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*Papua New Guinea
Capacity Building on Climate Change Project Identification and
Development Project*

**CCDA Capacity Needs Assessment Towards
GCF Requirements
and
Private Sector Assessment to Develop Climate
Change Projects**

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Acronyms

ADR	Alternative Dispute Resolution	IAE	International Access Entities
AE	Accredited Entity	ILG	Incorporated Land Group
BCPNG	Business Council of PNG	ILG	Incorporated Land Group
CACC	Central Agencies Coordination Committee	JOA	Joint Organization Assessment
CCDA	Climate Change and Development Authority	KOICA	Korea Overseas International Cooperation Agency
CCMA	Climate Change Management Act	LULUCF	Land use and land use change in forestry
CDM	Clean Development Mechanism	MRV	Monitoring, Reporting and Evaluation
CEPA	Conservation and Environment Protection Authority	NACCF	National Advisory Committee on Climate Fund
CER	Carbon Emissions Reductions	NACCF	National Advisory Committee on Climate Fund
CFTWG	Climate Fund Technical Working Group	NAP	National Adaptation Plan
CP	Country Programme	NCCDMP	National Climate Compatible Development Management Policy
CRGCF	Climate-Resilient & Green Climate Fund	NDA	National Designated Authority
CSO	Civil Society Organization	NDC	Nationally Determined Contributions
DAE	Direct Access Entities	NEC	National Executive Council
DNPM	Department of National Planning and Monitoring	NGO	Non-Government Organizations
DPM	Department of Personnel Management	NOL	No Objection Letter
DRC	Dispute Resolution Committee	PCCC	Provincial Climate Change Committee(s)
DSIP	District Services Improvement Programme	PCMU	Project Coordination and Management Unit
ECT	Environment Court and Tribunal	PIF	Pacific Island Forum
EE	Executing Entities	PIP	Public Investment Program
EIS	Environment Impact Statement	PNG	Papua New Guinea
ESS	Environment and Social Safeguards	PPL	PNG Power Limited
ETS	Emissions Trading Scheme	PSIP	Provincial Services Improvement Programme

GCF	Green Climate Fund	REDD+	Reduced Emissions from Deforestation & Degradation
GESI	Gender Equality and Social Inclusion	SABL	Special Agriculture Business Lease
GGGI	Global Green Growth Institute	TNA	Training Needs Analysis
GHG	Greenhouse Gases	UNCBD	United Nations Convention on Biodiversity
HRDC	Human Resource Development Committee	UNFCCC	United Nations Framework Convention on Climate Change
HRDC	Human Resource Development Committee	USAID	United States Assistance for International Development

KEY MESSAGES

- Implementing the recommendations of this Assessment, the USAID Climate Ready JOA and PIF Climate Finance Options Reports and the CCDA Corporate Plan will strengthen CCDA/NDA capacity to not only engage with GCF but its overall operation as an ‘authority thus creating additional opportunities in the climate finance and development space.
- CCDA/NDA needs to take lead in the dialogue’ with the Central Agencies’ on accessing and managing climate finance; co-financing and integrating climate issues into development planning among others.
- Operationalizing the *Climate Change Management Act (CCMA)* depends heavily on the ‘implementing regulations’ which are yet to be developed;
- Institutionalizing and up-scaling capacity of the Project Coordination and Management Unit within CCDA is not only beneficial to the overall engagement with, and administration of, GCF financed projects but is also a ‘mechanism for generating revenue’ for the CCDA through project management fees.
- The NDA to establish a ