Project Idea Note (PIN)

Project Title:

Conversion of unproductive farmland grasslands to an organic Moringa food forest in South East Sulawesi, Indonesia



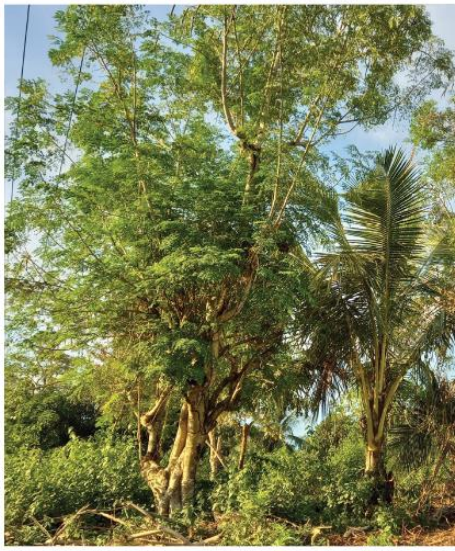

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Table of Contents

Summary Information

Project Title	Buton Moringa Food Forest
Project Location – Country/Region/District	South East Sulawesi – Indonesia Buton Island There will be 5 villages involved in the project. Four from the South Buton Regency, and one from the Baubau City Jurisdiction.
Project Coordinator & Contact Details	Dr. Tim Coles, rePLANET, Wallacea House, Old Bolingbroke, Spilsby, Lincolnshire, PE23 4EX
Summary of Proposed Activities (Max 30 words)	To convert communal unproductive farmland and grasslands to a Moringa agroforestry food forest with a view to improving soils, creating a diverse food forest, and improving financial and food security for the villages concerned.
Summary of Proposed Target Groups (Max 30 words)	Villagers in South Buton (4 villages) and Baubau City (1 village) – a total of 1638 families.

Part A: Project Aims & Objectives

This Project aims to sequester Carbon Dioxide whilst improving farming practices and land use management in areas of low productivity. The land that will be used for this project has been used as farmland for generations and is part of a slash-and-burn shifting agricultural system. Much of it has not been used for 15+ years, due to poor thin soils.

This will be achieved through the creation of “Moringa food forests” and “Moringa farms”. Moringa is a fast growing, non invasive, highly productive crop which is naturalised in Indonesia and many other parts of Asia. It has excellent carbon capture potential, and is highly productive (the leaves, seeds, and pods are all edible and are regularly sold).

The project intends to drive improvements in food security and livelihoods in the region. This will be aided by an investment and engagement programme which will develop drying facilities for Moringa products in the target areas, and a centralised processing plant which will enable local producers to develop their moringa production businesses to gain access to the export markets. This process will be overseen by a local operator which will help build business capacity within the target areas. This operator has had considerable interest for the programme already, having already received order intent notifications from purchasers in Jakarta.

Part B: Proposed Project Area

B1) Description of Project Location

The project will take place on communal land *(Tanah Adat)* and in a few cases privately owned land, in 5 villages. Four of these are in the South Buton Regency and one is in the Baubau City Jurisdiction. In total across these 5 villages there are 1560ha which would be suitable for planting Moringa. We are intending on planting 700ha in total, with the following approximate distribution:

Village Name	Regency	Total area available (Ha)	Total area to be planted	Moringa forest area	Moringa farm area (Ha)

			(Ha)	(Ha)	
Lapandewa Kaindea	South Buton	450	200	180	20
Lapandewa Makmur	South Buton	600	200	180	20
Burangasi	South Buton	240	100	90	10
Hendea	South Buton	220	150	140	10
Kaisabu Baru	Baubau City	50	50	40	10

Table 1: Distribution of target areas within South Buton Regency, and adjacent jurisdiction of Baubau City.

Maps obtained from the local Forestry Department (BPKH) confirm that the land being considered for this proposal lies outside of Forestry Department regions of Protected Forestry (*Hutan Lindung*). We also have maps from the Ministry of Environment and Forestry which show that all areas targeted are outside of the Indonesian Nationally Determined Contribution (NDC) Map.

The following maps show the areas involved.

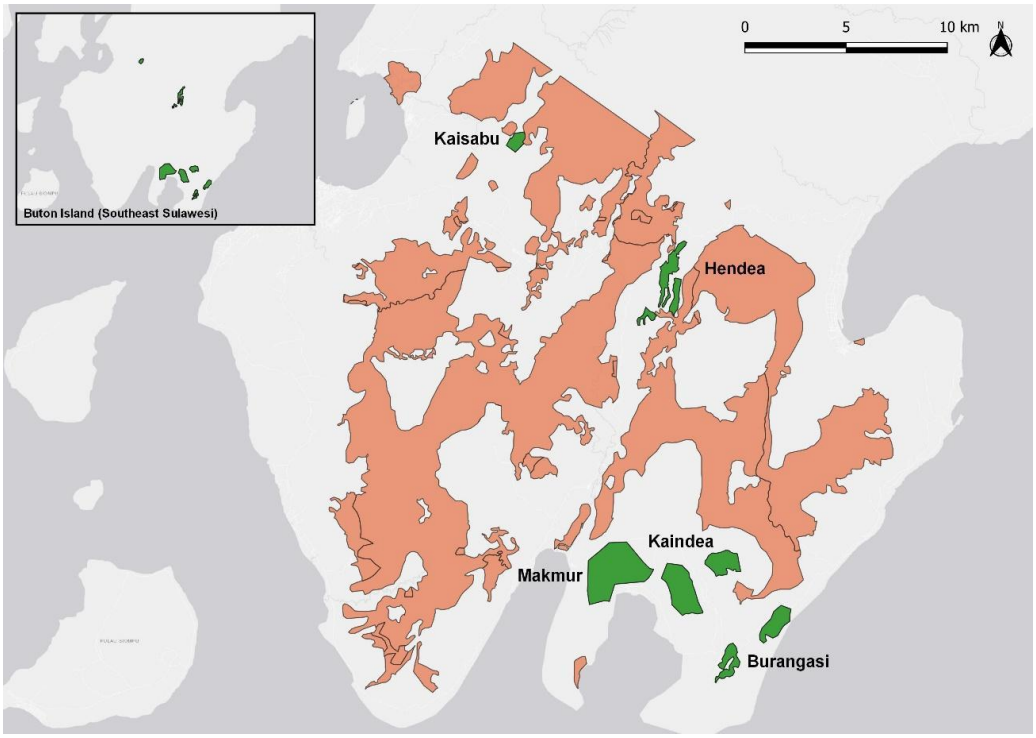

Figure 1: Communal Land (Tanah Adat) locations of the 5 villages on Buton Island, SE Sulawesi. Green Areas indicate areas allocated for this project.

In the following table the green outlines indicate areas of communally owned land allocated for this project. Orange represents nearest areas currently included in Indonesia's NDC, light blue represents Protected Forestry.

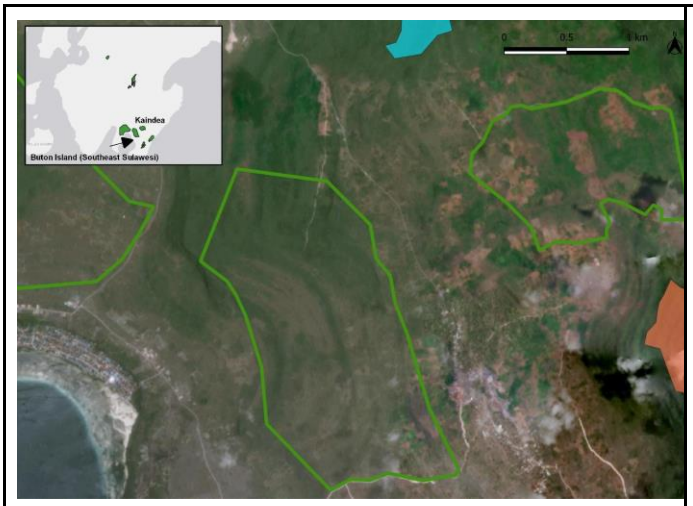

Figure 2: Lapandewa Kaindea. The total area is 450ha, however only 200ha from within the allocated area will be used for planting Moringa.

Figure 3: Lapandewa Makmur. The total area is 600ha, however only 200ha from within the allocated area will be used for planting moringa.

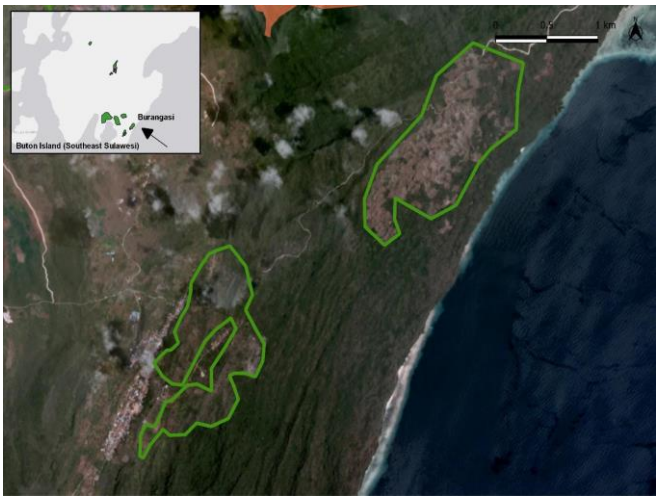

Figure 4: Burangasi. The total area is 240ha, however only 100ha from within the allocated area will be used for planting moringa.

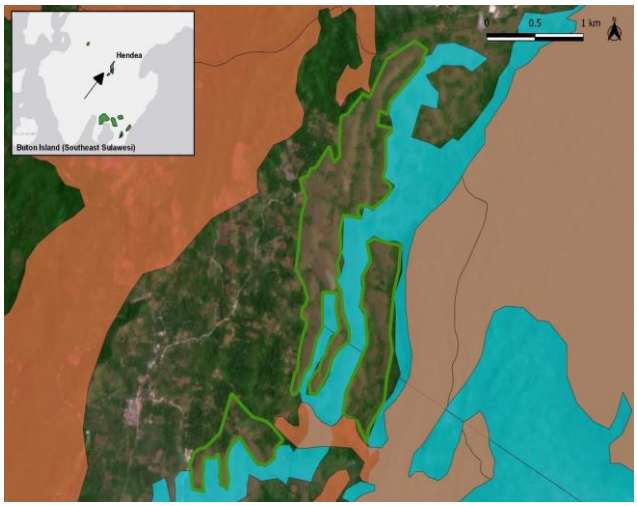

Figure 5: Hendea. The total area is 220ha, however only 150ha from within the allocated area will be used for planting moringa.

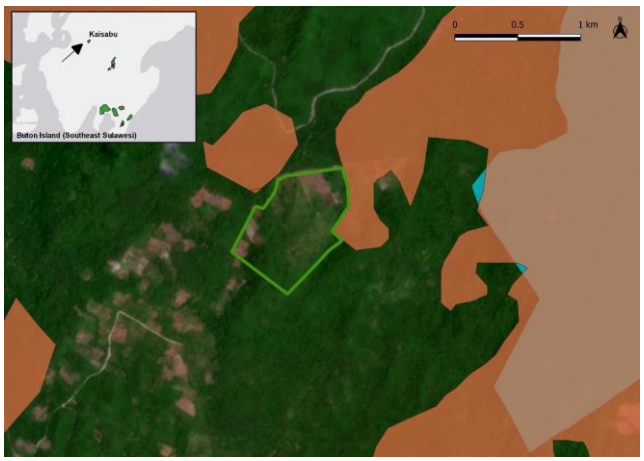

Figure 6: Kaisabu Baru. Green outline indicates an area of small-holder owned land allocated for the project. The total area is 50ha. Orange represents the nearest areas currently included in Indonesia's NDC, light blue represents Protected Forestry.

Adjacent Conservation/Protected areas

There are no known legally protected conservation areas which overlap with project locations.

There are areas of '*Hutan Lindung*', which is land designated as Forestry Department Protected Forest, adjacent to the areas proposed for planting around Hendea Village (as seen on figure 5). During the implementation phase, teams will be very careful to keep away from protected forestry areas to ensure no overlap.

Physical description of the land, habitat types and land use

This Project aims to improve farming practices and land use management on communally and traditionally owned village land (*Tanah Adat*), and in a few cases small-holder owned land, however the latter only comprises 50ha in Kaisabu Baru area. The land that will be used for this project has been used as farmland for generations and is part of a slash-and-burn shifting agricultural system. Much of the land has not been used for 15+ years, due to its poor thin soils. It can be described as grassy karst areas that have a relative paucity of trees and tree

species because of the shallow soils (Whitten et. al, 1987). There are a few shrubs and small trees growing, but mainly the area is rocky with thin grasses. In the past some of the villages we are working with were situated in these rocky areas, but during government development in the 1970s, roads were built in places convenient for building roads, rather than linking the villages that were already in existence, and the Indonesian Dictatorship at the time, commanded that the villagers move from their traditional village locations, down to line up along either side of the new roads that had been built. As such these villages still place a claim on the land and it is recognised by local government as being communally owned *Tanah Adat* which the villages are free to use for farming. The land can be described as degraded farmland, as farming practices involving slash-and-burn techniques leave soils exposed to erosion which further reduces the fertility of the land.

Local government describes the land in the South Buton Regency as being topographically undulating and hilly, with mountainous surfaces. Among the hills there are wide stretches of land which are deemed potential areas for development of the agricultural sector, due to there being better soils in the troughs between peaks. (Buton Selatan Regency in figures 2021, Government statistics document)

Average temperatures throughout the year range from 25.9°C to 27.9°C (Gov Statistics Doc). In 2019, the sub district of Sorawolio recorded a temperature range of 19.4°C to 35.2°C with the minimum temperature being recorded in August and the maximum temperature in October. The Kaisabu Baru village area experienced a total rainfall of 1243mm in 2019, ranging from 0mm in August and September to 350mm in March. Rainfall figures in South Buton Regency for the same year ranged from 26mm to 287mm.

The altitude of the land for the project around Lapandewa Makmur village is 45-190m above sea level, whereas in Lapandewa Kaindea and Burangasi villages the altitude is between 141-254m. Average altitude around Kaisabu Baru is 250-300m above sea level and around Hendea village the altitude is the highest at around 400-500m.

Known local land degradation processes or trends, including the main drivers of these processes (e.g. population pressure, charcoal production, fire, conversion for agriculture)

In much of the project area the land is vulnerable to being blasted to mine rocks for the production of building materials such as rubble, gravel and bricks for which there is a lucrative business of transporting these products by truck to local towns and development projects. The island of Buton is developing at a rapid rate and the demand for building materials is growing all the time. This destructive process leaves gaping holes in the landscape, with not much chance of the land recovering enough to enable anything to grow there for years to come.

Figure 7: Rock Mining, Hendea area

Another threat to this land is the common practice of slash-and-burn shifting agriculture systems which have been used traditionally in these areas for generations and which are still widely used today. This is partly what has led to the land being so infertile and inhospitable. Slash-and-burn agriculture exposes the already thin soils to erosion and a cycle of ever depleting nutrients. The villagers are unable to grow long term crops using this system as they have to move on to another area every 3 years due to poor soil quality causing crop yields to drop drastically.

Figure 8: Slash-and-burn agriculture, Kaisabu Baru area

B2) Description of Socio-Economic Context (PV requirements 7.2.2-7.2.5)

According to the Ministry of Manpower (issued circular No. M/11/HK.04/X/2020), at provincial level in Southeast Sulawesi, the standard minimum monthly wage is currently set at 2,552,014 IRP (approximately 180 USD). However, our field social interviews in the target villages indicate that the reality is that many people live on a lower income unless they are a government civil servant employee. Farming communities in Indonesia often consider themselves poor due to a lack of cash savings, although most have capital assets such as having their own home and owning farmland. Many rural community members in South Buton however, are genuinely poor, with the local poverty line set at only 58 cents/person/day in this area, and over 14% of locals not able to achieve this basic level of income (see Table below).

Regency	Total no of People living in poverty & percentage of population	Number of families living in poverty	Poverty Line	Percentage of households using wood as main cooking fuel	Percentage of households with no access to bathroom facilities	Percentage of households living with adequate access to clean drinking water
South Buton	11,500 (14.1%)	4,603	Less than 58 cents /day	55.91%	11.47%	81.46%
Kota Baubau	12,530 (7.15%)	7,945	Less than 81 cents /day	6.86%	1.9%	95.6%

Table 2: Poverty Indicators by Regency (Sources in Bibliography)

We will be working in four villages in the South Buton Regency, which as a whole has a much lower socio-economic status compared to the Baubau City Jurisdiction, where we will be working with only one village for this project. The five villages selected for participation in the project are farming villages and four out of the five villages can be considered poor.

The main livelihood in villages targeted by our PIN proposal across the five villages is commercial farming with shifting cultivation techniques. The main crops grown currently include: cassava, corn, shallots, red ginger and peanuts. The village of Kaisabu Baru in the Baubau City Jurisdiction has a wider range of crops given their overall better agricultural land, better access to water, and better access to markets. In addition to the above they also grow; tomatoes, leafy greens and other short shelf-life perishable vegetables.

Other livelihood sources include subsistence farming, limited cash-crop farming (cashews, cocoa, coconut, cloves, vanilla, coffee, almonds), government civil service jobs (this includes teachers, nurses, police, army, & government office jobs) and a few small trade businesses. Two villages (Lapandewa Makmur and Burangasi) also engage in fishing as they are close to the coast.

Figure 9: Hendea Village & Lapandewa Kaindea farmhouse

Summary of relevant local and national governance structures

A village (or *Desa*) is the lowest governmental structure in Indonesia. Villages can be classified as ‘common’ whereby the Village Head is democratically elected every four years, or ‘customary’ (called *adat)* whereby village governance follows

more traditional methods with respected elders and village ‘elites’ in control. The villages comprehended by this PIN proposal follow the common village type, which means official governance is not based on *adat* structure. In reality however, despite the villages following the common village type for administrative purposes, there is still a large significance placed on respecting and consulting with the Village Elders (*Tokoh Adat*), who are not elected or replaced, generally until the person dies. The head of the *Tokoh Adat* is locally known as the ‘*Parabela’*, and his main role in the village is to settle disputes, ensure that village members adhere to cultural customs, and to preside over all village ceremonies and gatherings. Village owned common land (*Tanah Adat*) is divided up by the *Parabela* and allocated to the local farming families for short-term usage. The slash-and-burn shifting agriculture system is discussed at farming and village harvesting ceremonies each year, and all decisions with regards to it are ultimately made by the *Parabela*.

Figure 10: Parabela in all his robes

Village government consists of an elected Village Head (VH) and a Secretariat (ST). Village Heads are elected every 4 years and the longest that one can serve as a VH is 12 years. The ST is led by a secretary and supported by three officers in charge of administration and public affairs, financial affairs, and village planning. There can also be other staff members working in the village government office depending on the size of the village.

Our team has been working closely with the Village Head and *Parabela* in each village to design this moringa carbon project. The support of both in each village is vital to the success of the project, and the level of support and enthusiasm from these key figures was a deciding factor in selecting villages to participate. These individuals will be key in mobilising the villagers to implement the project, for overseeing it in the long term, and for arranging the administrative side of developing a moringa products business through the use of a Village Farmers Cooperative.

Each village already has a Village Farmers Cooperative (*Bungdes*) which helps provide better access to markets to small scale farmers and improves efficiency by pooling certain resources such as transport.

Relevant national and sub-national levels of governance structure

Below are the government institutions above village level with responsibility for land and forest management. Names in italic inside brackets represent the organization names in the local language (Bahasa).

National level

- Ministry of Environment and Forestry (*Kementerian Lingkungan Hidup dan Kehutanan)*
    - Directorate General of Climate Change (*Dewan Nasional Pengelolaan Perubahan Iklim*)

Province level (offices in Kendari City)

- Southeast Sulawesi Province Forestry Department *(Dinas Kehutanan Provinsi Sulawesi Tenggara*)
    - Forest Area Designation Bureau (*BPKH*)
- Southeast Sulawesi Province Government (*Pemerintah Provinsi Sulawesi Tenggara*)

Regency level (offices in Baubau City & Sampolawa Town)

- South Buton Regency Government (*Pemerintah Daerah Buton Selatan*)
    - Buton Selatan Licensing Office (*Dinas Perizinan*)

- Spatial & Regional Planning Office *(Kantor Rencana Tata Ruang Wilayah)*
- Land Registry Office *(Kantor Pertanahan)*

Part C: Identification of Target Groups & Communities

C1) Summary of information for the participating communities/groups/individuals expected to benefit from the project

The total population of Southeast Sulawesi is 2,624,875 as per the 2020 census.

We collected population data from each village included in the proposal through interviews with the elected Village Head, and with the well-respected Customary Head (*Parabela*) within each village, and also from regency government statistics publications.

The people of Buton Island in Southeast Sulawesi are culturally known as the Butonese and this generic term embraces a number of sub-ethnic groups from Buton Island and its surrounding smaller islands. The main language in Indonesia is Bahasa Indonesia, however there are also many regional languages and almost every village uses a regional language as well as Bahasa Indonesia in their day-to-day lives. The villages included in this project speak Bahasa Indonesia and their local language of Cia-Cia which is not a written language and is becoming less commonly used by the younger generation. Most Butonese adhere to Islam which was adopted in the mid-sixteenth century. The Butonese, like most tribes from Sulawesi, are traditionally seafaring and a society of traders, yet they also have a long history of agriculture. They are very proud of their Butonese culture and had a strong Butonese Sultanate which came to an end in 1951 at the time that the Dutch Colonial rule was abolished officially. Many traditional Butonese customs and ceremonies are performed in each village throughout the year on the island of Buton, including events such as harvesting festivals, village culture festival days, traditional martial art competitions, traditional music, dance and more.

The location and populations of the villages are as follows:

South Buton Regency: Total Population of 95,261 as per 2020 census, with a growth rate of 2.5% between 2010 and 2020.

- We will be working with villages in two sub-districts in South Buton:
    - Lapandewa sub-district is a rural area with a population density of 110 people/km^2. There are 7 villages in this sub-district and 3 of these villages have been selected for this project, as follows:
        - Desa Lapandewa Kaindea: This village comprises 243 family units with a total population of 1,686 people (pers. Village Head, 2021). Average number of household members is 7. (Gov. Stats.)
        - Desa Lapandewa Makmur: This village comprises 244 family units with a total population of 933 people. Average number of household members is 5. (Gov. Stats.)
        - Desa Burangasi: This small village comprises 245 family units with a total population of 1503 people. Average number of household members is 6. (Gov. Stats.)

    - Sampolawa is a rural sub-district with a population density of 106 people/km^2. There are 16 villages within this sub-district, of which one has been selected for this program:
        - Desa Hendea: This village comprises 360 family units with a total population of 1,470 people (pers. Head of Village, 2021).

Baubau City Jurisdiction: Total Population of 159,248 as per 2020 census, with a growth rate of 1.6% per year, or a 16% increase in population between the years of 2010 and 2020.

- We will be working in one sub-district of the Baubau City Jurisdiction, and it can be considered rural with its population density of 79 people/km^2.
    - Sorawolio is predominantly a rural farming sub-district though it falls under the Baubau City administrative area, and it is made up of 4

large ‘Urban villages’, of which one has been selected for participation in this program.

- Kelurahan Kaisabu Baru: This village comprises 546 family units with a total population of 2200 people (pers. Head of Village, 2021).

Given the way that the project is designed with yearly carbon subsidies being paid into a village development fund which is committed to investing in improving the livelihoods of village members, all members within each village will benefit to some extent from this program. This accounts for a total of 1,638 families and 7,792 people across the 5 villages.

In Butonese society women are often marginalised when it comes to decision making within villages. Further, the poorer families within the communities tend also to be marginalised. This project will ensure that women and those with the lowest socio-economic status are provided with the opportunity to engage fully in the capacity building workshops and project training.

A local operator, Wasage Organic Indonesia (WARNA), will facilitate each village to form a women's group to experiment with using Moringa in new ways to improve nutrition and to combat stunting in children. Small home industries making new moringa based foods and snacks for local consumption and sale to surrounding villages and towns will be encouraged, and some of the carbon funding will be used to kick-start these small businesses. Also, women will likely be the ones that work on processing the moringa products, which the village farmers cooperative will buy from individual farming families, before processing and selling it on in bulk. Once there are Moringa products (leaves and seeds) to dry and package, the village farmers cooperative will need to employ more people to do this work, and this will open up more paid employment opportunities within the village, particularly for women. Moringa has been eaten by the people from Buton Island for centuries, and the plucking of the small leaves to prepare it is seen as women’s work here.

In terms of age equity, this project will allow for the involvement of people of all ages within the village. In the early planting and maintenance stages, there will be many young able-bodied men and women involved in digging holes and planting out the cuttings and saplings. When the village begins processing moringa leaves and seeds in the village drying facilities, there will be opportunity for older village members to be involved in the plucking of moringa leaves from the stems, and the podding of seeds. Families will work together. The younger fitter adults will harvest the moringa and bring it back to the village for plucking and cleaning, which will provide work for the elderly population of the village. It is also hoped that the villages, that albeit already eat moringa regularly, will increase their moringa consumption and make more effort to feed it to their children to improve nutritional health and reduce the incidence of child stunting.

In the early years of the project, WARNA will intensively facilitate the villages in getting their village farmers cooperatives running in a transparent and efficient manner, and will assist them with accessing buyers for their Moringa products. There will also be a focus on ensuring that high quality control measures are implemented and adhered to, in order to enable villages to procure a good price for their products. WARNA is committed to transparency and working with each village to ensure that: farmers are given fair prices for maintaining the Moringa food forests, harvesting moringa products, that village cooperative workers involved in the product processing are given fair wages and working hours, and that the village farmer cooperatives obtain good prices for their products.

Part D: Land Tenure & Carbon/ES Rights

D1) Description of land tenure context and current understanding of carbon/ES rights for the project area(s) (PV requirements 1.1 & 1.2)

The land is traditionally and communally owned (*Tanah Adat)* barring in Kaisabu Baru, where it is privately owned by approximately 160 smallholder families, each of which own approximately ⅓ of a hectare.

