



## ADAPTATION FUND

### **REQUEST FOR PROJECT/PROGRAMME FUNDING FROM THE ADAPTATION FUND**

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email or fax.

Please type in the responses using the template provided. The instructions attached to the form provide guidance to filling out the template.

Please note that a project/programme must be fully prepared (i.e., fully appraised for feasibility) when the request is submitted. The final project/programme document resulting from the appraisal process should be attached to this request for funding.

Complete documentation should be sent to:

The Adaptation Fund Board Secretariat  
1818 H Street NW  
MSN P4-400  
Washington, D.C., 20433  
U.S.A  
Fax: +1 (202) 522-3240/5  
Email: [afbsec@adaptation-fund.org](mailto:afbsec@adaptation-fund.org)



## ADAPTATION FUND

**PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND****PART I: PROJECT/PROGRAMME INFORMATION**

Project/Programme Category:	Small-sized Project/Programme
Country/ies:	Indonesia
Title of Project/Programme:	<b>“Adapting to Climate Change through Sustainable Integrated Watershed Governance in Indigenous People of Ammatoa Kajang Customary Area in Bulukumba Regency, South Sulawesi Province, Indonesia”</b>
Type of Implementing Entity:	National Implementing Entity (NIE)
Implementing Entity:	<b>Kemitraan: Partnerships for Governance Reform in Indonesia</b>
Executing Entity/ies:	<b>PERKUMPULAN PAYO PAYO; OASE (An Organization on Social and Environmental issues)</b>
Amount of Financing Requested:	<b>US \$ 1,125,052,-, (in U.S Dollars Equivalent)</b>

**Project / Programme Background and Context:****Climate context of Indonesia**

As an archipelago lies between Asia and Australia continents, Indonesia is very prone to climate change impact. As the current studies show that the surface temperature tends to raise 1°C in 20 Century. Some studies of several organizations in Indonesia found that climate change affected ecological damage and livelihood of the poor people.

As part of Southeast Asia, Indonesia has feature a complex range of terrains and land-sea contrast. Across this region, temperature has been increasing at rate of 0.14°C to 0.20°C per decade since the 1960s coupled with a rising number of hot days and warm nights, and a decline in cooler weather (IPCC, 2014).

Several large-scale phenomena influence the climate of this region. The impact of Madden-Julian Oscillation (MJO) have been no obvious trends in extreme rainfall indices in Indonesia, except evidence of a decrease in some areas in annual rainfall and an increase in the ratio of the wet to dry season rainfall (Aldrian and Djamil, IPCC, 2014). The impact of Indian Ocean Dipole pattern is associated with droughts in Indonesia. It is more prominent in eastern Indonesia. In the equatorial Indian Ocean, coral isotropic records off Indonesia indicate a reduced Sea Surface Temperature (SST) warming and salinity during the 20<sup>th</sup> century (Abram et al, IPCC 2014).

An expert, Sofian (2011) explained that rate of sea level rise since mid 19 centuries is more biggest, compared with rate since two millennium before. Since period 1901-2010, rate of sea level rise

reached 0,19 metre. Rate of sea level rise is twice more rapidly on period 1993-2010 than period of 1901-2010. Based on this scenario, the highest sea level rise is located in east Indonesia, include Sulawesi with rate 5-8 mm per year.

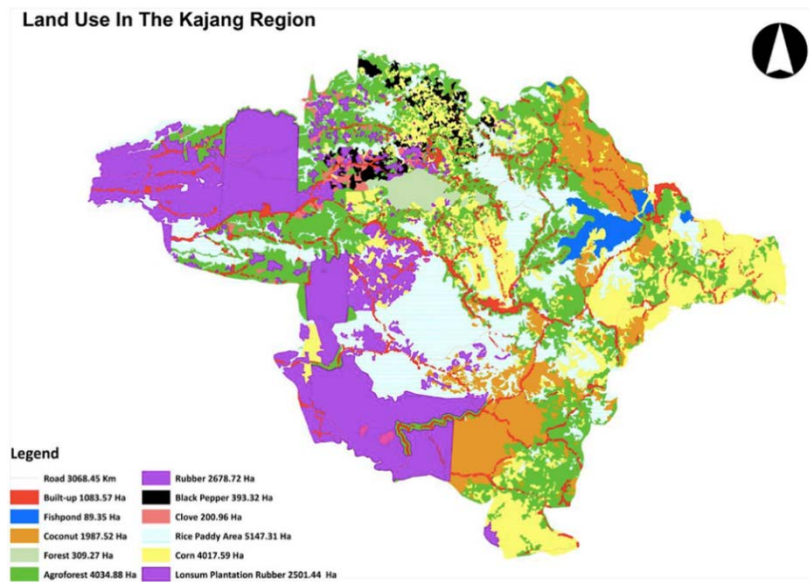
Global climate change estimated will be affecting coastal community in various part of the world. One thing that will be changed are acceleration to sea level rise which will have an impact such as drown of small islands, increased flooding, coastal erosion, sea water intrusion and changes in ecological processes in coastal areas. Changes in these biological aspects will also have an impact on socio-economic aspects of coastal communities such as loss of infrastructure, decline in ecological values, and the economic value of coastal resources (Klein & Nicholls, 1999).

Socio economic development also influences the capacity to adapt. Poor people in urban informal and rural areas settlements, of which there are about 1 billion worldwide, are particularly vulnerable to weather and climate impacts. The top five nation classified by population in coastal low-lying areas are developing and newly industrialized countries; Bangladesh, China, Vietnam, India, and Indonesia (McGranahan et al., 2007; Bollman et al., 2010; Jongman et al., 2012).

Indonesia as an archipelago has 18.306 total islands with the coastal line reached 95.181 km. The inhabitants of Indonesia who live in this area are 60% from the total population, or about 160 million people. The economic development and activities are relied on with the coastal resources on this area. Most of Indonesian who lives in the coastal area dependence to the marine natural resources for their main income, as well as South Sulawesi Province.

### **Climate Related Disaster Risk in Indonesia & Ammatoa Kajang Indigenous People Customary Area**

Indonesia, as the largest archipelagic country in the world, is one of the most vulnerable country to the effects of climate change. According to data compiled in the Indonesian Disaster Information Data (DIBI) -National Disaster Bureau (BNPB), it can be seen that out of 1,800 disaster events in the period 2005 to 2015 more than 78% (11,648) of disaster events related to hydro meteorology and 22% (3,810) were geological disasters . The hydrometeorological disaster events consist of floods, extreme waves, land and forest fires, droughts, and extreme weather. While for the geological disaster groups that often occur are earthquakes, tsunamis, volcanic eruptions, and landslides. The overall number has increased steadily. Even for the geological related disaster the people of Indonesia still vulnerable due to less capacity and resilience toward the disaster risks.



Adding to the phenomenon of extreme climate events in its frequency and intensity cannot be separated from climate change which contributes to increasing the complexity of hydrometeorology. Furthermore, with a high frequency of the occurrence, this disaster group also has a huge impact on the economic and environmental. This condition decreases the productivity of agricultural land which is the economic foundation of the agricultural community in Indonesia.

Based on the 2016 Indonesia Disaster Risk Book data, the risk exposure of South Sulawesi province is classified as vulnerable to the impacts of climate change and disaster risk. Based on the disaster risk assessment compiled by BNPB in 2015, it is seen that the number of people exposed to disaster risk spread in South Sulawesi with approximately 8.5 million people, which caused an economic loss of 15.5 billion.

Related to climate change, a trend of a significant decrease in rainfall in almost all parts of Indonesia in June, July and August, and increased opportunities for daily extreme rainfall in all parts of Indonesia in the period 1998-2008 (Bappenas, 2013). This event increases the potential for erosion, reduces wetlands along the coast, increases the rate of sea water intrusion, decreases food production. Indonesia is ranked as the ninth of the 10 most vulnerable countries to food security due to the impact of climate change, especially in the fisheries sector (Huelsenk, Oceana, 2012 in DNPI, 2013).

Various research results indicate that the occurrence of climate change will cause the beginning of the rainy season to experience a setback while the end of the rainy season will be faster, which means the length of the rainy season will be shorter. On the other hand rainy season rainfall will tend to increase while dry season rainfall tends to decrease. The change in rainfall distribution causes various potential natural disasters triggered by higher rainfall, such as floods, landslides, river overflows, and spread of disease vectors. Whereas in a reduced rainfall condition potential disasters can occur such as drought, crop failure, lack of clean water, and various social problems that may arise.

## **Socio Economic Development**

The main income from Bulukumba's Gross Regional Domestic Product (GRDP) relies on agriculture and plantation. The ocean and fisheries sector also become source of its GRDP. Meanwhile the economic activities of those coastal sub-districts area dominated in fishery catching, Aquaculture (fishpond) and seaweed farming.

Central Statistics Agency of Bulukumba data shows that total population of the district in 2016 is 410.485 people; including 194.013 men and 216.472 women. The increasing of female population is influenced by the number of male who go work outside the region due to poverty. Data from Integrated Data Base for Social Protection Program" (TNP2K-Bappeda Bulukumba, 2015) shows that Bulukumba has 35.545 poor households or about 127.516 poor people. The female households are 10.452 heads in Bulukumba. The daily activities of woman limited to preparing their husband's needs (for those husbands who stay at Bulukumba), not involve in development decision making within their villages.

## **Climate Change Adaptation Regulation and Institutional Context**

The United Nations Climate Change Framework Convention (UNFCCC) is an international environmental agreement negotiated at the Earth Summit in Rio de Janeiro on 3 - 14 June 1992 involving 108 heads of state and government. The convention aims to stabilize the concentration of greenhouse gases in the atmosphere to a level that is able to prevent human interference with the climate system. This Convention has wide legitimacy because its membership is almost universal.

As a form of Indonesia's participation in actively taking part together with other members of the international community in an effort to prevent increasing concentrations of greenhouse gases in the atmosphere, the Government of Indonesia has signed the United Nations Framework Convention on Climate Change in Rio de Janeiro, Brazil, on June 5, 1992 which was confirmed through Law 6/1994 concerning Ratification of the UNFCCC.

The results of the UNFCCC Convention also became the forerunner of the Conference of Parties (COP) meeting held every year since 1995. Some of the important international agreements that were produced were the Kyoto Protocol in 1997 in Japan which obliged developed countries to reduce greenhouse gas emissions. Until 2004, the Indonesian government reiterated its involvement in the issue of climate change through ratification of Law No. 17 of 2004 concerning the ratification of the Kyoto Protocol to the United Nations Framework Convention on Climate Change.

Indonesia is a tropical country that has the second largest forest in the world so that it has an important role in influencing the Earth's climate due to an increase in the concentration of greenhouse gases in the atmosphere which cause adverse effects on the environment and human life. In 2007 Indonesia hosted the 13th COP and produced the Bali Action Plan. One agreed set of documents is the Bali Roadmap that binds signatory countries to reach new agreement in 2009.

The accumulated peak of various decisions on REDD + in Indonesia continued until 2009 where President Susilo Bambang Yudhoyono announced the first voluntary commitment by developing countries to reducing greenhouse gas emissions at the G20 Summit which was confirmed through

the ratification of Law 31/2009 on Meteorology, Climatology and Geophysics and Law 32/2009 on Environmental Protection and Management.

The follow-up rules and derivatives adopted by the Indonesian government in response to climate change include: Presidential Decree Number 19 of 2010 concerning the Preparatory for the Formation of Task Force of ReDD + Institutions and then reaffirmed through Presidential Decree No. 25 of 2011 concerning the ReDD + Institutional Preparation of Task Force, then amended became Presidential Decree No. 5 of 2013 concerning changes to the Presidential Decree No. 25 of 2011 concerning the Task Force for Preparation of Institutions Reducing Emissions from Deforestation and Forest Degradation (ReDD +), Presidential Regulation No. 61/2011 concerning National Action Plans for Reducing Greenhouse Gas Emissions (RAN GRK) ), Presidential Regulation Number 71 of 2011 concerning Implementation of National Greenhouse Gas Inventory, Regulation of the Minister of Forestry of the Republic of Indonesia Number: P. 20 / Menhut-II / 2012 concerning Forest Carbon Implementation, PerMenLHK 33/2016 concerning Guidelines for Preparing Action for Climate Change Adaptation, and Pe Government regulation Number 37 of 2012 concerning watershed management.

Indonesia is very responsive about integrated climate change issues into national development plan. For that, Indonesia has established some regulations as follows; National Adaptation Action Plan on Climate Change (RAN-API) by National Development Planning Agency in 2012. RAN-API is an important input into the development of the Government Annual Plan as well as the National Medium-Term Development Plan for 2015-2019 (RPJMN) to be more responsive of climate change effects.

Other regulation is the Ministry of Environment and Forestry Regulation Number 33/2016 on Guidelines for the Preparation of Climate Change Adaptation Action. The regulation aims to provide guidelines for local governments and related stakeholders in preparing climate change adaptation actions and to integrate them into local development plan and/or specific sectors, as mentioned in the Article 3, section 1: about coastal and small island (point f), and in the Article 4: about steps for making adaptation action plan, among others: (a) Identification of target areas and/or specific sectors, and issues about climate change impact; (b) Arrange the vulnerability and climate risk assessment; (c) Arrange the options of adaptation action on climate change; (d) Priority setting adaptation action on climate change; (e) Integrate the climate change adaptation action into policies, plans, and/or development program.

Government of Bulukumba has adopting the Climate Change Adaptation Action into Mid Term Regional Development Plan. Several important missions as follows; Land-use planning, environmental and natural resources preservation, culture and disaster risk reduction. There are two strategies; (1) strengthened cooperation among local government and institutions related to disaster risk reduction, and (2) increasing facilities and infrastructure to support disaster preparedness.

There are some activities to support this mission, which are; (1) rehabilitation of source of a fresh-water and rehabilitation of border river; (2) establish the five community groups to manage the Climate Village named 'Kampung Iklim'; (3) rehabilitation of five coastal areas with mangrove, coral reef rehabilitations and transplantation, and make one fish-breeding center; (4) provide for a potential disaster database of ten sub-districts in Bulukumba to increase awareness of disaster control efforts.

To support this mission, several agencies have sectoral strategic plan. Environmental Agency focus on strategic plan such as; (1) Rehabilitation of source of a fresh-water and rehabilitation of border river; (2) Establish the five community groups to manage the Climate Village named 'Kampung Iklim';

(3) Rehabilitation of five coastal areas with mangrove, coral reef rehabilitations and transplantation, and make one fish-breeding center. For Climate Village program, government of Bulukumba by Environmental Agency actively socialize this program entire Bulukumba regency. This campaign started in Salassae Village that get appreciation from central government in 2017. This event also declared 'Climate Village Forum', as a place to communicate and coordinate in environmental sector, especially to face impact of climate change by adaptation and mitigation actions.

