



## REPUBLIC OF INDONESIA

Ministry of Forestry  
Directorate General for Land Rehabilitation and  
Social Forestry

Third National report on the implementation  
of  
The United Nations Convention to Combat Desertification  
(UNCCD)

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## GLOSSARY

A/R-CDM	: Afforestation Reforestation Clean Development Mechanism
AusAID	: The Australian Government's Overseas Aid Programme
BAKOSURTANAL	: National Coordination Agency for Survey and Mapping
BMG	: Meteorological and Geophysical Agency
CBO	: Community based organizations
CIDA	: Canadian International Development Agency
COP	: Conference of the Parties
CPP-Indonesia	: Country Pilot Partnership in Indonesia
DAU	: Special allocation funds
DFID	: UK Department for International Development
DGLRSF	: Directorate General of Land Rehabilitation and Social Forestry
DR	: Reforestation Funds
FORDA	: Forestry Research and Development Agency
GEF	: Global Environment Facility
GM	: Global Mechanism
GNKPA	: National Movement on Water Conservation Partnership
GNRHL/Gerhan	: National Movement on Forest and Land Rehabilitation
GOI	: Government of Indonesia
GTZ	: Deutsche Gesellschaft für Technische Zusammenarbeit
IFAD	: International Fund for Agricultural Development
IPB	: Bogor Agricultural University
JBIC	: Japan Bank for International Cooperation
JICA	: Japan International Cooperation Agency
JIFPRO	: Japan International Forestry Promotion Center
LAPAN	: National Aeronautical and Space Institute
LIPI	: Indonesian Institute of Science
NAP	: National Action Plan
NCB	: National Coordination Body
NCSA	: National Capacity Self Assessment
NFP	: National Focal Point
NGO	: Non Governmental Organization
NTB	: West Nusa Tenggara Province
NTT	: East Nusa Tenggara Province
PAR Rinjani	: Rinjani Mountain ecosystem preservation
PPNS	: Environment law investigators of government officials
PPSDA	: Sustainable Utilization Programme of Natural Resources
PSDH	: Forest Resources Development
Puspiptek	: Technology and Science Assessment Center
RHL	: Forest and Land Rehabilitation
RPJM	: Medium Term National Development Plan
RPJP	: Long Term National Development Plan
RPSDA	: Natural Resources Rehabilitation and Restoration Programme
SEA SRAP	: Southeast Asia Sub Regional Action Programme
SFM	: Sustainable forest management
SLM	: Sustainable Land Management

STORMA	: Stability of Rain Forest Margins in Indonesia
Tahura	: Grand forest park
TNC	: The Nature Conservancy
TPN	: Thematic Programme Network
UNCBD	: United Nations Convention of Biodiversity
UNCCD	: United Nations Convention to Combat Desertification
Undana	: Nusa Cendana University
UNDP	: United Nations Development Programme
UNFCCC	: United Nations Framework Convention for Climate Change
Unram	: University of Mataram
WLR	: Water level recorder
WWF	: World Wildlife Fund

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## **SUMMARY**

### **1. STRATEGIES AND PRIORITIES WITHIN THE FRAMEWORK OF SUSTAINABLE DEVELOPMENT**

All strategies in the NAP have been formulated in the National Development Plan 2004. Strategy in forest sector that has been implemented to combat land degradation is sustainable forest management (SFM). One of the policies to achieve sustainable forest management is reflected through forest classification according to its functions: conservation forest, protection forest and production forest. Each forest function has its detailed regulation and it is homogenous throughout Indonesia

Indonesia has put a serious effort in rehabilitating degraded land through reforestation and aforesation, among others are Forest and Land Rehabilitation Programme (RHL) and National Movement on Forest and Land Rehabilitation (GNRHL) which was launched by President of the Republic of Indonesia in Yogyakarta in 2003, a year after the National Action Programme (NAP) of Combating Land Degradation (CLD) in Indonesia was adopted. The strategy of combating land degradation in Indonesia is integrated into the sectoral strategies of agriculture, fishery, and forestry where its revitalization programme was reiterated also by Indonesian President in June 2005.

The principles of UNCCD, such as participatory processes and consultative mechanisms, have been put in priority and accommodated in GNRHL/Gerhan as one of the environmental framework in Indonesia through involving all stakeholders in all management processes started from planning, implementation, monitoring to evaluation. In this programme the involved stakeholders are central and local government, private sectors, NGOs, community based organizations (CBOs), and key farmers

### **2. INSTITUTIONAL MEASURES TAKEN TO IMPLEMENT THE CONVENTION**

The Directorate General of Land Rehabilitation and Social Forestry (DG LRSF) is the National Coordination Body (NCB) in Indonesia which was established by the Ministry of Forestry in 2002. The NCB appointed the Directorate of Watershed Management as Indonesia National Focal Point (NFP) in December 2002.

The NCB provides the roles of NFP in combating land degradation and conducting meetings at least once a year before UNCCD sessions (COP, CRIC, CST) to prepare national report, determine Indonesia's position and carry out

internal review of NAP. NCB initiate cooperation programme to combat degraded land at national scale including three target areas of UNCCD. Meanwhile, NFP roles include mobilizing resources, integrating cross sectoral activities, providing guidelines, and coordinating the provincial and local stakeholders activities.

New initiatives that have been undertaken since the last report on integrating the NAP into the national economic, social development, and environmental protection planning system are implementation of National Movements i.e. National Movement on Forest and Land Rehabilitation (GNRHL); National Movement on Water Conservation Partnership (GNKPA); Agricultural, Fisheries, and Forestry Revitalization; and new and renewable energy (bio energy).

NFP has taken active role on NCSA (National Capacity Self Assessment) project, which has recommended the establishing of 'coordination forum' among the three conventions (UNFCCC, UNCBD, and UNCCD). The report of the NCSA Project has already been published and its action plan will be implemented by each convention.

Empowering of human resources and institutions has not been carried out specifically in regard to NAP both at national and local level due to lack of financial support and inexistence of independent UNCCD secretariat. However, training of human resources in terms of combating land degradation has been carried out occasionally both at national and local level before NAP was adapted.

### **3. PARTICIPATORY PROCESS IN IMPLEMENTATION OF THE NATIONAL ACTION PROGRAMMES**

Participation process has been carried out during the formulation of the NAP and of the National Report through field visit, community meetings, workshops, discussion in the seminars, etc. Stakeholders involved in the NAP preparation process are government (Central and Local), NGOs, CBOs, Universities, research institutions, and private sectors.

Measures to improve the capacity of community participation in land rehabilitation activities, such as social forestry, crop-livestock (CLS) programme for upland conservation, have been put in top priority, either by Government, NGO, or CBO.

In NAP implementation through GNRHL programme, the Government involves the participation of NGOs, CBOs, and private sectors. One of the movement objectives is to generate rural people awareness on the danger of land degradation and in turn encourage them to rehabilitate degraded land. Target area of the movement is 3 million hectares of more than 70 million ha degraded

land in Indonesia for the period of 2003 to 2007 and hopefully will generate multiplier effect to all degraded land over the country.

Mechanism of participative monitoring has been established through consultation, networking, field visits, workshop, direct intra personal communication, and electronic media. However, the consultation mechanism is not regularly conducted due to lack of scheduling and budgeting constraints

Participatory awareness campaigns that have been conducted dealing with the growing threat to ecosystem, poverty eradication, land degradation prevention, lessons learned and best practices are Planting One Million Trees, Greening Indonesia, Plant Today Harvest Tomorrow, No Forest No Life, Don't Export Smoke, and Combating Illegal Logging.

#### **4. THE CONSULTATIVE PROCESS OF THE NATIONAL ACTION PROGRAMME**

The UNCCD secretariat through Global Mechanism (GM) have assisted in facilitating the convening NAP formulation and Validation, SEA SRAP Formulation, National Report preparation, and Partnership Mobilisation workshop. The activities have led to consultative process among stakeholders and agreements on combating land degradation cooperation mostly have been implemented, such as reforestation project in NTB.

Some proposals on combating land degradation in the NAP have been submitted to UNCCD Secretariat and implementing agency such as UNDP and World Bank in order to get GEF funding. However, none of them accepted by the respective implementing agency and donors.

Traditional and alternative source of finance has been generated for forest and land rehabilitation and land degradation prevention since seventies. The sources is not specifically for NAP implementation since adoption of the NAP is just four years ago (2002).

In order to maintain the exchange information with regard to internal consultation, networking, trust building, and balance communication is needed to ensure the consultation process is moving ahead.

Although there is no difficulties in communication between NFP of GEF and UNCCD, financial support of GEF through its OP#15 have not been benefited to Indonesia due to requirement complexity such as: proposal format; priority of proponent and donor interest; indistinguishable cost standard, time frame, and



assistance scheme; should be integrated; and limited information on the progress of submitted proposal.

## **5. MEASURES WITHIN THE FRAMEWORK OF NATIONAL ACTION PROGRAMMES**

Plantation forest, community forestry, private forest, 'embung' (small reservoir) management and agroforestry development in East and West Nusatenggara are efforts that have been made to rehabilitate degraded land. Pipe and drip irrigation systems development is a significant investment that has been done in Palu valley, Central Sulawesi. However, the sustainability of these systems was facing a security problem due to high maintenance cost, and low farmers willingness to pay for operational and maintenance cost.

Measures to mitigate effect of drought based on the weather forecast have also been carried out by Ministry of Agriculture and Public Work.

Natural Resources Database System in general is undertaken by BAKOSURTANAL (National Survey and Mapping Coordinating Agency). In term of forestry resource, Forest Planning Agency (BAPLAN) carried out Forest Resource Accounting (NSDH) as an input for sustainable forest management programme and Directorate General for Land Rehabilitation and Social Forestry (RLPS) identified related data and information on degraded forest and land to implement rehabilitation programme.

Water harvesting through the construction of 'embungs', infiltration wells, infiltration ditches (rorak); application of mulch and organic matter are conducted to achieve a positive water balance (water surplus) in NTB, NTT, and Central Sulawesi. This effort has to be combined with efficient water use.

Indonesia has a low capacity in developing early warning system for food security and drought forecasting, particularly at the local level. It has been clearly indicated when starvation disaster occurred in most area of NTT Province for example Lembata. The occurrence of drought and the failure of crops were not anticipated by the local government and as a consequence the government failed to allocate food at the right time when famine disaster occurred.

So far there is no significant finding to adjust the content of NAP, however, Indonesia has a commitment to review the NAP regularly every 5 years.

## **6. FINANCIAL ASSISTANCE AND TECHNICAL COOPERATION**

Fund for forest and land rehabilitation measures, including afforestation, reforestation, and land rehabilitation was provided and mobilized by the Government of Indonesia and coordinated by Ministry of Finance and Ministry of Forestry. Sources of these funds consisted of National Budget, Local Budget and Reforestation Fund (DR). A problem arises in budgeting system and fund allocation for related Ministries.

Measures have been taken to ensure access by local stakeholders to the source of fund by giving them information, for example a campaign on National Movement of Forest and Land Rehabilitation (GNRHL) and Water Saving Partnership (GNKPA). Through this campaign, people could get benefit to utilize source of funding by participating in the forest, land, and water rehabilitation and conservation activities.

In the GNRHL, the government played the key role in supplying planting materials while the community contributes in the form of making their land available for the program, as well as taking the lead in planting. Meanwhile the Non Government Organization and independent organizations such as universities, participate in monitoring and evaluation of the conduct of GNRHL

Fund from Clean Development Mechanism (CDM) scheme has also been explored and promoted for reforestation in NTB since the eligible land is potentially available. This project is proposed by Provincial Forest Service and facilitated by JIFPRO; it is still in the stage of formulating Project Design Document (PDD).

Recent developments in the decision of the GEF to include land degradation as a new focal area, GEF's OP#15, were benefited to Indonesia. However, proposals that submitted by Indonesia were still unsuccessful to get fund from GEF.

## **7. BENCHMARKS AND INDICATORS**

Measures to assess land degradation in Indonesia are conducted by Ministry of Forestry through the inventory of degraded land using standardised and improved method and criteria, satellite images or aerial photograph, and GIS technique; the result was produced in the form of digital data and map so called "critical land" map. This map is used for prioritizing rehabilitation programs and carried out throughout the country since 2004.

Land degradation could also be evaluated in the field by inventory of natural springs. For example, in NTB, the disappearance of natural springs from 726 to 256 remaining at present is likely due to land degradation. Mapping of land slide

and flood prone areas and monitoring of land productivity have also been used for identifying land degradation in selected areas

Based on the inventory, degraded land was increased significantly and gives impact on drought and flood problem in most part of dry land in Indonesia. The rate of land degradation attributed to drought and climate change so far have not been evaluated quantitatively, except for isolated cases in research projects. In general, the rate of degradation has been identified qualitatively by: increasing frequency of forest and bush fire, extensive area of dead plants due to drought, increasing rate of harvest failure, decreasing number and discharge of natural springs, increasing encroachment of livestock to forest, decreasing livestock population, and increasing areas of abandoned land.

Initial effort has been started by BMG and Ministry of Agriculture to set up early warning system to mitigate the effect of drought and land degradation. Since, the effort is still in the initial state; the process has only been used in the limited area to facilitate better policy.

Benchmark and indicators for the assessment has been formulated and included in NAP. The Partnership Workshop of UNCCD held in Bogor Indonesia, June 2004, revised and produced a new indicative list of benchmark and indicators.

## 1. Focal point institution:

Name of focal point	Ministry of Forestry
Address including e-mail address	Manggala Wanabakti Building JL Gatot Subroto – Senayan Jakarta 10270, Indonesia e-mail: <a href="mailto:sanwar@cbn.net.id">sanwar@cbn.net.id</a> <a href="mailto:sanwar@dephut.go.id">sanwar@dephut.go.id</a> Telp: +62.21.5730151 Fax: +62.21.5700263
Country-specific websites relating to Desertification	1. <a href="http://www.dephut.go.id">www.dephut.go.id</a> 2. <a href="http://www.asocon.org">www.asocon.org</a>

## 2. Status of NAP (please provide information relevant to the status in your country only):

Date of validation	Minister of Forestry, December 2002
NAP review(s)	After 5 years (will be 2007)
NAP has been integrated into the poverty reduction strategy (PRSP)	Specific programme of UNCCD related to PRSP is currently under way. Poverty alleviation programme has been partially carried out.
NAP has been integrated into the national development strategy	Yes (2005), however, not specifically specified as UNCCD programme; most NAP content has been integrated into the national development strategy (Propenas).
NAP implementation has started with or without the conclusions of partnership agreements	Yes
Expected NAP validation	Done, date of validation is in December 2002
Final draft of a NAP exists	Yes
Formulation of a draft NAP is under way	N/A
Basic guidelines for a NAP have been established	N/A
Process has only been initiated	N/A
Process has not yet started	N/A

## 3. Member of SRAP/RAP (please provide information where appropriate):

Name of subregional and/or regional cooperation framework	Involvement specifically in topics such as water harvesting techniques, soil erosion etc.
1. South East Asia (SEA) SRAP	Soil Erosion, GIS, Capacity Building, Water Harvesting
2. Asia RAP	-
3. TPN	Agroforestry (TPN2), Rural Initiative (TPN6)

4. Composition of the NCB (indicate whether it is a Government or civil society organization, and provide information on the representatives' gender):

Name of institution	Government (√)	NGO (√)	Male/female
1. Ministry of Forestry	√		M
2. Ministry of Agriculture	√		M
3. Bogor Agricultural University	√		M
4. University of Nusa Cendana	√		M
5. University of Mataram	√		M
6. Tadulako University	√		M
7. Katopasa Foundation		√	M
8. Sadagori Foundation		√	M
9. Ministry of Foreign Affairs	√		F
10. Ministry of Environment	√		M
11. Ministry of Public Work	√		
12. Indonesian Institute of Science	√		M
13. National Coordination Agency for Survey and Mapping	√		M
14. Meteorological and Geophysical Agency	√		M
15. National Aeronautical and Space Institute	√		F
16. Local Governments (NTT, NTB, and Central Sulawesi)	√		M & F

5. Total number of NGOs accredited to the process: 4 (four)

Has an NGO National Coordinating Committee on desertification been established; if yes, how many NGOs or civil society organizations participate in it?	No; but there is intention of some NGO's who are member of NCB to establish such committee
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6. Total number of acts and laws passed relating to the UNCCD: 9 (nine)

Name up to five most relevant acts and laws and/or regulations

Title of the law	Date of adoption
1. Law of Forestry No. 41/1999	1999
2. Decree of Minister of Forestry No. 020/2001 concerning Guidelines, Standard and Criteria of Forest and Land Rehabilitation.	2001
3. Decree of Minister of Forestry No. 052/2001 concerning Guidelines on Implementation of Watershed Management.	2001
4. Law of Water Resource No. 7/2004	2004
5. Government Regulation of Reforestation Fund No. 35/2002	2002

## 7. The consultative process

Number of partnership agreements that have been concluded and/or are being initiated within the framework of the UNCCD (please provide information where appropriate):

Official title of partnership	Donor(s), international organization(s), and/or agencies of the UN system involved	Date of (expected) conclusion
Dryland Rehabilitation	JIFPRO	2004
Reforestation CDM	JIFPRO	2010

List of consultative meetings on UNCCD implementation (please provide information where appropriate):

Name of consultative meeting	Date/year	Donor countries involved	International organizations or agencies of the UN system involved
1. NAP Validation	2002	Global Mechanism	UNCCD Secretariat
2. SEA SRAP Formulation	2003		UNCCD Secretariat
3. Partnership Mobilisation	2004	Netherland	UNCCD Secretariat
4. NCSA	2004-2005	GEF	UNDP

Name of country which has taken over the role of *Chef de file* (please provide information where appropriate): None

8. Name up to 10 projects currently under implementation which are directly or indirectly related to the UNCCD.

Name of project	Project implemented within the framework of the NAP/SRAP/RAP? (Yes/No)	Project implemented within the framework of ....	Timeframe	Partners involved	Overall budget
1. Water use Optimization	Yes	NAP	2005	Local Government of NTB, University	Approximately IDR 50 million
2. Forest and Land Rehabilitation (RHL) programme	Yes	NAP	Every year	Local Government	Approx. IDR 4 trillion annually
3. National Movement of Forest and Land Rehabilitation (GNRHL)	Yes	NAP	2003-2007	Local communities, Private companies	IDR 9 trillion
4. Embung (small reservoir) based agricultur	Yes	NAP	2002-2004	Local government of NTT province	IDR 300 million
5. Enhancing food security through meize and horticultural development in the border of Indonesia – Timor Leste	Yes	NAP	2002-2003	Local government of Belu district	IDR 170 million
6. Cendana ( <i>Santalum album</i> L.) based agroforestry development in NTT province	Yes	NAP	2002-2006	Local government of Belu, Rote-Ndao, and Ngada district	IDR 500
7. Assessment of Gewang ( <i>Coryphantha</i> Lamk.) domestication in savana of NTT province	Yes	NAP	2005-2006	Local government of Belu district	IDR 480 million

## CHAPTER I

### STRATEGIES AND PRIORITIES WITHIN THE FRAMEWORK OF SUSTAINABLE DEVELOPMENT

#### 1.1 National plans and strategies available in other social and economic areas

Strategies and priorities that have been formulated in the NAP are basically in line with the draft of Long Term National Development Plan (RPJP 2005-2030) and Medium Term National Development Plan (RPJM 2004-2009). These are reflected in Natural Resources Rehabilitation and Restoration Programme (RPSDA) and Sustainable Utilization Programme of Natural Resources (PPSDA). Related Departments (i.e. Forestry, Environment, Agriculture) have elaborated these programmes in their annual activities. The final objectives of the programmes are sustainable use of natural resources which should be indicated by improved community welfare (decrease poverty, higher income, no famine) and good quality of environment (no land degradation, no water and air pollution, stable and rich biodiversity).

Strategy for combating land degradation has been tailored into sectoral programme by related ministries such as agriculture, fishery, forestry, and environment. These programmes were re-iterated by the President of the Republic of Indonesia in the so called Revitalization Programme on Agriculture, Fishery and Forestry in June 2005. One of the most substantial programmes in combating land degradation in Indonesia is National Movement on Forest and Land Rehabilitation (GNRHL/Gerhan) which was also launched by the President of the Republic of Indonesia in Yogyakarta (2003), one year after NAP was officially adopted. Target area of GNRHL is 3 million ha throughout Indonesia within 5 years (2003-2007).

The principles of UNCCD such as participatory processes and consultative mechanisms have been accommodated in GNRHL/Gerhan as one of the environmental framework in Indonesia through involving all stakeholders in all management processes started from planning, implementation, monitoring to evaluation. In this programme the involved stakeholders are central and local government, private sectors, NGOs, community based organizations (CBOs), and key farmers.

In order to overcome food insecurity and energy scarcity in the UNCCD target areas i.e. West Nusa Tenggara Province (NTB) and East Nusa Tenggara Province (NTT), the central and local Government have developed cashew nuts (*Anacardium occidentale*) and jatropa plants (*Jatropha curcas*) including in degraded land. Ministry of Forestry is responsible to provide land and seed for the programme to cover 100,000 ha.



## **1.2. National plans or strategies in the field of combating desertification developed prior to the UNCCD NAP**

Strategy in forest sector that has been implemented to combat land degradation is sustainable forest management (SFM). One of the policies to achieve sustainable forest management is reflected through forest classification according to its functions: conservation forest, protection forest and production forest. Each forest function has its detailed regulation and it is homogenous throughout Indonesia.

Land degradation occurs at all types of land use mainly due to deforestation, improper land use, land use change, agricultural encroachment, inadequate soil conservation, overexploitation of forest, overgrazing and forest/bush fire especially in NTB and NTT. The problem is aggravated by increasing population, limited arable land, and drought which may, in turn, creates social conflict.

The Government of Indonesia (GOI) has a responsibility to overcome the above problems; and as a country party to UNCCD, it has an obligation to formulate NAP for Combating Land Degradation which should be complementary with the national strategy.

In implementation of such strategies, National Coordinating Body (NCB) and National Focal Point (NFP) automatically carry out planning, fund mobilization, monitoring and evaluation in harmonious way because NCB and NFP are under the same ministry. When such activities involving multi-sectors such as GNRHL and National Movement on Water Conservation Partnership (GNKPA), NCB and NFP play an important role in disseminating, consultation and coordinating the activities.

## CHAPTER II

### INSTITUTIONAL MEASURES TAKEN TO IMPLEMENT THE CONVENTION

#### 2.1. NAP as part of the National Economic and Social Development and Environment Protection Plans

##### 2.1.1. Making the NAP coherent with other environmental strategic and planning frameworks

NAP has been participative formulated in accordance with the National Development Plans which is reflected in the NAP's Basic Principles.

Basically NAP has been implemented in each level of planning: national and local, although NAP is not mentioned specifically in the planning strategies of those levels.

The main institutional and/or programme constraints in NAP objectives integration into national strategy plan is the absence of independent institutions or organizations which are responsible to the convention. A coordination forum of 3 environmental conventions: UNFCCC, UNCBD, and UNCCD, has been recommended in NCSA project to harmonize their objectives into national strategic plan.

Policy measures and incentives schemes have been adopted and initiated aiming at encouraging private sectors and community support in the activities such as bio fuel production, planting of agar wood, sandal wood, gum luc tree, neem, mangrove, candle nut, ebony, cashew nut, and seedling provision is reflected in NAP.

With regard to technological and scientific cooperation, NAP policy adoption has been implemented with examples as follows: (1) Agriculture Technological Research Institute in Solo has conducted a research on biodiesel from jatropha by using simple equipments at small scale production, (2) research on rooting system modification of teak cuttings in collaboration between Technology and Science Assessment Center (Puspiptek) in Serpong and private sectors in 10 districts of NTT.

In harmonizing NAP programmes with the national policy, related central and local institutions carry out legislative adjustments and raising awareness. Legislative aspects are adjusted through formulation of Integrated Watershed Management, Forest and Land Rehabilitation, Soil Conservation, Water Resources Management, Aquifer Management, Catchment Area Management, and Pine Forest Management regulations.

Raising awareness was carried out through programmes such as slogan dissemination, Green Indonesian Movement, and Governor Award.

#### 2.1.2. Linkages of the NAP with national, intraregional and local approaches

New initiatives that have been undertaken since the last report on integrating the NAP into the national economic, social development, and environmental protection planning system are implementation of National Movements i.e. Forest and Land Rehabilitation and Water Conservation Partnership; Agricultural, Fisheries, and Forestry Revitalization; and new and renewable energy (bio energy).

The successful of such activities have not been identified yet, since they are still in the process stage of implementation. The evaluation of each implemented activities will be carried out regularly every 5 years.

### **2.2. Linkage achieved with subregional and regional action programmes, SRAPs and RAPs**

#### 2.2.1. Development, at the national level, of programmes of a subregional or regional character

Agroforestry is one of the activities being developed and pursued in Indonesia which has sub regional dimension that is directly linked with activities under SRAP and TPN are: (1) Formulation of country cross cutting issue sub regional; (2) TPN 2 : Agroforestry & Soil Conservation; and (3) TPN 6 : Local Development Initiative. Agroforestry system will increase land productivity and in turn will alleviate land degradation, which is consistent with NAP.

Issues covered within SEA SRAP country cross cutting are Information Network Development, Exchange and Transfer of Technologies, Capacity Building and Community Empowerment, Resource Mobilization and Partnership Building. TPN 2 issues include planting system and soil conservation techniques development suitable to local condition where in TPN 6 includes local community motivation to enhance land productivity and to prevent land degradation.

### 2.2.2. Strengthening of relevant scientific networks at the national, subregional and regional levels

Scientific and technical institutions at the national level which have been actively involved in strengthening the scientific networks are Bogor Agricultural University (IPB), Nusa Cendana University (Undana), University of Mataram (Unram), Tadulako University, Forestry Research and Development Agency (FORDA), Indonesian Institute of Science (LIPI), NGOs, Meteorological and Geophysical Agency (BMG), National Coordination Agency for Survey and Mapping (BAKOSURTANAL), and National Aeronautical and Space Institute (LAPAN).

Scientific networks strengthening have been also conducted in the sub regional and regional level through activities related with soil and water conservation, meteorology and environment.

### 2.2.3. Government's agreement

Principally most of the NAP thematic has been technically adopted into Government's, private sector and community activities, even though it has not been indicated formally and specifically as UNCCD programme.

Funding for NAP is not formally and specifically provided by the Government through its national budget, however most of the NAP activities indirectly have been funded such as GNRHL/Gerhan, agroforestry, water harvesting constructions (reservoirs, irrigation system, etc.), development of weather forecasting system for drought mitigation, natural resources database system development, forest resources accounting formulation, local community empowerment, etc.

## **2.3. Established and functional national coordination body (NCB)**

### 2.3.1. Legal status

NCB has an active role in Government's policy formulation such as GNRHL/Gerhan and GNKPA initiation. Legislative role of NCB is preparing draft of rules and regulations such as Soil Conservation, Forest and Land Rehabilitation, Integrated Watershed Management, Water Resources Management, Swamp, Lake and Aquifer Management.

Funding for NCB has not been formally and specifically funded by the national budget. NCB's activities for the time being are supported by Directorate General of Land Rehabilitation and Social Forestry (DGLRSF), Ministry of Forestry.

NCB Secretariat is not fully operated since its staffs main position are formally under the Ministry of Forestry. To improve the NCB's performance, an independent staffs and status within the organization is needed.

In terms of financial resources, NFP has the same difficulty with NCB; NFP has not been formally and specifically funded by the national budget. So far financial support for NFP is allocated from land degradation prevention programme in DGLRSF, Ministry of Forestry.

NCB has promoted several efforts to synergize related activities on land degradation either national or local programme, such as GNRHL/Gerhan. A synergistic development exists from such activities, in turn, creates sustainable land management. Integration of NAP as a whole into the national development program is needed to accelerate synergistic development.

### 2.3.2. Resources

Review and evaluation showed that facilities and financial resources of NCB are still very limited; however human resources of NCB is good. Therefore a special attention should be paid to procure facilities and to mobilize financial resources. Since the NCB member comprises of experts in the field of environmental sciences particularly land degradation and top level management in various government institutions, the NCB has quite high capacities to implement and to evaluate NAP.

Since the UNCCD NAP implementation is inter-sectoral as well as the NCB and NFP members, the legal status of NAP, NCB, and NFP should be legalized by at least a Presidential decree. By doing so, the needed financial to implement NAP and to facilitate NCB and NFP activities, could be included formally and specifically in the national budget.

### 2.3.3. Cross-cutting and multi-disciplinary characters

The involvement of various experts, top level management of various government institutions, research institutions, and NGOs as NCB members

in formulating and validating NAP and national report, the content of both has been in an interdisciplinary manner. However, the continued absence of a few NCB members in formulating annual national reports, it seems that NCB members need to be reviewed. The involvement of private sectors, members of parliament, and journalist in NCB members should be considered in the review.

The content of NCB national report concerning the relations with other UN conventions remains the same with the last report. However, there is a school of thoughts to converge the three conventions in handling several cross cutting issues as has been stated in the results of National Capacity Self Assessment (NCSA) project.

As has been depicted in NAP, agricultural product from targeted areas of UNCCD needs a special marketing strategy. Therefore, private sector initiatives should be facilitated and enhanced to increase marketing accessibility, technology innovation, infrastructure development and farmers' cooperatives in the target areas.

#### 2.3.4. Composition and mode of operation

Participation of stakeholders has been increased in several activities concurrent with NAP, even though it was not specifically designed as NAP project. Continued participation of stakeholders in those activities was ensured by increasing the farmers' income, better environment condition, and conducive business atmosphere.

Effective communication among NCB members and between NCB and civil society need to be improved. So far, communication has been carried out in a limited way through dialogue, dissemination, and mass media.

NCB members nomination has been conducted transparently through consultative and participative process.

#### 2.3.5. Status of information data

NCB capacity in data management and organization is still inadequate due to the inexistence of NCB secretariat. National database related to land degradation is also inadequate; every ministry has their own database system and the access of NCB to each database system is still insufficient. Therefore, communication concerning land degradation data is generally carried out through internet, telephone and facsimile.

In general, communication between the chairman of NCB and NFP is good since they work at the same office. Communication forms among NCB and NFP members are telephone, facsimile, e-mail, meeting, and workshop.

#### **2.4. Institutional framework for coherent and functional desertification control**

##### 2.4.1. Measures adopted to adjust or strengthen the institutional framework since the last report

Coordination and harmonization of activities in combating land degradation are carried out through technical meetings, workshops, and seminars at national and local level.

The needed activities for empowering national and local staffs to develop information exchange among stakeholders are:

1. Capacity building at individual level to empower skill and knowledge of local individual on data and information collecting and management.
2. Capacity building at institutional level to procure facilities for collecting, analyzing, reporting, and disseminating of data and information.
3. Capacity building at national level to establish legislations/regulations on utilization and exchange mechanism of information.

##### 2.4.2. Measures adopted to strengthen existing institutions at the local and national levels since the last report

Empowering of human resources and institutions has not been carried out specifically in regard to NAP both at national and local level due to lack of financial support and inexistence of UNCCD secretariat. However, training of human resources in terms of combating land degradation has been carried out occasionally both at national and local level before NAP was adapted.

During the training, the following feedbacks have been taken from stakeholders and institutions:

1. The development of centralized communication network and information system among stakeholders and establishment of NCB and NFP secretariat is needed
2. Presidential decree to legalize NCB and NFP is needed

## **2.5. Coherent and functional legal and regulatory framework**

### 2.5.1. Analysis of legislation on the environment and related fields

Environmental legislations in Indonesia have been in effect far before UNCCD was ratified. However, the enforcement and operational of those legislations in combating land degradation is still limited to some extent.

The progress in the enforcement of environmental laws related to combating land degradation is limited to increasing government and staff commitment.

Institution and human resources capacity need in order to increase law enforcement are empowering of the "existing environment law investigators" of government officials (PPNS) and establishment of environmental court.

Progress that has been made in land tenure issues is the efforts in streamlining the process of land titling in agricultural areas including the UNCCD target areas.

### 2.5.2. Measures to adapt current legislation or introduce new enactments

Measures that have been taken to strengthen the capacity of local authorities and populations to participate in decision making process which is related to combating land degradation are:

1. Training and providing assistantships for farmer group in each district
2. Public consultation in the process of drafting/making regulations/laws
3. Involving communities in the process of planning, implementation and monitoring activities related to combating land degradation.

The needs that should be taken to increase the awareness of the local population on improved compliance to the new legislations are dissemination and advocacy.

NAP has foreseen particular projects that deal with law enforcement relating to combating land degradation; it was formulated in the thematic programme/project number 1, "Providing enabling conditions". However, this project has not been implemented.



## **CHAPTER III**

### **PARTICIPATORY PROCESS IN IMPLEMENTATION OF THE NATIONAL ACTION PROGRAMMES**

#### **3.1. Methods of participation of various actors**

Participation of stakeholders in the process of formulating and validating of NAP is very effective; combination of bottom up and top down approach was applied in the process. Both central and local governments, universities, research institutions, private sectors, NGOs, and community based organizations have been involved in identification of local condition/natural resources potential, problems, and programmes formulation of related activities to combating land degradation in UNCCD target areas. Other forms of participation methods in NAP and national report formulation and validation that were applied are field visits, meeting with farmer groups, workshops, discussion, and seminars.

The whole process of participation needed a considerable amount of money, therefore the process were facing problems in mobilizing funds particularly in NAP implementation. Even though the implementation of NAP has not been funded by any international donor, some activities related to NAP such as forest and land rehabilitation (RHL), have been funded limitedly by the central government through national budget. However, some other activities related to combating land degradation have also been funded by local governments and international donors through bilateral scheme or NGOs.

#### **3.2. Gender balance of actors involved in defining NAP priorities**

The trend of participatory approach in all management process (planning, implementation, monitoring and evaluation) is increasing, particularly on activities related to 7 priority areas as declared in Declaration 8/COP.4. Gender issue and private sectors have not been considered in NAP, however in activities related to NAP, gender and private sectors issues have been handled to limited extent. Therefore the review of NAP should be programmed seriously.

The private sectors on GNRHL/Gerhan which is related to NAP was involved particularly in seedling procurement, planting, and growth assessment in the field. Progress has been made in developing appropriate technology with support from private sectors such as annual crops and fishery development projects in NTT, community development and eco-tourism in NTB. The involvement of women is still limited to few activities such as nursery, planting and plant growing; therefore their involvement in planning and decision making process should be programmed seriously.

In activities related to NAP particularly GNRHL/Gerhan programme, the government involved participation of NGOs, farmers groups, and private sectors. One of the objectives of GNRHL/Gerhan is to raise people's awareness on the adverse impact of land degradation and their income, and in turn, increase their active participation in rehabilitation of degraded land through self funding. Target area of GNRHL/Gerhan is 3 million ha of 25 million ha degraded land for the period of 2003-2007 and hopefully will generate multiplier effect to all degraded land over the country.

Capacity need to maintain and/or develop national and local stakeholder involvement mechanism in order to implement activities related to NAP are: education, training, extension, and field demonstration such as social forestry and soil conservation. At the national level, increasing capacity could be achieved through coordination, integration, synchronies and synergies of legislation and regulation, for instance draft of soil conservation act and integrated watershed management regulation has been prepared by Ministry of Forestry whereas procedure for participation process on water resource management is prepared by Ministry of Public Work.

### **3.3. Representation of various actors in national priority identification processes**

In the selection of actors in national priority identification processes is using criteria as follow: geographical distribution, thematic area, gender, professionalism and specialisation. These criteria are considered supporting the equal representation at all level. At the local level in three targeted area (NTT, NTB, and Central Sulawesi province), represented by government official, researcher, lecture, NGO, and CS. At the national forum, the existing sectoral representation are Forestry, Agriculture, Environment, meteorological and geophysical, research and development, Institute of Science, Public Work, Energy, Planning Board, Foreign Affair, NGO, Survey and Mapping, and Universities.

Mechanism of participative monitoring has been established through consultation, networking, field visits, workshop, direct intra personal communication, and electronic media. However, the consultation mechanism is not regularly conducted due to lack of scheduling and budgeting constraints.

### **3.4. Nature and scope of information, education, and communications**

Exchange, circulation, transfer, and dissemination of information related to natural resources and environmental management traditionally have been carried out through informal meetings among communities in villages and small villages. Most of the target areas (NTT, NTB, and Central Sulawesi) are using cultural events for their communication process by using puppet show (wayang), poem (pantun/sakeco/natoni), shouting, traditional ceremony, and dancing. Traditional knowledge has a significant role in combating land degradation such as gewang (*Corypha utan* Lamk.) and lontar (*Borassus sundaicus* L.) cultivation for the production of roofing, palm sugar (nira), traditional drinks, sago powder, and bamboo cultivation for stream bank protection.

Besides existing traditional knowledge, formal schools (elementary, junior and senior high schools) provide also teaching materials related to sustainable natural resources and environmental management. At university level in NTB, NTT and Central Sulawesi, there are programmes on environmental studies. Joint research on combating land degradation has been established by signing MoU between Ministry of Forestry and Mataram University concerning to agar wood (*Aquilaria* spp.) development, Forest Seed Center in Bali with Mataram University concerning to arboretum establishment, Benain Noelmina Watershed Management Center with Nusa Cendana University concerning to technical assistance in establishing intensive silviculture system of sandal wood (*Santalum album*).

The mechanisms adopted to ensure that various categories of stakeholders are involved in the process to provide information as well as to benefit from the information networks are communications through electronic mail, telephone, facsimile, joint field visit, publication, and mass media.

Participatory awareness campaigns that have been conducted dealing with the stated themes (growing threat to ecosystem, poverty eradication, land degradation prevention, lessons learned and best practices) are Planting one million trees, Greening Indonesia, Plant today harvest tomorrow, No forest no life, Don't export smoke, and Combating illegal logging.