A letter from each village has been obtained, whereby the Village Head (*Kepala Desa*), the Presiding Village Elder (*Parabela*), and another village witness has

signed to state that the village community is keen to be involved in this project, and that they plan to use a stated proportion of their communally-governed land for a Moringa Food Forest Project. (See an example of the signed letter and English Translation in Appendix 1.)

The individual smallholder farmers from Kaisabu Baru Village have a recognized legal claim to the land in the form of a Land Certificate (*Sertifikat Tanah*) issued by and registered with the National Land Registry (*Badan Pertanahan Nasional* – BPN). The Village Head from this village has coordinated with the smallholders and has signed a letter on their behalf, agreeing to their involvement in the project.

Each village is being assisted to obtain a formal letter from the local Regency Government, which will confirm the status of their community owned land, and approve of their plans to engage in the Moringa Food Forest Project for a period of 35 years. This will provide formal acknowledgement of the status of the land, and provide land tenure security for the duration of the project, and beyond.

Maps obtained from the local Forestry Department (BPKH) confirm that the land being considered for this proposal lies outside of Forestry Department regions of Protected Forestry (*Hutan Lindung*). We also have maps from the Ministry of Environment and Forestry which show that all areas targeted are outside of the Indonesian Nationally Determined Contribution (NDC) Map.

The major area of conflict is the ongoing drive of the Ministry of Environment and Forestry (MoFE) who are actively engaging in reforestation and afforestation programs and are said to be increasingly claiming village communal land, without prior consultation or consent from the village committee members. The MoFE then incorporates the newly claimed land into state Protected Forest (Hutan Lindung) areas, thus enabling them to include these newly afforested areas in the Nationally Determined Contribution (NDC) map.

The proposed project, which is on land NOT included in state protected forest areas, should be complementary to the government afforestation activities and there is no overlap in areas targeted. By securing a support letter from the local

regency government we will mitigate the risk of the MoFE claiming the land prior to planting commencing from our teams.

In Indonesia all projects proposing to issue carbon credits need to register at the System Registrasi National and on completion of the PIN, this project will be registered. In addition, the document will be sent to the Governor of SE Sulawesi, so that he can see the benefits to local communities (60% of the income as outlined in section L is paid to the communities and 80% is spent in SE Sulawesi). The Governor is very keen on implementing projects that help impoverished local communities and there is considerable power at provincial level.

Part E: Project Interventions & Activities

E1) Describe the types of interventions included in the project and envisaged to generate PV Certificates (PV requirements 2.1.1-2.1.4)

The main intervention of this program is to plant a forest of *Moringa Oleifera*, which is a naturalised species in Indonesia going back centuries. There are many benefits of planting Moringa, including that it is a soil improver and will support shade grown crops, thus prompting food security and livelihoods in the target areas.

Our program partner, WARNA, will work with the communities to develop a more sustainable minimum-till organic agriculture system, which will focus on adding organic matter to improve soil quality. This will eliminate the need for the unsustainable slash-and-burn shifting agriculture on the land involved in the project. It is hoped that successful moringa carbon project will stimulate the communities to move away from slash-and-burn agriculture across all of their communal land in the long term.

The communities involved in this project already eat moringa leaves as a key part of their diet, and most households have one or two trees growing by their back door, as do most people living in rural communities on Buton Island. Moringa is a nutrient dense source of food with an impressive portfolio of properties; all parts

of the moringa tree – bark, pods, leaves, nuts, seeds, tubers, roots, and flowers – are edible. The leaves are used fresh or dried and ground into powder. The seed pods can be picked while still green and eaten fresh or cooked. Moringa seed oil is sweet, non-sticking, non-drying and resists rancidity, while the cake from seed can be used to purify drinking water, as organic fertilizer, or as a protein-rich animal food.

The Moringa trees will be planted in two different densities, for different purposes:

- The majority of trees will be planted in a **Moringa Food Forest** at a density of approx. 1050 trees per hectare (3x3m spacing). This density will support shade grown crops (e.g. the traditional crops grown by the villages such as cassava and peanuts). The farmers have committed to clearing grasses by hand when necessary for planting in the understory, rather than using herbicides which has been a growing trend in recent years. This will enable them to sell organic moringa products which bring a much better price than non-organic equivalents. Moringa trees drop their protein rich leaves year-round and this naturally fertilizes the soils beneath the tree. A focus will also be placed on adding natural mulch to the land beneath the trees. As the soil improves over time this will increase the range of crops that can be grown in the understory. Moringa has also been shown to increase water retention in the soils beneath it, which is another important factor to improving agricultural crop returns in these areas. Communities will be able to develop a new livelihood from harvesting moringa seeds and flowers from the Moringa Forest; they will be able to process and sell these products to buyers within Indonesia, and there is also a potential to export the products should their businesses grow successfully in future. The trees in the moringa forest will be pruned in the first two years to encourage lateral growth and branching, but after this initial period of pruning, the trees will be left to grow naturally to larger sizes, enabling maximised carbon dioxide sequestration. Pruned branches from the trees will be left below the trees as green manure and larger branches will be chopped into wood chips and returned to the land to increase soil organic matter.
- On a small area of the land in each village (10-20 hectares per village), the moringa trees will be planted closer together at a spacing of 1x2

meters. This will equate to approximately 5000 shrubs per hectare. These shrubs will develop thin trunks which are 2m tall, and these will also absorb a significant amount of carbon dioxide. These areas will be named the '**Moringa Farm**' area, and here moringa trees will be pruned regularly throughout the project. This approach is being taken to allow villagers to harvest the moringa leaves in this area. They will then develop a new livelihood stream whereby they harvest and dry the leaves which they can sell commercially. As young fresh leaves are needed for the leaf harvesting, the trees will require regular pruning and this activity will be confined to the smaller Moringa Farm areas in each village. The small stems and branches that will be the waste product from this process will provide an ongoing source of green manure/mulch to add to the land in the Moringa Farm and Moringa Forest areas.

A combination of cuttings and seedlings will be used for the planting project, and these will be sourced from various mature moringa trees growing around Buton Island, and mixed to ensure that they are not planted close to one another, in order to increase genetic diversity of moringa trees across the project area. Seedlings will be grown in a small nursery in each village, and planted out when the trees reach approximately 0.5m in height. Moringa cuttings grow very easily, however seedlings need more care within the first few months after planting out, until they become well established. Seedlings will need to be planted during the rainy season to ensure a high rate of survival, however cuttings can be planted quite successfully throughout the year.

During the planting phase, grasses will be cleared by hand in small patches of 0.5m squared, a small hole made in the middle, and the cutting or seedling planted by hand. This approach will minimize disturbance to the local biodiversity. In areas allocated as Moringa Food Forest, shrubs and small trees already growing in the area will not be cleared to make space for Moringa trees, but rather left in their natural state, so as to maintain biodiversity of vegetation within the area. Moringa is a hardy, drought-resistant plant that grows quickly, so it will easily gain enough height to avoid competition for light from grasses and shrubs local to the region. As such it is ideal for growing on this type of land, and it has

been documented to improve soil quality given that it is self-fertilising, regularly dropping its nutrient-dense leaves that improve nutrient levels in the soil below the tree. Once established the trees thrive despite grasses growing around the base of the tree, so this will reduce the need for overly exposing soils. Moringa trees have an umbrella crown and small leaves which provide a dappled shade that is suitable for cultivating many crops below. The tree produces flowers year-round in this climate which attracts bees, butterflies and other insects and this is expected to trigger a significant biodiversity uplift in the area.

The total area of Moringa Food Forest for the project will be 630 hectares and the total area of Moringa Farm for the project will be 70 hectares. The planting will be spread over a 2 year period, with approximately half the area planted in the first year of implementation, and the other half in the second year. This will allow the communities time to start by planting up small and easily manageable areas, and to “learn by doing” so that further land can subsequently be planted.

The funding generated from the PV credits will be used to set up the nurseries and collect saplings, for labour costs of planting out, and for the maintenance of the trees during the first 2 years. Maintenance will involve specific pruning practices and may also involve the selective application where necessary, of organic fertilisers or organic pesticides while the trees are becoming established. Funds will also be used to develop a small moringa farm business in each village, which should become self-sustainable after the first 2-3 years of operation. The initial requirements for these businesses will be washing and drying facilities in each village for the moringa leaves. These facilities will be managed by the Village Farmers Cooperatives (Bungdes). One small facility that is central to the 5 villages will also be created for grinding the dry leaves and packaging the leaf powder, and for extracting the oil from the Moringa seeds. This will be managed by WARNA.

