Maintaining and Enhancing Water Yield through Land and Forest Rehabilitation (MEWLAFOR)

Part I: Project Information

GEF ID
10757

Project Type
MSP

Type of Trust Fund
GET

CBIT/NGI
☐CBIT
☐NGI

Project Title
Maintaining and Enhancing Water Yield through Land and Forest Rehabilitation (MEWLAFOR)

Countries
Indonesia

Agency(ies)
UNIDO

Other Executing Partner(s)
Ministy of Environment and Forestry, Directorate of Planning and Evaluation for Watershed Management

Executing Partner Type
Government

GEF Focal Area
Land Degradation

Taxonomy
Forest, Focal Areas, Forest and Landscape Restoration, International Waters, Freshwater, River Basin, Large Marine Ecosystems, Pollution, Nutrient pollution from all sectors except wastewater, Private sector, Climate Change Adaptation, Climate Change, Land Degradation, Land Degradation Neutrality, Carbon stocks above or below ground, Land Cover and Land cover change, Sustainable Land Management, Drought Mitigation, Sustainable Livelihoods, Sustainable Forest, Community-Based Natural Resource Management, Restoration and Rehabilitation of Degraded Lands, Income Generating Activities, Improved Soil and Water Management

Techniques, Influencing models, Strengthen institutional capacity and decision-making, Convene multi-stakeholder alliances, Demonstrate innovative approache, Stakeholders, Private Sector, Large corporations, SMEs, Communications, Behavior change, Awareness Raising, Education, Type of Engagement, Participation, Partnership, Information Dissemination, Consultation, Beneficiaries, Civil Society, Academia, Community Based Organization, Non-Governmental Organization, Gender Equality, Gender Mainstreaming, Sex-disaggregated indicators, Gender results areas, Access and control over natural resources, Capacity Development, Capacity, Knowledge and Research, Innovation, Learning, Theory of change

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 0

Duration

36 In Months

Agency Fee($)

168,655.00

Submission Date

1/27/2021

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount($)	Co-Fin Amount($)
LD-1-1	GET	335,730.00	2,440,904.00
LD-1-3	GET	1,439,583.00	13,089,182.00
	Total Project Cost ($)	**1,775,313.00**	**15,530,086.00**

B. Indicative Project description summary

Project Objective

To demonstrate an innovative approach how a pro-active multi stakeholder private sector catalysed partnership for water stewardship can be up-scaled to achieve transformational changes in the restoration of degraded terrestrial ecosystems.

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount($)	Co-Fin Amount($)
Component 1: Land restoration for water retention, sediment retention and improved livelihoods	Investment	1.1. loss of 2,407 ha of protected forest and 19,929 ha of conservation forest avoided, up to 2,808 t/yr of erosion avoided, 81,8 t of N and 14.0 t of P input into the Brantas avoided (over 6 yrs) 1,368,993 m? of water per year retained in the catchment area	1.1.1. Restoration of up-stream agroforestry systems to revert land degradation, enhance water retention and groundwater replenishment and cater for alternative livelihoods 1.1.2. Restoration of riparian bamboo forests for sediment retention, water infiltration and pollution absorption and sustainable use of bamboo for value added product	GET	876,983.00	7,834,049.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount($)	Co-Fin Amount($)
Component 2: Nature Based Infrastructure and awareness creation for land and water conservation, sediment and water retention	Investment	2.1. 1,210,000 m3 of water per year retained in the catchment area and awareness for integrated land and water conservation created for at least 24,000 people	2.1.1. construction of 597 absorption wells (2x2x2m) for enhanced water retention in the catchment area	GET	477,600.00	4,782,533.00
Component 2: Nature Based Infrastructure and awareness creation for land and water conservation, sediment and water retention	Technical Assistance	2.1. 1,210,000 m3 of water per year retained in the catchment area and awareness for integrated land and water conservation created for at least 24,000 people	2.1.2, establishment of 8,000 biopori and awareness creation for water conservation in 40 schools.	GET	80,730.00	808,404.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount($)	Co-Fin Amount($)
Component 3: Strengthen the enabling environment to promote community-based land restorations	Technical Assistance	3.1. Institutional capacities of the MOEF regional office for an up-scaling of water stewardship initiatives and for the better enforcement of the regulatory framework geared at avoiding the loss of protected and conservation forests enhanced	3.1.1. Facilitation of active involvement of the staff of the Sidoaryo regional MOEF office in project execution and in the better enforcement of the regulatory framework geared at avoiding the loss of protected and conservation forests	GET	125,000.00	848,400.00
Component 4: Monitoring and Evaluation	Technical Assistance	4.1. Impact of project tracked and reported as per GEF and UNIDO guidelines	4.1.1. Project progress monitoring and reporting 4.1.2. Mid term review and independent terminal evaluation conducted	GET	55,000.00	311,500.00
				Sub Total ($)	**1,615,313.00**	**14,584,886.00**

Project Management Cost (PMC)		
GET	160,000.00	945,200.00
Sub Total($)	**160,000.00**	**945,200.00**
Total Project Cost($)	**1,775,313.00**	**15,530,086.00**

C. Indicative sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
GEF Agency	UNIDO	Grant	Investment mobilized	51,750.00
GEF Agency	UNIDO	In-kind	Recurrent expenditures	50,000.00
Recipient Country Government	Public Works and Spatial Planning Agency	In-kind	Recurrent expenditures	2,770,445.00
Recipient Country Government	Environmental Agency	In-kind	Recurrent expenditures	443,661.00
Recipient Country Government	Agriculture Agency	In-kind	Recurrent expenditures	453,406.00
Recipient Country Government	Public Housing, Settlement and Transportation Services Agency	In-kind	Recurrent expenditures	32,268.00
Recipient Country Government	Education Agency	In-kind	Recurrent expenditures	292,988.00
Recipient Country Government	Health Agency	In-kind	Recurrent expenditures	98,276.00
Recipient Country Government	Ministry of Public Works and Housing	In-kind	Investment mobilized	9,425,230.00
Private Sector	PT PRIA	Grant	Investment mobilized	36,731.00
Private Sector	PT Sopanusa	Grant	Investment mobilized	5,683.00

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Private Sector	PT Sosro	Grant	Investment mobilized	54,317.00
Private Sector	PT Multibintang	Grant	Investment mobilized	488,419.00
Private Sector	PDAM Kab Mojokerto	Grant	Investment mobilized	16,000.00
Private Sector	PT SAI	Grant	Investment mobilized	18,966.00
Private Sector	PT Radar Mojokerto	In-kind	Investment mobilized	18,621.00
Other	Tourism Academy of Majapahit	In-kind	Investment mobilized	19,655.00
Other	Komunitas Sifon Brantas	Grant	Investment mobilized	8,621.00
Other	Puspa Maja	Grant	Investment mobilized	3,862.00
Other	YLHS Seloliman	Grant	Investment mobilized	200,697.00
Private Sector	Heineken	Grant	Investment mobilized	1,040,490.00
			Total Project Cost($)	**15,530,086.00**

Describe how any "Investment Mobilized" was identified

1. The investments mobilized pertain to activities of the Aliansi Air that are supported by the above-mentioned private sector entities and NGOs. A detailed listing of these activities is provided under section 4. Private Sector Engagement. They were identified through the intensive consultation process with the Aliansi Air and its members that was carried out as part of preparing this project proposal. 2. The in-kind contributions by the Mojokerto Local government and the Ministry of Public Works and Housing pertain to recurrent expenditures for activities aiming at improving the management of land and water resources. They range from agricultural extension services, to community awareness and engagement activities for

improved management of natural resources and environmental protection, to flood control and improved participatory management of irrigation systems, monitoring the status of terrestrial and aquatic resources, facilitation of plantation and forestry productivity, environmental monitoring an control, biopori infiltration hole making training and supporting land and water development activities. 3. The in-kind contributions by PT Radar Mojokerto pertain to the dissemination of information on the activities of the Aliansi Air and success stories in the regional newspaper, for which the newspaper agency does not charge any costs.

D. Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNIDO	GET	Indonesia	Land Degradation	LD STAR Allocation	1,775,313	168,655	1,943,968.00
			Total GEF Resources($)		**1,775,313.00**	**168,655.00**	**1,943,968.00**

E. Project Preparation Grant (PPG)

PPG Required

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PPG Amount ($)

50,000

PPG Agency Fee ($)

4,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNIDO	GET	Indonesia	Land Degradation	LD STAR Allocation	50,000	4,750	**54,750.00**
				Total Project Costs($)	**50,000.00**	**4,750.00**	**54,750.00**

Core Indicators

Indicator 3 Area of land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
0.00	0.00	0.00	0.00

Indicator 3.1 Area of degraded agricultural land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 3.2 Area of Forest and Forest Land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 3.3 Area of natural grass and shrublands restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
26033.00	0.00	0.00	0.00

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
26,033.00			

Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Documents (Please upload document(s) that justifies the HCVF)

Title	Submitted

Indicator 5 Area of marine habitat under improved practices to benefit biodiversity (excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 5.1 Number of fisheries that meet national or international third party certification that incorporates biodiversity considerations

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)

Type/name of the third-party certification

Indicator 5.2 Number of Large Marine Ecosystems (LMEs) with reduced pollutions and hypoxia

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (achieved at MTR)	Number (achieved at TE)
0	0	0	0

LME at PIF	LME at CEO Endorsement	LME at MTR	LME at TE

Indicator 5.3 Amount of Marine Litter Avoided

Metric Tons (expected at PIF)	Metric Tons (expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	55432	0	0	0
Expected metric tons of CO?e (indirect)	0	0	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	55,432			
Expected metric tons of CO?e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)				

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	125,370			
Male	153,230			
Total	278600	0	0	0

Part II. Project Justification

1a. Project Description

-

1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)

1. Land degradation is a condition where the land experiences a decrease in physical, chemical or biological soil properties. This condition can restrain the land production capacity (Chartres, 1987). Land degradation is happening at an alarming pace and is affecting regions inhabited by over one-third of the global population. Degraded land, referred to in Indonesia as critical land, is one of the main causes for the acceleration of climate change rate (IUCN Issues Brief, 2015), which can lead to an increase in the frequency of hydro-meteorological disasters such as floods, droughts, landslides even up to forest and land fires. The Indonesian National Disaster Management Agency (BNPB) in their 2016 report claimed that the number of hydro-meteorological disasters in Indonesia was 16 times higher than in 2002 and had caused water scarcity in Java, Bali and Nusa Tenggara.

2. Based on KLHK (The Ministry of Environment and Forestry) data, the area of critical land in Indonesia in 2018 amounted to some 14.06 million ha. Around 8.5 million ha of degraded land is located within the gazetted forest area and around 5.5 million ha is located outside the gazetted forest area, which is largely due to inappropriate use and management of land. The users do not utilize the land in accordance with its carrying capacity and also do not adopt land and water conservation techniques.

3. The Indonesian Government has started its efforts to restore degraded lands, through forest and land rehabilitation programs already more than 5 decades ago, but has not been able to significantly reduce the area of degraded land. By law and regulations, the Ministry of Environment and Forestry holds the authority to overcome land degradation, but the means put at the disposal of MoEF in conducting forest and land rehabilitation are insufficient. For example, based on available data, the average rate of deforestation in Indonesia in the period of 2014 - 2018 reached a shocking amount of around 0.6 million ha per year, while in 2019 MoEF?s ability to rehabilitate forests was only around 207 thousand ha per year from a total area of around 14.06 million ha. That makes the target of Land Degradation Neutrality in 2030 become a major challenge for Indonesia.

4. The project is designed to assist the Government of Indonesia to improve its program in community-based restoration of degraded land ecosystems by involving the private sector through public private partnerships (cooperation between government and business entities) and the development of environmental service schemes carried out in priority sub-watersheds. It furthermore aims at strengthening institutions at all levels (community, district / city, provincial and national), coordination and collaboration across sectors and regions as required for an up-scaling of public private partnerships for environmental stewardship and a better enforcement of the regulatory framework geared at avoiding the loss of protected and conservation forests in Indonesia.

5. Since it is fertile soils and forest vegetation that can best store water, land degradation is also one of the main drivers and root causes of water scarcity. Already in 2013 water scarcity was identified by the World Economic Forum as the most important development risk. Ever since population growth, socioeconomic development, changing consumption patterns and climate change have contributed to increase land degradation and the pressure on our planet?s finite water resources even further.

6. Today land degradation induced water scarcity already affects every continent. Around 1.2 billion people, or almost one-fifth of the world's population, lives in areas of physical scarcity, and 500 million people are approaching this situation. Another 1.6 billion people, or almost one quarter of the world's population, face economic water shortage (where countries lack the necessary infrastructure to take water from rivers and aquifers).

7. By 2050, the demand for water is expected to increase by 50 per cent. As populations increase, more and more people are becoming dependent on fresh water supplies from land areas that are becoming degraded.

8. In the regions affected land degradation and the resulting water scarcity constitute serious threats to ecosystems and human health, hamper economic development and are feared to lead to civil unrest if they cannot be mitigated. Halting land degradation and overcoming water scarcity will require innovative approaches and the active engagement and well concerted cooperation of stakeholders from government, private sector, academia, NGOs/CSOs as well as the support from development partners. In the 8th World Water Forum in Brasilia (March 2018) it was reiterated over and over that business as usual is no longer an option and that private sector engagement and strong public private partnerships at catchment area level are required to break up the vicious land degradation water scarcity circle.

9. The Brantas river and its tributaries are located within the Province of East Java in Indonesia (see Figure 1). With an area of approximately 11,800 km2, they make up 25% of East Java?s land area. Based on the 2015-2019 RPJMN (National Medium Term Development Plan), the Brantas watershed is one of the 15 watersheds that have been identified as priority intervention area. Based on its classification as regulated in PP 37/2012 on Watershed Management, the Brantas watershed is classified as one of the watersheds referred to as critical watersheds / priority watersheds that have to be restored to regain their carrying capacity. According to PP 37/2012 on PDAS (Watershed Area Management), critical watersheds are watershed areas with degraded land areas, which negatively affects the water quality, quantity and continuity, the socio-economic conditions for the resident population and which require investments in land use and water management.

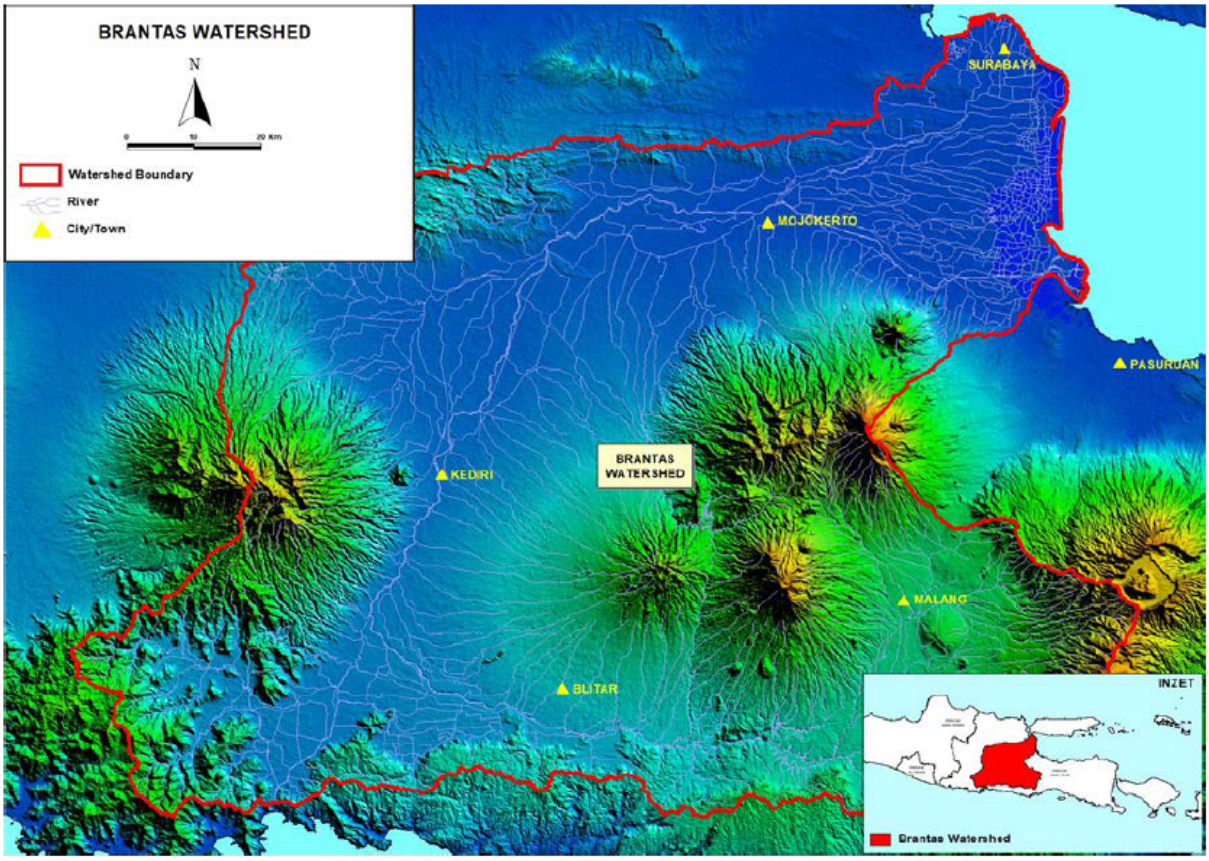


FIGURE 1 THE BRANTAS RIVER BASIN

10. Deforestation and land degradation in the upper reaches of the tributaries have resulted in water scarcity during the dry season. In the Brantas river basin and its tributaries the rainy season provides an abundant water supply for the river basin but water availability during the dry season is often barely sufficient to meet existing demand when instream and coastal water quality objectives are taken into account. Thus, a stakeholder engagement workshop was organized for the Sadar, Brankal and Porong sub-catchment areas (tributaries to the Brantas River, located on the Northern slopes of Gunung Welirang, see Figure 2) in October 2016 under the UNIDO-HEINEKEN partnership on the promotion of water stewardship approaches in water stressed catchment areas.