### **3.5. Extent of update of local concerns at the national level, and results of national consultations at the local level**

Concern and result of the national consultation at the local level incorporated into the NAP have been showed with activities such as identification of bio physics and socio economy related to land degradation, implementation strategy formulation, thematic programme formulation, and projects especially development of agroforestry, sylvo pastoral, agro pastoral; improvement of irrigation facilities and water resources conservation; and monitoring and mitigation of drought.

To ensure continuous feedback from stakeholders after completion of the NAP, there been follow up activities in the form of meeting, field visit, seminar, national consultation, and communication between central and local stakeholders. In designing the representatives of various institutional categories to gain feedbacks, criteria of scientific discipline, geographical distribution, professionalism, sectoral specialisation, and experiences have been used.

## CHAPTER IV

### THE CONSULTATIVE PROCESS OF THE NATIONAL ACTION PROGRAMME

#### 4.1. Degree of participation from international partners

New measures have been taken by the Government of Indonesia to ensure the involvement of international partner in the consultative process i.e. provide collaboration opportunity for private sectors. There has been an initial discussion with private sectors in order to rehabilitate degraded land with participative tree planting for the purpose of providing raw material for industries. The ongoing measures are enhanced to keep consultative process and international partner involvement sustained by following up proposal submission to donor countries and regular report submission to UNCCD secretariat.

Supports for national consultative mechanism have come from international organizations in the form of funding for workshops, attending international meetings and conferences, national report formulation, NAP and SRAP validation, and providing guidelines for report formulation.

Conclusion of a number of consultative agreement has been achieved and implemented such as Japan Bank for International Cooperation (JBIC)-The Nature Conservancy (TNC) and Government of Indonesia (GOI) cooperation on Palu watershed management project in Central Sulawesi; and cooperation between Japan International Forestry Promotion Center (JIFPRO), University of Mataram (Unram), and Ministry of Forestry on the reforestation project in NTB.

Financial mechanisms which might help to implement the convention in Indonesia are Global Mechanism (GM) and Global Environment Facility (GEF). GM has facilitated NAP processes such as national consultation, NAP formulation workshop, NAP validation and adoption, and national report validation. Meanwhile, the existence of GEF has not been benefited yet in the field of land degradation in Indonesia. So far, GEF has supported on providing guidelines for proposal formulations and land degradation focal area (OP#15), however, submitted proposal of Indonesia based on the guideline has not been approved yet.

GEF implementing agency such as UNDP, has not been benefited yet in UNCCD implementation compared to other environmental conventions (UNCBD and UNFCCC), even using illegal logging issues for not supporting the process. However, the result of NCSA project and completed Country

Pilot Partnership on Land Degradation and Deforestation in Indonesia (CPP-Indonesia) proposals supported by UNDP will assign UNDP as an implementing agency a significant role. CPP-Indonesia proposal submitted to GEF by UNDP is in line with the national requirement to implement UNCCD and urgently needed to get international support.

Traditional and alternative sources of finance been generated for the implementation of the NAP related activities before NAP was adopted (2002). NAP related activities implementation have been supported by Reforestation Fund, through GNRHL/Gerhan, national and local budget, and donor institutions in limited means. These efforts have been undertaken to move from conclusion of partnership agreement to actual implementation.

Continuous monitoring process for NAP related activities, such as national movement (i.e. Forest and Land Rehabilitation and Water Partnership Conservation) are carrying out, however, calendar of activities to ensure NAP implementation itself has not been prepared because it involves multisector which need time to synergize one and other sectors activities.

#### **4.2. Establishment of an informal consultation and harmonization process for actions between partner countries**

Consultative mechanism among partners at national and local level is established involving experts which are in the list of roster of expert and technical institution such as Ministry of Forestry, Agriculture, and environment. Consultative meeting was carried out generally due to the need to fulfill the obligatory as a country party to implement the convention such as formulation of Indonesia position in COP session as well as of National Report. Stakeholder attendance in various meeting is considerably good with high degree of participation.

Distribution of roles and tasks among stakeholder have been arrange and implemented clearly especially for the activities supported by donor country/institution. Discussions during consultative processes are initiated and facilitated by active participation of NCB and NFP especially in the policy and committed activities.

In maintaining information exchange, networking, trust building, and communication equal capacity and capability are needed to ensure the internal consultation sustained.

UNCCD secretariat and Global Mechanism assist in facilitating the consultative process on convention implementation, such as national

consultation workshop, NAP formulation workshop, NAP validation and adoption workshop, and National Report formulation and validation through technical support, providing guideline, and financing.

The communication and information exchange have been established between the National Focal Point of GEF and UNCCD, however, communication with implementing agency (UNDP) is in the process of improvement by means of the CPP-Indonesia submission.

Although there is no difficulties in communication between NFP of GEF and UNCCD, financial support of GEF through its OP#15 have not been benefited to Indonesia due to requirement complexity such as: proposal format; priority of proponent and donor interest; indistinguishable cost standard, time frame, and assistance scheme; should be integrated; and limited information on the progress of submitted proposal.

## **CHAPTER V**

### **MEASURES WITHIN THE FRAMEWORK OF NATIONAL ACTION PROGRAMMES**

#### **5.1. Adequate diagnosis of past experience**

Comprehensive diagnose for NAP formulation, planning and implementation activities in combating land degradation in UNCCD target areas have been developed based on the past experience. However, some constraints are faced in the data review and analysis, for instance lack of data availability and accuracy is still questionable since the natural resources database has not been developed.

The diagnosis resulted in specific recommendations of NAP formulation that are as follows:

1. The very high proportion of degraded land in target areas of UNCCD strongly suggests the inclusion of forest and land rehabilitation activities with various techniques and schemes in the NAP
2. Repeatedly failure in harvesting in Lembata District caused by prolonged dry season which was not anticipated by the government, indicates that the inclusion of early warning system framework in the NAP is proven
3. Harvesting failure which more likely due to drought occurrence and water use inefficiency indicate the need for the inclusion of serious actions in water harvesting and drip irrigation scheme in the NAP
4. The widespread failure of monoculture planting system in NTB and NTT suggests the inclusion of promoting agroforestry programme in the NAP

So far there is no significant finding to adjust the content of NAP, however, Indonesia has a commitment to review the NAP regularly every 5 years.

#### **5.2. Established technical programmes and functional integrated projects**

##### **5.2.1. Inventory, adaptation and integration of projects under way within the NAP process**

Steps are being taken to adapt and integrate ongoing projects into the NAP process are the increasing of participatory approach in



implementation of all ongoing projects which are undertaken by various ministries. Some of the ongoing projects are combating land degradation planning in three provinces such as degraded land inventory, master plan and annual planning of forest and land rehabilitation formulation, national consultation, and cooperation development among stakeholders.

The other projects where the UNCCD principle/NAP processes have been integrated are: (1) natural resource data base system development which is carried out by National Coordination Agency for Survey and Mapping (BAKOSURTANAL), (2) forest resources accounting by Ministry of Forestry as an input for sustainable forest management, (3) Related data and information on forest and land degradation identification for the RHL programme implementation, such as degraded land inventory and prioritization of watershed.

#### 5.2.2. Action programmes implemented in compliance with priority fields set out in the Convention.

UNCCD principles have been integrated into ongoing projects related to priority areas of the Declaration (8/COP.4) are:

- (i) Agroforestry development with jatropha as main crop (equivalent to 1,300 ha), layered living fences, bio gas from agricultural waste, fuel wood (covering 300 ha in 6 districts in NTT)
- (ii) Water harvesting are conducted in NTB, NTT and Central Sulawesi through embung development, infiltration well, ditches, and using organic materials as mulch. These efforts should be combined with efficient water use, for instance agroforestry (3,625 ha) throughout NTT, agroforestry at forest buffer zone in 16 districts of NTT by involving women, lowland and upland interrelationship in NTB, hilly terrain conservation, agropolitan (Alas Utan, Manggalewa and Sikur), 'mamar' system in NTT
- (iii) Mountain conservation programme: Rinjani Mountain ecosystem preservation (PAR Rinjani), conservation of catchment area of springs, logging ban, Mutis mountain conservation, arboretum development in Palu watershed (500 ha), grand forest park (Tahura) conservation in Central Sulawesi, Palu watershed conservation on Verbeek mountain, empowering communities social economic infrastructure, gender balance in Mareje Bonga management (NTB), Wangameti mountain conservation (NTT)

- (iv) Forest resources assessment: forest resources accounting, environmental quality assessment, forest economic valuation of Rinjani Mountain (NTB)
- (iv) Sustainable use and management of rangeland: sustainable management of Tambora and Lara rangeland in the form of paddock system in NTB and NTT, 'amarasi' system (planting of *Leucaena* wood (*Leucaena* spp.) with 'paron' system), Tondo rangeland management in Palu valley (Central Sulawesi)
- (v) Reforestation/afforestation programmes : GNRHL/Gerhan as national movement for reforestation and land rehabilitation carried out by the Ministry of Forestry with estimated budget of US\$ 13.5 billion for 5 million ha of degraded land all over the country, forest and land rehabilitation as regular programme, streambank reclamation of Menanga river with bamboo planting in Central Lombok equivalent to 50 ha, terracing planting system, bamboo planting and riprap in Palu river streambank (equivalent to 5 km), using of ground water with pumping system in Pringgabaya.
- (vi) Development of early warning system: early warning system for season prediction (Seasonal Benefit for Agrometeorological Services Project, 1999-2003) as collaboration study between Mataram University and ACIAR, early warning system research for floods and landslides in Central Sulawesi using Watershed Modelling System Ver.7, mapping of flood and landslides prone areas (Mataram University), map of landslides prone area (Bakosurtanal), study on local wisdom utilisation for drought early warning system using natural signs (pranatawangsa). Efforts to combat impact of drought have also been carried out based on climate and weather forecasting from BMG by the Ministry of Public Works and Agriculture.

