



**United Nations Development Programme  
Badan Rehabilitasi dan Rekonstruksi (BRR) NAD-Nias,  
Government of Indonesia**

## **Tsunami Recovery Waste Management Programme (TRWMP) NAD-Nias**

### **Programme Summary**

The Tsunami Recovery Waste Management Programme (TRWMP) aims to build capacity in government, create immediate employment and longer-term livelihoods in waste management whilst benefiting the environment through collection, recovery and recycling of waste materials for use in rehabilitation and reconstruction.

This programme has been designed to provide local government (at municipal/district level) with financial and technical support to achieve the following results: (1) Resumption of Municipal Solid Waste (MSW) collection & disposal and clearance / recycling of tsunami derived wastes via the implementation of Tsunami Waste Recovery Facilities (TWRFs); (2) The rehabilitation of existing dumpsites / provision of sanitary landfills for enhanced, safer waste disposal; (3) Interim livelihood restoration and longer term waste management livelihood creation via implementation of waste recycling/ recovery projects; and (4) Effective and efficient management, monitoring and oversight of the overall programme on behalf of the MDTFANS donor partners.

This project is being undertaken within the framework of the Aceh Emergency Response and Transitional Recovery (ERTR) Programme, executed by UNDP in partnership with the Badan Rehabilitasi dan Rekonstruksi (BRR), and implemented through partnerships with local Government Sanitation Departments (Dinas Kebersihan) in the target districts. The budget total for this project is USD 15.2 million. The project is being funded through the Multi-Donor Trust Fund for Aceh and North Sumatra (MDTFANS).

# **TSUNAMI RECOVERY WASTE MANAGEMENT PROGRAMME (TRWMP) NAD-NIAS**

## **1. SITUATIONAL ANALYSIS**

The Tsunami Recovery Waste Management Programme (TRWMP) aims to build capacity in government, create immediate employment and longer-term livelihoods in waste management whilst benefiting the environment through collection, recovery and recycling of waste materials for use in rehabilitation and reconstruction.

Following the completion of the initial emergency relief phase of assistance to Aceh and Nias, the Government of Indonesia (GOI) has now embarked upon the process of rehabilitation and reconstruction. In preparation for these phases, the National Development Planning Board (Bappenas), in collaboration with national and regional counterparts and with support from the international community, has prepared the "Master Plan for Rehabilitation and Reconstruction of Aceh and Nias", which was completed mid-March 2005, and formally adopted by the Government in April.

The Master Plan for Rehabilitation and Reconstruction of Aceh and Nias notes the environmental impact of the tsunami and earthquake disasters, in particular the waste generated by the disasters and the need for appropriate handling and clean up of this waste and rubble. In addition, much of the waste is recoverable and recyclable for use in rehabilitation and reconstruction. Reuse of recycled timber, concrete and bricks will reduce the need to fell trees for virgin timber and quarry rock for use in concrete, drainage, roads and fill.

Pilot programs are already operating in Kota Banda Aceh and Aceh Barat, via Letters of Agreement (LOAs) between the municipal / district governments and UNDP, within the framework of the Aceh Emergency Response and Recovery (ERTR) Programme, undertaken in partnership between UNDP and the Badan Rehabilitasi dan Rekonstruksi (BRR) NAD-Nias. The pilot projects support the government with provision of technical assistance, leased heavy equipment and labour for the collection/disposal of municipal waste, clearing of residual tsunami waste from private land and recovery of materials that can be used in livelihood restoration, shelter and rehabilitation/ reconstruction of infrastructure.

In collaboration with other international development partners, UNDP has prepared a proposal for an extension of its existing waste management programme for US\$ 15.2 million. This proposal has been submitted to the Multi-Donor Trust Fund for Aceh and North Sumatra (MDTFANS), which the World Bank and other donors have established to support reconstruction activities in the affected regions of Indonesia. At a meeting on 28 July 2005, the MDTFANS Board approved this proposal in principle. In accordance with the terms of the Operations Manual for the MDTFANS, UNDP is to serve as the Partner Agency for this programme, with Local Government Sanitation Departments as the implementing partners. This project document, prepared according to UNDP guidelines, provides further details on the proposal and is being submitted to the MDTFANS as the basis for a Financing Agreement.

## 2. RATIONAL FOR THE TRWMP PROGRAMME

### 2.1. Needs to be addressed

Several Reports (inc. <sup>1,2</sup>) have recognized waste management as the most pressing environmental issue following the tsunami. A recent Rapid Environmental Assessment by UNEP/OCHA for Aceh indicated that “acute issues which must be addressed urgently chiefly include management and disposal of immense amounts of debris and waste.” The UNEP/OCHA report indicates that UNDP’s planned support for waste management is required for “rapid implementation.” The programme is intended to address the overall environmental impact of the tsunami and to prevent future environmental impacts of improper waste handling. The lack of proper waste collection and management systems is an issue that needs to be urgently addressed. The earthquakes / tsunami left a previously relatively poor waste management infrastructure in NAD-Nias decimated in respect of a lack of human resources, lost / damaged equipment, and directly impacted infrastructure (dumpsites, workshops etc) and created a significant new demand in terms of the large volumes of tsunami waste and damaged buildings that need clearance and disposal:

- **Municipal Solid Waste (MSW):** Many refuse collection vehicles (RCVs) were lost to the tsunami and there was a lack of both human and financial resources to collect and dispose of domestic wastes from municipal areas. Hence UNDP has been providing both rental vehicles and finance for cash for work for MSW collection since March 2005 in both Kota Banda Aceh (KBA) and Aceh Barat. Other NGOs / UN agencies have committed to provide permanent replacement vehicles to certain districts. Continued assistance is required until these vehicles arrive and funds from government are received by the district sanitation departments (Dinas Kebersihan’s or DKs). Other districts may require replacement vehicles and equipment to resume collection services. UNDP is also providing technical assistance to the Dinas on waste management best practice.
- **Tsunami Derived Wastes:** Huge efforts by government appointed contractors resulted in most tsunami waste being removed from residential areas by end March 2005. However much of this waste (some 300-400,000m<sup>3</sup> in KBA alone) was inadvertently dumped in temporary tsunami waste dumpsites in inappropriate areas such as padi fields (sawah), fish ponds (tambak) and private land close to residential areas where, if left, the waste will start to decay and likely contaminate surface / groundwater and emit flammable landfill gas. Conversely the tsunami waste contains significant quantities of recoverable / recyclable building materials that can directly feed the recovery effort and reduce the need for sourcing of new virgin building materials (e.g. rock and timber) with commensurate benefits to the environment. UNDP, in association with local

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<sup>1</sup> Preliminary Report, Rapid Environmental Impact Assessment, Nagroe Aceh Darussalam, Ministry of Environment, Republic of Indonesia, January 2005.

<sup>2</sup> Environmental Impact Assessment, Tsunami Indonesia, UNOCHA/UNDAC, Sander Van Dijk, January 2005

government (via Letters of Agreement (LOAs)), has to date instituted two Tsunami Waste Recovery Facilities (TWRFs) in Kota Banda Aceh (KBA) and Aceh Barat to clear residual tsunami waste, demolish tsunami / earthquake damaged buildings and recovery recyclable materials using rented heavy equipment and direct labour hired under its cash for work programme. These facilities need an additional six months or more to complete their task and other districts (Aceh Jaya, Pidie, Nias, etc. have requested similar assistance).

- **Dumpsites:** Prior to the tsunami, disposal of MSW was in open dumpsites, often located in close proximity to residential areas or the coast, with little or no environmental controls. Some were also directly impacted by the tsunami (e.g. Gampong Jawa in KBA, Sigli). The Master Plan recognized that coastal sites should be relocated and environmental controls improved. Others (e.g. Lapang dumpsite in Meulaboh) may require relocation as the Master Plan proposes relocation of town centres further inland. UNDP, in association with provincial environmental authorities (BAPPEDALDA NAD), district governments and other NGOs/ UN agencies (Pro-LH, GTZ, UNICEF, WHO etc) have already begun the process of site selection for new sites (not included in this proposal). In the 2-3 years before new sanitary landfills can be constructed there is an urgent need to provide interim facilities to accept MSW and residual tsunami derived wastes in a manner that does not significantly impact the environment. This proposal includes the rehabilitation of Gp. Jawa dumpsite and any residual money that may be left over from the TWRFs will be used to improve existing dumpsites in benefiting districts.
- **Livelihoods:** To maximize the reuse of recovered materials, minimize the volume of waste requiring ultimate disposal and improve waste management in the longer term, UNDP and its partners are considering a number of livelihood restoration and creation projects in waste management, as well as opportunities for viable recycling business startups. For these projects, UNDP will work with interested NGOs, the private sector, donors and government.

## 2.2. UNDP Comparative Advantage

UNDP has a long-standing partnership with government agencies in Indonesia in the area of disaster recovery and reconstruction, through its specialised Crises Prevention and Recovery Unit (CPRU). It has worked in partnership with the Department of Settlements and Regional Infrastructure (KIMPRASWIL) in recovery and reconstruction programmes in Maluku and North Maluku, and in the resettlement of refugees in West Timor. UNDP has worked on post-conflict social-economic recovery in Central Sulawesi with the Coordinating Ministry for Social Welfare (Menko Kesra).

UNDP has also developed a strong working relationship with the Indonesian Society for Disaster Management (MPBI) and the Indonesian Institute for Disaster Preparedness (IIDP), the latter of which has recently conducted disaster management training with the Coordinating Body for Disaster and IDP Management (BAKORNAS PBP) and its provincial units (SATKORLAK) in Aceh. UNDP has also

worked with an NGO forum in community recovery programming and income generating activities.

UNDP's recent experience in Aceh covers humanitarian, recovery and longer-term development activities. In 2000-2001, UNDP was invited by the Government to coordinate international humanitarian assistance, as well as to provide logistical support to the Humanitarian Pause. UNDP has worked closely with and supported the Community Recovery Programme, which has since 1999 provided grants to local civil society organizations in Aceh province. Furthermore, UNDP has also before the Tsunami crisis initiated programming in Aceh in the areas of governance and poverty reduction, including notably a programme through the Coordinating Ministry of People's Welfare (Menko Kesra) to support the development and application of local poverty reduction strategies.