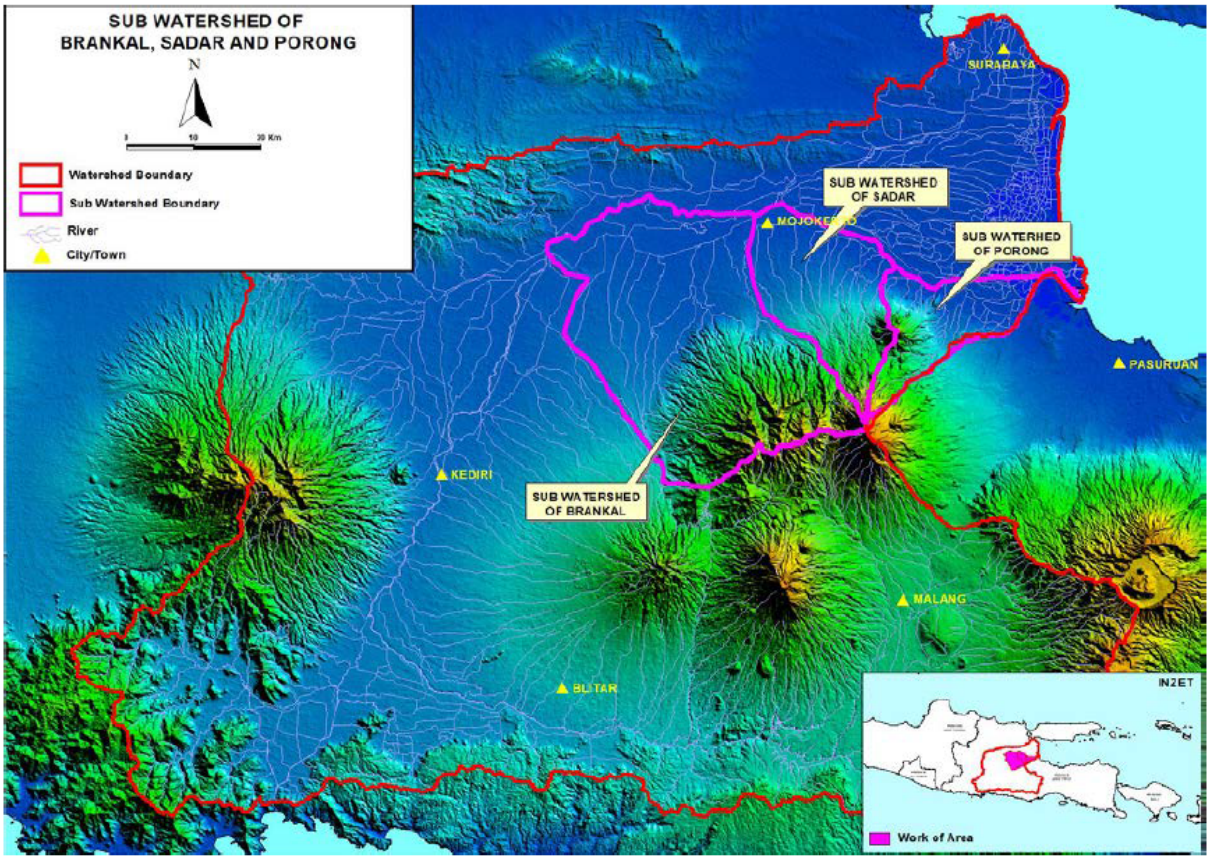


FIGURE 2 THE BRANKAL, SADAR, PORONG SUB-CATCHMENT AREAS

11. These 3 rivers are tributaries (sub-DAS) to the Brantas river basin. These 3 tributaries together are locally often referred to as the Cumpleng catchment area and are home to some major industries in the East Java Province.

12. The restoration of forests was identified as one of the priority measures to overcome land degradation induced water scarcity in these 3 sub-catchment areas.

13. UNIDO and MoEF collaborated in selecting project sites based on several criteria, including:

- How critical is the land?s condition?
- Is the location disaster-prone? Floods / landslides.
- Alignment of the location with national priority targets in overcoming land degradation?
- Does the location have a strategic role for industrial development and for the surrounding communities

14. In line with these criteria the target location for the project in the 3 Sub-watersheds within the Brantas watershed area, i.e. the Brangkal Sub-watershed, Porong Sub-watershed and Sadar Sub-watershed were identified. The Brantas watershed covers some 1.2 million ha which corresponds to approximately 25% of the land area of the East Java Province. Around 75% of it is non-forest area and only less than 25% functions as forest area. This is of course in contradiction to the provision of the Law 41/1999 on Forestry which states that ?forest management must ensure the greatest welfare of the people and must contribute to increase the carrying capacity of any watershed, and

thus forest coverage must be maintained in at least 30% of any watershed area? and the Law 26/2007 on Space Management, which determines that forest areas have to cover at least 30% of any watershed area.

- **Brangkal Sub-watershed**

15. Brangkal Sub-watershed has an area of 114,135 ha, covering 7 regencies / cities with the largest area located in Jombang Regency.

Table A. Area of government administration Brangkal Sub-watershed

No	Region / City	Area (ha)
1	Jombang Regency	71.128
2	Kediri Regency	4.411
3	Batu City	1.043
4	Mojokerto City	710
5	Malang Regency	5.850
6	Mojokerto Regency	30.930
7	Nganjuk Regency	61
8	Pasuruan Regency	2
	Total	114.135

16. Based on the function of the area, around 71% of the Brangkal Sub-watershed constitute non-forest areas. The Brangkal Sub-watershed has 14,618 ha of critical land within or outside the forest gazetted area, whereas the largest percentage, around 55% of the degraded lands areas are located outside the forest gazette area.

Table B. Critical area within and outside Brangkal Sub-watershed

No	Level of the land?s criticality	Area (ha)	
		Within the territory	Outside the territory
1	Very critical	2.438	7.994
2	Critical	4.151	35
3	Moderate	21.349	8.477
4	Potentially Critical	4.067	2.123
5	Not critical	475	63.026
	Total	32.480	81.655

2. Sadar Sub-watershed

17. The Sadar Sub-watershed has an area of 39,133 ha, which covers the city and region of Mojokerto with the largest area located in the Mojokerto regency.

Table C. Area of government administration Sadar Sub-watershed

No	Region / City	Area (Ha)
1	Mojokerto City	1.304
2	Mojokerto Regency	37.840
	Total	39.144

18. Based on the function of the area, around 89.5% of the Sadar Sub-watershed are not forest areas. The Sadar sub-watershed has 1,774 ha of critical land within and outside of the forest, whereas 55.74% of it is within the forest area.

Table D. Critical area within and outside Sadar Sub-watershed

No	Level of the land?s criticality	Area (Ha)	
		Within the territory	Outside the territory
1	Very critical	555	949
2	Critical	508	111
3	Moderate	2.624	4.826
4	Potentially Critical	317	1.438
5	Not critical	28	14.507
	Total	4.032	21.831

3. Porong Sub-watershed

19. The Porong Sub-watershed has an area of 25,863 ha, which includes Mojokerto Regency, Pasuruan Regency and Sidoarjo Regency, which are mostly located within Pasuruan Regency.

Table E. Area of government administration Porong Sub-watershed

No	Region / City	Area (Ha)
1	Mojokerto Regency	6.815
2	Pasuruan Regency	15.698
3	Sidoarjo Regency	3.350
	Total	25.863

20. Based on the function of the area, only around 4,018 ha of the total 25,863 ha area are forest areas, or only around 15.53% of Porong sub-watershed. The Porong sub-watershed has 2,115 ha of critical land within and outside of the forest, with approximately 50.2% of it are forest area.

Table F. Critical area within and outside Porong Sub-watershed

No	Level of the land?s criticality	Area (Ha)	
		Within the territory	Outside the territory
1	Very critical	2.438	7.994
2	Critical	4.151	35
3	Moderate	21.349	8.477

4	Potentially Critical	4.067	2.123
5	Not critical	475	63.026
	Total	32.480	81.655

21. Due to the land degradation the hydrology of these watersheds is considered to be distorted in terms of quality and quantity of water yield. Floods frequently occur during the rainy seasons, while droughts have become more severe during the dry seasons. Many springs stop yielding water in the dry seasons and two thirds of them have fallen permanently dry over the last decade. Rapid change of land use in the watershed is considered to be the main reason for this development; natural forests in the upper reaches of the catchment areas were converted into rain fed agriculture. Analysis of Landsat images from 1989 and 2002 showed that 3,702 ha of natural forests have disappeared. The analysis revealed further that the area occupied by rain-fed agriculture, settlements and degraded land has drastically increased during that period. Increased demand for forest resources and arable land for rain-fed agriculture has caused massive deforestation and forest degradation in the upper reaches of the Brangkal, Sadar and Porong catchment areas.

22. Natural forests and areas under agroforestry schemes in the upper reaches have a critical function to absorb and buffer intensive precipitation occurring during the rainy season and to slowly release the water retained over time so that groundwater can be replenished, floods can be prevented and base flow in the rivers can be maintained during the dry season. Unless retained, percolated and slowly released by forests heavy rainfall in the upper reaches will cause the downstream river levels to raise and eventually to flood riparian lands. Thus to maintain forest coverage in the upper reaches of the catchment area is of utmost importance in terms of halting land degradation, maintaining dry season flow and reducing sudden surges in water and resulting flooding during periods of heavy rain. Progressive deforestation and land degradation has also resulted in a drastic decrease of the infiltration and sediment retention capacity of the land in the upper reaches of the catchment area. Precipitation occurring during intensive rainfall events in the rainy season can no longer percolate into the underground and replenish the aquifers, which subsequently leads to a reduced yield of downhill springs or to a complete drying up of springs during the dry season.

23. With water retention and groundwater replenishment capacities of up-stream forests seriously impeded by land degradation and over 80% of the annual rainfall of 2,000 mm occurring in the rainy season, water has become scarce for people and businesses during the dry season. Water availability has become a critical factor for the sustainability and business security of resident industries. Regardless whether they source their water independently from surface water bodies or aquifers or whether they are being supplied with tapped water by a PDAM, water availability - or the lack of it - regularly forces industries during the dry season to reduce its production or to even shut down production processes for some time.

24. To ensure the environmentally, economically and socially sustainable supply of water to people and business in the following barriers need to be overcome:

Type of barrier	Description

Barriers impeding industry engagement in water stewardship activities	a. Lack of knowledge on the interrelatedness of deforestation/soil degradation/floods/droughts b. Many industries not yet directly affected lack awareness of the risks water scarcity constitutes for their business sustainability c. Many industries lack awareness on the possibilities and benefits to engage in water stewardship activities. d. A ?this is not my business?and ?the problem is too big and too complex? attitude e. Lack of available awareness creation services f. Lack of mutual trust between stakeholders g. Water stewardship activities of globally operating corportations pursue different goals and approaches h. Lack of understanding that companies, which compete in the market place will have to cooperate to overcome the business risks for all of them stemming from land degradation induced water scarcity
Barriers faced by resident communities engaging in unsustainable land management practices	a. Lack of awareness of the impact of their activities on land degradation induced water scarcity; b. Lack of knowledge and limited experience with sustainable agroforestry and bamboo afforestation practices; c. Lack of awareness on direct benefits/higher profitability of sustainable land management practices; d. Limited access to markets for sustainably produced NTFP
Institutional and capacity barriers	a. Lack of awareness and institutional capacities at the level of the MOEF?s regional offices for engaging in and catalyzing multi stakeholder platforms to revert land degradation induced water scarcity; b. Lack of awareness creation programs tailor to the specific audience (industries, resident communities); c. Cooperation between government, civil society and private sector on water stewardship still needs to be consolidated; d. Weak institutional capacity to upscale pilot initiatives e. Lack of qualified and well-trained experts.

2) the baseline scenario and any associated baseline projects,

25. In Indonesia in general and in the densely populated East Java province in particular land degradation is serious problem. The consequences include soil erosion, the loss of soil nutrients, and disruptions to the carbon, nitrogen and water cycles.

26. The response to land degradation carried out by the Government of Indonesia has begun since more than 5 decades ago, through various forest rehabilitation and restoration programs and policies. In 1998 the Government of Indonesia joined global efforts to tackle land degradation as evidenced by the ratification of the United Nations Convention against Desertification through Presidential Decree 135/1998.

27. In Indonesia degraded land areas are classified as critical land. With around 14.06 million ha critical land area, the problem of land degradation is still a big problem to be resolved by the Government of Indonesia, so much so that in the RPJMN (National Medium Term Development

Plan) 2020 - 2024, the restoration of degraded land is still one of the main performance indicators. This is in line with the Sustainable Development Goal target number 15, Life on Land. A road map for the attainment of this SDG has been developed by Bappenas in line with its mandate under Presidential Regulation No. 59/2017 on the Implementation of the Sustainable Development Goals in Indonesia.

28. Related to this, the Ministry of Environment and Forestry, through the Directorate General of Watershed and Forest Protection, in RPJMN (National Medium Term Development Plan) 2020-2024 has several targets that are aligned with this project, including:

1. Increasing the area of forest and land coverage for water and climate security.

2. Reducing the area of critical land.

3. Improving the welfare of communities depending on forest products for their livelihoods.

29. The Brantas River basin and its tributaries are particularly affected by land degradation and the resulting disruption of the water cycle. In Indonesia, in general and the agricultural area in particular, land degradation is a very serious problem. In the Sadar, Brankal and Porong sub-catchment areas (tributaries to the Brantas River) deforestation and land degradation induced water scarcity is putting the sustainable provision of water to people and businesses at risk. During the dry season formerly perennial springs fall dry and can no longer provide water for people and businesses. The emergency water supply provided by trucks is insufficient and costly. Thus, local communities can no longer have access to drinking water in sufficient quantity and quality and industries have to reduce their out-put or close down during the dry season.

30. In many parts of the water bodies in the Brangkal, Dasar and Porong catchment areas the riparian forest [1] have been subject to deforestation and have been transformed into agricultural land. Thus the eroded soil including nitrate and phosphate in the run-off from adjacent agricultural land areas can reach the water bodies unhindered. Increased nitrate and phosphorus inputs from sources such as agricultural fertilizers and untreated sewage are the main contributors to eutrophication that increases algal growth which can lead to a decrease of the level of dissolved oxygen or even to total oxygen depletion in the water body. When such oxygen depleted surface waters reach the sea, they can form hypoxic or dead zones in which no form of aquatic or marine life can persist.

31. Without any interventions to revert the land degradation induced water scarcity the livelihoods and the sustainable supply of water to people are at risk.

32. The need for such interventions has been recognized by the Indonesian government as well as by the stakeholders dwelling in the 3 catchment areas. In PP 37/2012 on Watershed Management the Brantas River basin has been identified as a critical watershed / priority watershed for restoration. While the central and local government have already undertaken some measures in the domains of forest restoration, sustainable water, land and forest management, these measures could not yet effectively revert the deforestation and land degradation induced water scarcity in the 3 tributaries. It has been generally recognized that given the sheer scope of the problems, without an active engagement and cooperation with the private sector it will not be possible to overcome the issue of deforestation and land degradation induced water scarcity in the Brantas River Basin.

33. As part of their water stewardship efforts the Coca Cola Company has established 1,200 absorption wells and PT Multibintang, the Indonesian HEINEKEN Operating Company has

supported the establishment of sustainably managed agroforestry schemes in the upper reaches of the 3 tributaries to the Brantas river.

34. The Government of Indonesia through its Ministry of Environment and Forestry has just recently launched the preparatory activities for the self-funded Integrated Forest Based Area Management Project for the Lumajang District. The promotion of alternative agroforestry schemes for land restoration and water body protection will be one major component.

3) the proposed alternative scenario with a brief description of expected outcomes and components of the project;

35. In this context a stakeholder engagement workshop was organized in October 2016 for the Brangkal, Sadar and Porong catchment areas. The Ministry of Environemnt and Forestry, PT Multi Bintang, the Indonesian HEINEKEN Operating Company and UNIDO invited the 30 most relevant stakeholders[2] from government (Central, Province, Kabupaten, Kota), private sector, academia and civil society (CSOs and NGOs) to a three day workshop. Presented with one single initial question: ?What is necessary to successfully guarantee the socially environmentally and economically sustainable supply of water to people and businesses in the tributaries to the Brantas river located on the Northern Slopes of the Gunung Welirang and the Gunung Anjasmoro (Sub-DAS Brangkal, Dasar and Porong)? the stakeholders identified 12 priority measures, key conclusions and detailed implementation recommendations in a participatory bottom-up planning process (see Annex D: Report on stakeholder engagement workshop for the full report on the workshop and https://www.youtube.com/watch?v=JItxHRNS6aI for a short video).