Specific activities identified and implemented to improve economic condition in order to alleviate poverty are:

- Layered living fences development using legumes
- Emitter application in drip irrigation system
- Natural silk culture development; planting of *Arenga pinnata*, candle nut, cashew nut, rattan; butterfly breeding; honey bee culture
- Conflict resolution development in the form of Community Based Forest Management (PHBM) in state owned forest area in NTT and NTB
- Gum luc tree development

These projects are in line with the implementation of the NAP substantially at the local level, and were aimed at improving local ecosystem and social economic condition simultaneously. However, the sustainability of these projects are still a problem due to high cost of maintenance and operational as well as the willingness to pay of the community is low.

### **5.3. Identification of new actions and planned measures**

New methods invented to combat land degradation recently are social forestry development in the form of PHBM, drip irrigation using emitter, agar wood and gum-luc tree development. The measures taken to promote these technologies are dissemination, training, verification trial, demonstration plot, participative monitoring and evaluation.

### **5.4. Specific actions to strengthen the national capacity to combat desertification**

Technical and scientific capacity at the local level are low, therefore it needs to be strengthened. The methods of increasing the capacity were using participative and consultative approach in the form of training and extensions for implementation. The target groups in these activities are: extension workers and farmers group. Subjects on the training are early warning system for drought, conservation farming system, soil and water conservation, layered living fences, honey bee culture, paddock system, etc. Due to economic condition of local community is generally poor, financial support from the government and private sectors is strongly needed. NAP has reflected the needs for the capacity building, but it does not indicate a clear solution.

The forms of capacity building at the local level have accommodated the process of NAP substantially. Activities that accommodate such capacity building are GNRHL/Gerhan, social forestry, and conservation farming. The implementation steps are dissemination, training, workshop, seminar, participative planning, involvement in the field implementation, assistantships, programme monitoring and evaluation.

## CHAPTER VI

### FINANCIAL ASSISTANCE AND TECHNICAL COOPERATION

#### 6.1. Adopted financial mechanisms

##### 6.1.1. Measures to facilitate access of local actors to existing sources of funding

Measures that have been taken to ensure access by local actors to funding resources include provision of information to stakeholders, especially the local communities on the sources of funding. For example, campaigns have been launched about the National Movement of Forest and Land Rehabilitation (GNRHL/Gerhan) and the National Movement on Partnership of Water Conservation (GNKPA), in such a way that the community can participate and make use of the available funds.

In addition, the community, facilitated by NGO's or other organization, may develop proposals of forest and land rehabilitation for funding by the Ministry of Forestry through the responsible institutions, such as Watershed Management Centers.

The measures include the provisional as well as permanent ones. The use of National Movement on Forest and Land Rehabilitation funds is an example of provisional measures, since the program has a limited time frame from 2003 to 2007. However the Forest and Land rehabilitation (RHL) program is the permanent one. Two way communications between the program management and the local stakeholders as well as facilitation of people's initiatives are among other approaches for sustaining the programs.

##### 6.1.2. Working out new, adapted methods to mobilize internal and external resources

Since the validation and adoption of NAP in late 2002, the Government of Indonesia, has paid greater attention on forest and land degradation and its rehabilitation. The main mechanism for mobilization of funding since the first year of NAP validation in 2003 include campaigns in increasing of peoples' awareness to plant trees. Central and local government funds of various sectors have been mobilized through the National Movement on Forest and Land Rehabilitation, which in the following two years (in 2005)

was followed by efforts to improve peoples' awareness for conserving water through the National Movement on Partnership in Water Saving.

Besides internal sources of funding, external funds are also expected to ensure the success of NAP including GEF, GM, CDM and DNS. One of the funding mechanisms that have been accessed is the GM, that have been used for facilitation activities. However, GEF as one of the potential funding mechanism has not been realized yet due to various constraints as mentioned in the earlier sections. Other potential sources are being explored.

The stakeholders, including the government, the civil society, international organizations and NGOs, have been participating in various ways, including funding and implementation of activities on combating land degradation. Voluntary funding and implementation of activities were also observed among the local communities.

In the GNRHL, the government played the key role in supplying planting materials while the community contributes in the form of making their land available for the program, as well as taking the lead in planting. Meanwhile the Non Government Organization and independent organizations such as universities, participate in monitoring and evaluation of the conduct of GNRHL.

In principles, the international partners have been supportive on the funding mechanisms. However, the level of their supports is variables. For example, the support of UNCCD Secretariat through the Global Mechanism, is still limited to NAP formulation and validation, support of workshops, national consultation, and the write-up of the national report. Other partners, such as JIFPRO has been supporting in the form of partnership with the local governments in controlling land degradation as well as in improving the local community economy.

#### 6.1.3. Analyses flows of investment in dryland development

Since the adoption of NAP, the government with various sources of support, has identified and enhanced efforts for economic returns. These activities has been listed and included as combating land degradation related poverty alleviation program in the target areas of NAP.

Apart from those activities that have been documented in NAP, several other activities have developed and appear to be quite successful. These include layered living fences, drip irrigation system, *Albizia* agroforestry,

mahogany agri-business, agar wood (*Aquilaria spp*), cashew nuts, and range of sylvopastoral activities.

The funds that have been directly invested to the communities have not been returned, nor have they been reinvested, because they are of small scale and still in the early stage. There is also a time lag between the investment until the return to the land and labor could be expected. Selected activities such as the use of drip irrigation, for lucrative commodities and planting of cashew nuts are very promising economically.

Environmental and economic benefits for the local stakeholders have been shown in the verification and adaptation trials conducted in the target areas of NAP. The layered living fences in NTB, for example, have shown positive impact in terms of increasing land cover and improving the community's socio-economic indicators through improved grazing and continuous fodder supplies.

## **6.2. NAP financing**

The government continuously allocates funds in the efforts to control land degradation, although the allocation does not specifically termed as the implementation of UNCCD convention. The effectiveness of the government funding was improved by the co-funding by the Global Mechanism, especially in the process of NAP formulation and adoption. Other external sources, so far, have not been significant.

With the relatively sluggish economic development in Indonesia, there is almost no chance for increasing the current level of financing. The priority of the national funding is for education. Although with financing regulatory constraints, the movement of land degradation control could be embedded in the education sector in the form of producing reading materials of the impacts of and measures to combat land degradation.

The Government has allocated special funds for degradation control, for instance through the reforestation funds (DR), Forest Resources Development (PSDH) and the special allocation funds (DAU) for environmentally related activities in the local level government. However, these funds are not exclusively stated as funds for NAP implementation.

### **6.3. Technical cooperation developed**

#### 6.3.1. Mobilization of technical cooperation

The plan for technical cooperation for combating land degradation has been formulated in NAP and SEA SRAP. Formulation of several themes has been developed in the forms of proposals for mobilizing technical cooperation.

The multilateral cooperation are elaborated in the SEA SRAP document, including the Geo Informatics Development for Land Degradation Control and Drought Mitigation, Sustainable Land and Integrated Ecosystem Management, particularly in drought prone, seasonally arid and food insecure areas, and cross cutting program on capacity building and community empowerment. Where as the bilateral cooperation accommodated in NAP included Reforestation and Agroforestry with Afforestation Reforestation Clean Development Mechanism (A/R-CDM) JIFPRO.

The technical cooperation support that has been received included training, research, planning, demonstration plots, monitoring and evaluation in the NAP target areas through the supports of IFAD (PIDRA), Pro Poor Farmers, JICA, AusAID, CIDA, FORD Foundation, GTZ, WWF, DFID, TNC JBIC, CARE, and STORMA.

Capacity building and technical cooperation need from GEF have been elaborated in Country Pilot Partnership on Land Degradation and Reforestation in Indonesia (CPP-Indonesia) Proposal that have been submitted to GEF. These included "Mainstreaming sustainable land management issues into its sustainable development priorities", "Scaling up of viable traditional and innovative and cost-effective practices", "Promoting synergies across the environment and other sectors of the economy", and "Facilitating replication and sustainability of projects and programs".

#### 6.3.2. Identification of priority needs in technical assistance

The order of priority is as follows:

1. Removing barriers for sustainable land management (SLM)
2. Upscaling the successful SLM
3. Generating and disseminating knowledge addressing issues in SLM
4. Promoting cross focal area synergies
5. Strengthened institutional and human resource capacity of SLM

6. Strengthening policy, regulatory and economic incentives to facilitate wider adoption of SLM across sectors.
7. Improving economic productivity of land while preserving or restoring the structure and functional integrity of ecosystems.



## CHAPTER VII

### BENCHMARKS AND INDICATORS

#### 7.1. Operational mechanisms for monitoring and evaluation

Establishment and/or strengthening of national environmental monitoring and observation capacities, information systems on desertification at the national level, main actors' access to available information, mechanisms for consultation concerning an analysis of results, regular production of reports, feedback on evaluation for programme management

The dynamics of land degradation in Indonesia, has been monitored since the 1970s by the Department of Forestry through ground truth checks of aerial photos, especially following flush floods in Bengawan Solo Watershed which has called the greater government and communities' attention to the impact of degraded lands.

Since then, the monitoring of land degradation has been continued until now using improved methods and criteria, including the use of satellite imageries that in turn produces the "critical land" map. This map is used for prioritizing rehabilitation programs.

The evaluation of land resources degradation were conducted, among others, by evaluating hydrological behavior of selected catchments using water level recorder (WLR) followed by ground checks and field survey of land cover.