However those efforts are to be seen still partial, not integrated and have not seen the watershed as the integrated landscape, therefore need integrated approach to govern and manage it.

Government of Bulukumba also established Disaster Regional Management Agency (BPBD). This agency also has strategic plan that is provide for a potential disaster database of ten sub-districts in Bulukumba to increase awareness of disaster control efforts. This agency can provide data from community level and regional level and coordinate to apply disaster risk mitigation by communities.

At the community level, with the Law No. 6/2014 about Village Regulation. The wide opportunity for sustainability funding and actions are provided if the climate change adaptation is integrated into village development planning. It is mean they can take realistic actions by themselves and for themselves.

### **Climate change impact in Indigenous People of Ammatoa Kajang area**

The Indigenous People of Ammatoa Kajang customary area covering 22,592.87 hectares lies at 4 (four) sub-districts, covering 36 villages, with a population of 48,411 people (BPS Bulukumba, 2016). The area consists of three watershed landscape, namely: Baonto, Apparang, and Raowa Watershed. Due to climate change impact, the area experiencing problems in the form of:

- Flood
- Water crisis / drought
- Sea water intrusion
- Landslide

The downstream area began to show seawater intrusion, water shortages/drought and floods, while in the upstream area there were landslides in several places. This condition becomes important to understand as a part that shows the potential and central role of the three watersheds as ecosystem buffers in the Ammatoa Kajang customary region that require attention in relation to climate change resilience.

In general, the area of customary land is dominated by rice fields covering an area of 5,144.31 Ha and 4,034.88 Ha are agroforestry complex: clove, chocolate, pepper and other. While the rest are corn, rubber plantation and residential area.

However, in its management there are still various obstacles. First, the role of Ammatoa Kajang customary forest covering an area of only 313.99 Ha. Its central function supporting ecosystem in three watersheds is not functioning effectively to meet ecosystem needs in 3 watersheds (Baonto watershed and Apparang watershed and Raowa watershed).

Secondly, increasing environmental degradation due to destructive activities such as forest encroachment or land conversion in upstream of the customary territories, illegal logging, dry land

farming practices in the hills, and widespread deforestation have resulted in a decrease in the hydrological function of watersheds from downstream to upstream. At the upstream, agricultural related livelihoods are threatened and at the downstream, water crisis or drought and sea water intrusion become severe problems.

Third, there is no yet Climate Change Adaptation Action Plans as derivatives of the National Action Plan of Climate Change Adaptation (RAN\_API). This is due to the lack of initiation from stakeholders and authorities at the regional level to encourage synergy of development program planning at the district level related to the implementation of climate change adaptation.

Fourth, although the Village Law No. 6 of 2014 gives broad autonomy to the village government to manage its territory including budgeting for village development; the village government still put bigger portion of development and budget for road infrastructure and public facility buildings with less or none recognition to the climate change adaptation agenda. There has been no attempt by the village government to make a village plan that takes into account adaptive planning for climate change to solve the fundamental problems experienced by the people in the village.

Fifth, the Ammatoa Kajang customary area, especially in the Raowa watershed in the lowlands, is one of the factors causing flooding and seawater intrusion. There has been no maximum effort taken in overcoming this problem. Even though the water problem is an influential issue of the environment, socio-cultural life and the economic sustainability of Indigenous Peoples of Ammatoa Kajang. The soil and water conservation practices on lands surrounding customary forests has not been an important concern for all parties.

Tracing the results of the OASE research program with Balang Institute and CIFOR with a focus on the Raowa watershed area in 2015-2018. The impact of the five constraints mentioned above has resulted in floods, water shortages / drought, landslides and sea water intrusion in the Indigenous People of Ammatoa Kajang customary area. This impact will have a major influence on the economic sector, the socio-cultural and food needs of indigenous peoples of Ammatoa Kajang.

#### Flood

The rainy season that takes place in Kajang between December-May have been always causing flooding in certain locations, the Raowa river recently regularly overflow on roads, settlements and rice fields. The overflow of river water that flooded the paddy fields caused damage to rice plants as the main food source of the Kajang indigenous people, bring economic loss to the people as the main source of the livelihood at the down-stream has been agriculture, especially rice.

#### Water crisis / drought

in the dry season, villages in the middle and downstream of the Raowa watershed experience a water crisis. This has an impact on meeting water needs for households and rice irrigation. Since 2012, in the village of Possi tana and Desa Lembanna have experienced the impact of the water crisis. Some tributaries and springs that were previously sources of water use have experienced drought. Government efforts to meet water needs for households in Lembanna Village have failed. According to residents, there are already three pipes that have piled up on the roadside between the axis of Lembanna Village - Sinjai Regency. However, this effort is still failing because the piped water source has experienced drought during the dry season. No water to be channeled. Facing this condition, the 236 families of Tama'dohong Hamlet in Lembanna Village dealt with it by buying water from mobile water vendors from villages bordering to customary forests. 236 family have to spend up to 5 million rupiah during the dry season. Another case is in Possi Tana Village, since the presence of the Community-Based Water and Sanitation Program (PAMSIMAS) in 2015



has held boreholes to respond to the water crisis in this village. The PAMSIMAS program have fulfilled household water needs and become a new policy for the village government to expand the program in the procurement of boreholes for rice irrigation. However this program is doubt to be sustainable.

#### Sea water intrusion

At the downstream of The Ammatoa Kajang customary forests the sea water pushes into the Raowa river. The urge for sea water to the Raowa river has been three kilometers and has resulted in sea water intrusion along the way. Another thing that prolongs sea water intrusion is the project of dredging river for the needs of fish and shrimp ponds around the Raowa river.

#### Erosion

Landslides occur in slopes on land around the Ammatoa Kajang customary forest. This landslide usually occurs on the riverbanks when the intensity of rainfall increases in January or February. This landslide is caused by erosion by rain water on the soil which becomes saturated after the dry season. Rainwater erosion occurs in slopes of land in upstream areas on land that is used for maize crops. Rainwater erosion in the slope of farmers' land raises rocks as large as fist due to erosion and lack of tree vegetation. As a result, soil fertility decreases, plus the use of chemical fertilizers and pesticides by farmers accelerates the decline in soil health.

In sum, from abovementioned risks and hazards at the Ammatoa Kajang Indigenous People customary area the climate change impact have been affecting 22.592,87 Ha of Ammatoa Indigenous People customary area lies at 4 sub-district, covering 36 villages and affecting 48.925 population of the area. With the lost estimated: from flooding Rp. 6,314,000,000 per year. From drought Rp. 64,016,000,000, from sea water intrusion Rp. 28,280,000,000. In total Rp. 98,610,000,000 per year.



*Flooding (Dok. OASE Juni 2016)*

**PROBLEM AND ADAPTATION ACTION CONTEXT**

No.	Problem Context	Project strategy	Adaptation Intervention Goal
1	Watershed Governance: The absence of an integrated watershed management plan that involves the parties has caused a decline in watershed ecological capacity to support community livelihood and environmental.	Formulating a collaborative watershed management plans by integrating the programs of the parties at the district and village level to improve watershed ecological capacity.	Strengthened the support capacity of the watershed in an effort to improve wellbeing, increase resilience, and improve adaptability to the impacts of climate change of Indigenous People of Kajang Ammatoa community.
2	Climate Change, Disaster Risk & Environment: Land use and land functions conversion in the upstream and downstream watershed causes land degradation and crop failure	Develop and Promote agroforestry systems & integrated adaptive agriculture system that are able to reduce the impact of disasters and climate change.	The support of the Kajang Ammatoa indigenous people in concrete actions to reduce the impact of land use conversion in the upper watershed area which will increase the resilience and adaptability of the Kajang Ammatoa Indigenous people to the impacts of climate change
3	The Livelihoods are not adaptive to climate change impact: Conversion of land use and functions in the upstream area caused flooding and drought which resulted in a water crisis and farmers' crop failure	Developing adaptive integrated agriculture system by utilizing productive land that is able to support soil and water conservation and reduce daily household expenses of the Kajang Indigenous community	Reducing pressure on the watershed area due to community activities, increasing people's adaptation to the effects of climate change through sustainable and adaptive livelihood strategies.
4	Policy: The absence of policies that governing and regulate the watershed management and regional action plans related on climate change adaptation	Formulation and put into regulation and socialization of the regulation concerning the integrated watershed management in participatory approach.	The support of regional government in an effort to encourage watershed management in an integrated, sustainable and adaptive to climate change in the district development planning and development budgeting in Bulukumba Regency.

## LANDSCAPE AND VULNERABILITY STATUS OF THE PROGRAM LOCATION

### a. Program Area

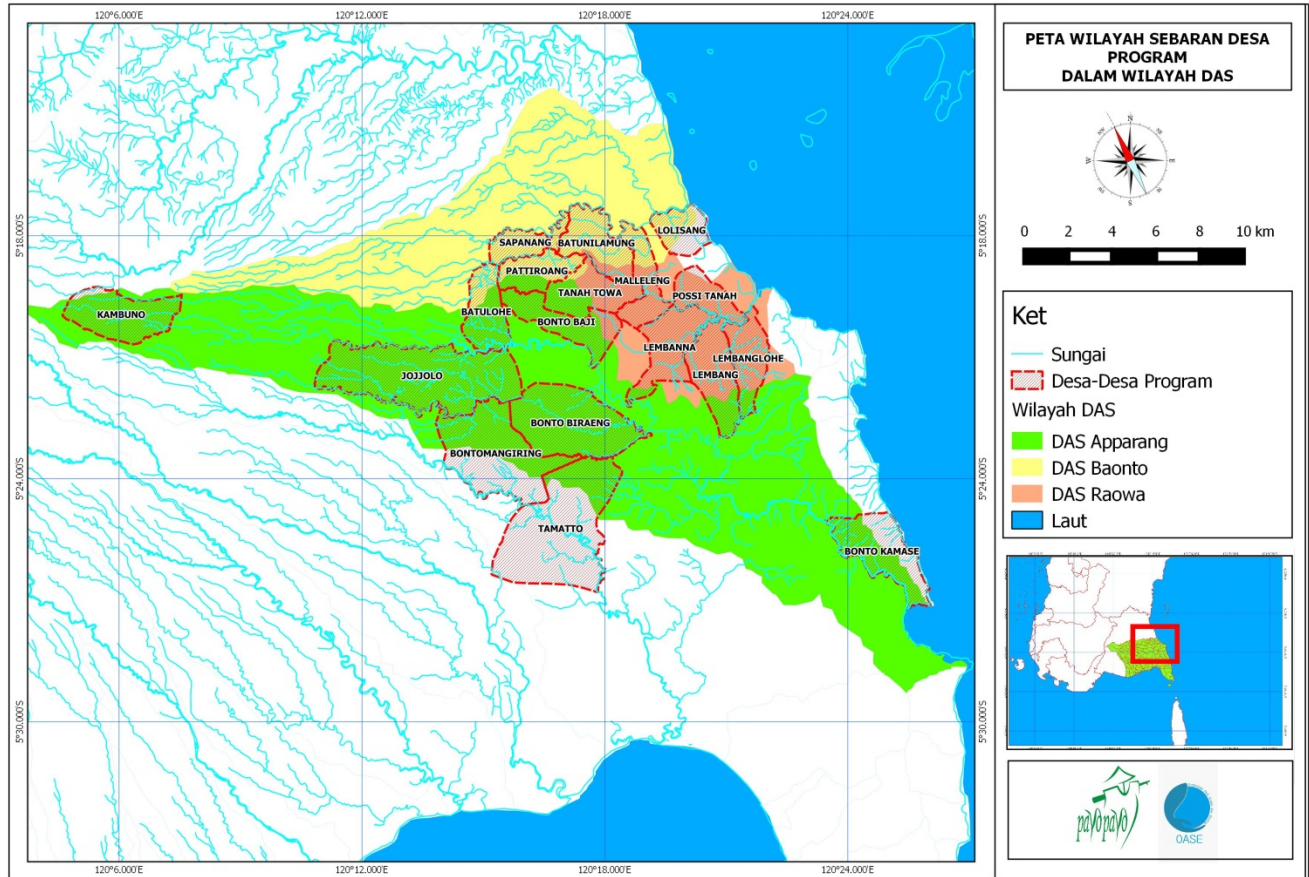
14 Villages of program location are chosen by considering the integrated (Source, Path and Receptor) aspects of 3 watershed areas in Indigenous People of Ammatoa Kajang Customary Area, Bulukuma District namely Raowa watershed (4,431 ha), Apparang watershed (23,594 ha) and Baonto watershed (9930 Ha). In general, the selection based on the watershed landscape approach; the Indigenous People Ammatoa Kajang Customary area, all the Raowa Watershed include in the customary area, partly the Apparang and Baonto watershed include in the customary area, and connected to the customary area as the upstream of the watershed. Some areas of the Apparang watershed and the Baonto watershed is a watershed area that overlaps with the Ammatoa Indigenous Area.

The area to be covered in the program includes: in the Apparang watershed area of 10,158 ha or 43% of the total area of the Apparang watershed, in Raowa watershed area is 3,931 ha or 88.7% of the total area of the Raowa watershed, the Baonto watershed are 2,267 hectares or 26.7% of the total area of the Baonto watershed. In Total the program will cover the area of 16,356 Ha, in the three watershed.

**TABEL VILLAGES OF PROGRAM LOCATION**

Village name	Category	Location	DAS	Above sea level	Village width (Ha)	Risk/Hazard		(MHA) Ammatoa Kajang customary area
						Flood	Drought	
Kambuno	Source	Up Stream	Apparang	700	906	Low	Low	Outside MHA
Jojolo	Receptor	Mid Stream	Apparang	250	2226	Very High	Very High	Inside MHA
Bonto Baji	Path	Mid Stream	Apparang	225	711	Moderate	Moderate	Inside MHA
Bonto Biraeng	Path	Mid Stream	Apparang	150	1478	Moderate	Moderate	Inside MHA
Pattiroang	Source	Mid Stream	Baonto	220	516	Moderate	Moderate	Inside MHA
Batu Nilamung	receptor	Mid Stream	Baonto	200	697	Moderate	Moderate	Inside MHA
Sapanang	Path	Mid Stream	Baonto	200	391	Very High	Very High	
Lolisang	Path	Down Stream	Baonto	80	435	Moderate	Moderate	Inside MHA
Tana Towa	Source	Up Stream	Raowa	250	726	Moderate	Moderate	Inside MHA
Malleleng	Path	Mid Stream	Raowa	105	545	Moderate	Moderate	Inside MHA
Lembannna	Source	Mid Stream	Raowa	86	801	Moderate	Moderate	Inside MHA
Lembang	Path	Mid Stream	Raowa	60	813	Moderate	Moderate	Inside MHA
Lembang Lohe	Path	Mid Stream	Raowa	55	598	Moderate	Moderate	Inside MHA
Possi Tana	Path	Down Stream	Raowa	50	448	Moderate	Moderate	Inside MHA

### MAP OF PROGRAM LOCATION:



**b. Vulnerability Status of Villages of Program Location**

The main sources of Vulnerability Status were obtained from calculation of Adaptive Capacity Index (Indeks Kapasitas Adaptif/IKA) (IKA) and Exposure Index and sensitivity (Indeks Keterpaparan dan sensitifitas /IKS) in dealing with droughts and floods in each village. The Main Components of the IKA Assessment are indicators of: Education, Health Aspects, Road Networks and Electricity which are divided into five categories of Adaptation Capacity, namely: Very Low, Low, Medium, High and Very High.

IKS is structured with indicators: the number of residential buildings on the riverbank, drinking water sources, livelihoods, poverty levels, heads of families who live on riverbanks. The IKS assessment uses five categories to describe the level of sensitivity and level of exposure to droughts and floods, namely: Very Low, Low, Medium, High and Very High. Vulnerability status of villages of the program location in the area of the 3 watershed are: villages with a very high level of vulnerability (17%), high and moderate (78%) and low (5%).

To see the Adaptive Capacity Index and Exposure and Sensitivity Index in 18 program villages can be seen in the table below:

Village name	Village of Jojjolo	Score
Risk/Hazard	Flood	Very High
	Drought	Very High
Vulnerability score of the village		
Adaptive Capacity Index	Education aspect	Low
	Health aspect	Very Low
	Road infrastructure aspect	Moderate
	Electrification aspect	Very High
Exposure and Sensitivity Index	Building at river bank	Moderate
	Source Clean water	High
	Source Livelihood	Very High
	Family living at river bank	Moderate
	Poverty level	Low

Village name	Village of Sapanang	Score
Risk/Hazard	Flood	Very High
	Drought	Very High
Vulnerability score of the village		
Adaptive Capacity Index	Education aspect	Moderate
	Health aspect	Low
	Road infrastructure aspect	Very High
	Electrification aspect	High
Exposure and Sensitivity Index	Building at river bank	High
	Source Clean water	Moderate
	Source Livelihood	Very High
	Family living at river bank	High
	Poverty level	Very High

Village name	Village of Bonto Biraeng	Score
Risk/Hazard	Flood	Moderate
	Drought	Moderate
Vulnerability score of the village		
Adaptive Capacity Index	Education aspect	Moderate
	Health aspect	Very Low
	Road infrastructure aspect	Very High
	Electrification aspect	Very High
Exposure and Sensitivity Index	Building at river bank	Very Low
	Source Clean water	Moderate
	Source Livelihood	Very High
	Family living at river bank	Very Low
	Poverty level	Tinggi

Village name	Village of Lembang	Score
Risk/Hazard	Flood	Moderate
	Drought	Moderate
Vulnerability score of the village		
Adaptive Capacity Index	Education aspect	Very Low
	Health aspect	Very Low
	Road infrastructure aspect	Very High
	Electrification aspect	Very High
Exposure and Sensitivity Index	Building at river bank	Very Low
	Source Clean water	Moderate
	Source Livelihood	Very High
	Family living at river bank	Very Low
	Poverty level	Very Low

Village name	Village of Lembanglohe	Score
Risk/Hazard	Flood	Moderate
	Drought	Moderate
Vulnerability score of the village		
Adaptive Capacity Index	Education aspect	Low
	Health aspect	Very Low
	Road infrastructure aspect	Very High
	Electrification aspect	Very High
Exposure and Sensitivity Index	Building at river bank	Very Low
	Source Clean water	Moderate
	Source Livelihood	Very High
	Family living at river bank	Very Low
	Poverty level	Low

Village name	Village of Possi Tanah	Score
Risk/Hazard	Flood	Moderate
	Drought	Moderate
Vulnerability score of the village		
Adaptive Capacity Index	Education aspect	Very Low
	Health aspect	Very Low
	Road infrastructure aspect	Very High
	Electrification aspect	Very High
Exposure and Sensitivity Index	Building at river bank	Very Low
	Source Clean water	Moderate
	Source Livelihood	Very High
	Family living at river bank	Very Low
	Poverty level	High

Village name	Village of Lembanna	Score
Risk/Hazard	Flood	Moderate
	Drought	Moderate
Vulnerability score of the village		
Adaptive Capacity Index	Education aspect	Low
	Health aspect	Low

	Road infrastructure aspect	Very High
	Electrification aspect	Very High
Exposure and Sensitivity Index	Building at river bank	Very Low
	Source Clean water	Moderate
	Source Livelihood	Very High
	Family living at river bank	Very Low
	Poverty level	Very Low

Village name	Village of Bonto Baji	Score
Risk/Hazard	Flood	Moderate
	Drought	Moderate
Vulnerability score of the village		
Adaptive Capacity Index	Education aspect	Very Low
	Health aspect	Very Low
	Road infrastructure aspect	High
	Electrification aspect	Very High
Exposure and Sensitivity Index	Building at river bank	Very Low
	Source Clean water	Moderate
	Source Livelihood	Very High
	Family living at river bank	Very Low
	Poverty level	Very Low

Village name	Village of Pattiroang	Score
Risk/Hazard	Flood	Moderate
	Drought	Moderate
Vulnerability score of the village		
Adaptive Capacity Index	Education aspect	Very Low
	Health aspect	Very Low
	Road infrastructure aspect	High
	Electrification aspect	Very High
Exposure and Sensitivity Index	Building at river bank	Very Low
	Source Clean water	Moderate
	Source Livelihood	Very High
	Family living at river bank	Very Low
	Poverty level	Very Low

Village name	Village of Batunilamung	Score
Risk/Hazard	Flood	Moderate
	Drought	Moderate
Vulnerability score of the village		
Adaptive Capacity Index	Education aspect	Very Low
	Health aspect	Very Low
	Road infrastructure aspect	High
	Electrification aspect	Very High
Exposure and Sensitivity Index	Building at river bank	Low
	Source Clean water	Moderate
	Source Livelihood	Very High
	Family living at river bank	Low

	Poverty level	Very Low
Village name	Village of Tanah Towa	Score
Risk/Hazard	Flood	Moderate
	Drought	Moderate
Vulnerability score of the village		
Adaptive Capacity Index	Education aspect	Moderate
	Health aspect	Low
	Road infrastructure aspect	Very High
	Electrification aspect	Low
Exposure and Sensitivity Index	Building at river bank	Very Low
	Source Clean water	Moderate
	Source Livelihood	Very High
	Family living at river bank	Very Low
	Poverty level	Low

Village name	Village of Malleleng	Score
Risk/Hazard	Flood	Moderate
	Drought	Moderate
Vulnerability score of the village		
Adaptive Capacity Index	Education aspect	Moderate
	Health aspect	Very Low
	Road infrastructure aspect	Very High
	Electrification aspect	Very High
Exposure and Sensitivity Index	Building at river bank	Very Low
	Source Clean water	Moderate
	Source Livelihood	Very High
	Family living at river bank	Very Low
	Poverty level	Very Low

Village name	Village of Lolisang	Score
Risk/Hazard	Flood	Moderate
	Drought	Moderate
Vulnerability score of the village		
Adaptive Capacity Index	Education aspect	Low
	Health aspect	Low
	Road infrastructure aspect	Very High
	Electrification aspect	Very High
Exposure and Sensitivity Index	Building at river bank	Very High
	Source Clean water	Moderate
	Source Livelihood	Very High
	Family living at river bank	Very High
	Poverty level	Very Low

Village name	Village of Kambuno	Score
Risk/Hazard	Flood	Low



	Drought	Low
Vulnerability score of the village		
Adaptive Capacity Index	Education aspect	Low
	Health aspect	Very Low
	Road infrastructure aspect	High
	Electrification aspect	Very High
Exposure and Sensitivity Index	Building at river bank	Moderate
	Source Clean water	High
	Source Livelihood	Very High
	Family living at river bank	Moderate
	Poverty level	Very High

**Project / Programme Objectives:**

Main Objective:

**The overall main objective is to enhance climate resilience and build adaptive capacity toward climate change for vulnerable community through sustainable integrated watershed governance in Indigenous People of Ammatoa Kajang Customary Area in Bulukumba, South Sulawesi Province.**

The program will deliver this objective and will have these three outcomes

- Outcome 1.* Reduced climate change vulnerability and risk by improving management and governance of watersheds in Indigenous People of Ammatoa Kajang customary area in Bulukumba.
- Outcome 2.* Enhanced resilience of people in Indigenous People of Ammatoa Kajang customary area with climate adaptive sustainable livelihood development and climate mitigation actions.
- Outcome 3* Advanced Sustainable Integrated Watershed Governance adaptive to Climate Change on regency development planning and development budgeting in Bulukumba regency.

**Project / Programme Components and Financing:**

Project/Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (US\$)
<b>Component 1:</b> Developing model of sustainable integrated watershed management inside the Indigenous People of Ammatoa Kajang customary area (Apparang, Baontoa and Raowa Watershed)	<b>Output 1.1.</b> Multi-stakeholders watersheds management forum established at three watershed inside the Indignous People of Ammatoa Kajang customary area.	<b>Outcome1:</b> Management and governance of three watersheds inside the Indigenous People of Ammatoa customary area improved.	US \$ 3,871
	<b>Output 1.2.</b> Watersheds governance planning and action documents formulated and agreed among stakeholders.		US \$ 258,163
<b>Sub Total Componen 1</b>			US \$ 262,034
<b>Component 2:</b> Promoting and practicing sustainable livelihood adative to climate change at the	<b>Output 2.1.</b> Climate adaptive sustainable livelihood models practiced at 18 villages in 3 watershed landscape in Indigenous People of Ammatoa Kajang customary area.	<b>Outcome 2.</b> Resilience of people in Indigenous people of Ammatoa Kajang	US \$ 684,039

three watershed landscapes in the Indigenous People of Ammatoa Kajang customary area.		customary area enhanced and vulnerability to climate risk reduced	
<b>Sub Total Componen 2</b>			US \$ 959,774
<b>Component 3:</b> Lobbying and Policy Advocacy for climate adaptive sustainable integrated watershed management and Climate Adaptation Action plan to regency government of Bulukumba	<b>Output 3.1.</b> Head of Regency regulation on watershed management and climate adaptation action is signed and released.	<b>Outcome 3;</b> Pro-climate integrated watershed management and climate change action plan integrated into regency development plan.	US \$ 27,350
	<b>Output 3.2.</b> Pro-climate integrated sustainable watershed management programs budgeted in the annual regency budgeting and Climate adaptive budgeting put into regency annual budgeting		US \$ 8,500
<b>Sub Total Component 3</b>			US \$ 27,350
6. Project/Programme Execution cost			US \$ 106,800
7. Total Project/Programme Cost			US \$ 981,923
8. Project/Programme Cycle Management Fee charged by the Implementing Entity			US \$ 36,329
<b>Amount of Financing Requested</b>			US \$ 1,125,052

**Projected Calendar:**

*Indicate the dates of the following milestones for the proposed project/programme*

<b>Milestones</b>	<b>Expected Dates</b>
Start of Project/Programme Implementation	November 2019
Mid-term Review (if planned)	December 2020
Project/Programme Closing	October 2021
Terminal Evaluation	November 2021

## **PART II: PROJECT / PROGRAMME JUSTIFICATION**

**A.** *Describe the project / programme components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.*

Departing from the aforementioned conditions, the Peasant School of PAYO-PAYO and OASE see the need for a multi-stakeholder participation approach in promoting climate change adaptation in Indigenous Peoples of Ammatoa Kajang customary area, in particular, and in Bulukumba regency level in general extent, and on pro-climate watershed management, in particular, and on climate change adaptation action plan in general.

This program relies on three important agendas.

First, build a sustainable integrated watershed management model for climate change adaptation through involvement of all stakeholders related to watersheds at the area. This component will arrive at establishment of multi-stakeholder integrated watershed governance and the formulation of the sustainable integrated watershed management document, along with the document is the action plan that bind all respective stakeholders.

The component is broken down into several activities, they will be: climate risk and vulnerability assessment, participatory mapping to find vulnerable areas of climate change, the establishment of climate change adaptation and/or watershed management forums with community members, village governments and related agencies at the district level. This forum will later encourage the formulation of a district level climate change adaptation document as a derivative of the RAN-API/National Action Plan on Climate Change Adaptation.

This program aims to encourage the establishment of integrated watershed-based climate change adaptation governance. This goal will be achieved through a study and mapping of watershed areas in the Indigenous People of Ammatoa Kajang customary area in a participatory ways. As well as the formulation of integrated village spatial planning policy in integrated watershed management that is adaptive to climate change. The management of watersheds in indigenous territories is important because it involves cross villages, sub-districts and districts.

This watershed mapping was carried out with the agenda of assessing climate vulnerability and risk and conducting watershed delineation. The watershed delineation is done by mapping the area of villages within the Ammatoa Kajang customary area which consists of 4 villages surrounding the Kajang customary forest, 4 villages in the middle stream area and 4 villages in the downstream area. The mapping will involve the community who are members of farmer groups or other local institutions, will also involve village governments and relevant stakeholders at various levels of the district and province. This mapping is not only by taking coordinates at village boundaries, springs in the field, prone to landslides, floods, water crises but also will track the river. There will be a series of group discussions to explore information on land use and will conduct workshops that bring interested parties to get advice and input. In line with that, it will also cover social, cultural and economic aspects

The maps produced from this mapping will describe the spatial and social conditions correctly and will influence decision making related to natural resource management that is comprehensive and adaptive to climate change in the Ammatoa Kajang customary area. The results of this mapping are also expected to be the basis for assisting village and district governments in planning, utilizing, controlling and developing adaptive resources for climate change in the Ammatoa Kajang customary region or becoming a model for other regions in Bulukumba Regency. This system was built with features to map watershed boundaries, map main river networks and small rivers, map flood-prone points along the river flow, the length of flood inundation and the location of dams in the Kajang customary area, thus facilitating the government in monitoring and making decisions. The results of the overall steps of this component will produce an Integrated Watershed Management document and action plan and Climate Change Adaptation Action Plan document. The parties involved will understand their role and duty to take action afterwards to design a climate change adaptation program to support the resolution of problems faced by Indigenous People of Ammatoa Kajang and build the resilience of Ammatoa Kajang toward climate change.

Second Component: develop and promote a sustainable livelihood model that is adaptive to climate change based on a study of climate vulnerability and risk assessment. This effort is carried out to build a strong community resilience toward climate change. The activities that will be carried out on this component focus on strengthening the Indigenous People of Ammatoa Kajang economic sector the development of climate adaptive sustainable agriculture, plantations and livestock.