●- Conservation of Cumpleng Catchment Area

●- Establishment of Infiltration Wells

●- Protection of water sources through forest and land rehabilitation using CSR (Corporate Social Responsibility Program)

●

- Community education on the importance of planting trees (1 house 5 trees) through local regulation (PERDA) to be applied at the neighborhood level (RT or RW)

●

- Educate Children on Environmental Awareness

●

●- Availability of PERDA/PERBUP in each area for ground water and surface water abstraction and use

●

●- Stop Illegal Piping of Water Sources

●

●- Majapahi Local Wisdom: 1) Batik; 2) Water resource/ (Nusantara civilization) water trail tour; 3) Brantas river endemic fishery; 4) -

●Bamboo Community along the Brantas

●

●- Development of a Road Map for Sustainable Sub-Catchment Area (Cumpleng River) Management

●

●- Need for Law Enforcement of the Existing Regulations and Reduction of Regulatory Overlaps

●

- ●- Reduce-Reuse Water and Recycle Waste Water Treatment Plant (WWTP) output
- ●
- ●- Collaboration among stakeholders in the form of:
- ● - Establishing stakeholder coordinating team
- ● - Developing Collaborative Programs
- ● -Monitoring & Evaluation of Implementation
- ●

- 36. In the closing session of this workshop the stakeholders representing major industries in the catchment areas committed to support the establishment of a multi-stakeholder alliance for water stewardship.

37. With financial support provided by these industries a second stakeholder meeting was organized on 23 November 2016 in Seloliman. In this meeting the stakeholders from government, private sector, academia and civil society agreed to establish the Aliansi Air as a multi-stakeholder alliance for water stewardship for the Sub DAS Brankal, Sadar and Porong.

38. The declared objective of the Aliansi Air is: to discuss, consult, coordinate, and communicate with all stakeholders, especially all parties which are concerned with water management in the Sub DAS Brankal, Sadar and Porong surrounding the Mojokerto Regency.

39. This decision has been formalized in a notary decree on 18 March 2017 and the Aliansi Air and its statutes have been officially recognized by the minister of justice and human rights on 05 April 2017[3].

40. The activities outlined in para 4 private sector were already implemented under the coordination of the Aliansi Air with support by private sector entities and thus constitute the baseline for this project.

41. The proposed project was developed in response to the commitment of the Government of Indonesia and the stakeholders dwelling in the Sadar, Brannkal and Porong catchment areas to tackle land degradation induced water scarcity.

42. The experiences gained from the pilot agroforestry schemes already established with financial support by PT Multibintang have demonstrated that local communities can derive a higher financial return from sustainably harvested non-timber agroforestry products than from any other other forest destructive practice. Thus the project will provide the necessary financial incentive to resident communities to adopt agroforestry practices as required for the sustainability of the intervention beyond the project implementation period

43. Whilst the Aliansi Air has been extremely successful in mobilizing resources from private sector entities and the government for the implementation and the coordination of water stewardship activities for land and water conservation a significant up-scaling of these activities is required to further mitigate land degradation and the resulting water scarcity in in the Sadar, Brankal and Porong catchment areas. Building up on the ecosystem restoration activities already supported by its members as well as taking already implemented and planned government interventions for land and water conservation in the 3 catchment areas into due consideration, the Aliansi Air, the Government of the Mojokerto Regency and the Ministry of Environment and Forestry have requested support by UNIDO for the development of a project proposal for a Medium Sized Project for the consideration by the Global Environmental Facility (GEF). Under this proposal support from the GEF to cover the incremental costs for the implementation of the components described hereinafter is sought:

Component 1: Land restoration for water retention, sediment retention and improved livelihoods

Output 1.1 Restoration of up-stream agroforestry systems to revert land degradation, enhance water retention and groundwater replenishment and cater for alternative livelihoods

44. Due to land use change and deforestation the water retention and groundwater replenishment capacities of up-stream forests in the Brangkal, Sadar and Porong catchment areas have been seriously reduced. With up to 80% of the annual precipitation of 2,000 mm occurring in intensive rainfall events during the rainy season this has resulted in increased surface run off and erosion. This disturbance in the hydrological regime has resulted in the increased occurrence of floods during the rainy season as well as in droughts during the dry season[4].

45. Under this Output resident communities will be engaged in the participatory process to restore 387 ha of agroforestry schemes in the up-stream parts of the Brangkal, Sadar and Porong catchment areas. The agroforestry schemes will be established on the fringe between the remaining indigenous forest and agriculturally used land and serve as a buffer zone (see Figure 3). To put these buffer zones under improved management practices will also avoid the loss of the remaining natural forests (protected forests and conservation forests). In order to achieve the necessary community buy-in as well as to ensure the sustainability of the afforestation, a blend of 60% of endemic trees, 25 % of fast groing timber production trees, 5% bamboo and 10% of fruit trees will be planted. Furthermore, income generating activities e.g. greenhouses for organically farmed vegetables and technical assistance for the establishment of collective certification and marketing will be provided. There is a growing demand in Indonesia?s urban middle income population for organically farmed agricultural products and these products fetch high prices on the market.

46. For this up-stream agroforestry restoration program the target is to ensure that 400 trees per ha will reach maturity on the 251 ha restored with GEF funding. On the 136 ha that will be restored under the coordination of the Alianis Air the target is 1,000 trees/ha, so that in total some 236,400 trees will be implanted. For previously implemented agroforestry reforestation activities the average water retention and groundwater replenishment potential during the six month long rainy season as well as the additional potential to release water during the dry season has been quantified by Conservation International Indonesia[5]. Using the MAPDAS (instantaneous discharge model) and MODDAS (daily discharge model), which are based on the curve number technique[6], the water retention potential during the rainy season in a comparable catchment area was determined with 1,468.8 m?/ha and the potential to release additional water during the dry season was determined with 337.12 m?/ha. Thus the restoration of 251 ha of up-stream agroforestry scheme will result in retaining some 453,326 m? of water per year in the upper reaches of the catchment area. The water retention capacity on the additional 136 has that will be afforested under the coordination of the Aliansi Air will amount to 614,067m?/y; so that in total 1,067,393 m?/y will be retained in the catchment area. Rather than running off quickly on the surface of the steep slopes of the Gunung Welirang and causing erosion and further land degradation this water will percolate into the soil and become available as ground water and finally as spring water and stream flow in surface water bodies during the dry season.

47. Additionally 42,063 t CO2 will be captured by the agroforestry scheme.

48. Given the positive experience PT Multibintang could make in the cooperation with local NGO Yayasan Lingkungan Hidup Seloliman in community based agro-forestry projects and to make best possible use of already well established cooperation patterns and trust between local communities

and the NGO it is proposed that the execution of this component is to be entrusted to the Yayasan Lingkungan Hidup Seloliman.

49. The total proposed **incremental budget** for the **community based afforestation of 251 ha** of up-stream agro-forests amounts to **U$ 439,786**. Another 136 ha will be restored from 2020-2022 by the Aliansi Air with financial support by and in close cooperation with PT Multibintang.

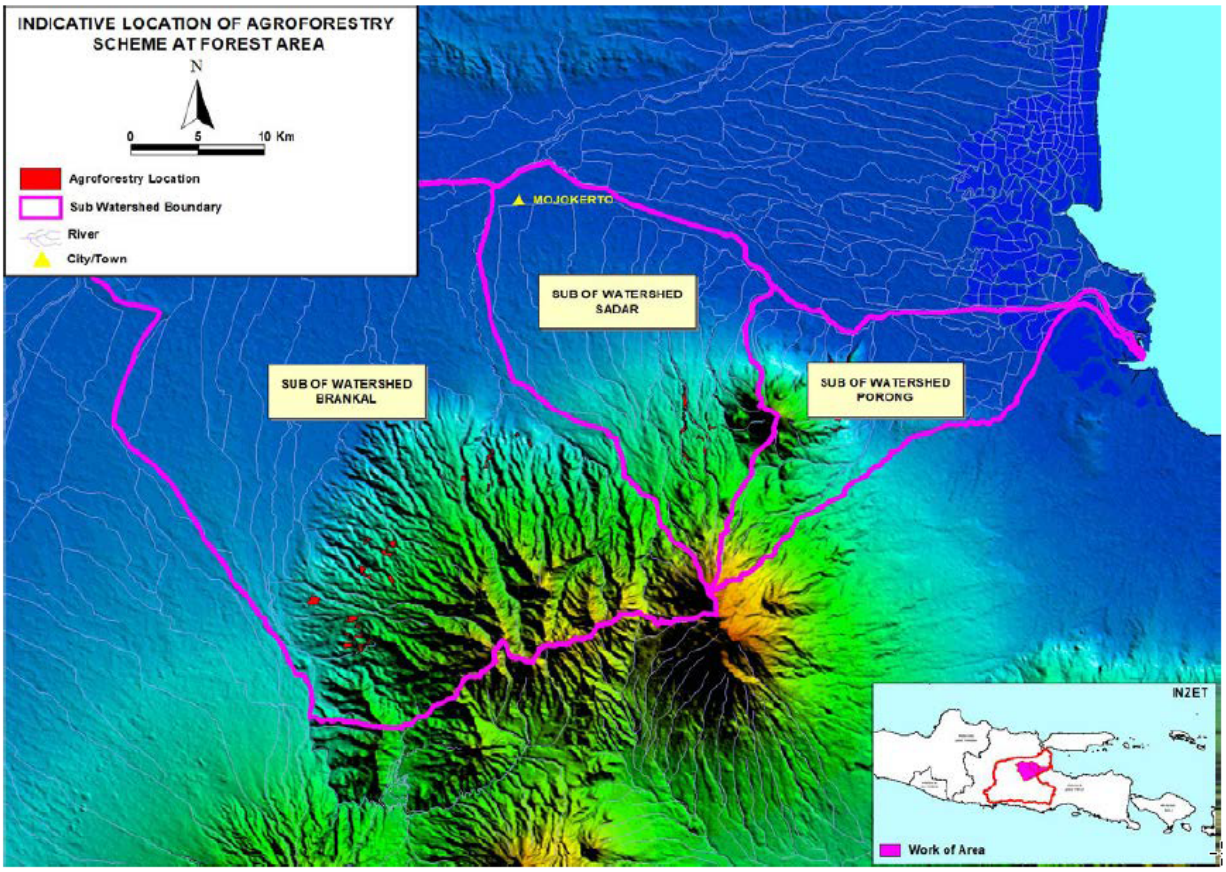


FIGURE 3 INDICATIVE LOCATION OF AGROFORESTRY SCHEMES AT FOREST AREA

Output 1.2. Restoration of riparian bamboo forests for sediment retention, water infiltration and pollution absorption and sustainable use of bamboo for value added products

50. Under this output the community based restoration of bamboo riparian forest will be facilitated. In total 130 ha of riparian bamboo forest will be restored in water bodies in the Brangkal, Dasar and Porong catchment areas (see Figure 4) and riparian communities engaged in the reforestation process will be trained in the sustainable management and use of bamboo forests products for value added processes like the production of furniture and handicraft. Due to its biological characteristic and growth habits, bamboo is not only an ideal economic investment that can be utilized in many different manners but also has enormous potential for alleviating many environmental problems. Bamboo forests have multiple environmental benefits because they function as sediment, carbon and nutrient sinks, produce oxygen, control soil erosion, provide organic matter, regulate water levels in watersheds, conserve biodiversity, beautify the landscape, and essentially contribute to the purification and regulation of the environment.

51. FAO reports[7] that one ha of bamboo plantation helps to reduce average soil erosion by 80% and that bamboo plantations significantly reduced soil erosion up to 22 t soil/ha/year. Scientific

studies have shown that bamboo plantation have the capacity to capture 119,9 tons of CO2 per hectare in the first seven years after planting (average of 17.13 tons/ha/year)[8].

52. Bamboo forests are reported to able to intercept 14,5% of the annual rainfall; thus for the project area it can be estimated that some 290 mm of rainfall would be retained by bamboo which brings the water retention capacity of 1 ha of bamboo forest to 2,230 m3 per year.

53. Furthermore, the overall nutrient removal accounted West Java in the live biomass in a bamboo plantation over 6 years was 630, 107, 554, 174, and 198 kg ha?1 for N, P, K, Ca, and Mg[9], respectively. Accumulation of N, P, K, Ca, and Mg in the forest floor peaked when the forest floor mass accumulation reached its maximum after 6 years.

54. In order to allow the project to make use of good working relationships established with local communities under previous community based bamboo forest restoration and sustainable bamboo forest use activities in the region and in order to allow the project to make best possible use of local experience and know-how, it is proposed that the local CSO Komunitas Bambu Petung should be entrusted with the implementation of this activity. As for the agroforestry schemes bamboo restoration and value added projects for bamboo products implemented by the local CSO Komunitas Bambu Petung have demonstrated that these activities do result in the necessary financial returns for local communities as to make them an attractive alternative.

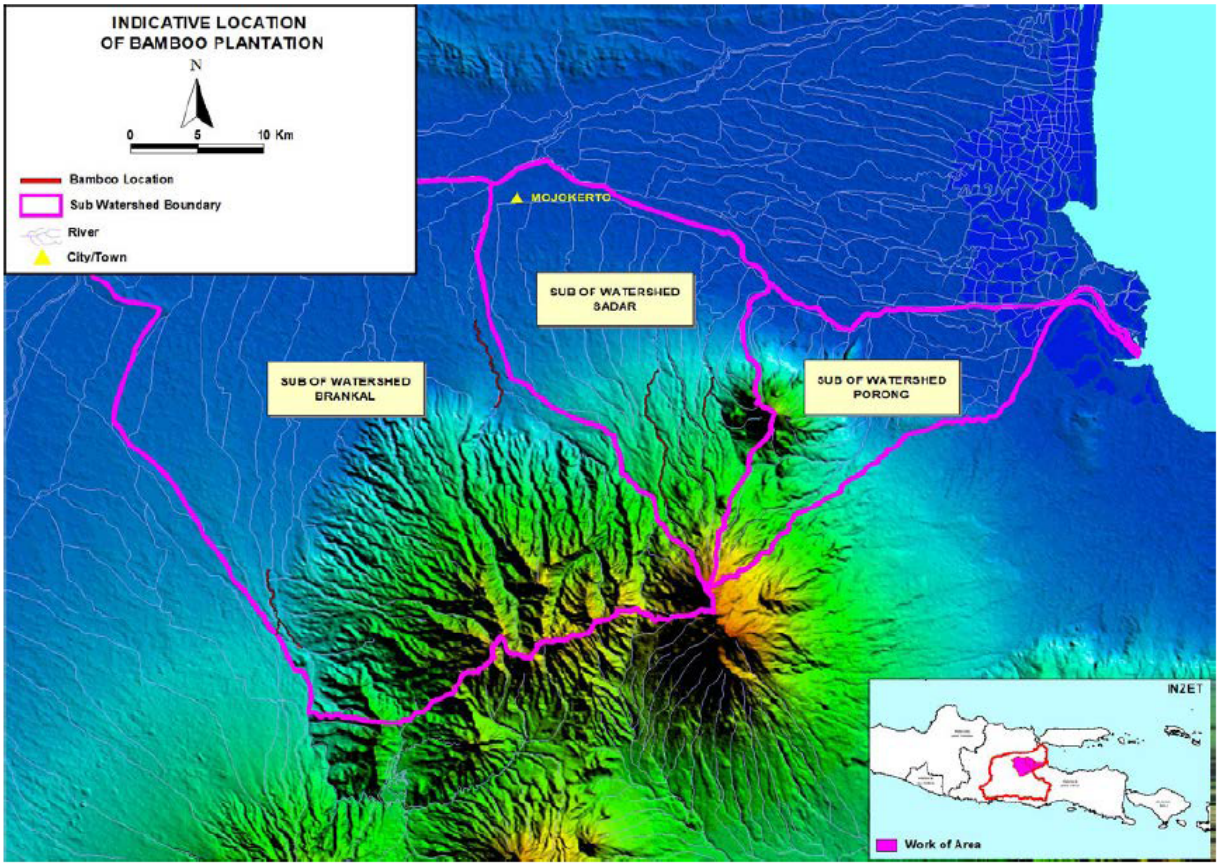


FIGURE 4 INDICATIVE LOCATION OF BAMBOO PLANTATION

55. The total proposed budget for the **community based restoration of 130 ha of riparian bamboo forests** in the downstream parts of the water bodies in the Brangkal, Dasar and Porong catchment area amounts to U**$ 437,197.**

56. In the 3 sub-catchment areas in which the project will be implemented, the Ministry of Environment and Forestry has designated 9,944 ha as buffer zone between the agriculturally used areas and the remaining protected forest (7,293 ha) and conservation forest (19.929 ha) (see Figure 5).

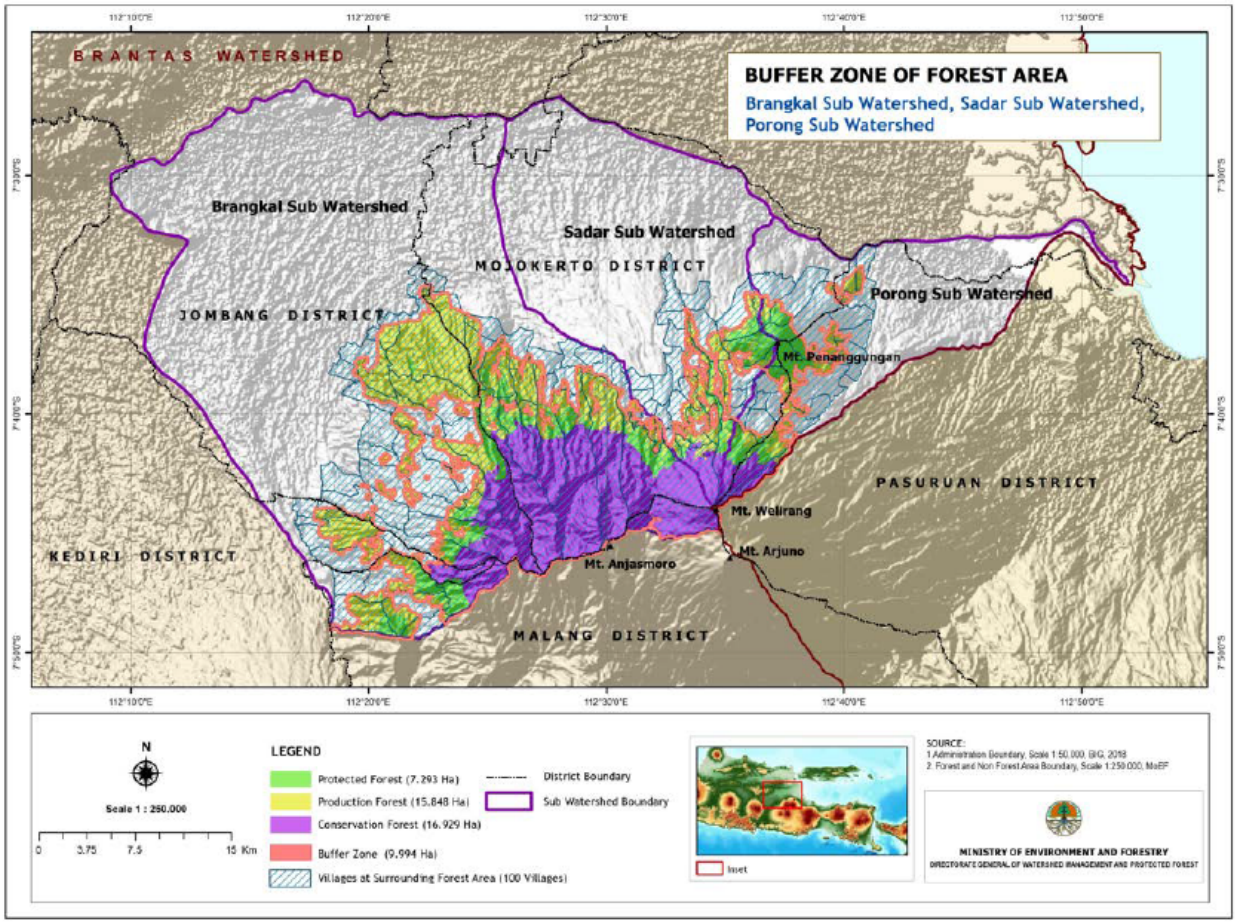


FIGURE 5 BUFFER ZONE OF FOREST AREA

57. The measures implemented with GEF incremental funding as well as with the co-financing provided by PT Multibintang and by the Mojokerto Regency will put 3,697 ha of landscapes in the buffer zone under improved practices. This corresponds to approximately one third of the total area designated as buffer zone in the 3 sub-catchment areas. Consequently it can be estimated that these measures will also protect at least one third of the remaining protected forest and avoid any encroachment of the remaining conservation forest.

58. Thus, the project will bring 3.697 ha of landscapes under improved practices and avoid the loss of 2,407 ha of protected forest and 19,929 ha of conservation forests. This will further be corroborated by the training and capacity building measures to enhance the institutional capacities of the MOEF regional office in Sidoaryo for an up-scaling of water stewardship activities and for the better enforcement of the regulatory framework geared at avoiding the loss of protected and conservation forests in Indonesia (Component 3).

59. The outcome of this component will be a significant contribution to revert land degradation, alleviate water scarcity and improve socio-economic conditions of the predominantly agriculture depending population in the catchment areas. In total some 26,033 ha of landscapes will come under improved management. Erosion will be reduced by 2,808 t/y and over 6 years 81.8 tons of N and 13,936 to f P will be absorbed. Furthermore the project will result in the retention and

groundwater replenishment of some 1,067,393 m?/ yr in the catchment areas by the upstream forests. The water retention by the downstream bamboo forests will amount to 301,600 m3/year. The water retained can be used by communities and industries. Additionally, some 13,360 t of CO2 will be captured by the bamboo forests.

60. The total **budget** proposed for **Component 1** amounts to **U$ 876,983.**

Component 2: Nature Based Infrastructure and awareness creation for land and water conservation, water and sediment retention

Output 2.1 Construction of 597 absorption wells (2x2x2 m) for enhanced water retention in the catchment area

61. Over the last decade land degradation has lead to a drastic reduction in the yield of all the natural springs located at the foothills of the Gunung Welirang in the Brangkal, Sadar and Porong catchment areas. Many springs fall dry in the dry seasons and two thirds of them have fallen permanently dry over the last decade. Rapid change of land use and land degradation in the watersheds is considered to be the main reason for this development; from 1989 to 2002 alone 3,702 ha of natural forests in the upper reaches of the catchment areas were converted into rain fed agriculture. With these forest areas having lost their soil stabilizing and rainwater retention capacity as well as their groundwater replenishment potential the establishment of absorption wells (see Figure 6) has proven to be an effective and efficient technical measure to ensure that surface water run-off can percolate in the underground and replenish the aquifers which feed the natural springs.

62. As part of its global water balancing program, the Coca Cola Company has previously funded the establishment of 1,200 absorption wells in the upper reaches of the Brangkal, Sadar and Porong catchment areas. These absorption wells are reported to have a very positive impact on erosion reduction and the yield of natural springs in the catchment areas; and in the stakeholder engagement workshop the establishment of additional absorption wells was unanimously identified as a priority measure to overcome the land degradation and water scarcity in the Brangkal, Sadar and Porong catchment areas.

63. Under this component 597 additional absorption wells (2x2x2m) will be installed. Each of these wells is reported to have a groundwater replenishment potential of some 2,000 m?/year. Thus a total groundwater recharge of 1,194,000 m?/yr will be achieved.

FIGURE 6 ABSORPTION WELL

Output 2.2 Establishment of 8,000 biopori and awareness creation for water conservation in 40 schools

64. In order to create awareness for water retention and to demonstrate the effectiveness of these absorption wells an educational program will be developed and launched in 40 schools. The curriculum will comprise some general elements on the water cycle, information on the inter-relations and links between land degradation and water scarcity, land restoration, water conservation and the principle of water retention and artificial groundwater recharge. As a practical demonstration measure one absorption well will be established in every school and some 100 children in every school will be educated on land and water resource management and land and water conservation issues. The pupils and their teachers will furthermore and engaged in the establishment of 200 biopori (see Figure 7) in every school. Biopori is a method of replicating the natural process of rapid infiltration of storm water from the surface to greater depths. The technique was developed by Dr Kamir R. Brata, a researcher at the Bogor Institute of Agriculture, Indonesia. The benefits of using biopori holes include:

? increased surface water absorption
? reduced local flooding
? enhanced groundwater recharge

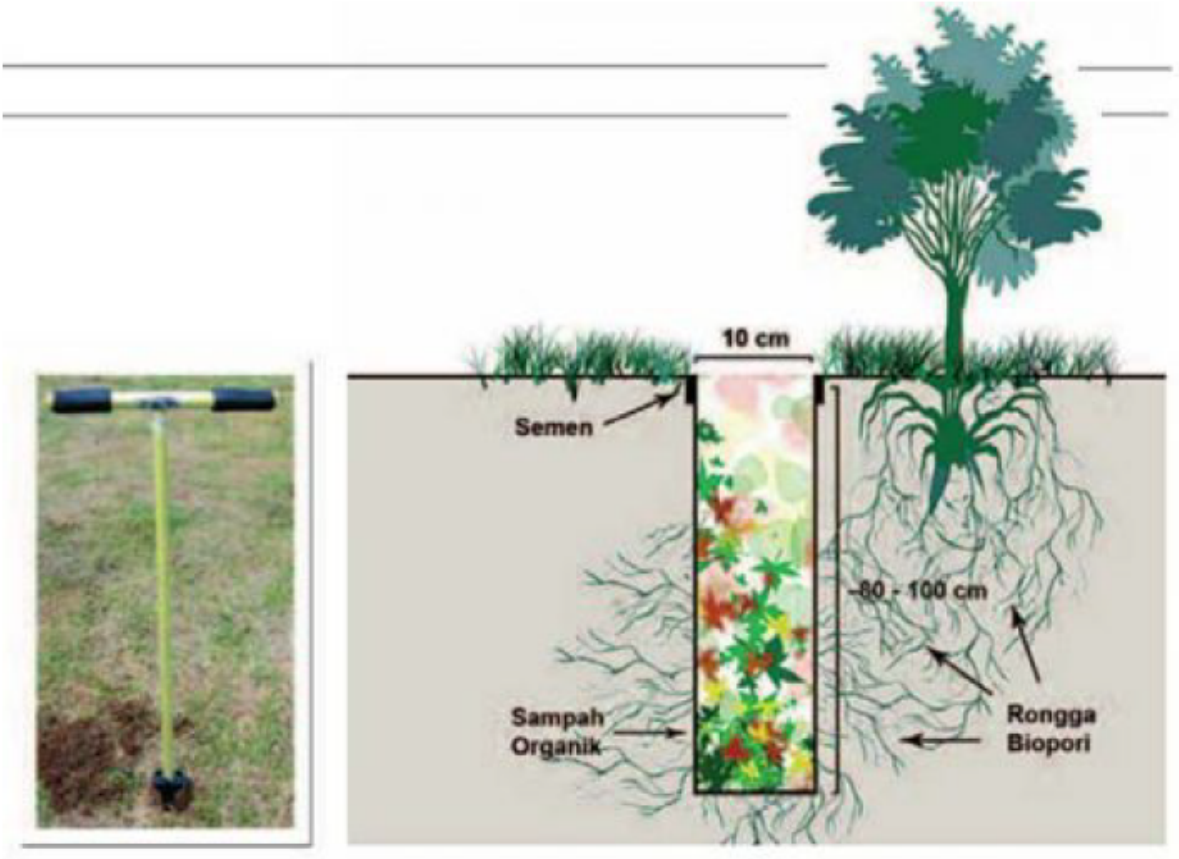


FIGURE 7 BIOPORI

65. While the installation of the 8,000 biopori will only result in an additional groundwater recharge of 16,000m?/yr some 4,000 children will be reached, which will act as change agents and further disseminate their knowledge on land and water conservation.

66. In order to allow the project to benefit from the lessons learned and experiences gained under the water balancing project previously funded by the Coca Cola Company it is proposed that the Indonesian NGO Lingkungan Hidup Seloliman will be entrusted with the execution of output 2.1 and 2.2. of this component.

67. The outcome of this component will be the retention and groundwater replenishment of some 1,210,000 m?/ yr in the catchment areas. This measure to revert land degradation will contribute to reduce erosion, alleviate water scarcity and improve water security in the catchment areas by allowing that the water retained can be used by communities and industries. By directly reaching some 4,000 pupils with awareness creation measures, it can be expected that each child will become a change agent, which passes on her/his knowledge to at least 6 other family members, so that the awareness creation measures will reach at least 24,000 people.

68. The total **budget** proposed for **Component 2** amounts to **U$ 558,330.**

Component 3: Strengthen the enabling environment to promote community-based land restoration

69. Under this component the MOEF?s regional office in Sidoaryo will be facilitated to become engaged and take the lead in up-scaling water stewardship activities. The MOEF?s capacities will be strengthened and the active cooperation between the MOEF?s regional office in Sidoaryo, the Aliansi Air and other (inter)national stakeholders will be facilitated so that additional private and public partners can be motivated to engage in water stewardship activities and so that additional funds for the implementation of complementary water stewardship activities for the Brangkal, Sadar and Porong catchment areas as well as other catchment areas can be leveraged. Here particular focus will be put on establishing links with the recently MOEF launched Integrated Sustainable Forest Based Area Development project for the Lumajang District. This project will also be implemented by MOEF. The Lumajang District is in the immediated neighborhood to the project intervention area for the MEWAFLOR project and both projects have the establishment of agroforestry schemes for land restoration and water body protection as a common goal.

70. This will comprise the organisation of a participatory stakeholder conference in which the stakeholders will be facilitated in identifying which measures will be required for the up-scaling of the water stewardship activities from the 3 sub-catchment areas to other subcatchment areas of the Brantas River Basin as well as beyond the Brantas River Basin. In addition, the active exchange with related GEF activities and other waterstewardship activities will be facilitated.

71. Furthermore, the institutional capacities of the MOEF regional office in Sidoaryo for the better enforcement of the regulatory framework geared at avoiding the loss of protected and conservation forests in Indonesia will be strengthened.

72. Forest law enforcement in Indonesia is regulated by the Law on Forestry (No. 41/ 1999) and the Law on Conservation of Living Resources and their Ecosystems (No. 5/ 1990) that define a range of forest crimes and the associated penalties, from fines to prison terms.

73. In 2013, the government issued the Law on the Prevention and Eradication of Forest Destruction (No. 18/ 2013). It is aimed at strengthening forest law enforcement as it: i) mandates the establishment of a specific institution directly responsible to the President; ii) targets organised forest crime, iii) has more coverage than the Forestry Law, to also include oil palm plantations and mining in forested areas, and iv) allows the utilisation of corporate criminal liabilities

74. Within the Ministry of Environment and Forestry (MoEF), there is a specialised Directorate General (DG) of Law Enforcement of Environment and Forestry tasked with the formulation and implementation of policies aiming to reduce disturbances and threats to forests and the violation of forest and environmental laws and regulations. In terms of field personnel, the DG employs forest rangers, and civil servant investigators.

75. Forest law enforcement operations target three types of illegal forest activities (MoEF, 2018). The first focuses on forest area encroachment by securing the forest area from persons who have encroached upon it. The second type addresses illegal logging: these operations are carried out at the same time as forest encroachment operations or after a surveillance process of suspected illegal logging sites. The third type focuses on illegal wildlife trade.

76. The outcome of this component will be that the MOEF regional office in Sidoaryo will have the institutional capacities to enforce the regulatory framework geared at avoiding the loss of protected and conservation forests and to up-scale water stewardship activities within the catchment areas as well as to other catchment areas.

77. The total **budget** proposed for **Component 3** amounts to **U$ 125,000.**

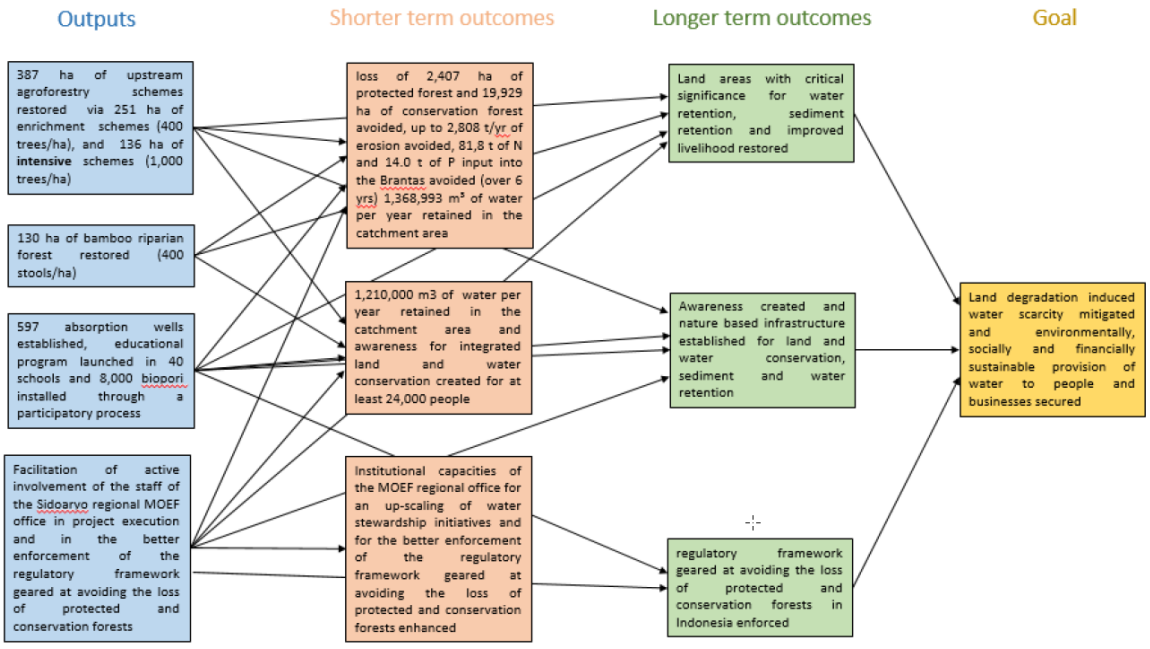
Component 4: Monitoring and Evaluation

78. Under this component the costs for a mid term review and independent terminal evaluation will be covered. The evaluation will be carried out by a team comprising an independent international expert and one national expert, who will be recruited by UNIDO?s evaluation unit for this purpose.

79. The objectives of the mid term review and the evaluation is to enable the Government of the Republic of Indonesia, the donor, the Directorate of Planning and Evaluation for Watershed Management in the Ministry of Environment and Forestry (the Executing Agency), counterparts, UNIDO (the Implementing Agency) and other stakeholders to: (a) verify prospects for development impact and sustainability of the main objective and specific objectives of the project; (b) to enhance project relevance, effectiveness, efficiency and sustainability by proposing a set of recommendations with a view to ongoing and future activities and particularly on the second phase of the project; (c) to draw lessons of wider applicability for the replication of the experience gained from this project at a national and regional level.

80. The total **budget** proposed for **Component 4** amounts to **U$ 55,000**.

Theory of change



By investing GEF incremental funds in restoring 387 ha degraded land into community based agro-forestry schemes, by establishing 130 ha of riparian bamboo forests, as well as by investing GEF incremental funds in nature based approaches to reverse land degradation, improve water retention and infiltration and to reduce surface run-off, erosion will be reduced by 2,808 t/yr and some 2,6 mio m?/yr of water will be retained and infiltrated. The measures implemented with GEF incremental funding as well as with the co-financing committed by PT Multibintang and by the

Mojokerto Regency will put 3,697 ha of landscapes in the buffer zone under improved practices and avoid the loss of 2,407 ha of protected forest and 19,929 ha of conservation forests. This will further be corroborated by the training and capacity building measures to enhance the institutional capacities of the MOEF regional office in Sidoaryo. Thus, the project will effectively address land degradation and water scarcity in a national priority watershed. The project will result in regional socio-economic benefits by halting land degradation, by supporting water stress reduction and by restoring ecosystem services. Insofar as the upper reaches of the catchment areas, which are located in the Gunung Arjuno-Welirang mountains, are a major natural heritage and biodiversity resource for the people of the world, the project will also deliver substantial global environmental benefits in this domain. The project will also result in a significant reduction of pollution and sediment influx to the international waters of the Seas of East Asia and its LMEs. Furthermore, the establishment of 517 ha community managed forests will result in the sequestration of 40,903 t of CO2. The project will demonstrate an innovative approach how a pro-active multi stakeholder private sector catalyzed partnership for water stewardship (the Aliansi Air) that already brought together governments, companies, NGOs and other key stakeholders can be up-scaled to achieve transformational changes in the restoration of degraded terrestrial ecosystems as required to mitigate land degradation induced water scarcity. This will secure the environmentally, socially and economically sustainable provision of water to people and businesses in the 3 tributaries (Sadar, Brankal, Porong) to the Brantas River. As such the project will be a significant and replicable step forward in direct cooperation with the private sector for reverting the ever worsening environmental situation in East Java and elsewhere in Indonesia.

4) alignment with GEF focal area and/or Impact Program strategies;

81. By restoring up-stream and downstream forests for the reversion of land degradation, water, sediment and nutrient retention the project is also fully aligned with the goal of the GEF7 Land Degradation Focal Area to utilize GEF resources for implementing the United Nations Convention to Combat Desertification and its new long term (2018-2030) strategy, which contributes to enhancing ecosystem services. The project will also contribute towards the implementation of the UNCCD concept of Land Degradation Neutrality (LDN) in the catchment areas by contributing to a state whereby the amount and quality of land resources necessary to support ecosystem function and services remain stable or increase. The provision of support by GEF to activities addressing drivers of water insecurity is explicitly mentioned in the GEF7 Programming Directions for the Land Degradation Focal Area Strategy. Furthermore, by scaling-up agroforestry schemes and by establishing bamboo forests and sustainable value-added process the project will improve the livelihoods and decrease the vulnerability of rural communities and small holder farmers living in the catchment areas. The project is fully aligned with the GEF?s mandate to invest in global environmental benefits from production landscapes and relates directly to the GEF?s role as a financial mechanism of the UNCCD.

82. The project is fully aligned with the GEF LD Focal Area strategy in GEF 7 to promote private sector engagement. The project is building up on private sector financed pilot activities and will be further harnessing private capital and expertise to finance investments in sustainable land management.

83. Furthermore, the project through the Ministry of Environment and Forestry and through private sector co-financing will provide technical assistance for smallholders for the marketing of sustainably farmed non timber agroforestry products and of value added bamboo products. This is

also building of on pilot activities that have been successfully implemented with private sector funding.

84. Last but not least the project will demonstrate how land degradation can be arrested and reversed by involving smallholder farmers and local communities and facilitating a mutually beneficial engagement with the private sector. The pilot measures already implemented with private sector funding have successfully demonstrated how smallholder producers can be linked to markets, how sustainable supply chains can be introduced, and how stable revenues with agricultural commodities from agroforestry schemes can provide the incentives to for smallholder producers to adopt sustainable management patterns of buffer zones.

5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing;

85. The request for GEF incremental funding builds up on a solid baseline of activities funded by public and private sector entities active in the project area in the fields of integrated management of land and water resources; sustainable land and forest management; and erosion control/sediment management. The co-financing figures presented are based on actual contributions in kind and in the form of grants that were provided by the proponents of the activities catalyzed by the Aliansi Air in 2017 and 2018. It can be expected that the actual co-financing that will be provided throughout the project implementation period will exceed this amount.

86. GEF Incremental funding for activities under Component 1 ?land restoration for water retention, sediment retention and improved livelihoods? will allow to scale-up the afforestation activities already undertaken by the local NGO Yayasan Lingkungan Hidup Seloliman for the restoration of up-stream water retention forests and by the local CSO Komunitas Bambu Petung in the domain of restoring downstream bamboo forests for water/sediment retention and pollution absorption. Under the cooperation between PT Multibintang and the Aliansi Air for the implementation of Multibintang?s water stewardship project Nabung Banyu (saving water in Javanese language) the local NGO Yaysan Lingkungan Hidup Seloliman has already successfully restored 10 ha of upstream forests and supported the local communities in marketing non timber agroforestry products. With financial support catalyzed by the Aliansi Air from PT Pria the local CSO Komunitas Bambu Petung has already restored bamboo forests on 3 ha and trained local communities in the sustainable use of the bamboo forests for value added processes. The activities under Component 1 build up on the co-financing in the form of grants and in kind by the Public Works & Spatial Planning and Agriculture Agencies of the Mojokerto Regency, by the NGO YLHS Seloliman, by the private sector (PT Multibintang and Heineken) as well as on an interventions on ecosystem restoration, land and water management and flood control for the Sadar River funded by the Ministry of Public Works and Public Housing.

87. With incremental funding provided by GEF the activities under component 2 ?nature based infrastructure and awareness creation for land and water conservation, sediment and water retention? the activities for the establishment of absorption wells will be up scaled. In addition to the 1,200 wells already established under the Coca Cola Company?s water balancing activities another 579 new absorption wells will be established. Furthermore the activities catalyzed by the Aliansi Air with funding from PT Pria, PT Coca Cola Amatil and PT Multibintang for the establishment of biopori to demonstrate and create awareness on land and water conservation by increasing the infiltration of rainwater and percolation of run-off into the ground to reduce erosion,

enhance water retention and groundwater replenishment will be up-scaled from the 2,500 biopori previously installed at 5 schools to 8,000 biopori to be installed at 40 schools. The activities under Component 3 ?Strengthening of institutional capacities and engagement of MOEF regional office in Sidoaryo in water stewardship activities? build up on the co-financing in the form of grants and in kind by the Environmental, Education and Health Agencies of the Mojokerto Regency, by the private sector (PT Radar Mojokerto, PT Pria, PT Coca Cola Amatil and PT Multibintang).

88. Last but not least GEF incremental funding will allow for the systematic integration and the training of the MOEF?s regional office in Sidoaryo to enhance its institutional capacities to be become fully involved in the water stewardship activities in the Sadar, Brankal and Porong catchment areas and to up-scale this water stewardship initiative to other tributaries to the Brantas as well as to other catchment areas. This will be catalytic for the further up-scaling of public private partnerships in the domain of environmental stewardship as required for a transformational change.

89. Only with the proposed GEF incremental funding the up-scaling of the water stewardship activities already undertaken under the public private partnership coordinated and facilitated by the Aliansi Air as required to effectively address land degradation and to mitigate land degradation induced water scarcity in the Sadar, Brankal and Porong catchment areas will become possible.

6) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and

90. The project will result in a wide range of socio-economic benefits as well as global environmental benefits. The Ministry of Environment and Forestry has determined that in total 278,600 people (153,230 male and 125,370 female), will benefit from the project. By putting 3,697 ha of landscapes in forest buffer zones under improved management practices the loss of 2,407 ha of protected forests and 19,929 ha of conservation forests will be avoided. Furthermore, the loss of 2,808 t/y of fertile soil will be avoided and an estimated 2,578,994 [10] m3/y of water will be retained and infiltrated in the catchment areas. This will effectively avoid the loss of forest areas, revert land degradation and reduce land degradation induced water scarcity in the catchment areas as it is required for the provision of life supporting ecosystem services. Furthermore by promoting nature based infrastructure solutions for land restoration and the retention and slow release of precipitation erosion and the flood risk during the rainy season will be reduced and the environmental flows in surface water bodies during the dry season will be enhanced. The land will retain its productive capacities and the water retained can be used for a wide array of socio-economic relevant activities ranging from drinking water supply for resident communities by the local PDAMs[11], irrigation as well as for industrial purposes.

●- In terms of global environmental benefits a total of 26,033 ha of landscapes will benefit from improved management practices.

●- As a co-benefit the project will furthermore result in the sequestration of 13,360 t of CO2 over a period of six years by the riparian bamboo forest and the agroforestry system will capture some 42,603 t CO2. Thus in total 55,422 t CO2 will be sequestered.

91. Furthermore, the project will result in a significant reduction of pollution and sediment influx to international waters of the Seas of East Asia and its LMEs:

●- nutrient inputs will be reduced by 81,8 t/yr Nitrogen and 14 t/yr of Phosphorus sediment loading will be reduced by 2,808 t/yr

92. For the preparation of the PIF figures from the literature, information provided by the Ministry of Environment and Forestry as well as from projects implemented in the region were used to quantify the socio-economic benefits as well as global environmental benefits. During the PPG phase these figures will be further verified and confirmed.

93. By involving small holder farmers in sustainable and financially attractive agroforestry and bamboo forest schemes the activities implemented under the coordination of the Aliansi Air will arrest and reverse land degradation through a mutually beneficial partnership with the private sector under their environmental stewardship approaches.

94. The global environment benefits associated with the proposed project thus relate to the avoidance of forest loss, the restoration of degraded landscapes, sustainable land and water management, carbon sequestration, contribution to reduction of nutrient pollution and coastal hypoxia by decreasing pressures on freshwater, coastal and marine resources in the Seas of East Asia and its LMEs.

7) innovation, sustainability and potential for scaling up. ?

7.1 Innovation

95. The project demonstrates an innovative approach how the private sector can take a pro-active stance in catalyzing and engaging with government in activities to avoid loss of forests, reverse land degradation and land degradation induced water scarcity and how such a private sector driven initiative can be coordinated and integrated with government led activities to maximize impact. The project demonstrates how an industry catalyzed initiative to overcome land degradation and land degradation induced water scarcity through collaborative activities can result in the establishment of a multi-stakeholder alliance, in which partners from government, private sector, academia and CSOs/NGOs actively cooperate to implement jointly identified priority measures to overcome land degradation and land degradation induced water stress. By supporting the up-scaling of the activities already undertaken by the various stakeholders that have formed the Aliansi Air, GEF can send out a valuable message to further catalyze comparable environmental stewardship initiatives in Indonesia and on the global level: If stakeholders agree on a common vision to overcome land degradation and water security issues; once they have established a multi-stakeholder platform and once the stakeholders actively contribute to collaborate to mitigate land degradation and water security through collaborative measures, the GEF can become a strong partner for the provision of incremental funding for an up-scaling of the land degradation and water stress reduction activities as it is required for the transformational change to move towards land degradation neutrality as well as for effective integrated land and water stress mitigation

96. Such approaches are urgently needed for Indonesia as well as in many other places in the world. The Indonesian capital Jakarta is facing similar issues. Due to land degradation and deforestation in the upper reaches of the Cisadana and the Ciliwung rivers the city is prone to flooding in the rainy season and exposed to draughts in the dry season. To overcome water scarcity during the dry season groundwater is abstracted in quantities which exceed the aquifer replenishment potential by far. As a result the capital is sinking by 30 cm per year and the H.E. President Joko Widodo suggested to move the country?s capital to Kalimantan, on the Indonesian side of the island shared with Malaysia and Brunei, in a speech to parliament, a day before the country's 2019 independence day holiday[12].

7.2. Sustainability

97. The major aspects, which will ensure the sustainability of this initiative are a strong sense of local ownership by stakeholders from government, academia, CSO?s and NGOs as well as the engagement of the Ministry of Environment as the Executing Agency and the active engagement of private sector industries with a very strong engagement in sustainability issues. Furthermore, the pilot agroforestry restoration activities combined with outreach activities to support the marketing of non timber agroforestry products already supported by PT Multibintang have demonstrated that communities can derive higher financial returns from engaging in sustainable agroforestry practices than from encroaching on additional forest areas for short term benefits.

98. The priority program of measures has been developed by the stakeholders through a participatory bottom up planning process (Systematic Team Integration Process) in the stakeholder engagement workshop. UNIDO as the moderator has only been facilitating this planning process as a neutral broker by providing moderation. No subject matter inputs were provided by any other party but the stakeholders themselves. The priority program of measures reflects the joint know-how and experience of all stakeholders together. It has been jointly developed by the stakeholder; it is jointly owned by them and the stakeholders have already taken joint responsibility and action for its implementation.

99. The industries which have become members of the water alliance are all seriously engaged in sustainability issues. They are aware of the business risk water scarcity constitutes to them and to the communities living in the neighborhoods to their production sites. They have realized that becoming a more effective water user themselves is no longer sufficient. They are fully aware of the water scarcity situation in the catchment areas and that consequently their active engagement as water stewards in water conservation activities beyond their factory gates is required to guarantee the sustainability of their operations. They are furthermore aware that there is no single entity or stakeholder that can be blamed to be the reason for the prevailing water scarcity; the water scarcity is the cumulative result of the demographic development and of the sum of of all socio-economic activities in the catchment areas. The scope of the water stewardship activities to be undertaken is beyond the means of any individual industry; only a collaborative approach in which the industries actively cooperate in a multi-stakeholder alliance with partners from government and CSOs/NGOs will allow them to secure that sufficient water will be available for people and businesses in the catchment area. Therefore industries and government have a very strong interest in supporting the Aliansi Air and in driving the water stewardship agenda as was evidenced by the support provided by the industries towards the establishment of the Aliansi Air and the various water stewardship activities the Aliansi Air could already catalyze with the active support by the industries.

100. During the PPG phase and throughout the project implementation phase UNIDO as the Implementing Agency and the Ministry of Environment and Forestry as the Executing Agency will undertake efforts to advocate the water stewardship activities of the Aliansi Air with the intention to encourage additional industries and (inter)national organizations to join the Aliansi Air as required for the up-scaling of the water stewardship activities. Particular efforts will be made to reach out to the Delft University of Technology and its partners, which recently received funding from the Dutch government for the activities of a private-public partnership to improve water quality governance in the Brantas river basin, Indonesia. The project, as part of its outreach and sharing of knowledge activities, will also inform and invite interest from the Indonesia Business

Council for Sustainable Development. PT Multibintang and Coca-Cola Bottling Indonesia PT are active members of the Indonesia Business Council for Sustainable Development, which will be used as a forum to include other partners to join ? the cement sector, and other consumer companies such as Nestl?.

7.3 Potential for scaling-up

101. There is a fourfold potential for up-scaling:

a) Within the Sadar, Brankal and Porong catchment areas:

With the incremental funding provided by GEF, with the engagement of the Directorate of Planning and Evaluation for Watershed Management in the Ministry of Environment and Forestry and the strengthening of the institutional capacities of the MOEF?s regional office in Sidoaryo a considerable up-scaling of the activities already catalyzed by the Aliansi Air can be achieved. This will enhance visibility and credibility and create additional momentum and impetus to attract additional stakeholders and partner to join and support the the Aliansi Air?s efforts and to become actively engaged in water stewardship activities. Of particular relevance for this are the more than 800 industries operating in the catchment areas, with which the Aliansi Air is already interacting.

b) Within the Brantas River Basin:

Demonstrating that collaborative efforts to overcome land degradation and land degradation induced water scarcity can result in an effective reduction of water scarcity in the river will encourage a scale-up of the water stewardship activities from the initial three catchment areas to other tributaries to the Brantas River Basin system. The active engagement of the MOEF regional office in Sidoaryo as the Executing Agency will be a factor that will positively contribute to an up-scaling of the water stewardship activities within the Brantas River Basin.

c) Within Indonesia:

There are many more river basins in Indonesia that suffer from the same root causes of water scarcity. The best example might be the Cisadane and Ciliwung River basins, which are of critical importance for the water supply and flood security of the Greater Jakarta Metropolitan Area with some 20 mio inhabitants. Increased demand for forest resources and arable land has caused massive deforestation and forest degradation in the upper reaches of the Cisadane and Ciliwung rivers and the Gunung Gede Pangrango National Park and Gunung Halimun Salak National Park (collectively known as GeDePaHala). Water quality in the rivers is seriously impeded by pollution from domestic and non-domestic waste as it passes through a number of residential and industrial areas. For the Cisadane catchment area another stakeholder engagement workshop had been organized by UNIDO in September 2016. As for the workshop for the 3 catchment areas in the Brantas River Basin, the stakeholders have agreed to establish a multi-stakeholder platform and some private sector stakeholders have already started with the implementation of water stewardship activities. Yet so far no multi-stakeholder alliance has been formally established. Demonstrating the stakeholders in the Cisadane that once they have formally established a multi-stakeholder alliance that is actively engaged in coordinating and catalyzing water stewardship activities, incremental funding for an up-scaling of their activities can be mobilized will positively contribute to their efforts to formally establish a multi-stakeholder alliance. The engagement of the Ministry of Environment and Forestry as the Executing Agency will furthermore ensure that the institutional capacities of the line ministry in charge of water resource management and forestry?s to take the

leading role in the promotion of public private partnerships for water stewardship will be mainstreamed.

