Guidance and good practice information for local and national authorities. Strengthened community-based tsunami risk management in target locations, including preparedness and contingency planning. Demonstration sites. Evaluation of community level-mitigation possibilities.
Resources	US\$ 1.5M projected from the Early Warning Strengthening Project. Ongoing partner in-kind support. National and community resources. Substantial additional resources are required to support necessary capacity development in risk management and risk reduction.

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## Project Component 5: Project coordination

Objective	Establish the mutual understandings, agreements, information resources, networks, support capacities and decision-making mechanisms needed to ensure the effective implementation of the project and its early warning system objectives.
Main elements	Information on project activities, roles, responsibilities. Policy and strategy guidance. Needs assessments. Collation of lessons learned Coordination processes.
Primary actors	This component is primarily led by ISDR-PPEW, in close partnership with other partners, principally within the UN family and among regional organisations.
Activities	<ul style="list-style-type: none"><li>• Prepare matrix of roles and functions of relevant organisations.</li><li>• Collect and publish lessons learned across all components.</li><li>• Formulate and communicate strategy and overview plans.</li><li>• Develop web-accessible project information database.</li><li>• Disseminate project information, to partners and the public.</li><li>• Organise conferences and meetings.</li><li>• Develop, negotiate, document and monitor agreements, work plans and budgets among partners and donors and resolve problems.</li><li>• Develop mechanisms for coordination among project partners.</li><li>• Provide information and reports to UN authorities and donors.</li><li>• Establish project office support in Indian Ocean region.</li></ul>
Issues, gaps	This component strongly underpins the other project components, as well as producing specific outputs. It is dependent on numerous and sometimes time-consuming transactions and administrative processes – processing donor resources and requirements, transferring staff, setting up regional operations, interacting and negotiating among project partners. ISDR draws on its extensive networks among risk management and risk reduction actors to identify the key actors.
Indicators	Relevant information is readily accessible to project partners. Lessons learned are collected and published. Project plans and activities are documented. Partners are clear about their roles and responsibilities. Project activities are implemented in orderly and timely fashion. Project gaps and problems are promptly identified and resolved. Reports are produced as required. Support and coordination services are available in the region.
Resources	US\$ 1.5M projected from the Early Warning Strengthening Project. Ongoing partner in-kind support. National resources.

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### 3. TIMETABLE, BUDGETS, CONTINGENCIES AND PRIORITIES

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#### 3.1 Timetable overview

##### January – April, 2005

- Develop project scope, work plans and initial budgets. [✓]
- Process the initial donations. [✓]
- Establish initial partner agreements. [✓]
- Conduct scoping meeting and high-level dialogue meetings. [✓]
- Conduct major coordination conferences (Paris and Mauritius). [✓]
- Establish consensus on principles of core tsunami early warning system. [✓]
- Identify national tsunami warning focal points. [✓]
- Commence upgrades of observation and communications system. [✓]
- Conclude ISDR-UNESCO-IOC agreement and transfer first payment. [✓]
- Plan further dialogue/familiarisation meetings in Japan and USA. [✓]
- Plan national tsunami assessments and consultation missions. [✓]

##### May – August, 2005

- Commence national tsunami assessments and consultation missions. [ ]
- Prepare draft definition document on the core warning system. [ ]
- Establish intergovernmental coordination arrangements under the IOC. [ ]
- Develop plan and coordinate resources for implementing the core warning system. [ ]
- Convene in-region workshop for Project Advisory Group. [ ]
- Prepare sub-regional (Asia and Africa) activity outlines and descriptions. [ ]
- Undertake dialogue/familiarisation meetings in Japan and USA. [ ]
- Complete partner arrangements for preparedness components. [ ]
- Convene in-region workshop(s) with media groups. [ ]
- Commence community-based pilot projects. [ ]
- Commence coordination meetings of emergency managers and related sectors. [ ]
- Produce and disseminate the first priority public information products. [ ]
- Commence support and training for national tsunami warning centres. [ ]
- Establish in-region ISDR and IOC support capacities (e.g. in Bangkok and Nairobi). [ ]
- Conclude agreements with donors and partners and transfer funds as required. [ ]