Along with the development of climate adaptive sustainable livelihood that will enhance the resilience of the community, other part of this component will be to reduce the impact of climate change through mitigation actions that will be carried out through land management. Ammatoa Kajang Customary forest covering 313.99 Ha as a central water catchment for three watersheds, especially the Raowa watershed, There will be an activity to mitigate the climate change impact at the middle and upstream, it will be implementation of land and water management appropriate technology as an answer to help preserve upstream areas in resolving or minimizing water problems, landslides and rainwater erosion. Mangrove planting in the downstream area along the sea water intrusion in the Raowa River will be also an activity. The development of mangroves will be home to the breeding of shrimp and fish along the sea water intrusion in the Raowa river, where

some people use the river to catch fish and shrimp traditionally, besides mitigating the climate impact, the mangrove will also give economic benefits to the people at the area.

Third is an effort to ensure the sustainability. Component 4 is policy advocacy at the district level by encouraging the birth of the Regency Regulation on Adaptation to Climate Change as the foundation of the village government to produce regulations at the village level. Regulations in the form of regency regulations and regulations in the form of village regulations are ways to facilitate the flow of budget policies for climate change adaptation actions, both at the district government level and at the village government level.

In addition to this regulation, it aims to create budgeting policies at the village and district levels. The approach in making this regency regulation will involve the relevant agencies at the district level as members of the task force in drafting and making regulations. This approach was carried out based on our experience that had been successfully carried out drafting Regency Regulation No. 09 of 2015 concerning, Recognition of the Rights and Protection of the Rights of Indigenous Peoples of Ammatoa Kajang and the preparation of Regency Regulation Number 41 on the Empowerment of Indigenous People of Ammatoa Kajang which has received various awards at national level. Furthermore, this program aims to encourage the establishment of a multi-stakeholder integrated policy in Bulukumba regency in supporting the Climate Change Adaptation Action Plan from local to national levels. As well as the establishment of pro-climate Sustainable integrated management of watershed-based climate change adaptation.

The project will be carried out at 18 villages inside the Indigenous People of Ammatoa Kajang Customary Area:

No	Villages	Sub-district	Watershed (DAS)
1	Kambuno	Bulukumpa	Upstream - DAS Apparang
2	Jojjolo	Bulukumpa	Mid-stream -DAS Apparang
3	Batu Lohe	Bulukumpa	Mid-stream-DAS Apparang—Mid-stream Baonto
4	Bonto Biraeng	Kajang	Mid-stream - DAS Apparang
5	Bonto Baji	Kajang	Upstream - DAS Raowa – Mid-stream DAS Apparang
6	Tanah Towa	Kajang	Upstream - DAS Raowa
7	Pattiroang	Kajang	Mid-stream - DAS Baonto
8	Batu Nilamung	Kajang	Mid-stream - DAS Baonto
9	Sapanang	Kajang	Mid-steam- DAS Baonto
10	Lolisang	Kajang	Down-stream-DAS Baonto
11	Malleleng	Kajang	Mid-stream -DAS Baonto dan Hulu-DAS Raowa
12	Lembanna	Kajang	Mid-stream - DAS Raowa
13	Possi Tana	Kajang	Down-stream - DAS Raowa
14	Lembang	Kajang	Mid-stream-DAS Raowa

The first component of the program will be: Developing model of sustainable integrated watershed management inside the Indigenous People of Ammatoa Kajang customary area (Apparang, Baontoa and Raowa Watershed).

This is expected to improve management and governance of three watersheds inside the Indigenous People of Ammatoa customary area improved; so it will contribute to enhance resilience of the people living surrounding the watershed

The specific activities to achieve the objectives as follows:

### 1. Participatory Watershed Mapping

In analyzing landscapes of a watershed, accurate data and information are needed. In the three watersheds located in the Indigenous People of Ammatoa Kajang customary area does not yet have data that is getting along to support the studies that will be carried out through this project.

Through participatory mapping in smaller units (villages) which are divided into three zones; upstream, middle and downstream are expected to be able to find more detailed data and information, especially the processes of land use change and water use in the last two decades. Through participatory mapping, a village map will be created and then incorporated with other villages' maps and will become a landscape map in one area of the watershed in the Indigenous People of Ammatoa Kajang area. After having landscape map that consist of all the village around the watershed, it will be used to analyze and will be the base for models of climate change adaptation actions in the Indigenous People of Ammatoa Kajang area. The mapping will be carried out in 12 project villages. The activities will include training for participatory mapping, ground tracking (village boundaries, hamlet boundaries, areas of traditional farmer groups, land use, former / landslide prone areas, flood areas, springs, fish and shrimp ponds), map making, 3D map making, map and finding presentation workshop.

### 2. Establishment of Climate Change Adaptation & Integrated Watershed Management Forum

The tendency of decreasing watershed environment support capacity in the three watersheds in the Indigenous People of Ammatoa Kajang customary area occurred due to lack of synergy participation, attention, and cooperation of respective stakeholder in managing land in the upstream and middle and down-stream parts of the watersheds. Through this forum it is expected that it can become a forum to discuss issues and setting action agenda of the ecological crisis in one landscape that has been affecting the Indigenous People of Ammatoa Kajang. This forum will consist of all stakeholders from village government level, sub-district to regency level. The following are specific activities for establishing a climate change adaptation forum:

1) Discussion on levelling perspectives with all stakeholders in 36 villages 4 sub-district in the Indigenous People of Ammatoa Kajang customary area. 2) Discussion on the formulation of the objectives of establishing a climate change adaptation forum. And 3). The establishment of the Indigenous People of Ammatoa Kajang customary area climate change adaptation forum

### 3. Formulating integrated watershed management planning

Development planning which integrate upstream, middle and downstream is one step to minimize risk in each village within a watershed area. It will be encouraging strategic steps and collective

action at the village level in dealing with problems such as the water crisis, floods and landslides using the watershed approach; because it will give the people that all villages within one watershed area are a single landscape that influences each other between villages in the upstream, middle and downstream parts. This adaptive watershed management plan is expected to contribute to the policy makers in mainstreaming adaptive initiatives in natural resource management. It is also expected that the planning will come up with concrete action of all the villagers connected with the watershed landscape.

#### 4. The Village Mid-Term Development Plan (RPJMDes) which accommodate climate adaptive watershed management.

With the Village Act Number 6 of 2014, where villages are given greater authority and funds; greater opportunity is opened to integrate the issue of watershed management into Village Mid-Term Development Plan (RPJMDes). So far, the watershed management system (DAS) is still top-down, where the central government and local governments have full authority over watershed protection. However, we see inter-village alliances to be an important part for conserving natural resources because they are the beneficiaries as well as recipients of the direct impact of watershed damage. Therefore, adopting adaptive watershed planning into the village medium term development plan is quite important given that the village medium term development plan is the main document in village development planning.

#### 5. Village Land Use Plans (RTGL) that are adaptive to climate change

Land Use Planning is a planning process for land use / utilization that considers development factors, both physical, social, cultural and economic factors of the community. Determination of this choice is adjusted to the conditions of each village so that it can support an increase of capacity of the watershed. Villages in the three watersheds in the Indigenous People of Ammatoa Kajang customary area do not yet have a plan based on their village conditions, let alone the plan that, paying attention to aspects adaptive to climate change. It is expected that the land use planning can be a starting point for making landscape-based planning that is able to provide guidance for village governments in carrying out programs. Land-use planning at the village level will be used as a basis for planning integrated upstream, middle and downstream in three watersheds in the Indigenous People of Ammatoa Kajang customary area. Making Land Use Planning will be carried out in 14 project villages.

#### 6. Multi-stakeholder workshop at the district level

This activity is the process of delivering the results of the mapping to the parties; district government, sub-district government, village government and the community. This activity is expected to provide an understanding of the condition of the landscape that have affected the occurrence of flooding in the rainy season, water-source drought in the dry season and sea water intrusion which can affect the social economic and cultural situation in the Indigenous People of Ammatoa Kajang customary area.

Second component is: Promoting and practicing sustainable livelihood adaptive to climate change and doing climate change mitigation at the three watershed landscapes in the Indigenous People of Ammatoa Kajang costumary area.



It is expected to reduce the vulnerability to the climate risk and at the same time increase the resilience of the Indigenous People of Ammatoa Kajang.

Detail activities to achieve the objectives as follows:

#### 1. Practicing and Promoting Agroforestry systems

The application of the system is part of showing the community how to implement agroforestry systems. The agroforestry system offers an agricultural system that can increase farmers' income. In this farming system, farmers can benefit from short-term crops and long-term crops, can give income along the year. Besides being able to provide farmers with income improvement, this system can also increase soil fertility and also help prevent soil erosion. This system provides several benefits of ecosystem services such as carbon sequestration, biodiversity and conservation. The agroforestry model will try to see plants according to the level of needs of indigenous people, which are divided into three land management concepts: First, long-term crops such as wood that can be harvested 10 to 15 years. This concept will try to answer the long-term economic needs of indigenous peoples such as building houses, education for their children, weddings and circumcision. So when they need it, they no longer sell land to cover that need. This is the concept of long-term economic savings of indigenous peoples' families.

Second, medium-term crops that can be harvested annually such as cloves, cocoa, rubber and pepper. This will try to answer needs such as health costs, the needs of family cultural event like weddings and other customary events. Third, short-term crops such as chilies, peanuts, sweet potatoes, cassava and other crops can increase the economic for immediate daily needs of the families of indigenous peoples. So that the family economy of the Ammatoa Kajang indigenous people is well planned, and is able to cover the economic needs of the family, at different levels.

#### 2. House yard gardening

House yard garden is for vegetables cultivation around the house to meet household needs. A small piece of land near the house can be used to grow vegetables such as kale, spinach, chili and beans. This will help reduce the expenditure of households. This activity will involve women as an effort to strengthen the household economy through women's gardening activities.

#### 3. Compost hole

Through composting, household kitchen wastes are converted into simple organic elements. This allows recycling of wastes from household kitchen for producing natural fertilizers for plants and vegetable in the house yard garden. Composting is an effective and environmentally friendly solution for converting household waste into useful fertilizers.

#### 4. Bio-mass cookstoves

This bio mass stove is one alternative in reducing the use of petroleum gas. The petroleum gas that cost IDR 20,000 / 3 kg have become burden for household at Indigenous People of Ammatoa Kajang. Moreover, in a month the average uses of petroleum gas is around Rp. 60,000. In addition to suppressing household expenditure, this bio-mass stove can also reduce excessive use of wood for cooking. This bio-mass stove still uses wood but only a few and only wood branches, it only 20

percent using wood comparing to conventional wood stove. So this is suitable in the Ammatoa Kajang customary area.

#### 5. Integrated farming system

In a constantly changing climate, farmers often experience crop failures. Harvest failure is very influential on the economy of Indigenous People of Ammatoa Kajang. Through this integrated farming system it will integrate plant cultivation and livestock. This is the closed-system of farming and livestock, all the agriculture resources will utilized inside the cycle, close-loop. The waste from farm field will utilized for livestock and vice versa. As the result it will cost effective and give economic value to farmers.

#### 6. SRI (System of Rice Intensification)

SRI is rice farming systems that are resistant to climate change. This rice cultivation system is able to increase yields with. The SRI method is an innovation to improve the food security of small-scale farmer households. This system can also reduce the need for chemical inputs, reduce water use, and encourage the use of organic fertilizers, thereby reducing production costs. This rice intensification system is very suitable in the Indigenous People of Ammatoa Kajang customary area where most rice fields are rain fed and experience drought during the dry season.

#### 7. Development of banana plants

Banana plants are suitable for tropical regions with high air humidity and quite hot weather conditions. This plant can survive in areas that lack water, because bananas can supply water from stems that have high water content. This kind of plant is very adaptive to climate related weather and condition.

#### 8. Seed Bank

Rice, cloves and pepper are the main plants in the Indigenous People of Ammatoa Kajang region. The Seed Bank is planned to improve the existing seeding system and also acts as a source for planting if the seed reserves elsewhere are destroyed or lose due to climate change related circumstances. Seed banks will be managed by traditional farmer groups. At the Seed Bank it will store quality seeds including local species seeds. This will help to preserve biodiversity in the project area and beyond. This activity is only focused in one place.

The third component: Lobbying and Policy Advocacy for climate adaptive sustainable integrated watershed management and Climate Adaptation Action plan to regency government of Bulukumba. The aim of the component is: to integrate pro-climate integrated watershed management and Action Plan on Climate Change Adaptation into regency development policy and development budgeting.

To achieve the objectives the activities that will be carried out as follows:

1. Establishment of a district-level task force team for making regency regulations regarding Indigenous People of Ammatoa Kajang integrated watershed management and regional climate change adaptation action plan.

The task force team is a team that will work in the process of making policy products at the district level. This team consists of related stakeholders from the district, sub-district, village and Indigenous People of Ammatoa Kajang customary institution. The composition of the team is the representatives of each institution; so it can give mutual support, and the policy product that they produce will be accommodating the interest of all stakeholders.

2. Issuance of Head of Regency Decision letter for the task force team

The decision letter for the task force team is a form of legalization of the team that will participate in formulating the climate change adaptation action rules. This decree will be a legitimacy for the parties that the policy will be adopted.

3. Discussion on levelling perspective of the task force team level

The discussion in this process is the result of a study of vulnerability and risk of climate change assessment that has been made. This discussion is to find strategic issues that will be regulated in the policies that will be made. This will help the task force team in the formulation of academic texts before drafting the district level climate change adaptation action plan policy.

4. Discussion of policy synchronization

This study is the first step after the task force team has been formed. The things to be studied include; Bulukumba Regency Spatial Planning (RTRW), P3MHA Regional Regulation Ammatoa Kajang, Indonesian National Action Plan-Adaptation to Climate Change (RAN-API), LHK Regulation No. P.33 of 2016 concerning Guidelines for Preparing Climate Change Adaptation Action plan. This study is to find a climate change adaptation action plan model that will be made by the task force team. This study is important as an effort to see existing policies so that they do not collide with the policies that will be made. This study is expected to be able to provide an explanation for the task force team on the policy landscape related to the climate change in the country.

5. Preparation of Academic Text/paper for Climate Change Action Plan for Indigenous People of Ammatoa Kajang Customary Area and Bulukumba Regency

The preparation of academic texts is one of the steps in making policies. This academic paper will contain legal views, urgency, concepts, foundations and principles that will be used. This academic paper is an initial reference for creating a framework for legislation. The formulation of this academic paper will involve a team of experts.

6. Preparation of draft of Regency Regulation for Climate Change adaptation Action Plan for Indigenous People of Ammatoa Kajang Customary Area and Bulukumba Regency

After completion of the academic paper, the task force team will discuss the academic paper to create a basic framework for draft regulations to be made. The draft framework of this regulation

will guide the task force team in discussing the points of thought that will be arranged. The discussion of this draft is at least carried out during 7 meetings.

7. Public consultations on draft of Regency Regulation for Climate Change adaptation Action Plan for Indigenous People of Ammatoa Kajang Customary Area and Bulukumba Regency

This public consultation is to convey to the parties the draft policy that has been made. This is important to inform the public that there is a policy that is being made. In addition, this public consultation will also provide feedback, suggestions and input from the public and all parties regarding the regulation, so that the task force team can improve the draft again.

8. Submission of a draft of Regency Regulation for Climate Change adaptation Action Plan for Indigenous People of Ammatoa Kajang Customary Area and Bulukumba Regency to the Legal office of Bulukumba Regency

The draft policy regulations that have been made are submitted to be reviewed by the Legal office of Bulukumba Regency. Through this process the legal office will review the content and context stipulated in the policy. Usually after review still something to be corrected and returned to the task force team.

9. Signing the regulation by the head of Regency of Bulukumba

After completing all the correction of the initial draft, the legal department submits the text to the head of regency of Bulukumba to be signed and issued as a legal entity regulation. Then the regulation is applicable to all parties to implement adaptive programs for climate change in the Indigenous People of Ammatoa Kajang customary area and in Bulukumba Regency.

10. Information dissemination of the action plan for climate change adaptation

This socialization is to disseminate information about the regulations that have been made to MHA Ammatoa Kajang. This socialization was conducted for 3 times divided; 1 time in upstream villages, 1 time in the middle stream villages and 1 time in downstream villages. It is hoped that in this socialization, the community and village governments in the area of Ammatoa Kajang can understand and be able to carry out the rules of action plan for climate change adaptation.

11. Road show

This road show activity is visiting the Bulukumba Regency offices to present the rules of Climate change adaptation action plan that had been made. This is a budgeting policy strategy so that the relevant offices can support climate change adaptation actions in their development activities and programs. to be visited include; BAPPEDA (Regency Development Plan Agency), Environment and Forestry Service (DLHK), Water Resources Service, Agriculture and Plantation Service, Food Security Agency, Community and Village Government Empowerment Service, Public Works Agency (PU), etc.

**B.** *Describe how the project / programme provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within*

*communities, including gender considerations. Describe how the project / programme will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy of the Adaptation Fund.*

This project will be implemented in 36 villages in the MHA area of Ammatoa Kajang which have received recognition of rights and protection of rights to the community and its territory from the government of Bulukumba Regency through Regional Regulation (PERDA) No. 09 of 2015. Allso has obtained customary forest designation from the Ministry of Environment and Forestry (KLHK) with decision letter 6746 / MLHK-PSKL / KUN.1 / 12/2016, covering an area of 313.99 Ha. However, only 14 villages that are considered important will be the focus of the project they are selected based on the division of 3 watersheds (upstream-middle-downstream) in Ammatoa Kajang Indigenous People customary area. 24 other villages will be involved in socialization and seminar activities.

Communities in this region depend on agriculture, with most growing single crops such as corn, coconut and rice. Therefore, most of these farmers are financially very weak, making them vulnerable to the effects of climate change. The main beneficiaries of this project are small and marginal farmers (with land ownership of between 0,5 to 2 ha). In addition, women who live in project locations spread in indigenous territories will be involved up to 30% -40%.

The table below shows the beneficiaries of the poorest and most vulnerable women in the community.

For the social sectors, by this program, woman group that is most vulnerable in communities need to be strengthen at village level. By actively involving them as a social group to participate at household, community and village level make them more self-confident to take decision and action on mitigation of climate change impacts.

### **Sustainability Development Criteria:**

The project meets various sustainability development criteria such as social wellbeing, economic benefit, environmental advantage, institutional and financial benefits. With the restoration of local eco-system, eco-system services are expected to contribute building better resilience. Detail of benefits envisaged from different sustainability criteria is discussed in the table below.

<b>Criteria</b>	<b>Description</b>	<b>Benefit</b>
<b>Economic</b>	Agro-forestry Practice and application	This activity was carried out in 18 villages with a total of 900 families. The cost for activities is Rp.1.769.175.000 The implementation of this agroforestry farming system is at least 0.5 ha per family. So that it requires an area of 450 ha. Average costs incurred for each land are Rp. 1,310,500 / 0.5 ha of land. And average Rp. 1,300,000 per household. In term of the

		output the activity will give around Rp. 20.000.000 addition to household income per year per household.
	House yard gardening	It will be done In 18 villages, each village has one climate-resilient women group with. 25 members. Total climate resilient women in 18 villages as many as 450 household. The costs for activities are Rp. 1,007,190,000. Averaged, the cost of each person to make a garden is as much as Rp 2,238,200. This is quite efficient compared to government programs that can double the cost. In term of the output of the garden; it will reduce household expenses by Rp. 3,650.000 per year by producing their own vegetables and ingredients. If it is counted for 900 household it will give back economic value up to Rp. 3,285,000,000 per year.
	Compost hole	This activity will be carried out by 18 groups of climate-resilient women with a total of 450 people. This compost hole is made near the house as an alternative to chemical fertilizer that can be applied to their garden. The cost for making this compost hole is Rp. 307,710,000. Average costs is Rp.683,800 / compost hole. It will save around Rp. 200,000 per planting season or it can reach Rp. 1.200.000 per year. Give back economic benefit up to Rp. 540.000.000 per year for 450 household.
	Biomass cookstove	The cost estimated to be around Rp. 875,700,000 with the number of beneficiaries

		<p>of 450 families. Average Rp. 1,956,000 / piece. Comparing to conventional petroleum gas stoves in general this is more expensive. However, for long-term need, it is more efficient because the cost is only Rp.450 per month with an average usage of 6 hours per day. In addition, it can reduce wood use by up to 80%. This means that this is very suitable in the area around the forest to reduce forest encroachment. It will give back economic value for Rp. 324.000.000 per year for 450 household.</p>
	Integrated farming system	<p>This activity will be carried out in 18 villages with the number of direct beneficiaries of 450 families divided into 18 groups. Each group has 25 members. Total costs is Rp 3,485,154,000 in 18 groups. If averaged, each group costs Rp.193,619,666. Each group will be given 25 female and 3 male goats. It will give back economic value for Rp. 225.000.000 per group per year or Rp. 4,050,000,000 per year. More than the cost spend for the activity.</p> <p>It will also benefit from the fertilizer from the goat dunk, calculated Rp. 2,000,000 per month per group, it will reach Rp. 432,000,000 per year for all 18 groups.</p>
	System of Rice Intensification	<p>The SRI is the rice cultivation system that is resistant to climate change. This activity will be carried out in 18 villages with the number of direct beneficiaries is 450 families. The cost is Rp. 602,730,000. Averaged cost of 0.5 ha per household is as</p>

		much as Rp. 1,399,400. It will increase the income from the rice field up to Rp. 3.000.000 per ha.
	Banana planting	This activity will be carried out in 18 villages with the number of direct beneficiaries are 450 families. The cost of this activity is Rp. 1,198,806,000. Averaged for each family of one hectare, then the cost of each hectare is IDR 2,664,013. From the banana planting the household can increase income each of Rp.750,000 / month. Rp. 9,000,000 per year per household. Rp. 4,050,000,000 per year for 450 beneficiaries.
<b>Social</b>	Women Involvement	Most of the activities of the project will involving women as protagonist group, they will be encourage to participate meaningfully in the whole process of the project. the main beneficiary of the project will be women.
<b>Environment.</b>	Agroforestry	helps in sequestering atmospheric carbon dioxide and helps in reducing emission and global warming
	Afforestation	It will help to afforestation of 67.5 Ha forest inside the Indigenous people of Ammatoa Kajang
	Mangrove conservation	It will have to conserve the coastal area of approximately 50 Ha, and will help to prevent sea water intrusion.
<b>Institution</b>	Establishment of Integrated watershed forum	Ensure the sustainability of watershed management, with involvement of all respective stakeholders

As discussed above on different sustainability criteria, implementation of the project will not cause any negative social and environmental impacts. Local communities have been consulted in



design of the project and components proposed are in line with the prevalent regulations, policies and standards of National and Sub-national Governments. Components proposed under the project have been designed with consideration towards the environmental and social principles as outlined in the Environmental and Social Policy of Adaptation Fund.

The majority of activities are agriculture-based activities aimed at increasing farmers' resilience to the effects of climate change. The implementation of this activity does not have a negative impact on the environment and the community itself. Instead, activities are intended for community and environmental improvement. However, as a precautionary measure, an appropriate mechanism will be carried out to identify and assess risks during project implementation and management plans will be carried out if there are significant risks that should guarantee appropriate mitigation.

Principles in project implementation;

- A. Community Participatory Principles. Accompanied community to make work plan by involving all groups in communities including the most vulnerable groups such as women groups, disabilities, the elderly and local people; and (2) the mechanism of the all parties on the distribution of benefits program will build agreed;
- B. Principles of Gender Equality and involvement of women. Gender Equality and Women's Empowerment. The gender will be mainstreamed in all activities such as, women participation in decision making. The project will ensure women's involvement in all key project activities, such as participatory mapping, will also use gender analysis and gender stakeholder consultation in every forum formed by the project; so there is always active engagement in those important project activities. The project will ensure not only aspects of the proportion of women but also ensure the involvement of women by making specific activities targeted at women, such as field school for women on yard gardening, workshop on women role on climate change adaptation to ensure active and meaningful participation of women in the project. The project beneficiary unit is the family, the project will ensure that the majority involved are women from each household of project target.
- C. Principles of Access and Equality. This program will facilitate land use plans in the village development plan. Community, village government and district government will make participatory planning to address the adverse effects of climate change and build resilience of communities and governments to adapt to climate change
- D. Principle 4: Human Rights. The program will give more widely information to communities and opportunity to be involved in the program as a Free Prior and Informed Consent (FPIC). And then, involve in design, make work plan and monitor the action that they arrange before.
- E. Principles of Climate Change Adaptation. Increasing the capacity of the community and government and encouraging policies and regulations to reduce the impact of climate change, adapt and reduce the impact of climate change with good Human Resource and Natural Resources management plans.
- F. The principle of multi-stakeholder participation. Involving all stakeholders from the community, village government, district government level to participate in participatory

processes so that the understanding of learning and the objectives of the activities can be fully understood.

**C. Describe or provide an analysis of the cost-effectiveness of the proposed project / programme.**

The total cost of the project implementation plan in the Kajang customary area is Rp. 11,331,625.000 or approximately US\$. 809,402 Which will have an impact on 36 villages, 4 sub-districts, 3 watersheds in Bulukumba Regency and some part of Sinjai Regency will also be benefited from the project. This project will also have an impact on the improvement of Natural Resources in the Indigenous People of Ammatoa Kajang customary area covering an area of 22,592.87 and has an impact on increasing Human Resources with a population of 48,411 people (BPS Bulukumba, 2016).

The project budget will be used to improve the skills, knowledge and ultimately the resilience of the Ammatoa Kajang indigenous people, the village government and the government of Bulukumba Regency to be more adaptive toward climate change. And not less important, the use of the budget for this project, will result in inter-sector collaboration in planning and implementation to build 3 watersheds in the Ammatoa Kajang customary area. It is expected it will be part of the strategy for the commitment for budgeting policies from the Regency offices funds from the village government to program the activities supportive to climate change adaptation in 3 watersheds in the Ammatoa Kajang Indigenous People customary area in the future.

Aside from being an effort to build resilience facing climate change. The use of fund in this program is an effort to improve the capacity and minimize the impact of flooding the affect roads, settlements and rice fields, the impact of drought both to agriculture irrigation and to household water needs, landslide and sea water intrusion impact. The efforts eventually will benefit the Indigenous people economically and socially.

There are 4 main part of the program that will be funded through this project:

1. Build an integrated and adaptive watershed management model for climate change.

The total fund for activities of this part is in the amount of US\$153,492 which aims to produce a risk and vulnerability assessment of the community and the Integrated watershed management document and action plan. As well as to produce participatory Climate Change Adaptation action plan document at the regional level, this document is a derivative form of implementation of the National Action Plan on Adaptation to Climate Change (RAN-API). Documents produced through the discussion series among stakeholders village government and the community through the Climate Change Adaptation forum that will be formed through this project. there will be also establishment forum for Integrated watershed management and Climate change adaptation forum.

The use of this budget will also produce vulnerability maps, land use maps, altitude maps along with objective information about spatial land use in the Ammatoa Kajang Indigenous People

customary area. In this activity will involve 432 mapping personal in 14 villages and 14 village heads plus 12 community members who will be involved in the preparation of the Climate Change Adaptation document. With the amount of the budget used in the component of this program, there has been a shared understanding by the parties both at the village and district level. The Climate Change Adaptation document based on the results of spatial and social vulnerability studies conducted in a multi-stakeholder participatory methods.

2. Development of a sustainable livelihood model that is adaptive to climate change to increase community resilience.

The implementation of the development of a sustainable livelihood model that is adaptive to climate change aims to increase people's economic income through natural resource management and activities. This component will use fund of US\$ 402,150. The activities to be carried out in the development of this sustainable livelihood model are activities that will enhance the resilience of Ammatoa Kajang Indigenous People.

The activities of this component are alternative economic activities while at the same time maintaining the socio-cultural values derived from land management and more economical technology inputs to save the use of household expenditure costs. SRI rice cultivation will also be carried out as a scenario to overcome water shortages for rice fields in the dry season. Other activities such as agroforestry, integrated sustainable farming and livestock also expected to improve the economic resilience of the community, which is eventually will increase the resilience toward climate change impact.

3. Reducing the impact of climate change through mitigation actions

Mitigation actions are activities that will be carried out to improve capacity facing flooding, drought, landslides and sea water intrusion. This mitigation activity will be carried out by direct involvement of the community and the government for implementing activities in the field so that the parties involved can realize directly the purpose of the activities.

Activities in this component are carried out as activities that have not been frequently applied by village governments and communities in the area of Ammatoa Kajang Indigenous People.

These mitigation activities are very important as a form of action to mitigate the effect of climate change that are happening in the area of Ammatoa Kajang.

The use of the budget in carrying out mitigation actions amounted to US\$ 59,913 which would be used for technology input. The mitigation efforts have been important since the climate related hazards have been affecting 22.592,87 Ha of Ammatoa Indigenous People customary area lies at 4 sub-district, covering 36 villages and affecting 48.925 population of the area.

4. Policy advocacy for regency regulation and Budgeting on Climate Change Adaptation Action Plan & Integrated Watershed Management.