In the Lumajang District, i.e. in the immediate neighborhood to the project area, the Ministry of Environment and Forestry will implement the Integrated Forest Based Sustainable Area Management project. Given that one of the components of this project also aims at land restoration and water body protection by promoting alternative agro-forestry schemes, this already constitutes an excellent opportunity for cross-fertilization and up-scaling.

As the project evolves opportunities in the other 14 priority catchment areas targeted by the government will be identified. This will be done in close cooperation with the MOEF, the Indonesian Division of the Water Stewardship Alliance and the just recently established Water Resilience Coalition, which has brought together the key Indonesian private sector entities with an interest to engage and cooperate in water stewardship.?

d) On the global level

UNIDO and MOEF will present the lessons learned and results achieved under this public private partnership to revert land degradation and promote environmental stewardship in global fora like e.g. the UNCCD COP, the UN Climate Change COP, the GEF IW:LEARN conferences and the Stockholm International Water Forum to catalyze the engagement of other private sector entities in comparable environmental stewardship approaches.

102. From the lessons learned the existence of a private sector stakeholder that is setting a benchmark by balancing its own environmental impact through investments in nature based infrastructure and that is willing to bear the initial transaction costs (the costs for a 3 days stakeholder engagement workshop according to the Systematic Team Integration Methodology amount to some U$ 90,000) for the preparation of a common vision that is developed and owned by all stakeholders is of critical relevance to initiate collaborative efforts to overcome land degradation and land degradation induced water scarcity.

103. For the scaling-up UNIDO as the Implementing Agency can bring in its contacts with industries that have taken a leading role in the implementation of water stewardship approaches as e.g. the Coca Cola Company, HEINEKEN, Nestl? and Henkel so that the necessary strong impetus from the private sector can be mobilized.

[1] A riparian forest is a forested or wooded area of land adjacent to a body of water such as a river, stream, pond, lake, marshland, estuary, canal, sink or reservoir. Riparian forests provide a series of valuable ecosystem services; they reduce the damaging effects of flooding, stabilize river/ stream banks, reduce erosion, and most importantly have the ability to absorb pollution from the water body itself as well as from surface run off from adjacent agricultural areas. Studies have shown that riparian forests can remove 88% of nitrate and 76% of phosphorus from agricultural runoff. The storage of nitrogen and phosphorous in the riparian forests effectively reduces the amount of these nutrients ultimately reaching streams, lakes and coastal waters.

[2] List of stakeholders is provided in the workshop report in Annex D

[3] Official recognition of the Aliansi Air

[4] During the PPG phase as part of the determination and geo-referencing of the adorestation areas a study on the biophysical conditions of the Brangkal, Sadar and Porong catchment areas including: area, land cover conditions, slope, soil clearness, rainfall, critical land, socioeconomic conditions such as community livelihoods around forest areas, conflicts over natural resources, encroachment, etc. will be facilitated

[5] ?Understanding the hydrological processes to build a payment for environmental services (PES) scheme?, Conservation International Indonesia, 2009

[6] The runoff curve number (also called a curve number or simply CN) is an empirical parameter used in hydrology for predicting direct runoff or infiltration from rainfall excess. The curve number method was developed by the USDA Natural Resources Conservation Service, which was formerly called the Soil Conservation Service or SCS ? the number is still popularly known as a "SCS runoff curve number" in the literature. The runoff curve number was developed from an empirical analysis of runoff from small catchments and hillslope plots monitored by the USDA. It is widely used and is an efficient method for determining the approximate amount of direct runoff from a rainfall event in a particular area.

[7] Bamboo for land restoration, FAO, 2018

[8] Environmental Impact of Guadua Bamboo, Stephane Schroeder, 2012

[9] ?Without bamboo, the land dies?: nutrient cycling and biogeochemistry of a Javanese bamboo talun-kebun system, Forest Ecology and Management, D. Mailly, L. Christanty, J.P. Kimmins, 1997

[10] Corresponding to 958 olympic sized swimming pools

[11] Perusahan d?Aerah Air Minum, Regional Drinking Water Supply Company

[12] Read more at https://www.thestar.com.my/business/business-news/2019/08/17/proposal-to-move-indonesian-capital-to-borneo-which-indonesia-shares-with-malaysia-and-brunei#mEo7hEiBtPbsLBLc.99

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

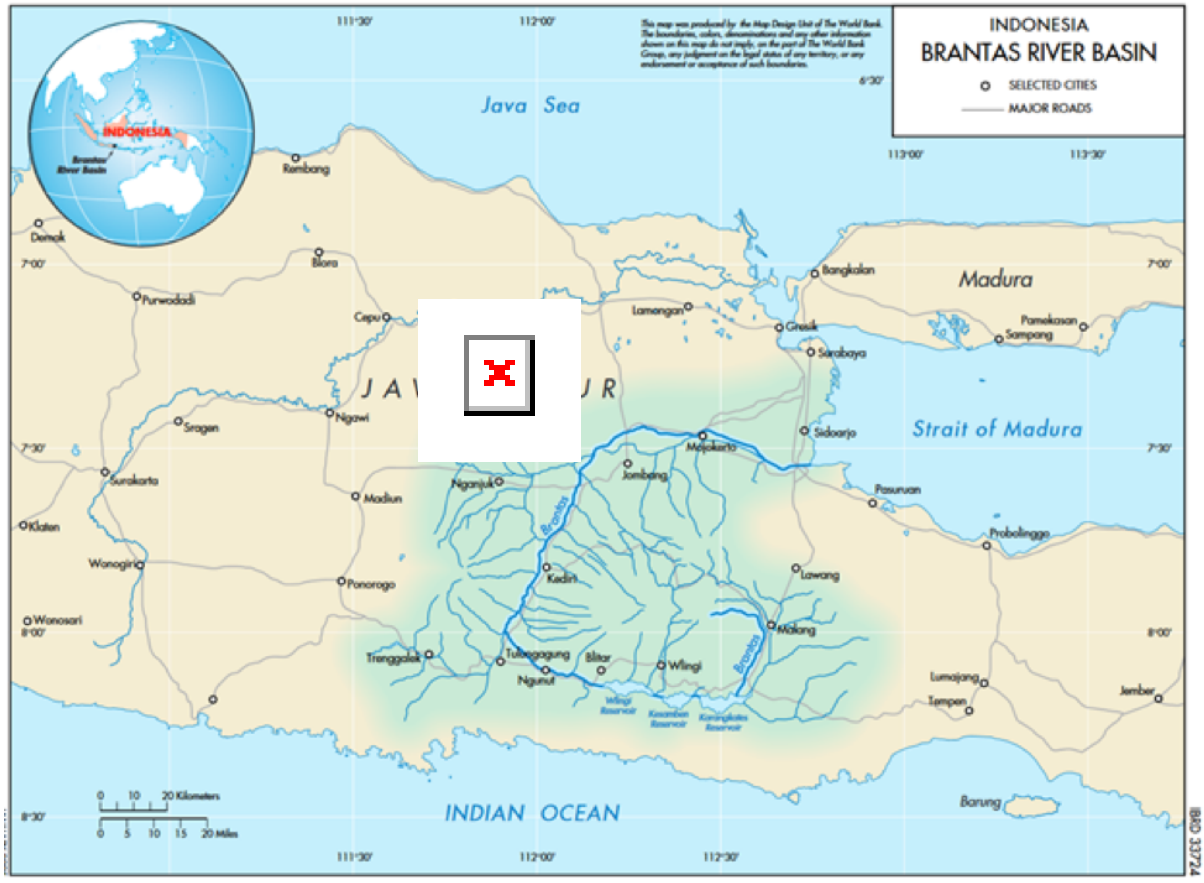


TABLE 8 PROJECT INTERVENTION AREA IN THE BRANTAS RIVER BASIN

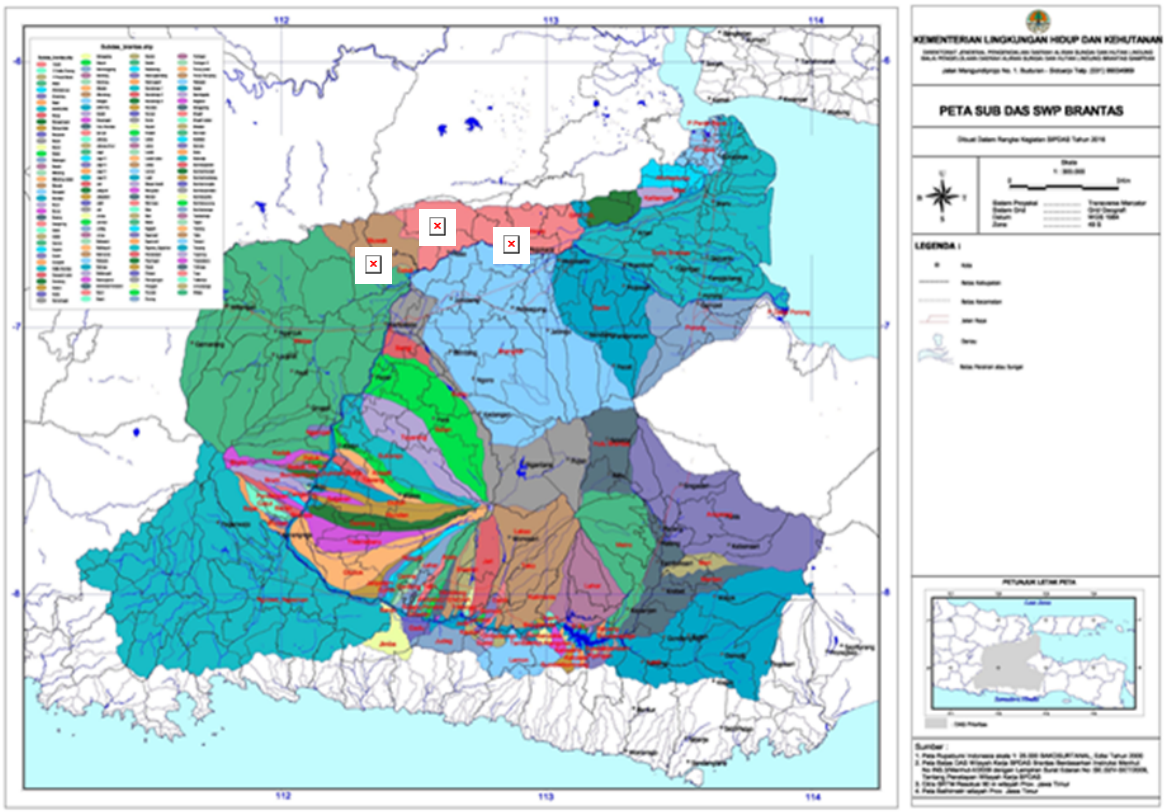


TABLE 9 THE SUB-DAS BRANKAL, SADAR, PORONG

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Indigenous Peoples and Local Communities

Civil Society Organizations Yes

Private Sector Entities Yes

If none of the above, please explain why:

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement

104. This project is the direct outcome of a stakeholder consultation process and participatory bottom-up planning process that was organized in October 2016 in the form of a stakeholder engagement workshop under the global UNIDO-HEINEKEN partnership for the promotion of public-private partnerships for water stewardship activities in water scarce catchment areas. The stakeholder workshop brought the 30 most relevant stakeholders from government, private sector, academia and CSOs/NGOs together. In a participatory bottom-up process the stakeholders have been facilitated in the identification of the most relevant interventions that are required to successfully guarantee the environmentally, socially and financially sustainable supply of water to people and businesses in the Sadar, Brankal and Porong catchment areas (tributaries to the Brantas River, located on the Northern slopes of Gunung Welirang). The establishment of a multi-stakeholder platform was one of the priorities identified by the stakeholders. With financial support provided by the major industries that participated in the workshop, the stakeholders agreed in November 2016 to establish the Aliansi Air with the mandate to discuss, consult, coordinate, and

communicate with all stakeholders, especially all parties which are concerned with water management in the Sub DAS Brankal, Sadar and Porong surrounding the Mojokerto Regency. Having been formally established in 2017, the Aliansi Air has been extremely successful in catalyzing support for the implementation of the priority measures to overcome water carcity and reduce pollution and sediment laods that were previously identified by the stakeholders.

105. The PIF was prepared through a consultative process in which stakeholders from government at central and Regency level, private sector entities and NGOs and CSOs were engaged. The Ministry of Environment and Forestry as the line Ministry and Executing Agency for the planned intervention was the most relevant stakeholder at the level of central government. At the level of the regional government the Mojokero Regency was the most relevant stakeholder. Both, the Ministry of Environment and Forestry and the Mojokerto Regency fully support the proposes project and have endorsed the PIF (see Annex F and Annex G). Furthermore intensive consultations were held with the Aliansi Air and its members as well as with local NGOs and CSOs that are already actively engaged in the implementation of various water stewardship activities and that are foreseen to be entrusted with project execution.

106. In the table below an outline of the major stakholders and their envisaged role in project implementation is provided

Stakeholders	Envisaged role
United Nations Industrial Development Organization (UNIDO)	UNIDO, as a GEF Agency, is responsible for the implementation of the project, which entails oversight of project execution to ensure that the project is carried out in accordance with agreed standards and requirements
Ministry of Environment and Forestry (Directorate of Planning and Evaluation for Watershed Management)	In consultation with the GEF OFP the Directorate of Planning and Evaluation for Watershed Management will become the Project Executing Entity and be contracted by UNIDO to execute the project. The MOEF will also be one of the most important partners for the dissemination of results and the mobilization of additional funds for the further up-scaling of the project activities
Aliansi Air	The CSO Aliansi Air as a multi-stakeholder alliance for the sustainable use and conservation of water resources in the Brangkal, Sadar and Porong catchment area will become engaged as critical partner to mobilize further and complimentary support from industries and government.
Yayasan Lingkungan Hidup Seloliman	As an NGO that has a long standing track record in community based forest restoration and the establishment of absorption wells in the project area, this NGO will be entrusted with the execution of grasroot activities and community engagement for the establishment of the agroforestry schemes, provision of technical assistance for the marketing of sustainable NTFP, the establishment of the absorption wells, the establishment of biopori and the implementation of the awareness creation program for water conservation. This NGO will also co-finance the project

Komunitas Bambu Petung	As a CSO with a long standing track record in community based bamboo afforestation and the establishment of bamboo based value added chains, this CSO will be entrusted with the execution of grassroot activities and community engagement for the restoration of bamboo forests and the sustainable use of bamboo for value added products
PT Multibintang	The HEINEKEN Operting Company PT Multibintang will continue its engament as a water steward with the Aliansi Air. Under its water stewardship program ?Nabung Banyu? PT Multibintang will co-finance the establishment of 136 ha of intensive agroforestry schemes (1,000 trees/ha). Under Nabung Banyu PT Multibintang will also co-finance other complementary activities e.g. social media campaigns, the River School Program, the Green School ? Adiwiyata program and other environmental education and awareness creation activities
PT Pria, PT Ajinomoto, PT Sopanusa, PT Sosro, PT Coca Cola Amatil	As members of the Aliansi Air will continue to provide support for complementary activities like the restoration of bamboo forests, pollution abatement, awareness creation, water supply, conservation and restoration activities,
Mojokerto Regency	The Mojokerto Regency local government will ensure the coordination of the project activities with the local government implemented activities in the domains of land/forest, management, water management and water conservation. The Mojokerto Regency local government is a major co-financier to this project and will assure that its activities in the domains of land/forest, management, water management and water conservation will be fully aligned with, synergetic and mutually supportive with the project activities
Population living in settlements in the project area (278,600)	The population living in the project area will be involved in afforestation activities, sustainable forest management and the markeing of sustainable NTFP through the 2 local NGOs/CSOs (Yayasan Lingkungan Hidup Selolimanand Komunitas Bambu Petung) that will be entrusted with project execution at the grasroot level. The Ministry of Environment and Forestry has confirmed that no indigenous people (orang asli in Bahasa Indonesia) reside in the project area)

3. Gender Equality and Women's Empowerment

Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

107. While the benefits of women?s participation are well established in Gender, Environment and Development theory, the exclusion of women and other gender-based

injustices in forest tenure and forest governance has not been adequately addressed in Indonesia (Siscawati and Mahaningtyas 2012). Compared to men, women have less involvement in decision making processes that define their access to the forest land and resources on which their livelihoods depend (Gurung et al 2011). Increasing women?s participation in forest and land resource management has been determined to improve governance, resource allocation and the sustainability of forest resources. Specifically, enhancing women?s participation in decision making committees in community forest institutions has been shown to improve forest governance and resource sustainability (Agarwal 2009).

108. A number of gender injustices limit women?s involvement in forest governance in Indonesia. Women?s roles in the forest sector are invisible and informal, leading to poor working conditions and lower remuneration (World Bank 2009). In many community forestry projects in Indonesia, women are significantly involved in propagation, planting, maintenance, replanting trees, harvesting non-timber forest products (NTFP)2 and connecting these products to market. Yet women?s participation in the forest farmers groups that form a key forest governance function is non-existent (Gurung et al 2011). Support from government or civil society is necessary to assist women to access markets for NTFP, including information on certification schemes and support to access credit (Marshall, Schreckenberg and Newton 2006)[1].

