Project Title
WithOneSeed Timor Leste Community Forestry Program
Gold Standard ID
GS4210
Type of Certification
☒ Initial Certification ☐ Performance Certification ☐ New Area Certification ☐ Annual Reporting

For each item listed below, please provide a general description in the corresponding box. In total, this document shall not exceed 5 pages. Be aware that carbon market specific terms may not be appropriate for the readers of this summary. The formatting requirements provided in chapter 7.4 must be followed.

1. Key Project Information

(a) Project activities

WithOneSeed is developing a community based reforestation project on non-forest cropland and grasslands in Baguia, Bacau District, Timor Leste. WithOneSeed is working with subsistence farmers to integrate planting of native trees such as Eucalyptus Alba (Timor white gum), Eucalyptus Urophylla (Timor mountain gum), Casuarina Equisetifolia (she oak), as well as Swietenia Macrophylla (mahogany), and Tectona Grandis (teak) [1] within their agricultural and production systems[2].

(b) Organisations that are involved in the project (project participants)

The project participant is Xpand Foundation[3]. WithOneSeed is an initiative of the Foundation receiving support from a number of other organisations, including:

- Computershare – for financial support.
- RAMP Carbon – carbon advisory.
- Melbourne Royal Botanic Gardens, Australian Agroforestry Network and Greening Australia (Northern Territory) – botany and forestry advisory.
- Melbourne University, Monash University and Swinburne University - technical support[4]
- Baker & McKenzie – Pro Bono legal advice.

(c) Communities involved in the project

Ten village communities (sucos) are involved in the project: Baguia, Afaloicai, Alaua Craic, Alau Leten, Haeconi, Ossu Huna, Lari Sula, Samalari, Defa Uassi, Lavateri. These sucos have a combined population of 9,465[5]. All communities will be involved and consulted during the Local Stakeholder Consultation process. Location of these communities is presented in point (d). Further census information on the sub-district of Baguia, has been provided in Table 1 of the Annex to this document (KPI_Annex Document).

(d) Location of the project area and the planting area

The project area involves the communities of the sucos (villages) in the sub-district of Baguia, which is located in the south-east corner of the district of Baucau, Timor Leste[6]. The geographic coordinates of Baguia span approximately 126° 35' to 126° 40' latitude and from – 8° 20' to -8° 40' longitude. (See Figure 1 in KPI_Annex Document)

The planting area consists of private small farm holder agricultural properties spread out in a mosaic pattern within the cropland and grassland areas of the project area[7]. Please see Figure 2 in the KPI_Annex Document.

(e) Size of the project area and the planting area

The sub-district of Baguia covers an area of 213.99 km^{2}[2,8].
The extent of the project area is the grasslands and cropland areas covering a total of 4,996 hectares as

(e) Size of the project area and the planting area
estimated from GIS analysis. The eligible planting area is determined based on delineating the area of tree plantings on all the farms involved in the project from the GPS coordinates of every tree planted and the projected crown diameter of the mature tree species. For plantings conducted between 2010 to 2015, the cumulative crown area of the trees planted was estimated at 29.2 ha and for the projected plantings, this is expected to increase to 142.6 ha by 2039. Note this is a very conservative estimate of the eligible planting area as the spaces between the trees have not been taken into consideration.

(f) Risk of change to the project area (during the crediting period)
The key risk to the project area is the level of participation by farmers and communities in Baguia, as this will influence the extent of the eligible planting area. The Project Proponent will actively engage with local farmers to ensure there is strong engagement by local communities in the project in order to minimise the risk that the project does not consider all of the communities in the sub-district.

(g) Risk of change to the project activities (during the crediting period)
Template 3.6 "Risk Register" provides a discussion of a range of risks that may impact on project activities during the crediting period. However, the Project Proponent believes that the most important risk to be managed is that of a reversion by local landholders involved in the project to traditional slash and burn agriculture[9] leading to a reversal in sequestration, as trees are cleared for agriculture. In order to mitigate this risk the Project Proponent has engaged extensively with the local community to educate them about the benefits of reforestation, and has ensured that local communities are the direct beneficiaries of revenues derived from trees planted.
(h) Timeframe for the project activities
It is expected that the project will continue for the maximum crediting period; the project activities began in 2009 and expect to conclude in 2059.

(i) Number of (predicted) CO_2-certificates
4,698 tCO_2e for planting between 2010 and 2015. 513,072 tCO_2e for planting between 2010 and 2039, based on planting data 2010-2015 and a planting plan for 2015 to 2039 at 2000 trees/yr at an average of 1876 trees/ha, taking into account cumulative area trends. Please note, that at present the EPA estimated are based on crown area only and are therefore at this stage CO_2 certificate estimate is very conservative.

(j) Land-use history and current situation of the project area
The traditional practice of slash and burn agriculture has shaped the present day landscapes of Timor Leste[10]. with the current landscape in Baguia consisting of remnant forests alongside major agricultural and rice production areas[11]. Low productivity of upland agriculture means that the majority of the population supplements their incomes through exploitation of forest resources. The Timorese utilise forest materials for fuels, building, medical purposes, food and fodder[12]. Current practises are unsustainable and severe degradation is occurring due to farming, grazing and burning. 70% of the land in Timor has a slope greater than 26%, giving rise to risks of landslides and erosion, which is compounded by deforestation. The average Timor family utilises 24 kg of forest products for cooking per day.[13] With the FAO estimating that deforestation rates in Timor Leste at 1.1% pa, which is four times the global average rate[14]. There are some spiritual sites to also be considered within the project area.

(k) Socio-economic history and current situation

Between 1999 and 2002 East Timor was under the administration of the United Nations Transitional Administration. May 2002 saw the formation of an independent Democratic Republic of Timor Leste. Prior to this Timor Leste had been under Portuguese administration (16th century to 1975) and Indonesian occupation between 1975 and 1999[15].
Timor Leste supports a low-income, subsistence based economy. The GDP per capita is currently $1,371[16], with an unemployment rate of 18.4%. The GDP growth rate is 8.1%, with 41% of individuals below the poverty line[17] . Baucau is one of the two poorest districts in Timor Leste, with many living in the lowest living standards in a rural setting. 90% of the rural poor rely on agriculture. Baguia specifically has 70% of villagers living in the lowest living standards, with 47% illiteracy rates. Two thirds of the population engages in subsistence farming, only 40% of individuals have adequate water and sanitation access with 30% receiving national electricity supply.[18]

(l) Forest management applied (past and future)

Independence saw extensive violence and destruction of much of the country's infrastructure. Most of the historical data on the state of forests was destroyed[19]. However, assessments of national forest resources over the last two decades highlight the decline in dense forest, forest and woodlands, and the expansion in areas covered by poor quality woodlands[4]. Quantitative assessments using remote sensing techniques reveal that 16% of Timor Leste's forested land was completely cleared between 1972 and 1999[4], with an overall 30% in reduction of forest cover in the same period.[20] As of 1999 dense forest only comprised 16% of the country down from 25% in 1972, sparse forest 19%, reduced from 26% and no forest 65%, increasing from 49% since 1972. Causes for the decline in forested area and quality are swidden agriculture, clear-cutting, wildfire and excessive logging during Indonesian rule (Sandlund et al. 2001). Aditjondro (1994) supports the argument that excessive logging by Indonesian companies, through their monopolization of timber resources, played a significant role in deforestation in East Timor.