Following the tsunami and earthquake disasters, UNDP has launched a programme of support entitled the Aceh Emergency Response and Transitional Recovery (ERTR) Programme. The ERTR programme builds on the proposal submitted by UNDP in the United Nations Indian Ocean Earthquake/Tsunami Flash Appeal. The programme is designed to serve as a crucial link between immediate short-term and longer-term recovery and development activities. The programme includes four key outputs: (1) Immediate employment and rehabilitation through cash for work; (2) Recovery of livelihoods; (3) Recovery of housing, settlements and associated infrastructure; and (4) Strengthening governance capacity for sustainable recovery and risk-reduction. The TRWMP addresses all four of these outputs.

The ERTR programme is being undertaken through partnerships with local and national authorities, national NGOs, civil society groups, the private sector, and international organizations. Implementation of specific components is being undertaken with UN specialized agencies, including the International Labour Organization (ILO), UN Habitat, UNESCO, UN Volunteers, as well as others, to ensure that the full technical capacity of the UN family is brought to bear in recovery efforts.

The overall target budget figure for this 24 month (2005-2006) ERTR programme is USD 72,100,000. To date, approximately USD 53 million has been secured for this programme, and UNDP has contracted goods and services amounting to some USD 33 million. US\$14.5 million is allocated for ongoing rubble clearance, TWRF pilots and cash for work programme through the existing UNDP ERTR Programme budget. The funds requested for this activity are supplemental to what is already available in the ERTR budget.

Additionally, UNDP has been supporting waste management and recycling activities in other countries affected by the tsunami, notably Sri Lanka. Experiences are being shared between UNDP country programmes in order to enhance quality of implementation and lessons learning.

### **3. STRATEGY**

#### **3.1. Overview**

UNDP's Tsunami Recovery Waste Management Programme is designed to address the significant public health concerns and environmental impacts associated with the recovery and disposal of both tsunami and municipal solid waste during the rehabilitation and recovery of NAD-Nias. The main objective is to ensure a co-ordinated, pragmatic response to the waste problem and that sustainable waste management strategies are incorporated into the redevelopment plans, including material re-use and segregation of hazardous wastes. Put simply, if useful materials are recovered, the volume of the waste requiring disposal is reduced whilst the impact of the rebuilding and recovery is diminished. Besides the direct environmental, health and safety goals, the project aims to integrate different programmes such as capacity building for government, "cash for work" for IDPs, livelihood restoration and provision of materials for the reconstruction of shelter/infrastructure. The objectives of the TRWMP are thus:

- Advise the government on sustainable waste management practice and implement technical assistance programmes to build capacity;
- Develop tsunami and longer-term municipal waste management strategies for affected communities; and
- Enable the rapid implementation of waste management pilot projects.

Pilot programs are already operating in Kota Banda Aceh and Aceh Barat, via Letters of Agreement (LOAs) between the municipal / district governments and UNDP. The projects support the government with provision of technical assistance, leased heavy equipment and labour for the collection/disposal of municipal waste, clearing of residual tsunami waste from private land and recovery of materials that can be used in livelihood restoration, shelter and rehabilitation/ reconstruction of infrastructure.

Within this strategy, the programme will support four specific outputs, as follows:

1. Continued support for MSW collection / Extension of TWRFs in KBA, Aceh Barat and Implementation of TWRFs in other impacted Districts;
2. Rehabilitation of Gampong Jawa Dumpsite in KBA and potentially other dumpsites in Aceh;
3. Restoration and/or creation of livelihoods in waste management and/or utilizing recovery/ recycled materials; and,
4. Effective and efficient management, monitoring and oversight of the overall programme on behalf of the MDTFANS donor partners.

### **3.2. Coordination and Complementarity**

In the initial pilot stages, the programme drew on recommendations made in the UNEP-prepared *Proposed Tsunami Waste Management Strategy* (February 2005), its associated guidelines for waste handling and on proposals for waste programmes in other tsunami effected countries (e.g. Sri Lanka). Subsequently the lessons learned from the pilot projects in Aceh were utilised in the finalisation of the *United Nations Post-Tsunami Waste Management Plan (UNEP April 2005)* and offered as an example of what could be done in other affected countries.

UNDP's TRWMP is also actively co-ordinating with provincial (BAPEDALDA, DPU) and district government, other UN agencies/NGO's active in waste management to ensure efficient utilization of resources. Active players include:

- UNICEF/WHO – supporting municipal waste collection from IDP/TLCs via LoA with the Dinas Kebersihan's (DK's), similarly using rented dumptrucks and cash for work (CfW). They are also providing permanent replacement refuse collection vehicles (RCVs) for Banda Aceh and Aceh Barat (KBA & AB);
- OXFAM – operate community based recycling projects and a waste bank in Aceh Besar (i.e. they pay individuals for delivery of recyclable wastes to their warehouse) and have sought assistance from UNDP's programme to assist in recycling;
- World Vision/THW - provided limited equipment to DKs to assist in waste collection, mainly for liquid wastes;
- JICA – providing rehabilitation of the sewage treatment plant at Gampong Jawa. KBA; and,
- Various NGOs – including UNDP Cash for Work Agents (e.g. Mercy Corp/IRC) conducting rubble clearance projects often relying on UNDP's rented heavy equipment (HE) to assist in collection, disposal and recycling.

As time is of the essence in this programme, UNDP has already begun the process of procuring professional services for this project. The programme will be implemented in partnership between the Pemerintah Kota Banda Aceh (Dinas Kebersihan Dan Pertamanan), Kabupaten Aceh Barat, Kabupaten Aceh Jaya, other district governments and UNDP. The district Governments will oversee and manage activities. Contracting for instance with heavy equipment suppliers, landfill designers/contractors will be undertaken by UNDP. Livelihood activities with partner NGOs will be managed under UNDP's existing ERTR Livelihood programme.