Once the Moringa Forest no longer needs regular maintenance beyond biannual monitoring, and the Moringa Farm is running as a sustainable business through the village farmers cooperative, subsequent carbon funding will be paid annually into a village livelihood development fund, which they can use to further develop

their moringa product businesses, or to invest in other sustainable livelihood programmes which benefit the village as a whole. Livelihood ideas that will be introduced and promoted include Moringa honey production through beekeeping, moringa organic fertilizer production for sale to other villages on the island, and development of moringa food products for sale locally. Ultimately the village cooperatives will decide how they wish to use their livelihood funds, however the decision-making process will be facilitated by WARNA.

Part F: Identification of Any Non-Eligible Activities

F1) Describe any additional activities to be supported or implemented by the project

Training workshops will be offered by WARNA to help the villages develop their new Moringa Livelihood businesses, and to decide how to organise their own system for allocating the use of carbon funds going into the village development fund. For example, the project organisers will identify options for training including:

- Climate change, carbon farming & developing resilience
- Organic farming and the benefits of diverse Food Forests
- Best practice Moringa cultivation techniques
- Moringa products; understanding the business potential & standards
- Technical workshops; processing Moringa products & quality control
- Moringa as a fertilizer & livestock food source
- Nutritional benefits of moringa; avoiding stunting in children
- Moringa foods and snacks - how to make them locally
- Beekeeping and honey production
- Exploring the potential of various shade crops and the farm-to-market chain
- Utilisation of microfinance loans to establish local businesses

These training sessions will require that women form at least 50% of the attendees and people with the lowest socio-economic status in the village are represented The project officer for the village will encourage the community to

support spending the community funds on kickstarting the sustainable livelihood options of interest to the particular village, although other options such as help for the local school, medical centre, meeting location, or water supplies will also be considered, particularly in later years of the project. The villages will make the final decision on how they can best utilise the carbon funds provided over the 25 years of the project.

Beyond training workshops, WARNA will also facilitate the formation of a Moringa Women's Group (*Kelompok Ibu Kelor*) in each village, with the aim of helping empower women and increasing awareness surrounding the nutritional benefits of moringa and how it can be used to combat malnutrition and stunting in children, which unfortunately is still a problem in this area of Indonesia. The World Health Organisation, UN, FAO, UNESCO and other NGOs have promoted the use of Moringa as a food source for supplementing the diets of: children suffering with malnutrition or stunting, lactating mothers, and people suffering from HIV and other ailments. Another key element of this project will be to assist the communities with developing the farm-to-market chain to enable them to successfully operate their new Moringa livelihood businesses. They will be assisted in accessing buyers and securing fair prices for their moringa seeds, dried moringa flowers, and dried moringa leaf powder. They will also receive guidance on matters such as quality control and industry standards. WARNA has already assessed the market opportunity and made contact with Indonesian export companies based in Java whom are keen to buy organic moringa products in bulk. We are confident that there is a demand for these products and through facilitating the 5 villages to develop their own businesses, and consolidating their crop productivity, these villages will be able to soon engage in business with these export companies.

Part G: Long-Term Sustainability Drivers

G1) Description of project design that will ensure the project is self-sustaining after carbon/PES revenues cease

The design of the project, with local livelihood development at its centre, will ensure the project is self-sustaining in the long term after the carbon revenues cease. Each village involved views the project as an opportunity to develop a long-term Moringa Products business as a source of income for individual farmers and their village. They are excited about the carbon revenue as a means to obtain the initial investment required to start their Moringa businesses, rather than as a means of earning a long-term income through the carbon revenues alone. Various sources state that moringa trees remain productive from anywhere between 30 to 60+ years, and given the high market value of moringa products and the expected growth in the market, there is very little chance that the villages will ever see the moringa trees as a hindrance.

This project is being developed on a proportion of each village's communally owned land, rather than on the whole of it, and we envisage that the project is more likely to grow rather than reduce in size in the long term. Once communities witness the improved agricultural conditions on the project land, compared to the conditions on their other communally owned land, and they experience improved yields from their traditional crops which will be grown in the understory of the Moringa Forest, we envisage them wishing to expand this method of agriculture across a larger area of their communal land. Of course, the income which they can earn from harvesting and processing Moringa Products is also projected to be significant enough to deter any destructive practices taking place in the Moringa Forests after the carbon revenues cease.

The continuing work with the communities on education about climate change, organic minimum-till agriculture and the benefits of Food Forests for Food Security, along with the development of the village cooperative moringa product processing business, and other small businesses within the community, will further develop positive attitudes in the local communities towards protecting the Moringa Forests in the long term.

In addition, the annual Opwall funded biodiversity surveys in the afforested areas will produce some additional income for the communities from the scientists and students who will be based in their areas for short periods each year to gather

the data required. These surveys will continue long after the first 25-year project has finished.

Additionally at the end of the 25-year period, the moringa trees will still not be at their maximum carbon storage. There will still be additional growth in Above Ground Biomass (AGB) and Below Ground Biomass (BGB), and potentially at that time carbon sequestration in the soils could also be calculated. If necessary, at the end of the project period, the proposal would be for WARNA to submit a second project to Plan Vivo for the years 25 – 50 and the credits would be directly sold from WARNA to the market at a higher rate, since these would be much fewer than for the original proposal. This would provide ongoing income for the project to continue with annual village payments to cement ongoing protection for the moringa forest.

Part H: Application Organisation & Proposed Governance Structure

H1) Project Organisational Structure (PV requirements 3.1-3.6)

The key collaboration in the project will be between WARNA who will implement the project, and rePLANET who will provide the finance and funding. WARNA will report to rePLANET on a regular basis throughout the project.

WARNA

WARNA is a small Limited Company (Registration Number: AHU-50024.AH.01.01.Tahun 2009) which has been operating in SE Sulawesi since its formation in 2009, under the name of Wasage Divers. Initially a company focused on delivering biodiversity research expeditions and recreational scuba diving, this company is undergoing a significant change in direction (and name), and has moved towards organic agriculture and environmental consulting services due to the Covid-19 pandemic. The board members are all long-term partners or are known to the directors of rePLANET (see below) and Operation Wallacea (see below), which has been operating in SE Sulawesi since 1995.

WARNA Board Members

Managing Director – Muslimin Kaimuddin (Imin)

Imin has worked with Operation Wallacea for over 10 years and has experience working in Sulawesi NGO's on a range of projects. Imin is married to Mohini Johnson (Mo), has good English skills and has been running WARNA since 2009. Being a local to the area, Imin has a good understanding of the local communities needs and challenges. With strong interpersonal skills, a can-do attitude, and being adept at problem solving, he has the skills to build trusting partnerships with the village communities, coordinate the teams on the ground, and effectively see this project through to fruition.

Operations Director – Mohini Johnson (Mo)

Mo has worked with Operation Wallacea for over 10 years and has a degree in Environmental Science & Management from Lancaster University. She is a permanent resident in Indonesia and has lived in Southeast Sulawesi for 12 years. Mo is fluent in Indonesian, runs Wasge Organic Indonesia with Imin, and has experience in project management, budgeting, staff recruitment, sales, and marketing. Her strong leadership skills and sharp attention to detail will be paramount in ensuring that the project meets targets, stays within budgets, and produces the required reports.

Trustee – Safar Aflim

Safar is a graduate in Geological Engineering from UGM, one of Indonesia's top universities. He has 15 years of experience in the private sector working in various roles from mapping and exploration, to project management, and head of engineering on various geological exploration and engineering projects. Safar will not be working on the project other than being involved in the board meetings, due to his other commitments. His wide-ranging experience of working in the field of geology will be useful to the project, particularly in terms of arranging any survey work needed for installing bore wells in villages.

Trustee – Jamil Ramdan

Jamil is an Environmental Science graduate and local government environment department employee. Jamil will not be working on the project other than being involved in the board meetings, due to his full-time job as a civil servant. His knowledge of the workings of local government, and inside knowledge of new government interests and directives will be useful to the project.

Trustee & Legal Advisor – Andi Muhammad Kasim Siruhu (Pak Kasim)
Pak Kasim is a Notary and Land Deed Official and has been running his own legal firm since 1988 in Southeast Sulawesi but will be retiring in 2022. 30+ years experience and legally qualified to conduct real estate transfers, issue land deeds and contracts, and notarize documents. Pak Kasim also owns a number of other local businesses and has been involved in many projects concerning developing infrastructure and improving livelihoods in local communities. His supervisory role and in-depth understanding of the laws and bureaucratic processes surrounding contracts and land tenure in Indonesia, will contribute significantly to the success of the project.

Key Staff

Project Officer – Justam Setiawan
Justam is an underwater archaeology graduate from UNHAS university, a professional scuba diver and environmentalist. Has been involved in underwater archaeology and marine biology research, PADI Dive Master work, and government projects concerning the preservation of cultural heritage sites. He has leadership skills, shows creativity and initiative, and his strengths are in teamwork and critical analysis of problems. He will be working as one of the project officers, coordinating with community leaders, and organising the field teams to ensure that the planting and livelihood development program happens on schedule. He will be working closely with Imin, Darwis, and the community organisers that will be recruited for this project.