109. In the designated project area (upper reaches of the three catchment areas in rural East Java), most women work in the agricultural sector. While women have played an increasingly important role in development in the project area, they are still vastly underrepresented in governance and decision-making processes at all levels. The gender inequality in access to resources, education and information is most severe among the poor in rural areas. As extension activities are coordinated by agriculture cooperatives and/or famers? groups, whose members are mostly male heads of households, extension activities and training for women are seldom implemented although women are engaged in agricultural works. Compared with women in urban areas, the standard of living (such as access to safe water and electricity) of women in rural areas is low, and women in rural areas have less access to education and health services, and fewer participate in economic activities and decision-making institutions.

110. To overcome this situation the project through the MOEF as the executing agency and the local NGOs and CSOs that will become engaged at the grass root level will work towards improving women?s participation in paid employment and women?s access to productive resources and the deep-rooted social barriers to girls? participation in education will be addressed. Women will be empowered politically and economically, which includes being adequately represented at all levels of decision-making. Equal access to and full participation in power structures and involvement in all development efforts as essential for gender equality and sustainable development will be promoted.

111. During the PPG phase UNIDO will implement a gender analysis to confirm the above and identify other critical gender issues. A gender mainstreaming strategy for the project will be developed to assure that critical gender issues will be duly addressed during project implementation as to assure the overcoming of inequities and to promote gender mainstreaming.

112. In support of GEFs Policy on Gender Mainstreaming, the above mentioned gender injustices will be actively countered and gender issues will be mainstreamed in the project at all levels. Fostering a gender perspective within the NGOs/CSOs that will be entrusted with the execution of activities at grassroot level will be an important way to address discrimination and social disparities based on gender differences. Gender mainstreaming in environmental NGOs and CSOs will help to eliminate gender-based disparities. Gender equality will be ensured by granting women representatives priorietary access to sensitization, training and capacity building activities, by ensuring an equitable representation of both genders in all project committees and by ensuring an equitable representation of women and men amongst the experts to be recruited for the execution of this project. All staff engaged on project implementation and execution will be requested to complete the basic online course; I Know Gender Course on UN Women?s eLearning Campus https://trainingcentre.unwomen.org.

113. The obligation to mainstream gender and to promote gender equality will be an integral element of the sub-contracts UNIDO will conclude with the executing partners. Adherence to this obligation will be continuously monitored by means of verifying gender disaggregated data on activities executed and support provided by the execution partners against the gender related targets set out in the project results framework. Information on gender equality will be provided in the baseline report, in the PIRs, the mid-term review and the final evaluation.

114. Gender differences exist in rights and access to natural resources including land and water for the local communities. For example, women and men have unequal access to technology, information, and training related to natural resources, such access remains biased towards men in spite of numerous efforts to mainstream gender dimensions. The project will oblige the executing entities to engage women groups and organize forums that are targeted at women to improve their participation in community decision-making and involvement in education and family support.

115. In the community based afforestation as well as in the awareness raising campaigns for water conservation that will be implemented in 40 schools particular focus will be put on gender aspects.

116. According to the information provided by the Ministry of Environment and Forestry 45% of the 287,600 direct beneficiaries will be women.

[1] The Asia Foundation; Achiving gender justice in Indonesia?s forest and land governance.

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? TBD

closing gender gaps in access to and control over natural resources; Yes

improving women's participation and decision-making; and/or Yes

generating socio-economic benefits or services for women.

Will the project?s results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

117. The United Nations Industrial Development Organization (UNIDO) is the UN?s specialized agency with the mandate to promote Inclusive and Sustainable Industrial Development and to promote Circular Economy. As such UNIDO can enter into partnerships with private sector entities with high levels of corporate social responsibility and/or sustainability commitments in order to jointly further the sustainable development agenda and to partner on environmental stewardship approaches.

118. In February 2015 UNIDO and HEINEKEN International B.V. as a globally operating beverage industry, which committed in its Sustainability Strategy ?Brewing a Better World? to inclusive growth, protecting water resources, reducing CO2 emissions, sourcing sustainably, advocating responsible consumption, communities and health & safety of its people have signed a MoU to cooperate amongst others on the development of public private partnerships (PPPs) for water stewardship programs in water stressed catchment areas. The purpose of these PPPs is to engage with stakeholders and to mobilize resources for collaborative action to overcome cumulative stress on finite water resources in selected catchment areas. In order to assure that all stakeholders in a catchment area share a common vision of the root causes of land degradation and of the resulting cumulatiive water stress as well as of the necessary collaborative mitigation measures, the 30 most relevant stakeholders from government private sector and civil society (CSOs and NGOs) are invited to a three day stakeholder engagement workshop. In these workshops the stakeholders are presented with one single initial question: ?What is necessary to successfully guarantee the socially environmentally and economically sustainable supply of water to people and businesses in the catchment area?. In a participatory bottom up planning process the stakeholders are facilitated in the identification of 12 priority measures, key conclusions and implementation recommendations.

119. The establishment of a multi stakeholder platform and the restoration of critical eco-system services were identified by the stakeholders as priority measures to mitigate land degradation induced water scarcity in the 3 sub-catchment areas. With support by various private sector entities

the Aliansi Air was established and the pilot measures outlined further below were already initiated with support by the provates sector members of the Aliansi Air.

120. The Aliansi Air is a multi-stakeholder alliance catalyzed by industries with a serious engagement in sustainability issues that has been successful in establishing cooperative relationships and promoting transformational changes with state institutions, private sector, academia and civil society in terms of sustainable use and conservation of water resources in the Brangkal, Sadar and Porong catchment areas (locally also referred to as the Cumpleng catchment area). The Aliansi Air has already been successful in mobilizing support for water stewardship activities from the leading private sector entities (beverage industry, waste management industry, food industry, paper and tissue industry) operating in the catchment areas. These industries have ensured their further cooperation with the project through the Aliansi Air. A particular focus of the Aliansi Air is to engage a steadily growing number of the 800 private sector entities and industries operating in the catchment area in water stewardship activities and thus to strengthen the cooperation between the private sector, the government and other stakeholders. Providing incremental support to the activities already coordinated by the Aliansi Air will not only allow an up-scaling of regionally agreed stewardship activities for land and water restoration but will send an important signal also to stimulate further private sector engagement to halt and revert land degradation and increase water and environmental security in the Brangkal, Sadar and Porong catchment areas as integral part of the larger Brantas River catchment area.

121. As part of its environmental stewardship activities that will be implemented under the coordination of the Aliansi Air PT Multibintang has alrwady committed to restore some additional 136 ha of agroforestry schemes.

122. The activites listed hereinafter were already implemented under the coordination of the Aliansi Air with support by private sector entities:

? PT Multibintang (beverage industry) has developed a water stewardship program called Nabung Banyu. Under Nabung Banyu upstream forests are restored, absorption wells and biopori are established in schools as part of an awareness building and education program on water conservation

? PT Pria (waste management industry) is engaging in restoring riparian bamboo forests in downstream parts of the catchment areas, in pollution abatement in the Batik industry and in the establishment of absorption wells and biopori in schools as part of an awareness building and education program on water conservation

? PT Ajinomoto (food industry) is covering the costs to bring water to rural communities whose springs fall dry during the dry season, has intensified its efforts in internal water use efficiency and has launched the process to build a modern waste water treatment plant.

? PT Sopanusa (paper & tissue) provides piping for community water supply

? PT Sosro (beverage industry) has ramped up its internal water saving program and is building a modern waste water treatment plant

? PDAM Tirta Dherma the local water supply company is investing in conservation and reforestation measures in the catchment area

? With Support provided by PT Multibintang the Aliansi Air has cooperated with the Student Association of Mass Communication Airlangga in the implementation of a social media campaign

on the topic of ?Water and me?. A Facebook fan site has been set-up, which has obtained more than 35,000 likes.

? The Aliansi Air?s Organization Committee is meeting with the Secretary of the Mojokerto Regency on a monthly basis to report on activities. Once per year the Aliansi Air organizes a meeting of all its members (Advisory Board, Expertise Board and Organization Committee with the Secretary of the Mojokerto Regency to discuss strategic water management related issues and to discuss the issue of overlapping water regulations and to advocate for the necessary harmonization.

? The Aliansi Air mobilized financial support from the Irrigation Agency of Mojokerto (60%), and PT Multibintang (40%) for the local NGO Brantas Berdaya to launch the River School Program. The Program aims at educating and training people in managing and protecting river ecosystems and conserving endemic fisheries by bio-monitoring. 4 training sessions, each for 30 participants were organized.

? The Aliansi Air coordinated the process to facilitate the Education Agency of Mojokerto by PT Pria and PT Multibintang in the implementation of 7 training and educations sessions each for about 100 pupils in the age from 6-18 years as part of the Green School ? Adiwiyata program. This program aims to introduce behavioral change and change management towards a green environment. Furthermore this program does also support a Train the Trainers approach in ecology for teachers. Trainings were delivered in 7 schools.

? With funding provided by PT Pria, PT Coca Cola Amatil and PT Multibintang and in close cooperation with the Environment and Education Agencies of Mojokerto the Aliansi Air could catalyze a program to demonstrate the infiltration of rainwater and percolation of surface run-off into the ground to enhance water retention and groundwater replenishment in 5 schools. Some 2,500 biopori with an estimated water retention/infiltration capacity of 2 m? per year each were established in 5 schools and the establishment of absorption wells was demonstrated. In each school 5 absorption wells were built.

? As part of its global water balancing program the Coca Cola Company had already previously contracted the local NGO Pusat Pendidikan Lingkungan Hidup Seloliman to establish 1,200 infiltration wells (2x2x2m) on the northern slopes of Gunung Welirang. Each of these wells has a reported water retention/infiltration capacity of approximately 2,000 m? per year. PDAM Kabupaten Mojokerto, which uses the Jubel spring as a raw water source, has reported that these infiltration wells had a very positive impact on the yield of the spring.

? The Alainsi Air brought the Komunitas Sifon, the Jawa Pos media group (Radar Mojokerto) and the Mojokerto City government together to support the local NGOs Brantas Berdaya in the implementation of the Brantas Endemic Fisheries programme. 15,000 fish fingerlings for endemic species were released to allow for revenue generation for local people from fisheries.

? The Aliansi Air coordinated the process to mobilize financial support provided by PT Pria to the local CSO Komunitas Bambu Petung for the implementation of a program to restore riparian bamboo forests on the lower reaches of the rivers in the catchment area. This program aims at conservation and economic empowerment by supporting the restoration of bamboo forests and the sustainable use of bamboo for value added products (furniture and handicraft). About 3 ha of Riparian bamboo forest were restored on a river stretch of 5 km.

? Upon mediation by the Aliansi air PT Pria facilitated the CSO Komunitas Puspa Maja in the implementation of a water conservation and pollution abatement program for Mojokerto?s Batik

industry, which is dominated by Micro and Small Enterprises. Due to a shift away from natural and biodegradable dyes to artificial colors these enterprises contribute considerably to water body pollution. Some 75 Micro and Small Enterprises were trained how to replace chemicals previously used to color batik with natural dyes.

? PT Multibintang has decided to closely cooperate with the Aliansi Air in the implementation of its water stewardship program Nabung Banyu (saving water in Javanese language). Nbaung Banyu was already launched in 2016 with the target to be implemented until 2019. Under Nabung Banyu PT Multibintang has committed to afforest 10 ha of water conservation forests in the upper slopes of the Welirang mountain. This program is implemented by the local NGO Yaysan Lingkungan Hidup Seloliman. Under this part of the Nabung Banyu water stewardship program a mixture of 1,000 fruit trees and indigenous trees with strong water retention are planted per hectare. In parallel and in order to support the economic empowerment of communities living in the neighborhood of the afforestation areas 25 greenhouses for the production of vegetables were established. The previously mentioned support provided by PT Multibintang for the demonstration of absorption wells and biopori in schools as part of the Green School Program for 5 schools also falls under the Nabung Banyu program. A decision on the next phase of the Nabung Banyu program for 2020-2023 will be taken in the second half of 2018 in close consultation with the Aliansi Air.

? To reduce the solid waste load being discharged to water bodies the Aliansi Air has facilitated the launch of a waste bank for the rural parts of the Mojokerto region. With funding provided by PT Multibintang the local NGO Lembaga Swadaya Masyaraka WE-HASTA educates communities in the separation of organic from non-organic parts of household waste. Households are trained in the composting of organic waste and the reuse of the compost in agriculture. The non-organic waste fraction is bought by WE-HASTA from the households. WE-HASTA collects, further separates the different waste fractions and once per months sells the collected waste to a waste recycling company. Over 4 month this waste bank system could be established in 117 villages and in December 2017 WE-HASTA collected 19 t of waste. Bank BNI and UNILEVER have expressed a strong interest to join these efforts to allow for an up-scaling to more villages. Aliansi Air is presently brokering and mediating in the negotiations on Bank BNI and Unilever?s contribution.

? To demonstrate the technical feasibility and cost effectiveness of water reclamation in industrial production processes in water stressed catchment areas PT Multibintang has made an investment of Euro 700,000 in a water reclamation installation in its Tangerang production facility that will enable to reclaim treated wastewater and upgrade it to drinking water quality, using advanced membrane technology, for use in non-product applications such as cooling, steam and packaging. The Aliansi Air will become involved in sharing the results with industries in the Cumpleng catchment area.

5. Risks to Achieving Project Objectives

Indicate risks, including climate change, potential social and environmental risks that might prevent the Project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Project design (table format acceptable)

Risk	Rating	Mitigation

Political risks: **Governments at all levels and key stakeholder groups lack commitment in continuing their support to the water stewardship acitivities catalyzed by the Aliansi Air.**	L	The project is the result of an intensive stakeholder engagement process and key stakeholders have already demonstrated their commitment. The risk of stakeholder fatigue can be most effectively mitigated by keeping them abreast about the progress in project development and by moving ASAP from PIF endorsement to the finalization of the project document and implementation of the project.
Political risks: **Government entities might not support project implementation**	L	Counterparts from government at different levels have been consulted during the project conception phase and have expressed their support for the project (see the letters of request in Annex E). MOEF as the line Ministry has expressed its support for the project. Engagin MOEF as the executing agency and actively engaging the MOEF regional office in Sidoaryo in project execution will mitigate this risk
Climate Change may result in an increase and the frequency of extreme weather events (heat waves and drought as well as well as heavy downpours resulting in landslides and flooding)	M	Mean annual temperature has increased by about 0.3?C in Indonesia since 1990, Warming will increase by 0.2-0.3?C per decade in Indonesia. Annual precipitation across the majority of the country is predicted to increase. A high population density and rapid industrialization, coupled with the dependance on the country?s resource base, make the country vulnerable to projected changes in climate. The eastern provinces of Java are highly vulnerable to multiple climate hazards, including drought, floods, landslides, and sea-level rise?but not cyclones (The World Bank; Indonesia: Vulnerability, Risk Reduction, and Adaptation to Climate Change). In Indonesia, 80% of disasters due to climate change during 1998?2018, which were dominated by flooding (39%), heavy wind/storm (26%), landslides (22%), and drought (8%) (Extreme Events, Disasters, and Health Impacts in Indonesia, 2019, https://link.springer.com/chapter/10.1007/978-3-030-23773-8_16) In order to mitigate the climate change risk the following measures will be taken: •For the agroforestry schemes, indigenous tree species with a high wind, drought and temperature tolerance will be chosen. In the siting of the agroforestry areas particular focus will be put on avoiding sites that are prone to landslides. •For the bamboo afforestation, wind, drought and temperature resistant varieties will be chosen. In the siting of the bamboo afforestation areas particular focus will be put on avoiding flood and riverbank erosion prone sites. •In the siting of the absorption wells, particular focus will be put on avoiding sites that are prone to landslides and the deposition of surface run-off with high sediment loading.