(m) Forest characteristics (including main tree species planted)

The definition of a forest in Timor Leste is: "Land spanning more than 0.5 hectares with trees higher than 5 metres and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ. It does not include land predominantly under agricultural or urban land use."[21]

The project area is comprised of predominantly (40% of the total area) of moist lowland forest (dense). The district of Baguia also hosts dry lowland forest of mixed species (9%), and to a lesser extent moist lowland forest (sparse) (2%) and moist highland forest of mixed species (2%). The project intends to undertake planting activities to re-introduce a range of species. To date, the main tree species planted in the WithOneSeed project is native mahogany[22]. However, over time as the capabilities of community tree cooperatives improves, and agroforestry initiatives are expanded, it is envisaged that the project will plant a diverse mix of species including the following species:

- Eucalyptus Alba (Timor white gum)
- Eucalyptus Urophylla (Timor mountain gum),
- Casuarina Equisetifolia (she oak),
- Swietenia Macrophylla (mahogany), and
- Tectona Grandis (teak).

(n) Main social impacts (risks and benefits)

BENEFITS

The project will deliver a range of social benefits, in particular direct payments for individual landholders in return for planting and maintaining trees. Annual incomes for the majority of subsistence farmers in Timor Leste is less than a dollar a day[23] It is expected that a landholder planting 500 trees will receive approximately $250 per year in tree payments, representing close to a doubling of household income. The poverty alleviation benefits of these payments for families in these remote farming areas will be significant.

The project will also establish school and village nurseries through local tree cooperatives, providing horticultural training. Employment opportunities will also be provided within tree cooperatives, with training

(n) Main social impacts (risks and benefits)
provided to enable them to monitor tree growth. WithOneSeed also incorporates a range of training activities for local people on alternative cropping and food production methods. The agroforestry training is done in partnership with the Australian Agroforestry Foundation who have developed The Master Tree Growers course. This course, delivered on-site, looks at forest and land management, community management/engagement in forest development helping farmers to 'fit' trees into there farms and families. In partnership with Permatil, a Timorese NGO, farmers are being taught the basics of permaculture design. Farmers have access to the Permaculture Guidebook written specifically for conditions in Timor. **RISKS** The primary negative social impact of the project relates to the risk of land disputes arising through the process of formalising land tenure arrangements. Further discussion of this potential impact is provided in the Risk Register Template. A land tenure process is underway at the national level, expecting to culminate in the legal creation of land titles that were previously destroyed.

(o) Main environmental impacts (risks and benefits)
BENEFITS Reforestation will improve watershed and soil characteristics through a decrease in nutrient losses, an increase in nutrient cycling and reduction in erosion. Agroforestry land management has been observed to reduce runoff and sediment loads, and increase infiltration to a similar level as that found under natural forests[24]. This in turn will help to minimise landslides. The Integration of trees with crops can also facilitate shade, increase soil fertility and crop productivity, and can also provide ecological functions, i.e. ecological resilience to the area[25]. Reforestation will also maintain carbon cycles and increase the amount of carbon sequestered in the soil and above and belowground biomass. Planting of trees will also enhance local ecological biodiversity. **RISKS** The main risks to the environment from reforestation activities relate to the planting of exotic or invasive species (i.e. inhibit natural regeneration or the growth of native species), or species that affect the water table. These risks have been avoided by selecting native species and where exotic (e.g. mahogany and teak), non-invasive species (see Do No Harm Assessment, point 20).

(p) Financial structure
The Computershare Foundation has provided significant philanthropic funding for the WithOneSeed project over three years covering many start-up costs and short term maintenance. Ho Musan Ida (local WithOneSeed branch) holds funds and manages staff wages, operational expenses and provides the annual payment to subsistence farmers. Income generated from sale of carbon credits are expected to be able to be administered within the existing WithOneSeed governance structure.

2. Shapefiles

Please provide *shapefiles* in the *supporting documents* and provide a reference to these *supporting documents* in this template.