Project Officer – Darwis
Darwis is a law graduate, though he did not go into that line of work after university, and he has 15+ years of experience of organising biodiversity expeditions for Operation Wallacea. He is from Buton Island and his areas of

expertise include: project logistics management, monitoring cashflows, and coordinating teams of local field staff. He will work as a Project Officer under Imin, alongside Justam, and overseeing the community organisers that will be recruited for this project.

Finance & Admin

The project will employ a qualified accountant who will report to Mo, to ensure that the financial records are kept in order. A separate bank account and bookkeeping system will be put in place solely for this project, with the aim of keeping the moringa food forest affairs separate from other company affairs. This will reduce the risk of leakage from one project to another should WARNA be running more than one project, as it removes the temptation to cross fund an underperforming project.

H2) Applicant organisation

The applicant organisation for delivery of the project in Indonesia and receipt of the carbon credits will be WARNA (see above).

rePLANET

The funding for the PIN and responsibility for future funding of the project is from a newly formed UK company (company number 13335875) called rePLANET (https://replanet.org.uk) The purpose of this new company is to fund reforestation and afforestation around the world using private sector funding via the voluntary carbon markets. The company has invested in the development of PINs in several countries including Indonesia. rePLANET will oversee communications with Plan Vivo throughout the project including the annual reports.

Funding to implement the projects will be generated from the sale of carbon credits to companies that have Net Zero Carbon targets. rePLANET, as part of their Memorandum and Articles, have agreed to not distribute any dividends for at least the first 3 years so that any profits generated will be focussed on funding additional reforestation projects with at least 60% of all funding for each project

supported targeted at supporting impoverished local communities in developing countries.

The Directors of rePLANET bring the following relevant skills and experience to rePLANET:

Dr Mathis Wackernagel

Mathis is the award winning co-creator of the Ecological Footprint Group. See https://replanet.org.uk/key-staff/#mathiswackernagel

Louis de Montpellier

Louis has extensive experience in international finance with senior roles in both public finance and the investment banking world. See https://replanet.org.uk/key-staff/#louisdemontpellier

Bernard Yong

Bernard is a corporate strategist with experience in engaging policy and driving growth in emerging markets. See https://replanet.org.uk/key-staff/#bernardyong

Isabel Hoffman

Isabel specialises enabling businesses to include the value of natural, social and human capital in their decision-making. She leads the work on oceans at the Capitals Coalition. See https://replanet.org.uk/key-staff/#isabelhoffmann

Dr Tim Coles O.B.E.

Tim founded and is CEO of Operation Wallacea that provides a method for funding long term biodiversity research in developing nations using tuition fees paid by students. See https://replanet.org.uk/key-staff/#timcoles

Alex Tozer

Alex is Chief Operations Officer for Operation Wallacea and specialises in resource allocation, financial management and project appraisal. See https://replanet.org.uk/key-staff/#alextozer

In addition to these two principal organisations there are three others that will provide support for the project:

Oxford University Long-term Ecology Lab

This organisation is expert at handling large data sets and developing databases and visualisation of these data sets. They have previously developed schemes to help identify the areas to minimise impacts on biodiversity (LEFT) and also to quantify ecosystem services. Their role will be to develop an online database that will contain data on each of the hectares in the scheme and which can be publicly accessed by stakeholders and interested parties online. This is to provide greater transparency of the project than can be achieved from 5-yearly audits and means that any purchaser of credits can be identified as the owner on the relevant website page for each of their hectares and they can monitor progress for themselves.

Operation Wallacea

Operation Wallacea runs annual biodiversity research in SE Sulawesi each June – August period using international and national academics funded by the tuition fees paid by the accompanying students. These data will be provided free of charge to the project each year by the Opwall teams.

Wallacea Trust

This is a UK registered charity that supports the development of business solutions to environmental challenges and has a strong group of Trustees drawn from academic, business and NGO backgrounds. Their role will be to act as auditors on a quarterly basis by interviewing the rePLANET staff member responsible for the project to identify any weak spots in the project and advise on how to resolve any issues identified.

Part I: Community-Led Design Plan

I1) Plan for achieving community participation in the project, including a mechanism for ongoing consultation with target groups and producers (PV requirement 4.1)

The project design incorporates a combination of top-down and bottom-up interventions in a two-way collaboration between WARNA and the five village communities.

Early in the pandemic, WARNA began exploring options to diversify their business away from ecotourism; They have since been experimenting with growing moringa on a 1-hectare plot of land in the Kaisabu Baru village area, generating much interest and enthusiasm from the local community. This led to the idea of carbon moringa farming as a source of funding to enable local farmers to move away from destructive slash-and-burn farming, and Imin has had a number of meetings with the Village Heads, Parabela and other key village members in each of the five villages included in the project.

Three to four initial meetings in each of the five villages have included: discussions about moringa farming and the potential for improving smallholder incomes, the limitations of slash-and-burn farming, discussions about an organic minimum-till approach, discussions about how moringa products are dried and processed and how the village community would like to handle this, identification of communally owned agricultural areas (*tanah adat*), collection of GPS points and photos at each location, and collection of demographic information in each village. During these meetings, Imin gained an understanding of the problems faced by smallholders with accessing an effective farm-to-market chain for many of their crops, and their currently preferred crops to grow, along with their reasoning. Initially ten villages were visited, but only five were selected for the project, and this decision was made based on how enthusiastic and participative the Village Head and Parabela were in each village.

After extensive consultations, WARNA drafted a one-page project concept letter (example in appendix 1), with attached maps of the communally owned land allocated to the project as identified by the village elders in earlier meetings. These letters have been signed by the Village Head, the Parebela, and a village witness, to state that the village wishes to participate in the project.

Throughout the project WARNA staff will work closely with the five communities using a mix of informal meetings, hands-on training sessions, formal training workshops, village forums, and KIK women's group meetings. Communities will be facilitated in the decision-making process to determine how they will utilise the community carbon funds, with concentration on projects that would help develop businesses in the communities, or on shared facilities (e.g. schools, medical centres etc).

Part of WARNA's duties as the implementer of the project will be to hold and document regular community meetings, and to report on progress with the community participation aspects of the project, including the benefits (and any problems) being experienced by the communities.

Part J: Additionality Analysis

J1) Description of how project activities additional (PV requirement 5.4)

This project is not a product of a legislative decree or a commercial land-use initiative likely to have been economically viable in its own right. The following barrier analysis summarises how the project will overcome the existing issues which are stopping the project from happening without the interventions proposed:

Type or Barrier	Description of Specific Barriers	How barriers will be overcome by project activities
Financial/ Economic Barriers	- Insufficient financial resources to initiate the project activities - No system of community payments for ecosystem services	- Funding has been secured to develop the project and engage in community consultations. - Carbon Funding will be secured to implement the project, develop new livelihood streams, provide training workshops, and to manage and pay regular subsidies to villages for protecting the Food Forests.
Technical Barriers	- Communities do not have the technical or organisational capacity to develop and manage the project without the support of Project Organiser. - Communities without awareness and skills needed to develop moringa products business which is a key component of the project to ensure its success.	- WARNA will facilitate each village community to develop the technical and organisational skills needed to develop a new form of organic minimum-till agriculture, and their new Moringa products livelihood businesses. - Training workshops will be used extensively, along with practical training, and informal discussion groups and forums.
Ecological Barriers	- Poor quality, thin soils throughout most of the area which currently severely limits the agricultural options for village communities.	- Moringa Oleifera has been selected due to its ability to thrive in poor environmental conditions, its economic potential, and given that it is a soil improver. - Over time with improved land management, the agricultural conditions will enable communities to engage in growing a more diverse range of shade crops and increasing their food security.

Social Barriers	- Poor infrastructure and inefficient farm-to-market chain for agricultural products. - Poor organisational capacity and mobilisation of community	- Capacity building workshops for community members including women and those with the lowest socio-economic status. - Formation of Women's KIK groups (Kelompok Ibu Kelor) - Training and Assistance given to the Village Farming Cooperatives (Bungdes) - WARNA will represent the communities in negotiating with buyers for their new products. - Pooling of moringa products from all 5 villages to increase leverage with buyers.
Cultural Barriers	- Tradition of slash-and-burn shifting agricultural practices. - Some community members are resistant to change and new ideas	- The long term moringa crop potential and carbon subsidies will automatically shift communities away from slash-and-burn short-term shifting agricultural practices in project areas. - Inclusive training workshops and village forums, and an ongoing policy of transparency and inclusivity will aim to respect and include all community members.