COVID-19 risks and opportunities	M	The outbreak of the global COVID-19 pandemics will have multiple repercussions on the implementation/execution of this project: A. UNTIL A VACCINE CAN BE FOUND AND MADE AVAILABLE TO A LARGER PART OF THE INDONENIAN POPULATION THE PERIODIC RE-INSTATEMENT OF CONTAINMENT MEASURES MUST BE EXPECTED. THIS RISK CAN BE MITIGATED BY MAKING THE NECESSARY PROVISISONS TO DELIVER ALL CAPACITY BUILDING AND TRAINING MEASURES VIRTUALLY. WITH THE INSTITUTIONAL SET-UP PROPOSED FOR THIS PROJECT I.E THE STRONG INVOLVEMENTOF THE MOEF AS THE EXECUTING AGENCY AND THE EXECUTION OF GRASSROOT ACTIVITITIES BY NGOS/CSOS ALREADY ACTIVE IN THE PROJECT IMPLEMENTATION ARE THE IMPACT OF FUTURE CONTAINMENT MEASURES CAN FURTHERMORE MITIGATED. B. THE DIRECT INVOLVERMENT OF NGOS AND CSO ALREADY OPERATING IN THE PROJECT IMPLEMENTATION REGION WILL FURTHERMORE ALLOW TO ASSURE THAT THE IMPACT OF FUTURE CONTAINMENT MEASURES ON STAKEHOLDER ENGAGEMENT PROCESSES CAN BE MITIGATED AND ENSURE THE FURTHER ACTIVES ENGAGEMENT OF STAKEHOLDERS AND LOCAL COMMUNITIES IN THE PROJECT DESIGN AND IMPLEMENTATION PROCESS. Nevertheless, the COVID-19 crisis can also provide the opportunity to showcase the benefits of the proposed nature based solutions, which will restore the ecological functionality and the provisioning and regulating eco-system services of forests. This will not only mitigate land degradation induced water scarcity but will also increase the resilience of ecological and socio-economic systems to potential future pandemics. The main contribution of this project to a green recovery will be: A. TO PROMOTE SUSTAINABLE LAND USES THAT LIMIT DEFORESTATION B. TO SECURE WATER SUPPLY FOR PEOPLE AND BUSINESSES USING WATER, FOREST, LAND USE NEXUS THINKING **C.** TO PROMOTE SUSTAINABLE BUSINESS PRACTICES THAT ARE BIO-BASED,
[Rating: L = Low Risk; M = Medium Risk; H= High Risk]		

[1] The World Bank; Vulnerability, Risk Reduction, and Adaptation to Climate Change

6. Coordination

Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

123. For this project UNIDO will be the GEF Implementing Agency and the Ministry of Environment and Forestry (Directorate of Planning and Evaluation for Watershed Management) will serve as the overall project executing entity. UNIDO, as GEF implementing Agency for the

project, will play a close coordination and liaison role with the executing partner(s), and with the GEF Secretariat.

124. The Ministry of Environment and Forestry?s Directorate of Planning and Evaluation for Watershed Management is envisaged to act as PEE for the project. Following the assessment and the approval of the Ministry of Environment and Forestry?s Directorate of Planning and Evaluation for Watershed Management as the PEE at CEO approval of the project, collaboration between UNIDO and the Ministry of Environment and Forestry?s Directorate of Planning and Evaluation for Watershed Management will be based on the Project Execution Agreement (the ?Agreement?). The Agreement defines the respective responsibilities of the PEE, including but not limited to activities, deliverables, financial, personnel, procurement and asset management components, as well as the reporting schedule and format.

125. The confirmed PEE will be requested to designate internally, or recruit directly, project management personnel to form a Project Management Unit (PMU) to execute the activities of the national project. The PMU will consist of the National Project Coordinator (NPC) and a Project Assistant (PA). The PMU will be responsible for the day-to-day management of the project execution, monitoring and evaluation of project activities as in the agreed project work plan. The PMU will coordinate all project activities being carried out by project national experts and partners. The PEE provides all related information to the evaluation experts for the final evaluation.

126. For the delivery of the various project outputs local NGOs and CSOs will be entrusted in line with their comparative advantages and their track record of working experience in the substance field and the project area.

127. As the NGO with long standing track record in community based forest restoration and the establishment of absorption wells in the project area, the NGO Yayasan Lingkungan Hidup Seloliman will be entrusted with the execution of grasroot activities and community engagement for the establishment of the agroforestry schemes, provision of technical assistance for the marketing of sustainable NTFP, the establishment of the absorption wells, the establishment of biopori and the implementation of the awareness creation program for water conservation. This NGO will also co-finance the project.

128. As the CSO with a long standing track record in community based bamboo afforestation and the establishment of bamboo based value added chains, the CSO Komunitas Bambu Petung will be entrusted with the execution of grassroot activities and community engagement for the restoration of bamboo forests and the sustainable use of bamboo for value added products.

129. The CSO Aliansi Air as a multi-stakeholder alliance for the sustainable use and conservation of water resources in the Brangkal, Sadar and Porong catchment area will become engaged as critical partner to mobilize further and complimentary support from industries and government.

130. UNIDO will enter into a contractual arrangement[1] with the Ministry of Environment and Forestry and MOEF will then enter into contractual arrangements with the CSOs and NGOs that have been identified as the entities to execute activities at the grasroot level.

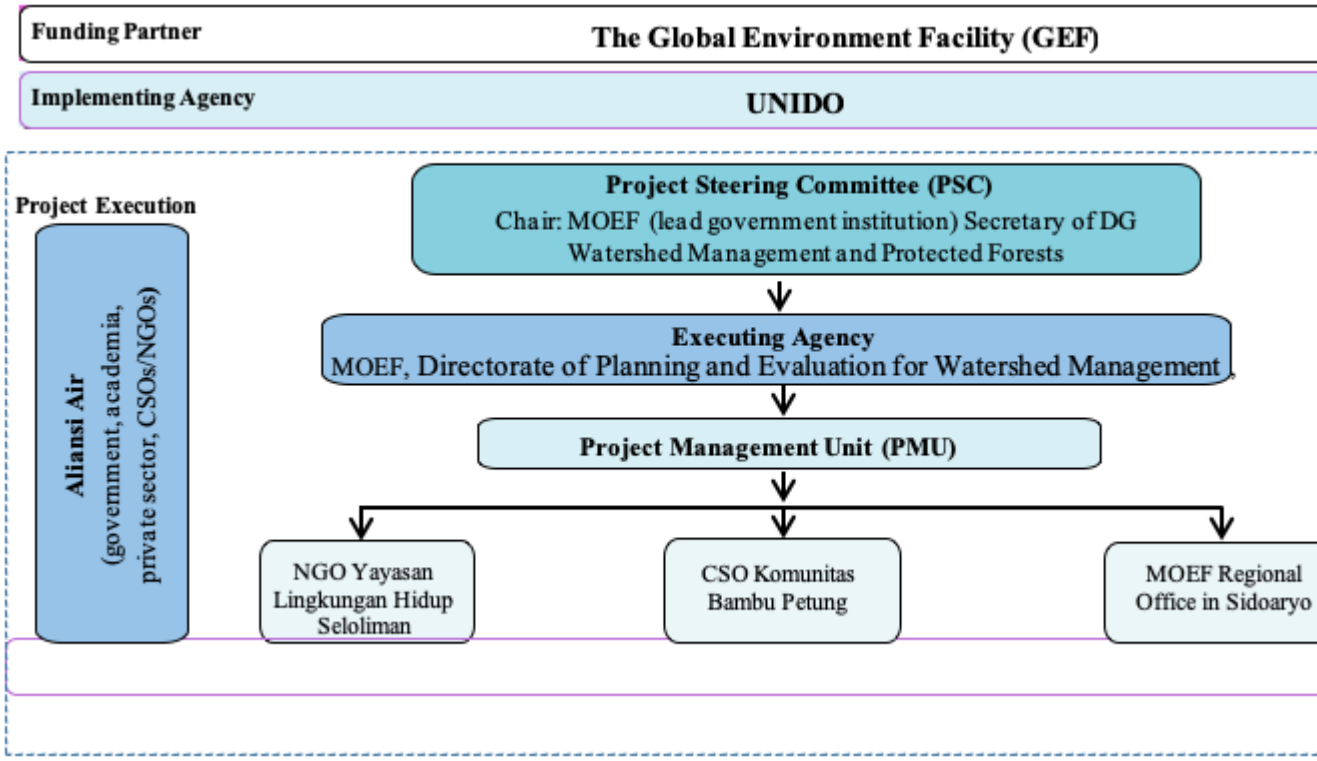
131. As part of the project management activities a Mid Term Review and an Independent Terminal Evaluation will be carried out by independent experts that will be recruited by UNIDO.

132. The Ministry of Environment and Forestry as the Executing Agency will be the line Ministry and lead government coordinating entity for this project. Furthermore the institutional capacities of

the MOEF Regional Office of in Sidoaryo will be strengthened so that it can become actively involved in project execution, the dissemination of the results and upscaling activities.

133. To ensure proper oversight and Government and institutional ownership of the project, a Project Steering Committee (PSC) will be established under the Chairmanship of the Secretary of DG Watershed Management and Protected Forests[2]. The GEF OFP and representatives from institutions involved in the different project components will be members of the PSC. The PSC is set up to provide advisory inputs for the project and make decisions on the projects once it is approved. The PSC will meet twice per year to review the project implementation and execution progress and confirm the work plan for the subsequent year and any changes in the six months. Any changes/amendments proposed to the project and/or to the workplans and budgets by the Project Steering Committee are conducted in accordance with the approved project document, the GEF policy, and UNIDO rules and regulations. Minutes of meetings are signed by UNIDO and the PSC Chairperson(s). The PMU forms the secretariat of and reports to the PSC on the progress of the project.

134. The structure of the project implementation arrangement is shown in the following illustration:



135. Given that the MEWAFLOR MSP and the recently MOEF launched Integrated Sustainable Forest Based Area Management project for the Lumajang District both will promote the establishment of agrogorestry schemes for the restoration of degraded land areas and to protect water bodies, the MEWAFLOR PMU will explore the opportunities for mutual support, cross-fertilization, exchange of experiences and the creation of synergies.

136. The MEWAFLOR MSP is also highly synergetic to several other ongoing and soon to be launched GEF funded projects. Upon establishment the MEWAFLOR PMU will seek the active cooperation with these projects to further explore the possibilities for mutual learning and cross-fertilization.

137. Of particular importance will be the UNDP implemented GEF FSP ?Capacity Development for Implementing Rio Conventions through Enhancing Incentive Mechanisms for Sustainable Watershed/Land Management ? (GEF ID 5848). Sustainability of the MEWAFLOR MSP will highly benefit from the policies, legal and regulatory instruments as well as the economic instruments that will be developed. The development of the awareness creation and community engagement materials for the MEWAFLOR project will be informed by and benefit from the improved educational curricula and youth civic engagement materials UNDP will develop through a consultative process.

138. Under component 4 of the soon to be launched ADB implemented GEF FSP ?Citarum Watershed Management and Biodiversity Conservation? (GEF ID 3279) forest protection measures resulting in no further reduction in existing forest area and improved catchments will be implemented. An active exchange on this topic as well as on the MEWAFLOR experiences in engaging the private sector in environmental stewardship activities will be mutually beneficial also for the component of the Citarum project under which water rights; system for water allocation among competing uses and users will be established and protected.

139. The PMU of the MEWAFLOR project will also seek active cooperation and the exchange of experience on the engagement and partnership with private sector and local communities with the IFAD implemented GEF FSP ?Integrated Management of peatland landscapes in Indonesia? (IMPLI GEF ID 9239). Of particular importance for the up-scaling of the MEWAFLOR project will also be the experiences gained by IMPLI with regards to scaling-up best practice through knowledge management and market options.

140. Upon approval of the WB implemented GEF FSP ?Strengthening of social forestry in Indonesia? (GEF ID 9600) the PMU of the MEWAFLOR project will explore the possibilities of cooperation. Of particular importance will be the aspect to build the institutional capacities of the MOEF?s regional office in Sidoaryo for the incorporation of social forestry considerations into the RPJMD (Rencana Pembangunan Jangka Menengah Daerah - Indonesian: Regional Long Term Development Plan) and the development of community land use plans under consultative processes.

141. Under the recently endorsed GEF CC project ?Using systemic approaches and simulation to scale nature-based infrastructure for climate adaptation, GEF ID 10632? a financial and an economic cost benefit analysis of the proposed nature based infrastructure solutions will be carried out. The financial cost benefit analysis will demonstrate the financial superiority of nature based infrastructure over conventional grey infrastructure that might result in the same environmental benefits. The economic valuation will determine the additional monetary value on the positive externalities provided by nature based infrastructure solutions. Together they will be used to demonstrate to government, private sector entities, newly emerged private sector funds, IFIs and donors supporting large scale projects e.g. the GCF the comparative advantages and economic cost effectiveness of nature based infrastructure for the transformational change process required to effectively mitigate land degradation and adapt to climate change at the local, regional and global level.

Legal context

The Government of the Republic of Indonesia agrees to apply to the present project, mutatis mutandis, the provisions of the Revised Standard Technical Assistance Agreement concluded

between the United Nations and the Specialized Agencies and the Government on 29 October 1954 and as amended on 17 November 1966.

Transfer of assets

Full or partial ownership of equipment/assets purchased under the project may be transferred to national counterparts and/or project beneficiaries during the project implementation as deemed appropriate by the government counterpart in consultation with the UNIDO Project Manager.

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[1] This contract will be U$ based

[2] To avoid any potential conflicts of interest the MOEF?s Directorate of Planning and Evaluation for Watershed Management will become the PEE whereas the PSC will be chaired by the Secretary of DG Watershed Management and Protected Forests

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assesments under relevant conventions?

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

142. In Indonesia degraded land is referred to as critical land. With some 14.06 million ha of the national territory classified as critical land area, the problem of land degradation is still a major problem to be resolved by the government of Indonesia. This is reflected in the RPJMN (National Medium Term Development Plan) 2020 - 2024, which has retained the restoration of degraded land as one of the main performance indicators.

143. The project is also fully aligned with the Ministry of Environment and Forestry?s RPJMN (National Medium Term Development Plan) 2020-2024, which is to be implemented by the Directorate General of Watershed and Forest Protection and which main targets are:

1. Increasing the forest covered areas for water and climate security.

2. Reducing the area of critical land.

3. Improving the welfare of resident communities

144. Based on the 2015-2019 RPJMN (National Medium Term Development Plan), the Brantas watershed is one of the 15 watersheds that have been identified as a priority intervention area. Based on its classification as regulated in PP 37/2012 on Watershed Management, the Brantas watershed is classified as one of the watersheds referred to as critical watersheds / priority watersheds that have to be restored to regain its carrying capacity.

145. To stimulate more partnership with civil society is also one of the three key recommendations to support the implementation of the legal and institutional framework for IWRM in Indonesia provided by Law 7/2004 on water resources and related government regulations (PP).[1].

146. The project is also fully aligned with the Indonesian NAP under UNCCD, which states that afforestation and reforestation activities are one of the three programme areas of Chapter 12 of the Agenda 21 relevant to Indonesia. The NAP also stressed the importance to engage all partners

including politicians, government institutions, community-based organization, local communities, NGO's, professional organization, academic communities, private groups and associations. In the LDN Centered NAP SWOT Analysis 13 Thematic Programmes & Projects are mentioned; Improvement of Water Conservation is one of them.

147. Thus, the project?s objective to halt land degradation and improve water security and enhance land and water conservation along the ridge to reef continuum is fully aligned with the NAP under NCCD.

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[1] River Basin Management Planning in Indonesia, Policy and Practice, the Asian Development Bank, 2016

8. Knowledge Management

Outline the knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

148. Knowledge management will be assured at two levels; the local/country level and on the global level.

149. On the local/country level information on the project?s achievements will be disseminated as part of the project management activities as well as through the active engagement of the MOEF.

150. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation/execution of similar future projects. As part of these activities the project will produce one experience note.

151. Results from the project will be widely disseminated within and beyond the project intervention zone through existing information sharing networks and fora, including but not limited to COPs of UNCCD, UNFCCC, IW:LEARN, Stockholm International Water Forum etc.

152. UNIDO as the GEF Implementing Agency and the Ministry of Environment and Forestry as the Executing Agency will participate, as relevant and appropriate, in scientific, policy-based and/or any other networks and events and report on the results achieved and lessons learned from this innovative project in order to facilitate replication and up-scaling of water stewardship activities.

153 The project is based on lessons learned from comparative initiatives e.g. the Monterey Water funds that the creation of a shared understanding of the underlying reasons for water scarcity, the creation of a commonly accepted vision the participatory identification of priority measures and the creation of a multi stakeholder alliance are crucial elements for any environmental stewardship activity. The project is innovative insofar as these processes were catalyzed by a single private sector entity that was willing to bear the transaction costs and to engage a UN entity as a neutral broker in working with stakeholders from government, civil society, academia and other private sector entities in this process.

154 . During the PPG phase UNIDO will prepare a case study on the long history of this project and the complex process that finally led to the development of the project document. It will also elaborate on the necessary preconditions and the challenges to match the goals of highly committed private sector entities with those of the GEF and partner governments. The purpose will be two to

allow other industries to benefit from the lessons learned and to make it available through GEF SEC to the entire partnership as part of GEF SEC?s knowledge management and private sector engagement strategy. The case study will also be disseminated through industry round tables as e.g. the Beverage Industries Environmental Round Table and the CEO Water Mandate.

9. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate			

Measures to address identified risks and impacts

Provide preliminary information on the types and levels of risk classifications/ratings of any identified environmental and social risks and potential impacts associated with the project (considering the GEF ESS Minimum Standards) and describe measures to address these risks during the project design.

A PRELIMINARY ENVIRONMENTAL AND SOCIAL RISK SCREENING WAS CONDUCTED ACCORDING TO THE UNIDO ENVIRONMENTAL AND SOCIAL SAFEGUARDS POLICIES AND PROCEDURES (AI/2017/04). THE SCREENING CATEGORIZED THE PROJECT AS ?B?. CATEGORY B PROJECTS ARE LIKELY TO HAVE LESS ADVERSE IMPACTS ON HUMAN POPULATIONS OR ENVIRONMENTALLY IMPORTANT AREAS THAN THOSE OF CATEGORY A PROJECTS. AN ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP) WILL BE DEVELOPED DURING THE PPG PHASE.

Supporting Documents

Upload available ESS supporting documents.

Title	Submitted
ESS Screening	

Part III: Approval/Endorsement By GEF Operational Focal Point(S) And GEF Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Ms. Ibu Laksmi DHEWANTHI	GEF Operational Focal Point	Ministry of Environment and Forestry	9/28/2020

ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

PROGRAM/PROJECT MAP AND GEOGRAPHIC COORDINATES