(a) Project area
Shape file (World 'UTM Zone 51 South' projection) for Baguia subdistrict sourced from Seeds of Life. See folder: GIS Spatial files\Baguia Project Area\GS4210 sub districts utm.dbf, GS4210 sub districts utm.sbn, GS4210 sub districts utm.sbx, GS4210 sub districts utm.shp, GS4210 sub districts utm.shx As well as: GIS Spatial files\Land Use Baguia\Land_Use_Cropland.shp, Land_Use_Forest.shp, Land_Use_Grasslands.shp, Land_Use_River.shp,

(b) Planting areas

(b) Planting areas
The planting area has been delineated annually based on the field records of the geographic coordinates of the planted trees. See folder: GIS Spatial files\Annual Cumulative EPA\ Cumulative EPA 2010.shp, Cumulative EPA 2011.shp, Cumulative EPA 2012.shp, Cumulative EPA 2013.shp, Cumulative EPA 2014.shp, Cumulative EPA 2015.shp

(c) Eligible planting area
As there are no wetlands or organic soil strata in the project area, the planting area and eligible planting area are the same, therefore shape files are as for (b) above.

(d) Modelling Units
Stratification of the Project Area into Modelling units was performed by clipping the EPA shapefiles with the Land_Use_Cropland.shp file. See folder: GIS Spatial files\Annual Cumulative EPA\ Annual Cum EPA – Croplands\ CumulativeEPA2010Clipped.shp, CumulativeEPA2011Clipped.shp, CumulativeEPA2012Clipped.shp, CumulativeEPA2013Clipped.shp, CumulativeEPA2014Clipped.shp, CumulativeEPA2015Clipped.shp

(e) Infrastructure (roads, houses, etc.)
There is negligible road ways for vehicles in the Project Area, most of the transport is done on foot. Villages are dispersed between croplands, grasslands and forestlands.

(f) Water bodies
Water bodies are delineated as per land classification for Rivers shapefiles for Baguia. See folder\ GIS Spatial files\Land_Use_Baguia\Land_Use_River.shp

(g) Sites with special significance for indigenous people and local communities - resulting from the Local Stakeholder Consultation (LSC)
Planting of trees will be prohibited in sites with special significance for local communities. There is land that has cultural significance called *Knua*. These are sites that have special ancestral significance and feature as a cluster of houses within the settlement areas of each farm. There are no shapefiles available to specifically delineate *Knua.*

(h) Where indigenous people and local communities are situated
Geographic coordinates for each sucos (villages) were obtained so that can be uploaded in GIS and overlayed on top of the EPA. See folder: GIS Spatial files\Land Use Baguia\SucoGeoCoords.txt and See Figure 3 in the KPI_Annex Document.

(i) Where indigenous people and local communities have legal rights, customary rights or sites with special cultural, ecological, economic, religious or spiritual significance
There are no specific sites identified in shapefiles to delineate local community legal rights, customary rights or sites with special cultural, ecological, economic, religious or spiritual significance.

3. Boundaries

Please provide evidence that boundaries of the project area and the planting are clearly distinguishable in the field.
The eligible planting area will be corrected based on delineating the area of tree planting on all the farms involved in the project. This will be done via ground truthing using GPS devices and walking the boundary of the farms and tree planting areas. The GPS data will be used to produce a combined map of the farms that will be reforested. Farmers will often use natural landmarks or simple fencing to delineate the boundaries between neighbouring properties. This will be the primary way to distinguish the planting areas while in the field, which, when combined with GPS maps will assist with clear identification of the planting area. The Project Area encompasses the sub district of Baguia and involves all of the communities residing there. It is unlikely that the entire boundary of the sub-district will be delineated and easily identifiable when in the field. Rather, the Project Proponents will rely on GPS devices and maps to determine the project are boundary.