### **3.2. Project Outputs**

#### ***Output 1: Continued support for MSW collection/ Extension of TWRFs in KBA, Aceh Barat and Implementation of TWRFs in other impacted Districts.***

UNDP will provide continued support for MSW collection and extension of TWRFs in Kota Banda Aceh and Aceh Barat, as well as launching implementation of TWRFs in other impacted Districts. The expected results of the programme under the first output are as follows:

- Continued support for the collection/disposal of garbage from municipal areas in Kota Banda Aceh, Meulaboh and other impacted municipalities until permanent replacement RCVs can be procured and operational funds from government are received by the district sanitation departments (Dinas Kebersihan's or DKs);
- Demolition of tsunami/earthquake damaged buildings;

- Clearance of residual tsunami generated waste from residential areas/ temporary tsunami dumpsites on private land; and
- Labour intensive recovery of recyclable tsunami waste (bricks/concrete, timber, vegetation, metals and plastics) at Tsunami Waste Recovery Facilities (TWRFs).

The main activities are envisaged as follows:

- Following request from local government, expansion of current pilot TWRF in Kota Banda Aceh to cater for clearance of over 300,000m<sup>3</sup> of tsunami generated waste in temporary dumps on 21 hectares of sawah (padi), tambac (fishpond) or private property using some 1,000-1,500 labourers, 60 rental dump trucks and associated heavy equipment over a one year period (estimated cost US\$6.8million);
- Expansion of pilot TWRF in Aceh Barat to cater for clearance of over 85,000m<sup>3</sup> of tsunami waste in temporary dumps on 8 hectares of private property (estimated cost US\$2.0 million, six months), and benefiting some 900 labourers on a cash for work basis;
- Initiation of a TWRF and landfill in Calang, Aceh Jaya and/or other districts (Pidie, Nias etc) as funds allow (estimated cost US\$2million, six months), benefiting some 900 labourers on a cash for work basis.

Those employed under cash for work are either pre-existing scavengers who were recruited for the project or are employed direct from IDP camps ensuring those most in need benefit. Employment of women and, for example, former GAM members is already being encouraged and is in place. In the rubble clearance and recycling activities, the programme promotes gender-sensitive approaches in work/wage distribution.

The programme also seeks to strengthen the longer-term capacity of local government on waste management through working with the district sanitation departments and provision of technical and grant supports as follows:

- Advisory support to local government on sustainable waste management practices;
- Develop tsunami and longer-term municipal waste management strategies for affected communities;
- Financial resources to enable government to employ additional surge capacity staff required to deal with the tsunami/municipal waste;
- Technical advice to rehabilitate and upgrade waste disposal facilities;
- Technical advice on recycling projects;
- Grant and technical support to enable the rapid implementation of waste management pilot projects.

UNDP will also work with other interested NGOs/ donors (e.g. DANDIA, GTZ) and government on staff training programmes and environmental/ waste management public awareness campaigns.

**Output 2: Rehabilitation of Gampong Jawa Dumpsite in KBA and potentially other dumpsites in Aceh.**

As mentioned earlier, the expected results of the programme are as follows:

- Rehabilitation of Gampong Jawa Dumpsite, Kota Banda Aceh to provide disposal space for non-recyclable tsunami waste and serve as an interim sanitary landfill for Kota Banda Aceh for 2-3 years until a permanent replacement can be provided. Other dumpsites (e.g. in Meulaboh, Aceh Jaya, Pidie) to be upgraded as funds permit.

The main activities are envisaged as follows:

- Rehabilitation of Gampong Jawa Dumpsite, Kota Banda Aceh (see attached figure) to serve as an of interim sanitary landfill for Kota Banda Aceh for 2-3 years until a permanent replacement can be provided (estimated cost US\$2.8 million 2 years), via:
  - Construction of 1.0 hectare Phase I Interim Landfill
  - Construction of 4.5 hectare Phase II Interim Landfill
  - Construction of a maintenance workshop and equipping the workshop with needed equipment and tools to maintain Cleaning Department vehicles and equipment
  - Construction of supporting facilities for the workshop: a garage for vehicles, canteen and housing for overnight workers, offices, security fence
  - Repair and reconstruction of the access road to the interim landfill and workshop area, and internal roads at the interim landfill site (about 1.2 km) as well as provision of electric power to the landfill and workshop site.

Environmental issues have been considered in the development of the proposal for the rehabilitation of the existing dumpsites. Rehabilitation of existing dumpsites is urgently required and will represent a considerable environmental improvement over current practice. BAPPEDALDA have been consulted and are in agreement. Capacity building in the form of technical assistance and training will be provided to the DK prior to operation of the new landfill

On behalf of BAPEDALDA and UNDP, GTZ are currently conducting a site search for a new landfill in Aceh Besar that is intended to replace the existing dumpsites at Gampong Jawa in a few years time. This site search is taking full cognisance of environmental and land issues. A public consultation / socialization programme will be undertaken prior to finalization of the preferred site and a full AMDAL/ EIA for any new landfill will be required.

**Potential future funding requirements:** As discussed earlier there is a longer-term need for new sanitary landfill facilities in NAD-Nias to ensure proper waste disposal with adequate environmental controls. A site search is ongoing in Aceh Besar for a

new facility to serve both KBA and Aceh Besar. It is estimated that CapEx for construction of this landfill could amount to up to US\$10 million based on a landfill area of 30 ha, catchment of 400,000 people and capacity for 20 years waste arisings. Operational costs are estimated at around US\$900,000/yr. Assessment on the need and size of landfills required in other districts is ongoing. Similar smaller facilities are likely required for Aceh Barat (Meulaboh), Pidie (Sigli), Bireuen/Lhokseumawe, Aceh Jaya and Nias (Capex 1.5-2.5m, Opex 150-250k/yr). Hence if all six of these landfills were to be provided and funded for say 5 years whilst institutional arrangements are put in place to make them sustainable without direct government funding, a sum of US\$25-35 million may be required. Once assessment is complete UNDP intends to approach MDTFANS for funding.

***Output 3: Restoration and/or creation of livelihoods in waste management and/or utilizing recovered/recycled materials.***

Under the Aceh ERTR Programme, UNDP has implemented a range of livelihoods recovery programmes in Aceh. This has included support for grant and technical assistance for recovery of small and medium sized enterprises, vocational and skills training, fisheries and agriculture, etc. These livelihoods recovery activities are implemented in partnership with local and international NGOs, local government, and the private sector.

The Tsunami Recovery Waste Management Programme will link directly with the broader livelihoods recovery framework of the ERTR. The TRWMP will support livelihood restoration and creation projects related to the waste management process in order to maximize the reuse of recovered materials, minimize the volume of waste requiring ultimate disposal, and create opportunities for viable recycling business startups. Downstream livelihood generation projects (estimated cost US\$1 million) under consideration to utilize the materials recovered at the TWRFs include:

- Composting projects to make organic fertilizer for padi and parks rehabilitation
- Plastic processing facilities to make plastic chips for sale to recyclers;
- Provision of restored tsunami wood to furniture manufacturers;
- Tsunami wood-fired brick kiln rehabilitation projects to make red bricks using tsunami wood;
- Tsunami wood-fired limestone kiln rehabilitation projects to make lime using tsunami wood;
- Charcoal manufacture from tsunami timber; and
- Provision of stone crushers to make secondary aggregate for use in brick (breeze block) projects, concrete preparation and/ or road base.

In the pilot projects, the TRWMP allowed workers to share revenues derived from immediately salable materials (metals and plastics). This provided an incentive for waste scavengers to join the UNDP programme and benefit from the improved efficiency, personal protective equipment and vaccinations offered and also provides an additional incentive to workers over and above the CfW wages. Materials not immediately salable (wood, stone, and concrete) have been used to assist small businesses to recover from the tsunami (i.e. provision of timber to furniture

manufacturers, brick and lime kilns, charcoal manufacturers etc), prevent excessive use of fresh natural resources (e.g. fresh cut timber), and create new businesses needed for reconstruction (brick and concrete manufacture) or are being used to rehabilitate infrastructure (e.g. in the construction of a road to Ulee Lhee Port).

With an up-scaling of the project, UNDP will assess with stakeholders other models and alternatives for use of generated revenues to support broader livelihood recovery, including through pooling funds into livelihood grant schemes, or promoting small recycling enterprise development. In this respect, market analysis will be carried out to determine the types of waste and recycled products that have feasible markets. Small and medium enterprises could be provided services that may include technical product related trainings, business management, market information and startup capital.

There is a need to ensure the programme equality benefit men and women, takes into consideration women's special needs, and strengthens women's agency/leadership. The programme will seek to ensure that both women and men are targeted according to their productive activities and needs. UNDP will work in the design of a gender mainstreaming strategy for implementing partners and will provide technical assistance throughout the programme cycle. This will include assessment(s) of gender needs related to livelihoods activities resulting from the waste management programme, and development of practical measures for implementing partners to ensure gender considerations are addressed and monitored.

***Output 4: Effective and efficient management, monitoring and oversight of the overall programme on behalf of the MDTFANS donor partners.***

This output refers to the role and responsibilities of UNDP itself as the Partner Agency for the MDTFANS grant for this project. UNDP has five main responsibilities in support of this project. These are: (1) the recruitment of individual consultants, most of which will take place during the first few months of the project, pending the appointment and arrival of contractors to take over various functions during the remainder of the project; (2) the procurement, contracting, and payment of contractors; (3) the monitoring and supervision of individuals and firms recruited by UNDP to provide technical and operational support, in order to ensure appropriate and effective use of project resources; (4) overall managerial and administrative support in managing the project; and (5) supporting the preparation of periodic reports for BRR and the donor members of the MDTFANS.

In line with the Operations Manual for the MDTFANS, the costs for this output are not included in the proposed grant. Instead they are to be covered from a separate funding source within the MDTFANS.

## **4. MANAGEMENT ARRANGEMENTS**

### **4.1 Execution Arrangements:**

The Tsunami Recovery Waste Management Programme (TRWMP) is being undertaken within the framework of the Aceh Emergency Response and Transitional

Recovery (ERTR) Programme. The ERTR Programme is directly executed by UNDP, with the Badan Rehabilitasi dan Rekonstruksi (BRR) as UNDP's Government counterpart for the programme. The TRWMP will be supported within the overall management structure of the ERTR Programme, and will draw on the technical, operational and logistical infrastructure of the programme, including a series of UNDP field offices in Banda Aceh, Meulaboh, Calang and Pidie, as well as a logistical support office in Medan.