Additionality for this project is determined by what would happen to the communal agricultural land (*tanah adat*) in the event of the project not proceeding. The likely scenario is that the villages would continue to operate unsustainable slash-and-burn shifting agricultural systems, and that the quality of the soils would continue to decline, making it increasingly difficult for these communities to make an income from the land, and decreasing their food security. Whilst they are very interested in developing moringa products based livelihoods, which would enable them to adopt more sustainable agricultural practices, they do not have the

financial capital or technical know-how to initiate a project like this without support.

It is also possible that some areas of the communal land would be claimed by the national forestry department for their own afforestation programs, of which the challenges and limitations have already been mentioned in this PIN. While those programs may provide a solution to sequestering carbon, it would be at the cost of these communities losing the right to use their traditional agricultural land, and would lead to a decline in both financial and food security in these villages. The project we are proposing is committed to addressing climate change along with food security and financial security for the villages involved.

Part K: Notification of Relevant Bodies & Regulations

Appendix 1 contains an example of the support letters obtained from the Village Head and *Parabela* with a statement of intent to join the programme and confirming the target areas.

Appendix 2 contains a letter from WARNA confirming that they will abide by all national and international regulations.

Part L: Identification of Start-Up Funding

L1) Provide details of how the project will be financed in the development phase, before full project registration

The project is being funded by rePLANET in the following stages

Stage 1 – this is completion of the PIN with detailed budgets for how the project will be implemented. The PINs are being produced by internal staff of rePLANET and the in-field partners and the budgets represent the total costs of the project. At this stage though the amount of carbon that will be certified as part of the scheme is unknown although the total costs can be modelled against a range of carbon values to determine the likely range of costs.

Stage 2- this is producing the Project Development Document (PDD) which will involve modelling the predicted Above Ground Biomass and Below Ground Biomass. Production of the PDD should then enable the predicted accumulation of carbon in AGB and BGB over the 25 years, to determine the number of carbon credits that would be issued if the project was implemented. Completion of this stage will then determine the costs of the credits (the issue price).

Stage 3 – implementation. rePLANET is committed to financing the project in accordance with the agreed budget and payment schedule. In exchange WARNA will transfer the carbon credits to rePLANET at the agreed issue price. The payment schedule agreed between rePLANET and WARNA ensures a significant cushion between payment and when funds would be needed in the field, so that funds are always available in the accounts to meet the financial demands each year. rePLANET will fund the project through the sale of carbon credits, and the profits from these sales will be used to fund the start-up costs for additional Plan Vivo reforestation projects.

In order to raise the start-up capital needed to implement the project rePLANET will use a combination of loans, investor financing and forward sales of carbon credits.

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Poverty Indicators (Table 2) Information Sources:

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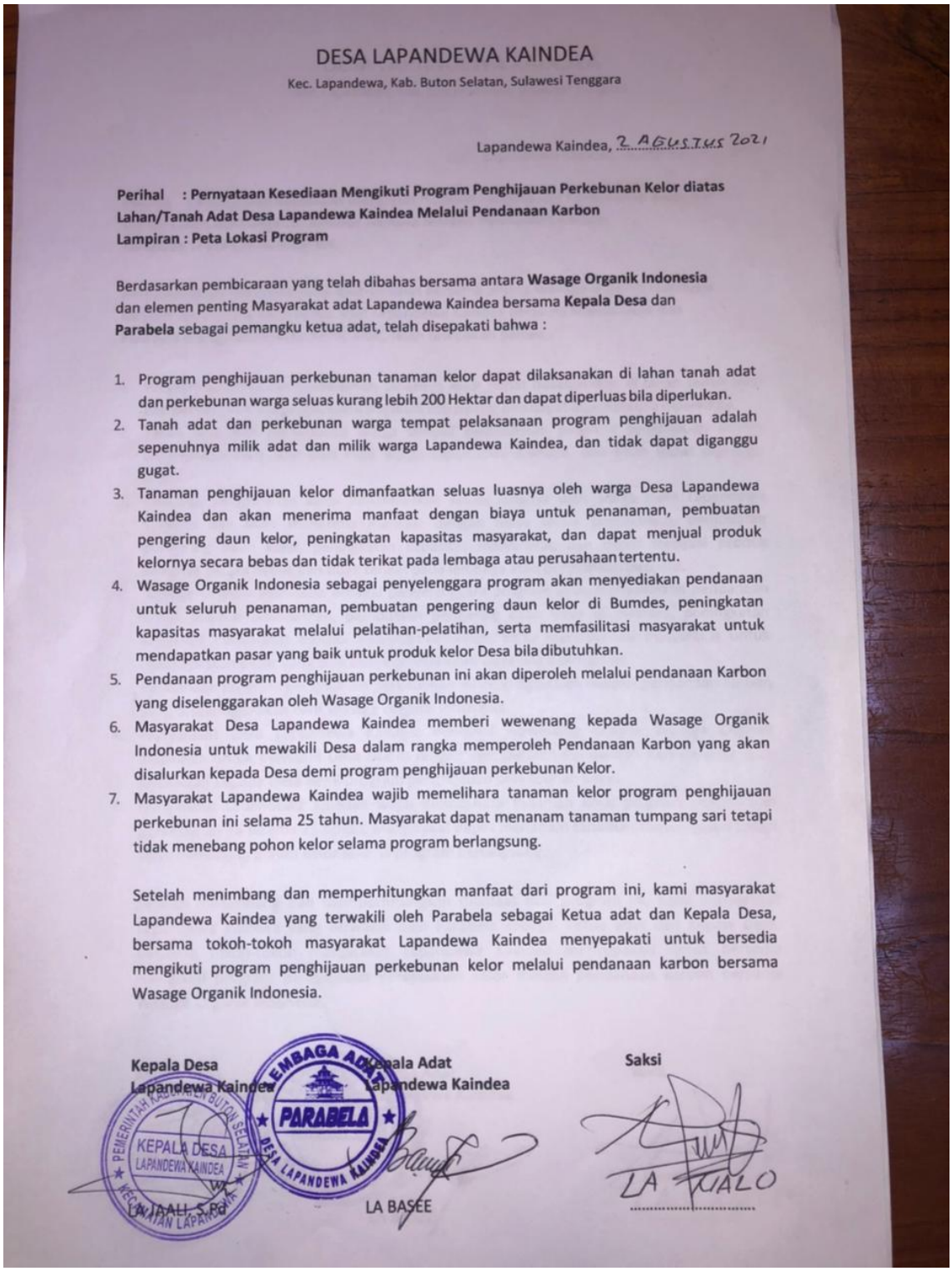
Bathroom Facilities reference: https://sultra.bps.go.id/statictable/2021/04/30/3183/-distribusi-persentase-rumah-tangga-menurut-kabupaten-kota-dan-penggunaan-fasilitas-tempat-buang-air-besar-di-provinsi-sulawesi-tenggara-2020-.html

Adequate access to clean drinking water reference:
https://sultra.bps.go.id/statictable/2021/04/30/3206/-persentase-rumah-tangga-yang-memiliki-akses-terhadap-sumber-air-minum-layak-menurut-kabupaten-kota-di-provinsi-sulawesi-tenggara-2016-2020-.html

Number of families living in poverty reference:
https://sultra.bps.go.id/statictable/2021/04/28/3106/-jumlah-keluarga-menurut-kabupaten-dan-klasifikasi-keluarga-di-provinsi-sulawesi-tenggara-2020.html

Appendices

Appendix 1: Letter showing official support from Village Governance in Lapandewa Kaindea (each village has signed a letter like this)



DESA LAPANDEWA KAINDEA

Kec. Lapandewa, Kab. Buton Selatan, Sulawesi Tenggara

Lapandewa Kaindea, 2 AGUSTUS 2021

Perihal : Pernyataan Kesediaan Mengikuti Program Penghijauan Perkebunan Kelor diatas Lahan/Tanah Adat Desa Lapandewa Kaindea Melalui Pendanaan Karbon
Lampiran : Peta Lokasi Program

Berdasarkan pembicaraan yang telah dibahas bersama antara **Wasage Organik Indonesia** dan elemen penting Masyarakat adat Lapandewa Kaindea bersama **Kepala Desa** dan **Parabela** sebagai pemangku ketua adat, telah disepakati bahwa :

1. Program penghijauan perkebunan tanaman kelor dapat dilaksanakan di lahan tanah adat dan perkebunan warga seluas kurang lebih 200 Hektar dan dapat diperluas bila diperlukan.
2. Tanah adat dan perkebunan warga tempat pelaksanaan program penghijauan adalah sepenuhnya milik adat dan milik warga Lapandewa Kaindea, dan tidak dapat diganggu gugat.
3. Tanaman penghijauan kelor dimanfaatkan seluas luasnya oleh warga Desa Lapandewa Kaindea dan akan menerima manfaat dengan biaya untuk penanaman, pembuatan pengering daun kelor, peningkatan kapasitas masyarakat, dan dapat menjual produk kelornya secara bebas dan tidak terikat pada lembaga atau perusahaan tertentu.
4. Wasage Organik Indonesia sebagai penyelenggara program akan menyediakan pendanaan untuk seluruh penanaman, pembuatan pengering daun kelor di Bumdes, peningkatan kapasitas masyarakat melalui pelatihan-pelatihan, serta memfasilitasi masyarakat untuk mendapatkan pasar yang baik untuk produk kelor Desa bila dibutuhkan.
5. Pendanaan program penghijauan perkebunan ini akan diperoleh melalui pendanaan Karbon yang diselenggarakan oleh Wasage Organik Indonesia.
6. Masyarakat Desa Lapandewa Kaindea memberi wewenang kepada Wasage Organik Indonesia untuk mewakili Desa dalam rangka memperoleh Pendanaan Karbon yang akan disalurkan kepada Desa demi program penghijauan perkebunan Kelor.
7. Masyarakat Lapandewa Kaindea wajib memelihara tanaman kelor program penghijauan perkebunan ini selama 25 tahun. Masyarakat dapat menanam tanaman tumpang sari tetapi tidak menebang pohon kelor selama program berlangsung.