[1] East Timor National Development Plan: http://www.sids2014.org/content/documents/154PRSP.pdf pp. 211
[2] WithOneSeed Reforestation: http://withoneseed.org.au/reforestation/
[3] Xpand Foundation: http://xpand.net.au/
[4] WithOneSeed Regional Partnerships: http://withoneseed.org.au/regional-partnerships/
[5] NSD and UNFPA (2011). Population and Housing Census of Timor-Leste 2010, Volume 4: Suco Report, National Statistics Directorate (NSD), and United Nationals Population Fund (UNFPA)
[6] Map of Baucau: http://upload.wikimedia.org/wikipedia/commons/7/70/Sucos_Baucau.png
[7] WithOneSeed Interactive Map http://withoneseed.org.au/interactive-map/
[8] 2010 Timor-Leste Population and Housing Census – Data Sheet http://dne.mof.gov.tl/published/2010%20and%202011%20Publications/Wall%20Chart%20English/Wall%20Chart%20English%209%20June%202011.pdf
[9] Assessing Environmental Needs and Priorities in East Timor: Issues and Priorities http://www.researchgate.net/publication/242725106_Assessing_Environmental_Needs_and_Priorities_in_East_Timor_Issues_and_Priorities pp. 23
[10] Change in Vegetation Cover in East Timor, 1989-1999 http://researchrepository.murdoch.edu.au/6097/1/Change_in_vegetation_cover_in_East_Timor.pdf pp. 12
[11] Land Use Map of Baucau https://docs.google.com/file/d/0B13RUdSV85KfOVBUbkJzdzJoT0U/edit
[12] Timor-Leste Strategic Development Plan 2011-2030 http://planipolis.iiep.unesco.org/upload/Timor-Leste/Timor-Leste_National_Strategic_Development_Plan_2011-2030.pdf pp. 134
[13] CARBON CATCHMENTS: Integrating climate change adaptation and mitigation in Timor-Leste. Pp. 10-11
[14] Timor-Leste National Action Programme to Combat Land Degradation http://www.fao.org/fileadmin/templates/cplpunccd/Biblioteca/bib_TL_/Timor-Leste_NAP_Revised_Draft.pdf pp. 11
[15] FAO (2010). Global Forest Resources Assessment, Country Report – Timor Leste. http://www.fao.org/docrep/013/al643E/al643e.pdf pp. 5
[16] GDP per capita (current $US) http://data.worldbank.org/indicator/NY.GDP.PCAP.CD
[17] The World Factbook Timor Leste https://www.cia.gov/library/publications/the-world-factbook/geos/tt.html
[18] Democratic Republic of Timor-Leste Community Driven Nutrition Improvement Project http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2014/01/20/000333037_20140120144848/Rendered/PDF/IPP6910P1454910Box382093B00PUBLIC0.pdf pp. 2
[19] Globab Forest Resources Assessment 2010 Country Report Timor Leste http://www.fao.org/docrep/013/al643E/al643e.pdf pp. 5
[20] McWilliam, A (2003). New Beginnings in East Timorese Forest Management, Journal of Southeast Asian Studies, JSTOR Journals, 2, p. 309-310.
[21] Global Forest Resources Assessment 2010 Country Report Timor Leste http://www.fao.org/docrep/013/al643E/al643e.pdf pp. 6
[22] East Timor National Development Plan: http://www.sids2014.org/content/documents/154PRSP.pdf pp. 211
[23] Timor Leste: Minimum Wages, Job Guarantees, Social Welfare Payments or Basic Income http://www.basicincome.qut.edu.au/documents/East%20Timor%20word%2097-2003.pdf pp. 1

[24] Udawatta, R.P., Krstansky, J.J., Henderson, G.S., and Garrett, H.E. (2002). Agroforestry Practices, Runoff, and Nutrient Loss: A Paired Watershed comparison, J. Enivron. Qual. 31:1214 – 1225.
[25] Van Noordwijk, M., Roshetko, J.M., Murniati, Angeles, M.D., Suyanto, Fay, C., Tomich, T.P., (2003). Agroforestry is a Form of Sustainable Forest Management: Lessons from South East Asia, UNFF Experts Meeting on the Role of Planted Forests in Sustainable Forest Management Conference, 24-28 March 2003, Wellington, NZ, http://maxa.maf.govt.nz/mafnet/unff-planted-forestry-meeting/conference-papers/lessons-from-south-eas-asia.htm