The use of the fund in this components is US\$ 18,153 to support the produce of regency policy on Climate Change Adaptation Action Plan. The activities also to support the lobby to the regency government to put budget for climate change adaptation action plan and budget for integrated

watershed management on their development activities budget. The issuance of the regency regulation will be the basis for the offices and the village government to budget and program the Climate Change Adaptation activities after the project ends. This regency regulation is based on the Climate Change Adaptation document that has been made.

In sum, From the moderate calculation, the indicative number, it can be stated that the use of project funds of approximately IDR. 11,331,000 (US\$ 809,401) will effectively have an impact on the community in amount of IDR. 123.429.000.000 (US\$. 8,816,357), in the medium term, calculated from economic value generated from livelihood activities IDR. 22,254,000,000 (US\$. 1,589,571), and economic value of lost saving from mitigation activities IDR. 98,610,000,000 (US\$. 7,043,571). Besides, there is also economic value from government budgeting in the amount of IDR. 2,565,000,000 (US\$. 183,214) from regency budget and village budget.

The detail illustration of cost effectiveness and economic return show below:

<b>Activities</b>	<b>Cost-Effectiveness</b>	<b>Benefit</b>
<b>1. Management and governance of three watersheds inside the Indigenous People of Ammatoa customary area improved.</b>		
Vulnerability assessment		
Participatory village-based watershed mapping	<p>This activity will be carried out in 14 villages involving 972 people and village government staffs. Costs incurred for this activity amounted to Rp.2,237,962,500. This activity will make watershed landscape studies easier. On the other hand, it will be a lesson for the community and village government to know their village spatially. This activity includes training villagers that ultimately will also increase capacity of the community by having spatial knowledge and conciseness of their area.</p> <p>This costs for the activity average per village map is around Rp.82.000.000, is less than average cost if the mapping done by third party, the third party service cost for mapping is around</p>	<p>It will contribute to the improvement of capacity and increasing resilience of the community toward climate change impact. Ultimately it will contribute to mitigate the lost from the flooding, extreme drought and sea water intrusion.</p> <p>The lost estimated: from flooding Rp. 6,314,000,000 per year. From drought Rp. 64,016,000,000, from sea water intrusion Rp. 28,280,000,000. Total lost from the three climate related disaster events estimated to be Rp. 98,610,000,000 per year.</p>

	Rp.100.000.000; hence through this program it is more effective against the cost spent by village government to produce village map using third party service.	
Climate change adaptation forum	This activity involved 40 people from the village government and sub-district government. The cost for this activity is Rp.26,670,000. this is a forum for policy makers in developing integrated watershed management and climate change adaptation action plan. The forum is very effective in building common ground to create a program in overcoming the problems found in the village. The effectiveness of this forum is also to hack into the selfishness of each village that has only been concerned with their respective regions. In term of the expected impact, the activity will be effective to contribute to build resilience of the community; with relatively less cost.	Same as above
Village mid-term development planning (RPJMDes) integrating climate adaptive watershed management	The climate adaptive watershed management integrated RPJMDes will involve 738 people in 14 villages at a cost of Rp. 604,672,500. The average costs incurred by each village is as much as IDR 33,592,916. This is much cheaper compared to the funding used by the village government is around Rp.50,000,000 on formulating the RPJMDes.	Same as above
Climate Adaptive Village Land Use Planning	This activity will be carried out at 14 villages involving 630 people. Costs incurred for this activity amounted to Rp. 655,290,000. Average, each village spends a budget of	Same as above

	Rp.36,405,000. Against the third party service the program cost for this activity is cheaper, the average market cost for this kind of service is Rp. 50.000.000.	
<b>2. Resilience of people in Indigenous people of Ammatoa Kajang customary area enhanced and vulnerability to climate risk reduced</b>		
<b>Output 2.1:</b> Climate adaptive sustainable livelihood models practiced at 14 villages in 3 watershed landscape in Indigenous People of Ammatoa Kajang customary area.		
Agro-forestry Practice and application	This activity was carried out in 18 villages with a total of 900 families. The cost for activities is Rp.1,179,450,000. The implementation of this agroforestry farming system is at least 0.5 ha per family. So that it requires an area of 450 ha. Average costs incurred for each land are Rp. 1,310,500 / 0.5 ha of land. And average Rp. 1,300,000 per household. In term of the output the activity will give around Rp. 20.000.000 addition to household income per year per household; hence the activity has cost-effectiveness.	From this activity 900 household will be the recipients of beneficiaries are expected to be able to get economic added value in amount of around Rp. 20.000.000 per year per household. Rp. 18,000,000,000 per year for 900 household
House yard gardening	It will be done In 14 villages, each village has one climate-resilient women group with. 25 members. Total climate resilient women in 18 villages as many as 450 household. The costs for activities are Rp. 1,007,190,000. Averaged, the cost of each person to make a garden is as much as Rp 2,238,200. This is quite efficient compared to government programs that can double the cost. In term of the output of the garden; it will reduce household expenses by Rp. 3,650.000 per year by producing their own vegetables and ingredients. If	Through this activity, it is expected that it can reduce household expenditure every day and can increase family nutrition from the garden. The output of the garden could reach Rp. 3,285,000,000 per year for 450 household.

	it is counted for 900 household it will give back economic value up to Rp. 3,285,000,000 per year.	
Compost hole	This activity will be carried out by 14 groups of climate-resilient women with a total of 450 people. This compost hole is made near the house as an alternative to chemical fertilizer that can be applied to their garden. The cost for making this compost hole is Rp. 307,710,000. Average costs is Rp.683,800 / compost hole. It will save around Rp. 200,000 per planting season or it can reach Rp. 1.200.000 per year. Give back economic benefit up to Rp. 540.000.000 per year for 450 household. More than the cost spend for the activity.	Women no longer spend money to buy fertilizer for their plants. Money can be saved for other needs. . It will save around Rp. 200,000 per planting season or it can reach Rp. 1.200.000 per year. Give back economic benefit up to Rp. 540.000.000 per year for 450 household.
Biomass cookstove	The cost estimated to be around Rp. 880,200,000 with the number of beneficiaries of 450 families. Average Rp. 1,956,000 / piece. Comparing to conventional petroleum gas stoves in general this is more expensive. However, for long-term need, it is more efficient because the cost is only Rp.450 per month with an average usage of 6 hours per day. In addition, it can reduce wood use by up to 80%. This means that this is very suitable in the area around the forest to reduce forest encroachment. It will give back economic value for Rp. 324.000.000 per year for 300 household.	With biomass stoves, the community can reduce the expenses for 3 kg petroleum gas. The average use every month is 3 gas cylinders of 3 kg. One gas cylinder at Kajang costs Rp. 20,000. This means that every month people spend Rp. 60,000 to buy gas cylinders. If calculated, in one year the community must set aside Rp.720,000 to provide gas cylinders. With this biomass stove, people can save Rp.720,000 every year. Rp. 324.000.000 per year for 450 household.
Integrated farming system	This activity will be carried out in 14 villages with the number of direct beneficiaries of 450 families divided into 14 groups. Each group has 25 members. Total costs is Rp	One female goat gave birth 3 times for 2 years with 5 goats. This means that with the number of brooders 25 goatsts with an average birth of 5 goats for 2 years, the

	<p>3,485,153,988 in 14 groups. If averaged, each group costs Rp.193,619,666. Each group will be given 25 female and 3 male goats. It will give back economic value for Rp. 225.000.000 per group per year or Rp. 4,050,000,000 per year. More than the cost spend for the activity. It will also benefit from the fertilizer from the goat dunk, calculated Rp. 2,000,000 per month per group, it will reach Rp. 288,000,000 per year for all 18 groups.</p>	<p>goats in each group reached 125 goats. Goat average price is Rp. 1,800,000, one group gets Rp. 225,000,000 from the sale of 125 goats. It will be Rp. 4,050,000,000</p> <p>In addition, each group will get benefits from managing goat manure into compost. This compost fertilizer can reduce the use of chemical fertilizers, up to Rp. 288,000,000</p>
System of Rice Intensification	<p>The SRI is the rice cultivation system that is resistant to climate change This activity will be carried out in 18 villages with the number of direct beneficiaries is 450 families. The cost is Rp. 602,730,000. Averaged cost of 0.5 ha per household is as much as Rp. 1,399,400. It will increase the income from the rice field up to Rp. 3.000.000 per ha; hence in term of the output this activity is effective.</p>	<p>The application of the SRI system to the community will increase the economics of household by an average of 3 to 4 million rupiah per family. Hence from the project it will give economic benefit up to Rp. 900,000,000 per season or Rp. 1,800,000,000, more than the activity cost spend from the project.</p>
Banana planting	<p>This activity will be carried out in 14 villages with the number of direct beneficiaries are 450 families. The cost of this activity is Rp. 1,198,806,000. Averaged for each family of one hectare, then the cost of each hectare is IDR 2,664,013. From the banana planting the household can increase income each of Rp.750,000 / month. Rp. 9,000,000 per year per household. Rp. 4,050,000,000 per year for 450 beneficiaries.</p>	<p>From the banana planting the household can increase income each of Rp.750,000 / month. Rp. 9,000,000 per year per household. Or the economic value output of the activity could reach Rp. 4,050,000,000 per year for 450 beneficiaries.</p>
Seed bank	<p>To preserve the local seeds of Indigenous People of Ammatoa Kajang, thereby</p>	<p>Very high cultural intangible value and benefit from the activity. It will ultimately</p>



	reducing the cost of purchasing seeds. This seed bank is to preserve the local seeds and to maintain the quality of local seeds and ensure timely availability. The proposed budget for this activity is IDR 255,315,000. The benefit of the activity is priceless; so it should be regard as very cost-effective.	contribute to the community resilience.
Strengthening indigenous farmers groups.	Strengthening indigenous farmers groups This activity will be carried out in 14 farmer groups located in 14 villages with 300 people who will be involved. Costs to be incurred for activities Rp. 63,380,000. from this activity, farmer groups can recognize the concept of adaptive agriculture and apply it to their own land	By strengthening the indigenous farmers group it will contribute to the improvement of capacity and increasing resilience of the community toward climate change impact. Ultimately it will contribute to mitigate the lost from the flooding, extreme drought and sea water intrusion. The lost estimated: from flooding Rp. 6,314,000,000 per year. From drought Rp. 64,016,000,000, from sea water intrusion Rp. 28,280,000,000.
Field school for mangroves	This activity was only carried out in one downstream village involving 30 participants which lasted for 3 days. The cost for this activity is IDR 44,670,000. The participants were representatives from 18 villages. this activity is a learning process to recognize the benefits and functions of mangroves as ecosystem providers in the downstream region.	it will contribute to the improvement of capacity and increasing resilience of the community toward climate change impact. Ultimately it will contribute to mitigate the lost from the sea water intrusion. The lost estimated: from sea water intrusion Rp. 28,280,000,000. Per year.
<b>3. Pro-climate integrated watershed management and climate change action plan integrated into regency development plan.</b>		
Policy Advocacy	For this district-level policy advocacy will spend budget Rp. 254,142,000 for the whole process.	The total regency budget to support climate change adaptation in Indigenous People of Ammatoa Kajang

		<p>allocated as the result of the policy advocacy is at least approximately Rp.1,725,000,000 / year.</p> <p>At the village level, the budget related to integrated watershed management will be about at least Rp. 70,000,000 per village / year with total budget from 18 villages is around Rp. 1,260,000,000.</p>
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*D. Describe how the project / programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist.*

This project is consistent with national socio-economic priorities, national climate change priorities and national disaster risk management priorities.

Indonesia has a National and International obligation to adapt and mitigate climate change strategies in order to minimize the adverse effects of climate change and disasters. Indonesia, aside from being a developing country that is categorized as vulnerable to the adverse effects of climate change, has the right to receive funds from the Adaptation Fund. And, the proposed project location, as discussed in this proposal, is vulnerable to a number of factors of climate change and therefore local governments, village governments need to increase adaptive capacity to overcome the situation.

To anticipate the negative impacts of climate change, the Indonesian Government has carried out various climate change adaptation efforts, including the preparation of national policy documents to address the impacts of climate change, such as the Indonesia Adaptation Strategy (Bappenas, 2011), National Action Plan for Climate Change Adaptation (DNPI, 2011), Indonesia Climate Change Sectoral Road Map (Bappenas, 2010), National Action Plans Facing Climate Change (Ministry of Environment, 2007) and sectoral adaptation plans by Ministries / Agencies. A document on the Strategy for Mainstreaming Adaptation in National Development Planning (Bappenas, 2012) has also been prepared

The National Action Plan - Adaptation to Climate Change (RAN-API) in Indonesia has recognized the threats and adverse impacts of climate change and has identified the agricultural sector as a highly influenced sector. In addition, most rural populations, especially the poor, depend on agriculture and livestock for community livelihoods. Therefore, the Government of Indonesia through Nawacita has committed to implementing measures that will improve food security amid the ongoing climate change. Through the management of the Watershed (DAS) in an integrated ways, it becomes an important part in accordance with the mandate of Government Regulation (PP) No. 37 of 2012, concerning integrated watershed-based approaches as a priority strategy in managing natural resources.

**E.** *Describe how the project / programme meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.*

The overall objective of the project is in line with the national regulation of Forestry and Environment Ministry to the recommendations of the State Action Plan on Climate Change. Apart from that the project would also adhere to the national scientific criteria with regard to adaptation such as economic, social and environmental benefit etc.

None of the proposed project activities need further asses toward any national technical standard regarding to environmental and social assestement. If any, further assessment will be applied.

**F.** Describe if there is duplication of project / programme with other funding sources, if any. This program has been designed to align and coordinate with another programmes initiative. At Bulukumba, there are relevant programmes or initiatives from sectoral strategic plan of government and initiated by NGOs.

First, 'Program Kampung Iklim' or Climate Village Programme is ongoing programme from Bulukumba's government handled by Bulukumba Environment and Forestry Agency is. This program aim to enhance awareness about climate change to take adaptation and mitigation actions in structural way. In Bulukumba there are two villages that established as 'Climate Village' that located in upper land. This programme will be spread to another villages to support mission of Bulukumba government to establish the five community groups to manage the Climate Village named 'Kampung Iklim'. As the initiative, government has launched Climate Village Forum as a space to discuss and coordinate about mitigation of climate change.

The proposed programme to Adaptation Fund is designed to support and will complementary government initiative above. When government established two villages as Climate Village at Upper land, this proposed program will strengthen resilience of communities from climate change impacts at 18 villages in wilayah adat

**G.** *If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.*

The transfer of knowledge generated through this project is very important because it will take into account current and future climate change scenarios. These projects are expected to produce important learning in terms of building a shared understanding of land use that is adaptive to climate change.