Land degradation could also be evaluated in the field by inventory of natural springs. For example, in NTB, the disappearance of natural springs from 726 to 256 remaining at present is likely due to land degradation.

Mapping of land slide and flood prone areas and monitoring of land productivity have also been used for identifying land degradation in selected areas.

The rate of land degradation attributed to drought and climate change so far have not been evaluated quantitatively, except for isolated cases in research projects. In general, the rate of degradation has been identified qualitatively by:

- Increasing frequency of forest and bush fire
- Extensive area of dead plants due to drought

- Increasing rate of harvest failure
- Decreasing number and discharge of natural springs
- Increasing encroachment of livestock to forest
- Decreasing livestock population
- Increasing areas of abandoned land

Research has developed the systems for drought forecast. However, there have not been scientifically based mechanisms operated on the ground.

Among the local community, however, there have been traditional mechanism using the local wisdom such as the "pranatawangsa", i.e. determining of planting season based on natural signs that have been well known.

There are increasing attention and appreciation to this local wisdom, although this local knowledge have not been incorporated into the government policy.

The measures that have been taken for harmonization of existing mechanisms and systems include personal approach, participatory approach, institutional approach, documentation and dissemination of information.

Monitoring system that has been formulated to assess and evaluate the impact of activities which are in line with NAP include field observation by involving relevant stakeholders and by evaluating the activity reports periodically. The evaluation of impacts is still limited to national programs funded by the government; the impact was measured on the decreasing of land degradation, increasing of land productivity and farmers income.

## Annex 1. Country Profile

**INDONESIA**

## UNCCD TARGET AREAS:

1. East Nusa Tenggara (NTT) province,
2. West Nusa Tenggara (NTB) province, and
3. Central Sulawesi Province.

This UNCCD country profile has been provided by: Indonesia NCB

Name of focal point ministry: Ministry of Forestry

Date : May 20, 2006

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Biophysical indicators relating to desertification and drought**1. Climate**

- |                                  |           |
|----------------------------------|-----------|
| 1.1. Index of aridity            | 0.19-0.60 |
| 1.2. Normal rainfall             | 500-1100  |
| 1.3. Rainfall standard deviation |           |

Sub-national areas (province)	Rainfall (mm)
1. NTT (East Nusa Tenggara)	515-1278
2. NTB (West Nusa Tenggara)	700-1200
3. Central Sulawesi	500-1100

**2. Vegetation and land use**

- |  |   |
|--|---|
| 2.1. NDVI (normalized difference vegetation index) | -   |
| 2.2. Vegetation cover (% of total land area)       | 20-25% (NTT), < 20% (NTB), 25% (Central Sulawesi) |
| 2.3. Land use (percent of total land)              |   |

Land use	1990 – 1999 (NTT)	2000 – 2005 (NTT)
Arable crop land	877,153 ha	822.795 ha
Irrigated	162,639 ha	174.834 ha
Rainfed	704,022 ha	702.020 ha
Pasture	899,211 ha	817.519 ha
Forest and woodland	1,808,984 ha	1.808.984 ha
Other land	282,981 ha	348.838 ha

- |                                  |   |
|----------------------------------|---|
| 2.4. Surface albedo <sup>2</sup> | - |
|----------------------------------|---|

### 3. Water resources (NTT)

3.1. Fresh water availability (million m3)	5,997.94 million m3/year
3.2. Fresh water resources per capita (m3)	8 m <sup>3</sup>
3.3. Agricultural water use (million m3)	0.326 million m <sup>3</sup>
3.4. Industrial water use (million m3)	0.10 million m <sup>3</sup>

### 4. Energy

#### Consumption

4.1. Energy use per capita (kg oil equivalent)	11.3 kg oil equivalent
4.2. Agricultural energy use per hectare (millions of BTU)	-

#### Production

4.3. Energy from renewables excluding combustible renewables and waste (% of total supply)	-
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#### Renewables - Consumption by sector (NTT)

4.4. Industry (% of total renewable consumption)	1%
4.5. Residential (% of total renewable consumption)	10%
4.6. Agriculture (% of total renewable consumption)	-

### 5. Types of land degradation (NTT and NTB)

Type of degradation	1990 – 1999		2000 – 2005	
	million ha	Percent of total area	million ha	Percent of total area
Potentially degraded	-	-	1.00	14.75
Less degraded	-	-	1.52	22.47
Degraded	-	-	2.38	35.31
Extremely degraded	-	-	1.03	15.33

### 6. Rehabilitation (NTT)

Lands under rehabilitation	1990 - 1999	2000 - 2005
Rehabilitation of degraded crop land (km2)	-	-
Rehabilitation of degraded rangeland (km2)	-	-
Rehabilitation of degraded forest (km2)	401.5 km <sup>2</sup>	301.5 km <sup>2</sup>

## Socio-economic indicators related to desertification and drought

### **7. People and economy (NTT)**

7.1. Population (total)	1,172,484 pop
□□ Population: urban (percent of total)	77.27 %
□□ Population: rural (percent of total)	22.73 %
7.2. Population growth (annual %)	1.6 %
7.3. Life expectancy (years)	59.7 year
7.4. Infant mortality rate (per 1,000 live births)	57.7
7.5. GDP (current US\$)	-
7.6. GNI per capita (current US\$)	-
7.7. National poverty rate (% of population)	28.62 %
7.8. Crop production (metric tons)	133,358 tons
7.9. Livestock production (metric tons)	100 ton

### **8. Human development (NTT)**

8.1. Primary education completion rate (% age group)	75.27 %
8.2. Number of women in rural development (total number)	862,255
8.3. Unemployment (% of total)	3.47 %
8.4. Youth unemployment rate (age 15-24)	2.07 %
8.5. Illiteracy total (% age 15 and above)	26.12 %
8.6. Illiteracy male (% age 15 and above)	10.67 %
8.7. Illiteracy female (% age 15 and above)	15.45 %

### **9. Science and technology**

9.1. Number of scientific institutions engaged in desertification-related work (total number)	11-12
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### **10. Data sources**

BAPPEDA. 2005. Keputusan Gubernur NTB No. 122/2005 tentang Penetapan Kondisi Sub-satuan Wilayah Sungai (SSWS)/ Daerah Airan Sungai (DAS) Prov. NTB tahun 2005.

BPDAS. 2004. Penyusunan Data Spasial Lahan Kritis Wilayah BPDAS Benain Noelmina Propinsi Nusa Tenggara Timur.

BPDAS dan PPLH Undana. 2005. data Base Dan Informasi DAS di Wilayah BPDAS Benain Noelmina Propinsi Nusa Tenggara Timur.

Departemen Pekerjaan Umum Propinsi NTT. 1998. Studi Optimalisasi Pola Umum Pengembangan Sumberdaya Air Propinsi NTT. PT Virama Karya

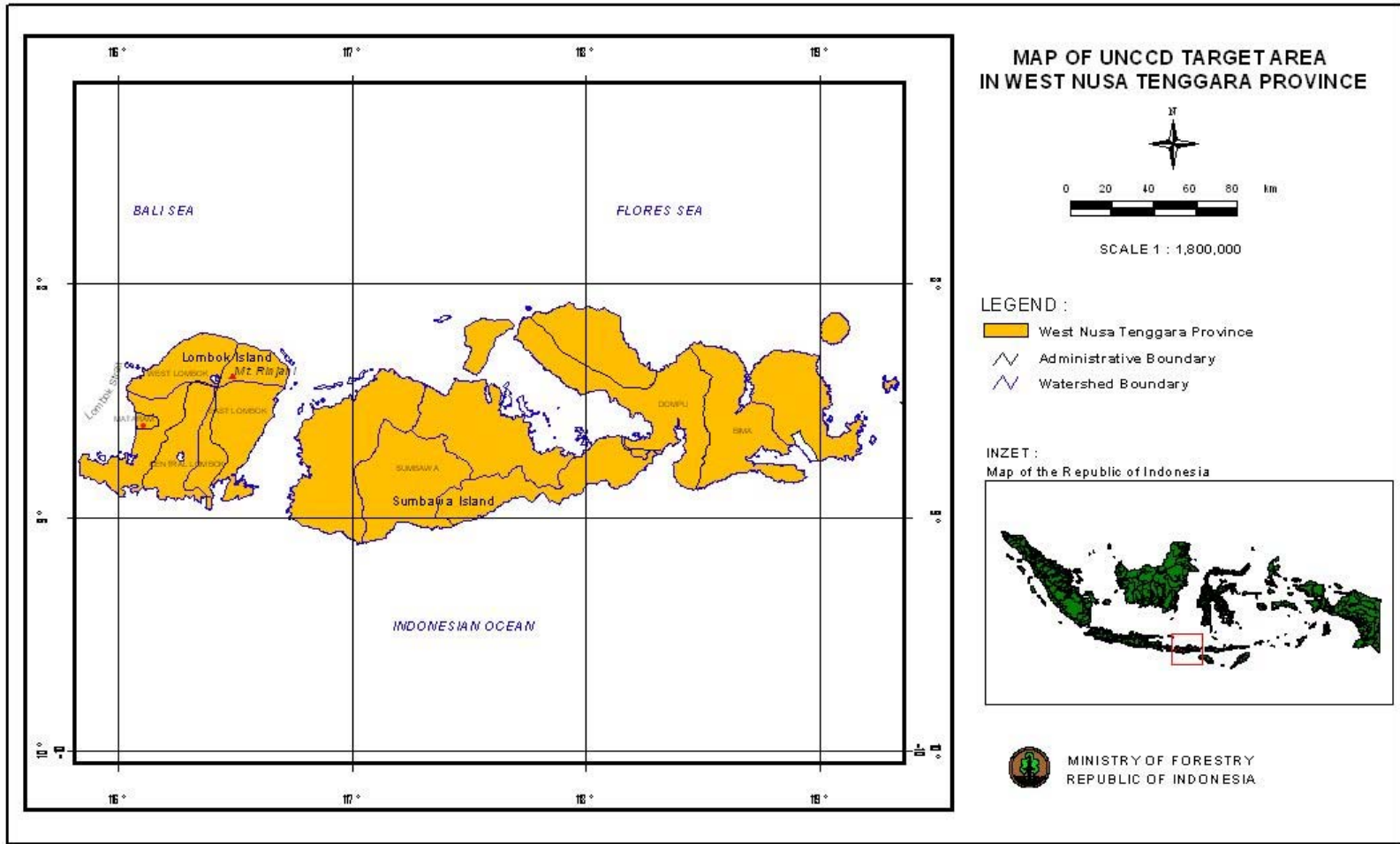
Departemen Permukiman dan Prasarana Wilayah NTT. 2003. Identifikasi Penyediaan Air Bersih Untuk Kawasan Rawan Air/ Kekeringan Propinsi Nusa Tenggara Timur. PT Maha Charisma