##### September – December, 2005

- Continue activities as above. [ ]
- Complete the interim technical upgrading activities supported by this project. [ ]
- Conduct first regional IOC Regional Coordination Group Meeting. [ ]
- Finalise the definition document on the core warning system. [ ]
- Conclude and disseminate collation of lessons learned. [ ]
- Convene technical conference on communication issues. [ ]
- Develop materials and events for the tsunami anniversary. [ ]
- Prepare project progress and project completion reports as appropriate. [ ]
- Secure pledges including bilateral support for complete integrated core system. [ ]
- Prepare and promote proposals for sustained support of preparedness activities. [ ]

##### January – June, 2006

- Continue activities as above that are funded into the second year. [ ]
- Support and participate in tsunami anniversary events. [ ]
- Report on future needs, with proposals for further activities as appropriate. [ ]
- Prepare project progress and project completion reports as appropriate. [ ]

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### **3.2 Budgets**

An initial overall cost plan was prepared in February, for a total of \$11.25 million, to enable the UN accounting procedures to commence. This budget is now under revision to reflect developments since, particularly to address the necessary support needs of partners. Expenditure actions are subject to the availability of donor funds and to the UN accounting requirements, including the need to maintain an operating reserve of about 10% of total budget. Descriptive budgets that are structured in line with the strategic framework of the five components are under development.

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### **3.3 Contingencies**

Many of the intended activities are contingent upon the lessons and decisions of a preceding succession of project events. The project generally has the resources and capacity to flexibly respond to changing circumstances and evolving understandings of country needs.

The design and implementation of the technical elements of the tsunami early warning system is a demanding specialist task and will require strong emphasis on system quality and training, in order to ensure that the warning systems are reliable and authoritative. A great deal of support has been offered to build the core system, but continued advocacy and coordination will be needed to ensure the actual contribution of these resources.

The project activities are heavily dependent on the capacities and will of organisations to interact and exchange knowledge and to build upon the activities and circumstances of other organisations and countries. This is especially true for preparedness-related activities, which involve numerous diverse constituencies. Many organizations have large tsunami-related commitments and are stretched to provide their normal contributions and responsiveness.

Political constraints may affect regional coordination and implementation, owing to a degree of competition among countries, to national concerns about sovereignty over data and warnings, and to varied policies of bilateral donors toward different states, for example Somalia and Myanmar.

Civil conflict is present in some areas, but project activities will not be located in areas of known risk. United Nations security procedures will be followed and in-country activities will be coordinated through UN Resident Coordinator offices as appropriate.

Substantial ongoing effort is needed to integrate the tsunami early warning system into national risk management and risk reduction policies and procedures. This task requires a strong awareness of national needs and perspectives, including bilateral arrangements. The placing of project staff in Bangkok and Nairobi is a critical requirement in this respect.

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### **3.4 Immediate priorities**

The three priorities for the immediate future are (i) to maintain the momentum of the UNESCO-IOC led effort on core system implementation, (ii) to further elaborate and undertake the set of tasks necessary to achieving the activities set out in each project component, and (iii) to conclude the underpinning arrangements for partner agreements, coordination, administration and information provision.

## 4. ACRONYMS

ABU	Asia-Pacific Broadcasting Union
ADB	Asian Development Bank
ADPC	Asian Disaster Preparedness Center
ADRC	Asian Disaster Reduction Center
ASEAN	Association of South East Asian Nations
CCA/UNDAF	Common Country Assessment, and United Nations Development Assistance Framework
DIPECHO	Disaster preparedness programme of the European Commission's humanitarian aid department (ECHO)
EC	European Commission
GTS	(WMO) Global Telecommunications System
IFRC	International Federation of Red Cross and Red Crescent Societies
IOC	Intergovernmental Oceanographic Commission (of UNESCO)
ISDR	(UN) International Strategy for Disaster Reduction
ITIC	(IOC) International Tsunami Information Center
ITU	(UN) International Telecommunications Union
JMA	Japan Meteorological Agency
OCHA	(UN) Office for the Coordination of Humanitarian Affairs
PPEW	(ISDR) Platform for the Promotion of Early Warning
PTWC	Pacific Tsunami Warning Center
RC	(UN) Resident Coordinator
TEWS	Tsunami Early Warning System
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCAP	UN Economic and Social Commission for Asia and the Pacific
UNESCO	UN Educational, Scientific and Cultural Organisation
UNU-EHS	United Nations University Institute for Environment and Human Security
UNV	(UNDP) United Nations Volunteers
USAID	United States Agency for International Development
WCDR	World Conference on Disaster Reduction
WMO	World Meteorological Organization