Day to day project management of the TRWMP will be overseen by an experienced Waste Management Advisor appointed by UNDP who will be supported by a team of local programme officers and technical assistants in all benefiting districts. Annual project work plans for the programme will be jointly developed by UNDP and its implementing government partners (district Dinas Kebersihan).

#### **4.2 UNDP Support Services:**

UNDP will provide Support Services to its government implementing partners (district Dinas Kebersihan) in the implementation of this programme. These services include, inter alia, recruitment and contracting of project management and technical staff, procurement of services, support for budget and financial management, etc., and overall monitoring of the implementation of activities and services for this project on behalf of the donor partners of the MDTFANS in order to ensure effective and efficient use of resources.

#### **4.3 Implementation Arrangements:**

The programme will be implemented by local Government District Dinas Kebersihan (Sanitation Departments). Relationships with local Government counterparts will be governed by Letters of Agreement (LOAs) between UNDP and each district department. Delivery agents including private sector firms and non-governmental organizations will be contracted through competitive procurement processes. In making decisions about what delivery arrangements to use, priority will be given to prospects for efficiency and effectiveness in delivery.

#### **4.4. Procurement of Goods and Services:**

Procurement for goods and services for this project will be undertaken through competitive and transparent tender processes, in line with UN and UNDP rules and procedures. UNDP may also make use of existing long-term agreements with firms in order to expedite procurement processes. Requests for Proposals (RFPs) and Invitations to Bid (ITBs) will be advertised publicly via the web, newspaper advertisements, through searches of vendor databases maintained by UNDP Indonesia and the Inter-Agency Procurement Services Office (IAPSO) databases, and through direct email distribution (i.e. through the IAPSO procurement notices distribution list). Procurement Notices for will be posted on:

- UNDP Indonesia Website <<http://www.undp.or.id/procurement>>

- UNDP Global Website <<http://www.undp.org/procurement> >
- IAPSO <<http://www.iapso.org/supplying/procurement-notices.asp> >
- BAPPENAS / BRR e-Aceh Web Site <<http://www.e-aceh.org/>>

Procedures and criteria for evaluation of bids will be detailed in tender documents. Generally, proposals/bids will be assessed according to principles of technical quality (including proposed approach and work plan, responsiveness to the specifications of the scope of services, and capacity and experience of the proposing organization / firm, including experience on previous similar projects) and value for money.

Results of procurement processes for the project will be reviewed by UNDP's Contracts, Assets and Procurement Committee (CAPC) and UNDP's Advisory Committee on Procurement (ACP) in New York, as relevant, in order to ensure that competitive and transparent processes are undertaken.

In order to ensure efficient and prompt procurement processes that meet UNDP corporate standards, the UNDP country office in Indonesia has received support to strengthen its procurement capacity in response to the tsunami. In terms of procedures, UNDP has special guidelines for procurement of goods and services in emergency contexts that are being applied for the tsunami response. This includes an increased delegation of authority for the country office, as well as expedited review and approval processes for contracts.

Additionally, the procurement section in Jakarta has been strengthened and processing times streamlined through provision of additional staffing support (including additional international Procurement Officers on loan from other country offices), specialized procurement technical assistance from UNDP's New York Bureau of Management and from the UNDP Inter-Agency Procurement Services Office (IAPSO) in Copenhagen.

In order to minimize risks associated with procurement and contracting of services, UNDP's Office of Procurement and Legal Services (OLPS) in New York, as well as by UNDP's global Office of Audit and Performance Review, have fielded missions to assess procurement risks and provide recommendations on procurement risk mitigation measures. Additionally, trainings on risk assessment and management have been provided to UNDP programme and operational staff.

#### **4.5. Financial Management and Flow of Funds:**

Financial management will be undertaken through UNDP's internal control framework and in line with UNDP's financial rules and procedures. The objectives of the internal control framework are to ensure efficacy and efficiency in the receipt, custody and use of all financial resources administered by UNDP. Project financial transactions will be undertaken through UNDP's new enterprise resource planning (ERP) system (ATLAS), which was introduced in 2004 and is based on best-practice enterprise resource management systems used in the public and private sectors.

For payment of services contracted by UNDP, through UNDP procurement processes, payments will be made directly by UNDP to contractors based on

benchmarks and deliverables specified in agreements / contracts. Prior to issuance of progress payments, UNDP will review and evaluate narrative and financial reporting, including supporting documentation from its partners. For project components implemented directly by UNDP, funds will be transferred on a quarterly advance basis, and will be reported upon and reviewed prior to transfer of further advances.

Financial reporting will be undertaken as per UNDP and MDTFANS procedures, and as part of overall project reporting. Information on contracts and expenditures will be publicly posted to ensure transparency on UNDP websites.

## **5. MONITORING, REPORTING, EVALUATION AND AUDIT**

### **5.1. Project Monitoring Framework:**

An overall monitoring framework for the project will be developed by UNDP to ensure accountability and transparency in the use of programme resources, and to ensure that lessons learned in the implementation of this project are distilled and shared with stakeholders, including the Government of Indonesia and the MDTFANS donor partners. The monitoring framework for this project will be fully compliant with the monitoring and evaluation framework to be established for the MDTFANS as a whole.