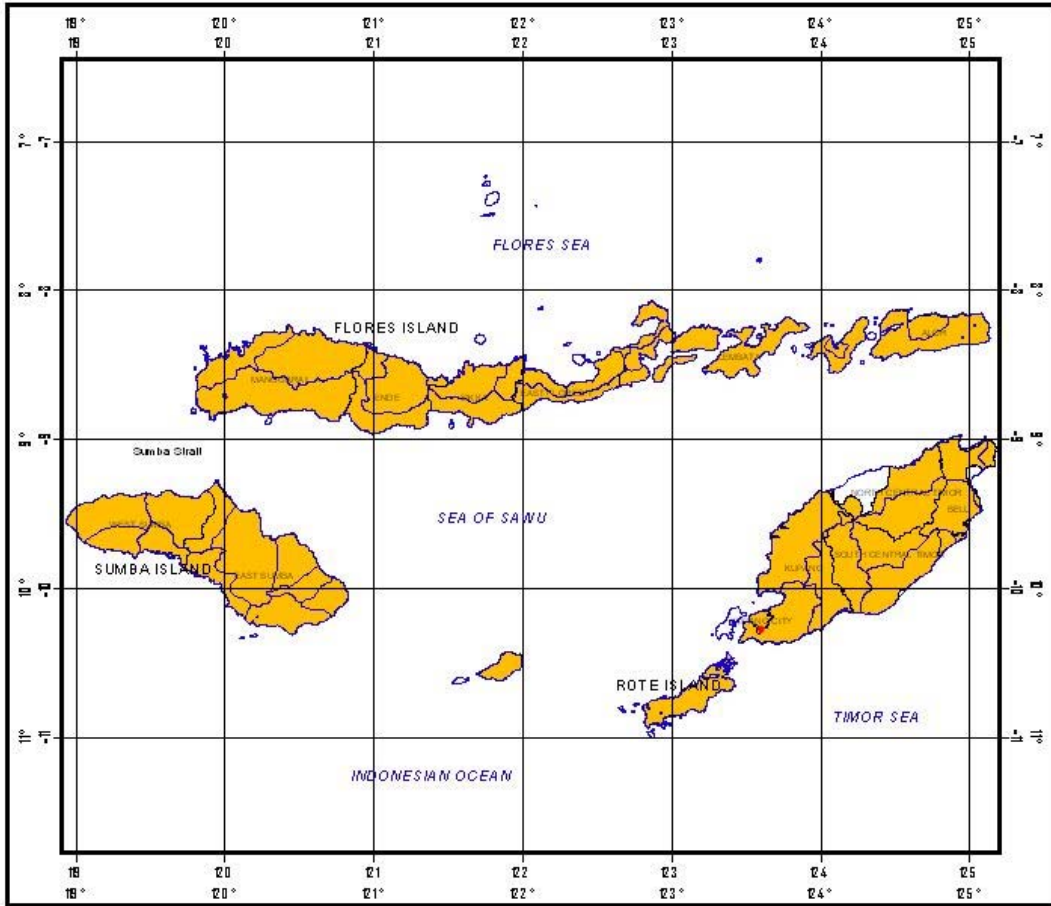
Dinas Kimpraswil Propinsi NTT Sub Dinas Prasarana SDA dan Irigasi. 2004. Tantangan Upaya Percepatan Pengelolaan Sumberdaya Air Dan Irigasi NTT.

Dinas Pertambangan Propinsi NTT Sub Dinas Pengembangan Potensi Energi. 2005. Data Pasokan Bahan Bakar Minyak Untuk Wilayah Nusa Tenggara Timur.

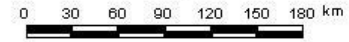
Pemerintah Propinsi Nusa Tenggara Timur. 2004. Neraca Kualitas Lingkungan Hidup Propinsi Nusa Tenggara Timur, Buku I.

Pemerintah Propinsi Nusa Tenggara Timur. 2004. Neraca Kualitas Lingkungan Hidup Propinsi Nusa Tenggara Timur, Buku II.





**MAP OF UNCCD TARGET AREA  
IN EAST NUSA TENGGARA PROVINCE**



SCALE 1 : 3,500,000

**LEGEND :**

- East Nusa Tenggara Province
- Administrative Boundary
- Watershed Boundary

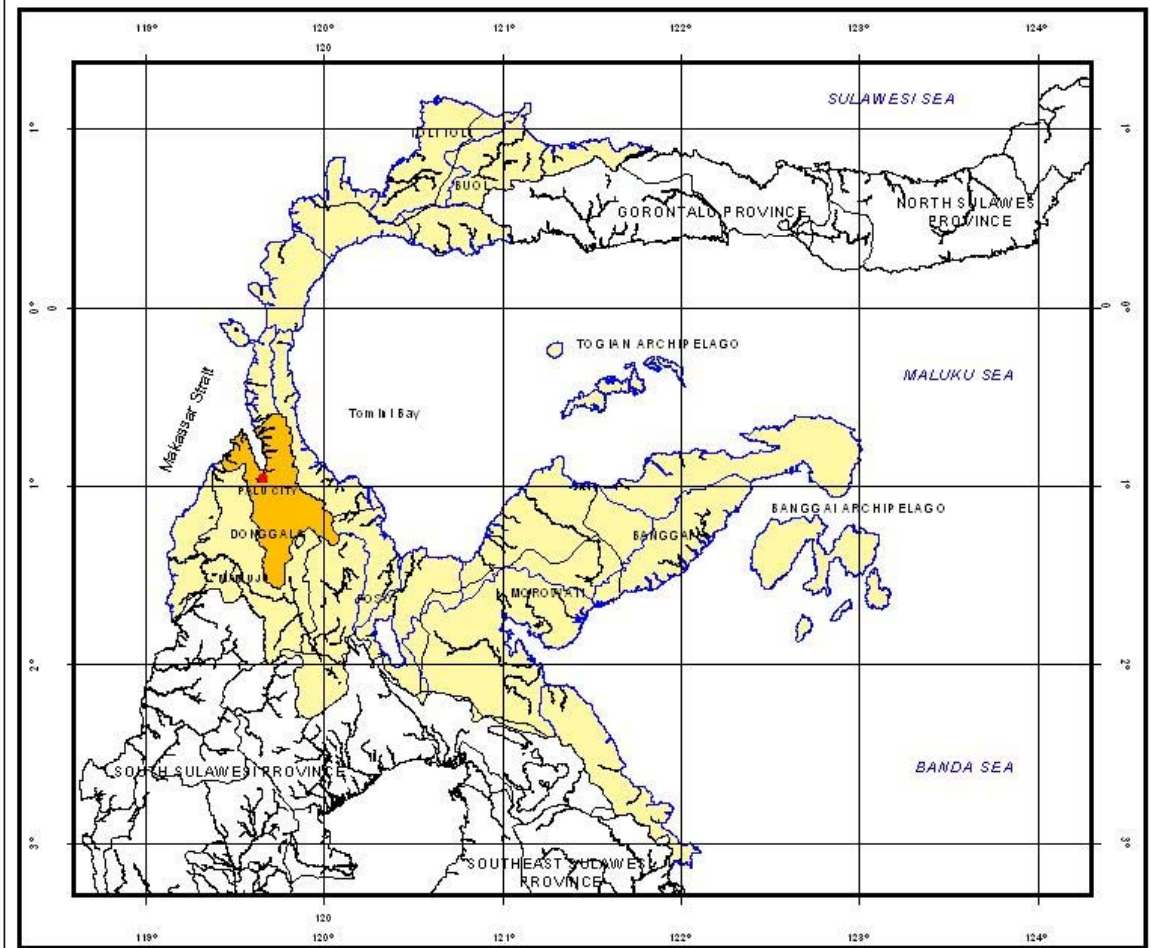
**INSET :**

Map of the Republic of Indonesia

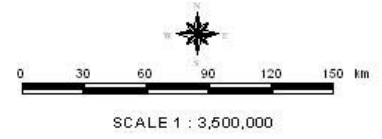


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**MAP OF UNCCD TARGET AREA  
IN CENTRAL SULAWESI PROVINCE**



- LEGEND :**
- Palu Watershed UNCCD Target Area
  - Central Sulawesi Province
  - Administrative Boundary
  - Watershed Boundary

**INZET :**  
Map of the Republic of Indonesia



 **MINISTRY OF FORESTRY  
REPUBLIC OF INDONESIA**