Setelah menimbang dan memperhitungkan manfaat dari program ini, kami masyarakat Lapandewa Kaindea yang terwakili oleh Parabela sebagai Ketua adat dan Kepala Desa, bersama tokoh-tokoh masyarakat Lapandewa Kaindea menyepakati untuk bersedia mengikuti program penghijauan perkebunan kelor melalui pendanaan karbon bersama Wasage Organik Indonesia.

Kepala Desa Lapandewa Kaindea	Kepala Adat Lapandewa Kaindea	Saksi
LA JAALI, S.Pd	LA BASEE	LA KUALO

English Translation below:

DESA LAPANDEWA KAINDEA

Kec. Lapandewa, Kab. Buton Selatan, Sulawesi Tenggara

Lapandewa Kaindea, 2 August 2021

Regarding : Statement of willingness to include communal village land in Moringa Agroforestry Afforestation Program utilizing Carbon Funding.

Attachment: Map outlining program area

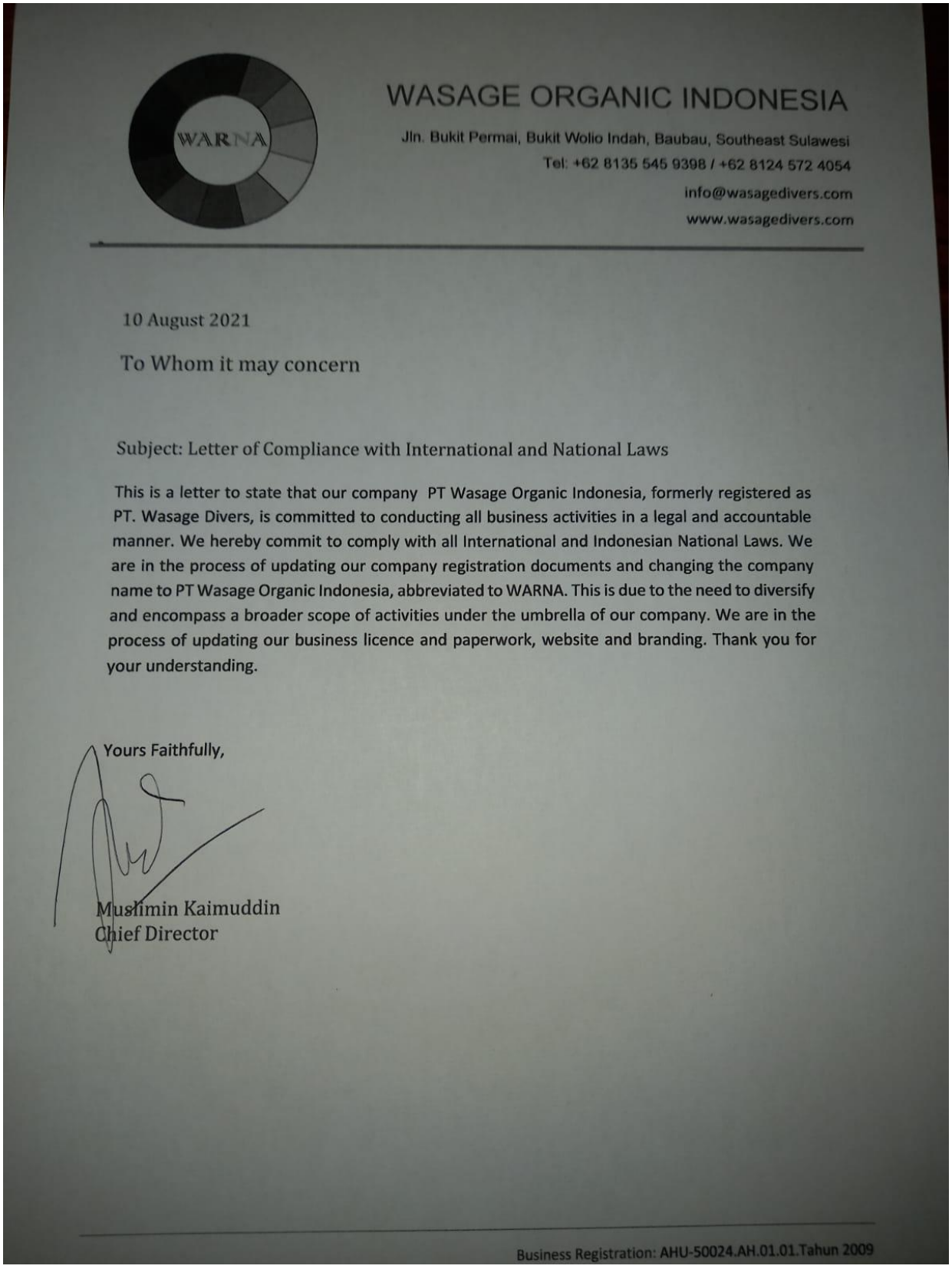
In light of conversations between **WARNA** and key members of the Lapandewa Kaindea village leadership, including the **Village Head** and the **Head of the Village Elders** (Parabela) acting as Customary Head, it has been agreed that:

1. A Moringa Agroforestry Afforestation Program utilizing Carbon Funding, of approximately 200 hectares in size, can be implemented on communally owned village land and village residents privately owned agricultural land, and the area of the program can be extended of necessary.
2. The communally owned village land and the residents privately owned agricultural land where the afforestation program is implemented is completely owned by the village and village residents of Lapandewa Kaindea, and this point cannot be appealed and is incontestable.
3. All Moringa Trees in the program can be utilized in full by the residents of Lapandewa Kaindea, and residents will receive additional benefits through funding for; planting, making drying facilities for moringa products, and community capacity building initiatives. Residents will be able to develop and freely sell moringa products to whom they choose, and are not bound to selling their products to any one organization or company.
4. As the program organiser, WARNA will make available the funding for; all planting activities, development of moringa drying facilities which will be coordinated by the village agricultural cooperative (Bungdes), capacity building and training workshops for village residents, and facilitating the community to access a beneficial farm-to-market chain for their moringa products if required.
5. The funding for this agroforestry afforestation program will be obtained through a carbon funding initiative which will be organized by WARNA.
6. The community of Lapandewa Kaindea village authorise WARNA to represent the village with regards to obtaining carbon funding which will be channelled to the village for the sake of the Moringa agroforestry afforestation program.
7. The community of Lapandewa Kaindea are obliged to preserve the trees planted in this agroforestry afforestation program for 25 years. The community may grow shade crops in the program area, but cannot fell the moringa trees during the period of the 25 year program.

After considering and calculating the benefits of this program, we the community of Lapandewa Kaindea, represented by the Head of the Village Elders (Parabela) acting as our customary head, and the Village Head (Kepala Desa), along with other community leaders, agree to join this Moringa Agroforestry Afforestation Program which will utilize Carbon Funding, together with WARNA.

Village Head (Kepala Desa)	**Customary Head** (Parabela)	**Witness**
Lapandewa Kaindea	**Lapandewa Kaindea**	

Appendix 2: Letter of Compliance with National and International Law from WARNA



WASAGE ORGANIC INDONESIA

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www.wasagedivers.com

10 August 2021

To Whom it may concern

Subject: Letter of Compliance with International and National Laws

This is a letter to state that our company PT Wasage Organic Indonesia, formerly registered as PT. Wasage Divers, is committed to conducting all business activities in a legal and accountable manner. We hereby commit to comply with all International and Indonesian National Laws. We are in the process of updating our company registration documents and changing the company name to PT Wasage Organic Indonesia, abbreviated to WARNA. This is due to the need to diversify and encompass a broader scope of activities under the umbrella of our company. We are in the process of updating our business licence and paperwork, website and branding. Thank you for your understanding.

Yours Faithfully,

Muslimin Kaimuddin
Chief Director

Business Registration: AHU-50024.AH.01.01.Tahun 2009