Delivery of services by implementing partners and contractors will be monitored against deliverables and benchmarks included in contracts, through a review and evaluation of narrative and financial reporting, combined with on site monitoring by UNDP of service delivery. Feedback will be provided to implementing partners and contractors in order to identify issues that need corrective action, ensure that such actions are taken early, and to improve overall quality in the implementation of activities and provision of services.

The programme's financial resources will be monitored through a series of controls at various levels (as described above in section Financial Management and Flow of Funds). All financial transactions are undertaken, recorded, monitored, analysed and reported through UNDP's newly introduced ATLAS Enterprise Resource Planning (ERP) system. Approved project budgets and expenditures will be publicly posted in project areas, as well as on the UNDP website.

### **5.2. Reporting**

Reporting for the project as a whole to the MDTFANS will take place in line with MDTFANS requirements detailed in the MDTFANS Financing Agreement and Operations Manual. UNDP will provide support to its Government implementing partners in reporting. Reports will include performance indicators as well as physical and financial progress in achieving results, and will be submitted to the MDTFANS Steering Committee through the Secretariat at least every six months.

For funds transferred to its government partners by UNDP on a quarterly advance basis, they will provide quarterly reporting on expenditures of these funds, activities undertaken, and results achieved.

Reporting (both narrative and financial) on implementation of activities and services will be undertaken by implementing partners and contractors on the basis of reporting schedules defined in agreements and contracts.

UNDP will also submit to the MDTFANS Secretariat quarterly invoices for supervision costs (Output 4).

### **5.3. Audit and Evaluation Provisions**

All UNDP-supported projects are subject to UNDP audit rules and regulations. Projects in response to the tsunami disaster are subject to periodic management reviews, appraisals of internal control mechanisms, and annual independent audits.

Activities by implementing partners are also subject to audit provisions, including UNDP reviews of financial reporting and supporting documentation, and independent audit of implementing agent accounts for certain activities.

UNDP's provision of support services are also audited on a regular basis as part of audits of the Country Office as a whole by the Office of Audit and Performance Review.

The project as a whole will also be subject to a mid term (at the completion of the first 12 months) and terminal evaluation. The evaluations will be undertaken by independent evaluation consulting teams or firms.

### **5.4. Risks and Mitigation Measures**

Risk assessment of UNDP's tsunami response has been undertaken by the UNDP country office together with UNDP's global Office of Audit and Performance Review, which has provided recommendations on risk mitigation measures. Additionally, UNDP's global Office for Legal and Procurement Services has provided trainings to UNDP programme staff on risk assessment and mitigation measures for procurement and contracting of services. These measures will form part of UNDP's procurement on behalf of BRR for this project. A detailed procurement plan with information on specific risks and mitigation measures will be prepared in consultation between UNDP and its partners.

## **6. LEGAL CONTEXT**

This project is undertaken as a sub-project of the Aceh Emergency Response and Transitional Recovery (ERTR) Programme, and is undertaken within the legal context of the ERTR project document signed by the Badan Rehabilitasi dan Rekonstruksi (BRR) NAD-Nias and UNDP in May 2005. Relationships with local

Government counterparts will be governed by Letters of Agreement (LOAs) between UNDP and each district department.

## 7. RESULTS AND RESOURCES FRAMEWORK

<p><b>Intended Outcome as stated in the Country Programme Results and Resource Framework:</b> Crisis prevention approaches integrated into Government recovery, development and planning frameworks.</p>
<p><b>Applicable MYFF Service Line:</b> Recovery</p>
<p><b>Partnership Strategy:</b> This programme will be undertaken in collaboration with the Agency for Rehabilitation and Reconstruction of Aceh and Nias (BRR) and the Multi-Donor Trust Fund for Aceh and North Sumatra (MDTFANS) established by the World Bank and several donors. The programme will be implemented with local Government Dinas Kebersihan (Sanitation Departments), and delivered through arrangements with NGOs, civil society groups, the private sector, and international organizations.</p>
<p><b>Project title: Aceh Emergency Response and Transitional Recovery Programme</b> <b>ATLAS Award ID: 00038024</b></p>

	Intended Outputs	Output Targets (Two Year Programme)	Indicative Activities	Responsible parties	Inputs
1	Continued support for MSW collection/ Extension of TWRFs in KBA, Aceh Barat & Implementation of TWRFs in other impacted Districts	<ul style="list-style-type: none"> <li>Continued support for the collection/disposal of garbage from municipal areas in Kota Banda Aceh, Meulaboh and other impacted municipalities</li> <li>Demolition of tsunami/earthquake damaged buildings</li> <li>Clearance of residual tsunami generated waste from residential areas/ temporary tsunami dumpsites on private land; and</li> <li>Labour intensive recovery of</li> </ul>	<ol style="list-style-type: none"> <li>Following request from local government, expansion of current pilot TWRF in Kota Banda Aceh to cater for clearance of over 300,000m<sup>3</sup> of tsunami generated waste in temporary dumps on 21 hectares of sawah (padi), tambac (fishpond) or private property using some 1,000-1,500 labourers, 60 rental dump trucks and associated heavy equipment over a one year period</li> <li>Expansion of pilot TWRF in Aceh Barat/other districts to cater for clearance of</li> </ol>	<ul style="list-style-type: none"> <li>Municipal/District Government for implementation via LOA</li> <li>UNDP for recruitment, procurement and contracting, and contractor payments</li> </ul>	<ul style="list-style-type: none"> <li>TWRF Extension KBA</li> <li>TWRF Extension Aceh Barat</li> <li>TWRF Extension Aceh Jaya/other districts</li> </ul>