In order to focus on concrete adaptation activities, however, this policy and policy linkages, and will work with other projects and initiatives to disseminate information as effectively as possible. The project will generate / record and disseminate explicitly as well as tacit knowledge. Explicit knowledge will be generated and shared with different stakeholders during meetings, workshops and / or through publications. Tactical knowledge (learning generated through implementation experience) will be documented in the shape of the process learning document for sharing / publication.

This program recognizes the importance of learning and knowledge management. During and after the program, some knowledge management will be provided; (1), Gathering basic information about the vulnerability of the climate change context in 3 watersheds in the Ammatoa Kajang Indigenous People area and the results will be disseminated through brief reports to the government and the community. (2). Make infographics and videography for public audiences. (3) FGD activities, public consultations, workshops are part of learning for village governments and communities in 36 villages that have also involved as stakeholders. At the district government level (4), workshops and public consultations will be disseminated through websites, newspapers local and local radio in Bulukumba district.

All the knowledge management and lesson learned component will be arrange in Bahasa Indonesia as all the stakeholder in the region including involved including the indigenous people of Ammatoa Kajang know Bahasa Indonesia, and it will be more effective using Bahasa rather than local language; therefore using Bahasa for the learning and knowledge sharing should be enough.

**H.** Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy of the Adaptation Fund.

There have been many discussion and consultation with various parties upon the preparation of the proposal, besides to gather basic information, the consultation also informally asking for agreement for possibility to apply fund for adaptation effort to tackle the community issues related to climate change. The consultation process illustrated as follows:

Parties consulted	Consultation process
The head of the Tanah Towa village and the Lembanna Village	Consultation with the village head of Tawa and Malleleng to discuss the situation in Kajang. As a village government, there has been a lot of information about the water crisis, erratic weather, crop failures faced by the community and processes of land use change in the Ammatoa Kajang Indigenous People there have been also discussion of possibility to apply for funding for adaptation project to address the issues.
Kajang sub-district government	Consultations with the Kajang sub-district government provide much information about the situation of the villages in the Ammatoa Kajang region. from the results of the consultation we were informed about the difficulties faced by Ammatoa Kajang facing the dry season. In the dry season there are many people who buy water for household clean water

	needs. This reinforces the results of previous findings regarding the amount of money spent by the community to buy clean water.
The Environment and Forestry Office	Consultation with the head of the Department of Environment and Forestry provides information on the deteriorating conditions of the watershed in Kajang. from the results of these consultations we obtained data and information about the area of rice fields that had been turned into unproductive fish ponds. This lack of productivity is also influenced by the lack of public knowledge about pond management and the loss of mangrove forests.
Office of Water Resources Management	From this consultation we obtained information about the difficulties of clean water caused by the reduction of trees in the upstream area. At the upstream there are many changes in cropping patterns that were once long-term plants converted into short-term plants. Changes in these plants affect the decline in water discharge which has an impact on the clean water crisis in the downstream region.
Vice head of Regency of Bulukumba≈	From this consultation, we obtained information that in Bulukumba there is no policy at the district level that can support and strengthen communities in adapting to climate change. from this consultation we also found data and information about the still weak local government in building an integrated development policy.

I. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

In the adaptation perspective the implementation of proposed project will focusing on enhancing resilience and reducing vulnerability. This aim will be achieved through improving capacity of the community by advancing economic resilience of the household, and improving capacity toward climate related risk and hazards.

The absence of the intervention of the project, it can be clearly stated that the community surrounding Indigenous People of Ammatoa Kajang customary area will continuously suffering from severe impact of disasters related to climate change, namely flood, extreme drought, and sea water intrusion. The economic lost can reach IDR. 98,610,000,000 (US\$. 7,043,571). Besides, the environmental damage will be worsen if the circumstances persist.

the policy advocacy aspect of the project will ensure the sustainability of the approach, especially the watershed management approach for adaptation to climate change.

Below is the scenario and justufucation why the proposed project intervention become important.

Component	Baseline (without AF)	Additionality (with AF)
<b>Outcome 1:</b> Management and governance of three watersheds inside the Indigenous People of Ammatoa customary area improved..	The environmental supporting capacity of the watershed inside the Ammatoa Kajang Indigenous People area keep decreasing, causing disasters that triggered by climate change, such as flood, extreme drought, and sea water intrusion. These events have caused a huge lost to the community.	The lost from the climate risk disasters reduced, the number of peoples affected by disasters significantly reduced, the frequency of the disasters reduced.
<b>Outcome 2:</b> Resilience of people in Indigenous people of Ammatoa Kajang customary area enhanced and vulnerability to climate risk reduced	Number of people affected by climate related disasters keep increasing, the economic lost increase every year. There have been around IDR. 98,610,000,000 (US\$. 7,043,571) lost every year recently at the Indigenous People of Ammatoa Kajang area.	decreasing on the number of people affected by climate change related dissters. The huge economic lost can be saved every year at the Ammatoa Kajang Indigenous People Area.
<b>Outcome3:</b> Pro-climate integrated watershed management and climate change action plan integrated into regency development plan.	The impact of climate change to the vulnerable community like Indigenous People of Ammtoa Kajang worsen because no commitment from the government to address the problem.	The impact of climate change can be reduced by increasing resilience of vulnerable community as the result of the government effort to address the issues, by putting them on policy and budgeting

- J.** Describe how the sustainability of the project/programme outcomes has been taken into account when designing the project / programme.

During designing of the project, taking views of different stakeholders consulted in different phases of proposal development, sustainability parameters are taken in to account. Sustainability of the project outcomes, beyond the life of the project is ensured through different strategies that are proposed in this project. The strategies, to be taken up (as discussed in this proposal) focus on different sustainability parameters and it is assumed to be achieved through participatory and community ownership approach. Capital investments, to be incurred under the project will have revenue generating options for its sustenance. The community infrastructures will be managed and maintained by the community, once they realise the benefits of the initiatives. For sustainability, the project will take two prong approach, i.e., sustenance of the process by the community, realising the benefits of adaptation measures and secondly, accessing resources from Government and other agencies, under different schemes / programme and managing / maintaining the project outcome and building upon it further.

Further, study reveals that long term sustainability of the watershed program can be achieved if there is improvement in the level of income of the beneficiaries. The dynamic model developed by the authors show that it is possible to achieve this if the watershed can generate a profit over its lifespan of the net present value. Study further emphasizes the importance of comprehensive approach of watershed development for its long term sustainability and significant impacts on the society . Examining contextually, the proposed intervention will sustain for a longer period as it is going to benefit the target mass, both directly and indirectly, supporting them enhancing their income. Apart from that, as the strategy to be adopted is comprehensive and integrated, it can be safely said that project will sustain after its life. However, sustainability parameters of the project and key elements that would contribute towards sustainability of project outcomes are discussed below.

#### Environmental Sustainability

Project activities will improve watersheds to be more resilient and adaptive to climate change. When the watershed improved through sustainable governance the environmental support capacity of the watershed will sustain. Carbon sequestration through agroforestry models and tree planting on critical land will have a positive impact and sustainable source of ecosystem services for the community. The land and water conservation system in the upstream watershed through terracing, infiltration wells and bio-pores will help not only to hold back the flow of water but also minimize the discharge of water into the river during the rainy season to reduce flooding.

The agroforestry system that will be implemented in the upstream area of the watershed will help minimize the dependence of the community on customary forests that are only 313.99 to support eco-system services in indigenous areas covering an area of 22,592.87 ha. Technological inputs other than agroforestry such as terracing, infiltration wells and bio-pore systems will help communities overcome the effects of floods and water crises that they experience throughout the year.

## Social & Institutional Sustainability

Social and Institutional sustainability, revolves around the community living in the watershed and their institutions / organizations. From the inception of the project, these communities have been involved, events in the design stage, as discussed earlier. As the project aims to build an institutional / organizational capacity for climate change situations and ensure their involvement in different stages of implementation, it can be assumed that initiated processes will be continued by the communities. Apart from this, for institutional sustainability, there will be resource generation and management strategies that will help the institution to grow longer and sustain the process.

The design, implementation and monitoring of the project will involve community-based organizations such as farmer groups, women's groups, etc. Not only the involvement of groups at the community level but also the involvement of village government as the smallest State institution in the village that will participate in the project planning, implementation and monitoring process. A number of steps were also taken by involving the Regency offices Bulukumba Regency to be involved in making climate change adaptation documents, regency regulations, village land use planning to facilitate learning and information sharing between each other. This is part of a strategy to facilitate communication and implementation for sustainability after the project ends.

## Economic and Financial Sustainability

This project will strengthen livelihoods and sources of income for vulnerable communities in 18 villages. As an agreement and their commitment to carry out natural resource management plans as actions to reduce the impact of disasters / climate risks and strengthen their economic resilience to the effects of climate change. Groups of women and groups of men will get assistance from this program to develop their sources of income and environmentally friendly welfare.

Funds will be used for women's groups in 18 villages by making a home garden and compost from household waste. This can be seen in the outcome of activities in 2.2 and 2.3. managing a home garden will help the community to save for buying vegetables that they often do in traditional markets in the Kajang customary area. This will also help fulfill public health nutrition to be resistant to weather changes that occur due to the effects of climate change.

In outcome 2.4 biomass stoves will be held to help the economy of the community to meet their kitchen needs in cooking. The use of eco-friendly and economical bio-mass stoves will help people, especially women, from dependency on using petroleum gas that cost at a price of Rp. 20,000 per tube.

Agriculture integrated with animal livestock will be carried out by procuring goats for poor groups. This will be an alternative income as a result of crop failures due to droughts and floods that occur every year in the Ammatoa Kajang Indigenous People customary region.



- K. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project / programme.

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
<i>Compliance with the Law</i>	<p>This project is designed to implement and design a climate change action plan model that is in accordance with LHK Regulation No.P.33 of 2016 concerning Guidelines for Preparing an Action Plan for Adapting to Climate Change.</p> <p>In implementing this project referring to Law No. #6 2014 concerning Villages. this project is also Law No.26 of 2007 concerning Spatial Planning.</p> <p>In addition, this project also in line with Government Regulation (PP) No.37 of 2012, concerning integrated watershed management. To support the protection and empowerment of MHA Ammatoa Kajang along with rights to its territory including customary forests. This project will refer to the local legal product, PERDA N0. 09 of 2015 and PERBUP No. 40 of 2018 concerning Empowerment of Ammatoa Kajang Indigenous People.</p> <p>And law products from the Ministry of Environment and Forestry concerning the establishment of Kajang customary forests with SK numbers. 6746 / MLHK-PSKL / KUN.1 / 12/2016, Minister of Environment and Forestry Regulation No. 7 2018 on Guidelines for Vulnerability, risk, and climate change impact study, Technical Guidelines for Preparing Action Plans for the Sustainable Development Goals of the Ministry of National Development Planning / Bappenas in 2017, Minister of Environment and Forestry Regulation No.33 of 2016 on Guidelines for Preparing Climate Change Adaptation Actions, Directorate General of Natural Resources and Ecosystem Conservation Regulation No.6 on Appropriate conservation partnership technical guidelines Regulation. Directorate General of Natural Resources and Ecosystem Conservation Regulation No.12 of 2015 on Guidelines for Procedures for Planting and Enriching Types in</p>	- None

	the Framework of Restoration of Mainland Ecosystems in Natural Reserve Areas and Nature Conservation Areas.	
<i>Access and Equity</i>	The project provides fair and equitable access to the project beneficiaries and will not be impeding access to any of the other requirements like health clean water, sanitation, energy, education, housing, safe and decent working conditions and land rights.	None
<i>Marginalized and Vulnerable Groups</i>	The project is basically aimed at providing opportunity to marginalized community living in the programme area participation in decision making processes in development schemes as well as to enhance their livelihood and income and as such will not have any adverse impact on other marginalized and vulnerable groups.	None
<i>Human Rights</i>	The project does not foresee any violation of human rights	
<i>Gender Equity and Women's Empowerment</i>	This project conducting gender based activity to enhance participation of all gender to contribute . Targets have been set for coverage of women in all the project's interventions related to training and other capacity building activities. This will ensure that women will have equal access to information and acquisition of skills under the project. -	Low Management of the risk: The project design have emphasized on the equal opportunities to get benefit from the project for all groups including women and men. With participatory way, using gender analysis and gender stakeholder consultation the project will ensure the involvement and participation of the women in the implementation of the project project by, not only give portion of women participation (minimum 30%) in all relevant project activities, but also design several specific activities for women, such as field school on yard gardening and workshop on the women role on the climate

		change adaptation action, etc., such activities are to ensure the equality and empowerment for women group. The project will ensure women engagement in several key project activities, such as participatory mapping and watershed management forum. The beneficiary unit of the project is also the household, the project will guarantee that the representation of the households should be not less than 30% are women.
<i>Core Labour Rights</i>	Payments to labour under the project will be made as per Government approved norms duly following minimum wage rate and hence ensuring core labour rights.  No further assessment required for compliance	
<i>Indigenous Peoples</i>	The main target of the project is Indigenous People of Ammatoa Kajang	Implementation program ignore local knowledge of indigenous people. Management of the risk: The implementation of the project will always respect and consult the indigenous people knowledge as they are the main beneficiaries and key stakeholder of the project.
<i>Involuntary Resettlement</i>	The programme does not displace any community and hence issue of resettlement does not arise	None
<i>Protection of Natural Habitats</i>		None
<i>Conservation of Biological Diversity</i>		None
<i>Climate Change</i>	The project supports enhancing the adaptive capacity of the vulnerability community against adverse impacts of climate change and is not expected to contribute to GHG emissions	- None
<i>Pollution Prevention and Resource Efficiency</i>	Communities use more plastic materials in their activities	Low. Management of the risk: Project will develop a plastic material waste

		disposal procedure for the all project activities. For the resource efficiency, the project will ensure the project part will utilize local available resource and make sure to always consider the sustainability of resources use.
<i>Public Health</i>	No adverse impact on public health related issues is envisaged.  No further assessment required for compliance	Low
<i>Physical and Cultural Heritage</i>	No adverse impact on cultural heritage related issues is identified.  No further assessment required for compliance	None
<i>Lands and Soil Conservation</i>	Catchment area treatment is envisaged to help in land and soil conservation and will not create any damage to land & soil resources.  No further assessment required for compliance	None

### PART III: IMPLEMENTATION ARRANGEMENTS

#### A. Describe the arrangements for project / programme implementation.

<b>Stakeholders</b>	<b>Roles and responsibilities</b>	<b>Related to program coordination and report</b>
Kemitraan Indonesia	This program will be implemented with Kemitraan Indonesia as Implementing Entity have responsibilities for supporting Perkumpulan PAYO-PAYO as execution entity to reach programme outcomes (implementation and evaluation).	Coordination and supporting Perkumpulan PAYO-PAYO programme.
Perkumpulan PAYO-PAYO and OASE	Perkumpulan PAYO-PAYO responsibility as execution entity to implement set of activities to reach program outputs and outcomes. For the execution of activities It will collaborate with OASE Bantaeng as the organization that have experience working with Indigenous People of Ammatoa Kajang in Bulukumba	Coordination and send report to Kemitraan Indonesia. Coordination with Bulukumba Government, Village government and community.
Board Council	Board responsible to make decision of program management and quality of programme and financial transparency.	Coordination
Executive director	Who manage and approve programme, controlling quality of program and budget execution	coordination