	Intended Outputs	Output Targets (Two Year Programme)	Indicative Activities	Responsible parties	Inputs
		recyclable tsunami waste (bricks/concrete, timber, vegetation, metals and plastics) at Tsunami Waste Recovery Facilities (TWRFs).	<p>over 85,000m<sup>3</sup> of tsunami waste in temporary dumps on 8 hectares of private property (six months), and benefiting some 900 labourers on a cash for work basis</p> <p>3. Initiation of a TWRF and landfill in Calang, Aceh Jaya and/or other districts (Pidie, Nias etc) as funds allow (six months), benefiting some 900 labourers on a cash for work basis</p>		

	<b>Intended Outputs</b>	<b>Output Targets (Two Year Programme)</b>	<b>Indicative Activities</b>	<b>Responsible parties</b>	<b>Inputs (All figures USD)</b>
2	Rehabilitation of Gampong Jawa Dumpsite in KBA and potentially other dumpsites in Aceh	<ul style="list-style-type: none"> <li>Rehabilitation of Gampong Jawa Dumpsite, Kota Banda Aceh to provide disposal space for non-recyclable tsunami waste and serve as an interim sanitary landfill for Kota Banda Aceh for 2-3 years until a permanent replacement can be provided. Other dumpsites (e.g. in Meulaboh, Aceh Jaya, Pidie) to be upgraded as funds permit</li> </ul>	<ol style="list-style-type: none"> <li>Construction of 1.0 hectare Phase I Interim Landfill</li> <li>Construction of 4.5 hectare Phase II Interim Landfill</li> <li>Construction of a maintenance workshop and equipping the workshop with needed equipment and tools to maintain Cleaning Department vehicles and equipment</li> <li>Construction of supporting facilities for the workshop: a garage for vehicles, canteen and housing for overnight workers, offices, security fence</li> <li>Repair and reconstruction of the access road to the interim landfill and workshop area, and internal roads at the interim landfill site (about 1.2 km) as well as provision of electric power to the landfill and workshop site.</li> </ol>	<ul style="list-style-type: none"> <li>UNDP for recruitment, procurement, contracting and monitoring contractor performance</li> </ul>	<ul style="list-style-type: none"> <li>Rehabilitation of Gampong Jawa Dumpsite, Kota Banda Aceh</li> </ul>

	<b>Intended Outputs</b>	<b>Output Targets (Two Year Programme)</b>	<b>Indicative Activities</b>	<b>Responsible parties</b>	<b>Inputs (All figures USD)</b>
3	Restoration and/or creation of livelihoods in waste management and/or utilizing recovery/ recycled materials	<ul style="list-style-type: none"> <li>• Creation of sustainable downstream livelihood generation projects utilizing the materials recovered at the TWRFs</li> <li>• Implemented in partnership with district governments and/or partner NGOs utilising UNDP's existing framework for livelihood projects under the ERTR programme.</li> <li>• UNDP to work with other interested NGOs/ donors and government on staff training programmes and environmental/ waste management public awareness campaigns.</li> </ul>	<ol style="list-style-type: none"> <li>1. Composting projects to make organic fertilizer for padi and parks rehabilitation</li> <li>2. Plastic processing facilities to make plastic chips for sale to recyclers;</li> <li>3. Provision of restored tsunami wood to furniture manufacturers;</li> <li>4. Tsunami wood-fired brick kiln rehabilitation projects to make red bricks using tsunami wood;</li> <li>5. Tsunami wood-fired limestone kiln rehabilitation projects to make lime using tsunami wood;</li> <li>6. Charcoal manufacture from tsunami timber; and</li> <li>7. Provision of stone crushers to make secondary aggregate for use in brick (breeze block) projects, concrete preparation and/ or road base.</li> <li>8. Training programmes/ awareness campaigns</li> </ol>	<ul style="list-style-type: none"> <li>• UNDP for financial and technical support as required</li> </ul>	<ul style="list-style-type: none"> <li>• Livelihoods projects</li> </ul>

	<b>Intended Outputs</b>	<b>Output Targets (Two Year Programme)</b>	<b>Indicative Activities</b>	<b>Responsible parties</b>	<b>Inputs (All figures USD)</b>
4	Effective and efficient management, monitoring and oversight of the overall programme on behalf of the MDTFANS donor partners	<ul style="list-style-type: none"> <li>• Timely recruitment of consultants and procurement of quality goods and services</li> <li>• Enhanced financial reporting and accountability for the use of MDTFANS resources</li> <li>• Effective monitoring and reporting of programme activities</li> </ul>	<ol style="list-style-type: none"> <li>1. Recruitment of consultants</li> <li>2. Procurement of goods and services</li> <li>3. Management of human and financial resources</li> <li>4. Monitoring and reporting of programme implementation by district government and service providers</li> </ol>	<ul style="list-style-type: none"> <li>• UNDP for recruitment, procurement, management, supervision, monitoring and reporting</li> </ul>	<ul style="list-style-type: none"> <li>• International consultants</li> <li>• National consultants</li> <li>• Travel and accommodation</li> <li>• Materials and goods</li> <li>• Management Services</li> </ul>