Program Manager	Program Manager responsible to ensure the quality of program is run well based on work plan, time schedules and cost. Complement the progress report, programme report.	Coordination and making progress report
Finance Manager	Finance Manager has role to approve and control the budget execution cost and making finance reporting and contractual cost management	Coordination and finance reporting
Program Officers/Village Facilitators	Program officer will execute sets of activities, output and outcome at village level. Facilitate operation of the program such; community development work, financial management execution and programme activities reporting.	Coordination, implementing day to day program, making activity report.
Consultant/Expert	Expert will deliver specific output or activity based on contractual.	Implementing and making report

**B.** Describe the measures for financial and project / programme risk management. Details on identified risks, the perceived level of those risks, and the planned mitigation measure are presented below:

Risk	Level of Risk	Mitigation Plan
Multi-stakeholders Climate Change Adaptation and Watershed Management Forum cannot be established	Low	Intensive approach to all respective stakeholders and comprehensive and intensive discussion on the importance of the forum with all the stakeholders. It will also involving the authority of the head and vice head of regency
Stakeholder do not understand the importance of landscape based approach toward watershed management.	Medium	Intensive discussion series involving all respective stakeholders both formal and informal discussion, and awareness rising continuously done by the project facilitators during their stay at the field/site. Project facilitators required to live in at the villages where the project carried out.
Region-based and Sectoral egoism among stakeholders	Medium	Effort to fine-tuning perspective on watershed management and the risk of climate change. It can be done through discussion involving all stakeholders. And effort finding the crosscutting issues that will bridge the interest of all stake holders. Effort to give understanding to all stakeholders that the watershed landscape is inter-connected.
Community refused to get involved on the program	Low	There should be social preparation at the initial phase of the program. The project facilitators are required to live in at the villages project site. The approach should be with community organizing

		strategy, not “project-based” approach.
It is difficult to find land for demonstration plot for activities that need demonstration plot	Low	There should be social preparation at the initial phase of the program. The project facilitators are required to live in at the villages project site. The approach should be with community organizing strategy, not “project-based” approach.
The regency offices not willing to commit for pro climate budgeting for their programs.	Medium	Approach and lobby to the regency development agency and the head of district and vice head of district.
Technology is not available and not suitable, for activities that need technology input	Low	The technologies that will be introduce are the appropriate technologies. The suitability will be tested before hand
Synchronization with village mid-term development plan is difficult	Medium	Tuning the timing of formulation of annual village development budgeting with the program.

**C. Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy of the Adaptation Fund.**

ESP Adaptation Fund	Compliance measure
Compliance with law	The project suitable with the law and policy of the government at national, province and regency level. Such as act #17 2014 about Climate Change Protocol Ratification.
Access and equity	By design the project have taken into account the inclusion and equity of all venerable groups of the community.
Human rights	No human right violence cause by the project.
Gender and Women Empowerment	The project design to encourage and advancing the meaningful participation of women in all part of the project activities.
Core Labour Rights	The project will work in the frame of labour right law, any part of the project that need to compliance to the labour right will be taken into account.
Indigenous People	The special focus of the project is Indigenous People of Ammatoa Kajang at Bulukumba Regency. The main beneficiary of the project will be the Indigenous People of Ammatoa Kajang.
Involuntary Resettlement	There will be component of the project that will required resettlement.

Protection habitat	In most of the mitigation part of the project will contribute to the protection of the habitat.
conservation of Biological Diversity	Biological diversity will be main part of the project, there will be activities related directly to the conservation action, such as mangrove conservation. The mangrove conservation would contribute to the marine biological diversity
Climate Change	The project main objective is enhancing resilience of the Indigenous People of Ammatoa Kajang toward climate change.
Pollution prevention and resource efficiency	No activities of the project will emit any pollutant that required mitigation.
Public health	No negative impact of the project to the public health
Physical and cultural heritage	No physical and cultural heritage will be affected by the project
lands and soil conservation	The project having especial component for land, soil and water conservation.



**D. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan.**

Based on the result framework presented below a monitoring and evaluation system will be prepared. Based on the baseline done at the time of project starting bench-mark for each of the proposed interventions would be firmed up. The system will encompass a clear data collection and compilation plans for monitoring qualitative as well as quantitative results indicators using appropriate methods and tools. Data will be collected periodically at specified intervals and analyzed to track the progress.

It will use result based framework or logical framework approach for the evaluation

<b>Type of M &amp; E</b>	<b>Responsible parties</b>	<b>Budget (US\$)</b>	<b>Timeframe</b>
Quarterly monitoring	Project Management	200	Every quarter of project period
Half year report	Project management	400	After six month project running
Annual evaluation	Project management Community members	400	And of one project year
Project end evaluation	External evaluator Regency government Community members	1500	End of project
Finacial Audit	External auditor	5000	Every year of project

**E. Include a results framework for the project proposal, including milestones, targets and indicators.**

	<b>Indicator</b>	<b>Target</b>	<b>Milestone</b>
Project Objective/Impact			
enhance climate resilience and build adaptive capacity toward climate change for vulnerability community through sustainable integrated watershed governance in Indigenous People of Ammatoa Kajang Costumary Area in Bulukumba, South Sulawesi Province.	Decreasing of # of people impacted by the climate related disaster reduced  # of people have capacity to cope with the impact of climate related risk and hazard	25 % of people at 3 watersheds area in Indigenous People of Ammatoa Kajang Customary Area.  Increase to 25% from the baseline	The end of Project by 2021  The end of Project by 2021
Outcome 1:			
Reducing climate change vulnerability and risk by improving management and governance of	# of vulnerable people to climate risk reduced in the Indigenous People of Ammatoa Kajang.	Reduced by 25%	The end of Project by 2021

watersheds in Indigenous People of Ammatoa Kajang customary area in Bulukumba.	# of climate related hazard occurrence reduced at watersheds area in the indigenous People of Ammatoa Kajang area.	Reduced by 30%	The end of project by 2021
<b>Outcome 2:</b>			
Enhancing resilience of people in Indigenous People of Ammatoa Kajang customary area with climate adaptive sustainable livelihood development and climate mitigation actions.	# of people have economic resilience to face impact of the climate change.	Increase by 25% from baseline	The end of project by 2021
	# and width of area mitigated from climate related risk and hazard at the 3 watershed landscape.	Increase 30% from baseline	The end of project by 2021
<b>Outcome 3</b>			
Advancing Sustainable Integrated Watershed Governance adaptive to Climate Change on regency development planning and development budgeting in Bulukumba regency.	Regency regulation on Climate Change Adaptation Action Plan & Integrated watershed Management is signed and released.	There is regency regulation signed and release from none	The end of project by 2021
	# of government offices and agencies integrated the Climate Change Adaptation Action Plan and Integrated Watershed Management.	At least 10 government offices and agencies	The end of project by 2021
	Amount of budget allocated for Climate Change Adaptation Action Plan & Integrated Watershed Management at Regency budgeting	5% from the total budget of each offices and agencies	The end of project by 2021
<b>Ouput 1.1.</b>			

Multi-stakeholders watersheds management forum established at three watershed inside the Indigenous People of Ammatoa Kajang customary area.	Establishment of integrated watershed management forum & Climate Change Adaptation forum  # of parties involve in the established forum	3 forum, 1 forum each watershed area  At least 50 parties (government offices & agencies, village government, cso)	Mid-term of project by 2020  Mid-term of project by 2020
<b>Output 1.2.</b>			
Watersheds governance planning and action documents formulated and agreed among stakeholders	Formulation of watersheds governance planning  Formulation of action plan for integrated watershed management	1 Document of integrated watershed management for each watershed area.  1 set of action plan for each watershed area	Mid-term of project by 2020  Mid-term of project by 2020
<b>Output 2.1.</b>			
Climate adaptive sustainable livelihood models practiced at 18 villages in 3 watershed landscape in Indigenous People of Ammatoa Kajang customary area	# of farmers practicing adaptive sustainable livelihood practice in the Indigenous People of Ammatoa Kajang Customary Area	1200 household  250 women	Mid-term of project by 2020
<b>Output 3.1.</b>			
Head of Regency regulation on watershed management and climate adaptation action is signed and released.	The release of regency regulation on integrated watershed management & climate adaptation action plan	One regency regulation from none	End of project by 2021
<b>Output 3.2.</b>			
Pro-climate integrated sustainable watershed management programs budgeted in the annual regency budgeting and Climate adaptive budgeting put into	# of offices Budgeted pro-climate watershed management & Climate Change Adaptation action plan	At least 10 government offices and agencies	End of project by 2021

regency annual budgeting	Amount of budget put in the development activities that pro-climate on the watersheds area in the indigenous people of Ammatoa Kajang customary area.	5% from the total budget of each offices and agencies	End of project by 2021
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**F. Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund**

<b>Project Objective</b>	<b>Project Objective Indicator(s)</b>	<b>Fund Outcome</b>	<b>Fund Outcome Indicator</b>	<b>Grant Amount (USD)</b>
Enhance climate resilience and build adaptive capacity toward climate change for vulnerable community through sustainable integrated watershed governance in Indigenous People of Ammatoa Kajang Customary Area in Bulukumba, South Sulawesi Province.	Resilience of the Indigenous People of Ammatoa Kajang improved through sustainable integrated watershed management  # of indigenous people have increased capacity and resilience toward climate related risks and hazards	Sustainable Integrated Watershed Management applied to improve resilience of community inside the Ammatoa Kajang Indigenous People customary area.	# of people have increased resilience toward climate change	<b>US \$ 1,125,052</b>
<b>Project Outcome(s)</b>	<b>Project Outcome Indicator(s)</b>	<b>Fund Output</b>	<b>Fund Output Indicator</b>	<b>Grant Amount (USD)</b>
<b>Outcome1:</b> Reduced climate change vulnerability and risk by improving management	# of vulnerable people to climate risk reduced in the Indigenous People of Ammatoa Kajang.	<b>Output 1.1.</b> Multi-stakeholders watersheds management forum established at three watershed inside the Indigenous People of	Establishment of integrated watershed management forum & Climate Change	US \$ 262,034

and governance of watersheds in Indigenous People of Ammatoa Kajang customary area in Bulukumba.	# of climate related hazard occurrence reduced at watersheds area in the indigenous People of Ammatoa Kajang area.	Ammatoa Kajang customary area.	Adaptation forum  # of parties involve in the established forum	
		<b>Output 1.2.</b> Watersheds governance planning and action documents formulated and agreed among stakeholders	Formulation of watersheds governance planning  Formulation of action plan for integrated watershed management	
<b>Outcome 2.</b>  Enhanced resilience of people in Indigenous People of Ammatoa Kajang customary area with climate adaptive sustainable livelihood development and climate mitigation actions.	# of people have economic resilience to face impact of the climate change.  # and width of area mitigated from climate related risk and hazard at the 3 watershed landscape.	<b>Output 2.1.</b> Climate adaptive sustainable livelihood models practiced at 18 villages in 3 watershed landscape in Indigenous People of Ammatoa Kajang customary area	# of farmers practicing adaptive sustainable livelihood practice in the Indigenous People of Ammatoa Kajang Customary Area	US \$ 684,039.
		<b>Output 2.2.</b> Mitigation actions at three watersheds landscape in Indigenous People of Ammatoa Kajang customary area done.	# of mitigation action done in the 3 watershed landscape inside the Indigenous People of Ammatoa Kajang Customary area	

<b>Outcome 3;</b> Advanced Sustainable Integrated Watershed Governance adaptive to Climate Change on regency development planning and development budgeting in Bulukumba regency.	Regency regulation on Climate Change Adaptation Action Plan & Integrated watershed Management is signed and released.	<b>Output 3.1.</b> Head of Regency regulation on watershed management and climate adaptation action is signed and released.	The release of regency regulation on integrated watershed management & climate adaptation action plan	US \$ 35,850
	# of government offices and agencies integrated the Climate Change Adaptation Action Plan and Integrated Watershed Management.  Amount of budget allocated for Climate Change Adaptation Action Plan & Integrated Watershed Management at Regency budgeting	<b>Output 3.2.</b> Pro-climate integrated sustainable watershed management programs budgeted in the annual regency budgeting and Climate adaptive budgeting put into regency annual budgeting	# of offices Budgeted pro-climate watershed management & Climate Change Adaptation action plan  Amount of budget put in the development activities that pro-climate on the watersheds area in the indigenous people of Ammatoa Kajang customary area.	

**G.** Include a detailed budget with budget notes, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.

**H.** Include a disbursement schedule with time-bound milestones.

No	Description	Time Line
1	Kick off of the project	November 2019
2	Six month after project start	June 2020
3	One year of the project upon approval of annual report	November 2020
4	Six month of the second year	June 2021
5	Final installment after termination of project and upon approval of final report	November 2021


Every disbursement based on the projected next six month fund needed for project execution.

**PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY**

**A. Record of endorsement on behalf of the government<sup>1</sup>** *Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:*

Tomy Satria Yulianto S.IP/ Vice District of Bulukumba	Date: January 18, 2019
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**B. Implementing Entity certification** *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

<p>I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (President Decree No. 16/2015; P.13/MENLHK/Setjen/OTL.0/1/2016; P.33/MENLHK/Setjen/Kum.1/3/2016; Indonesia Intended Nationally Determined Contribution/INDC; COP 21; Paris Agreement signed by Government of Indonesia; Book and Map of Information System of Vulnerability Index Data (SIDIK); Permen-KP No. 2 year 2013; Climate Change Adaptation National Action Plan) and subject to the approval by the Adaptation Fund Board <u>commit to implementing the Project in compliance with the Environmental and Social Policy of the Adaptation Fund</u> and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this Project..</p>	
	
<p><b>Monica Tanuhandaru</b>  <b>Executive Director of Partnership for Governance Reform in Indonesia (Kemitraan)</b>          Implementing Entity Coordinator</p>	
Date: 5 August 2019	Tel. and email: +62-21-7279 9566; Monica.Tanuhandaru@kemitraan.or.id
<p>Project Contact Person: <b>Dewi Rizki</b></p>	

<sup>6</sup>. Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.



Tel. and Email: +62-21-7279 9566; [Dewi.Rizki@kemitraan.or.id](mailto:Dewi.Rizki@kemitraan.or.id)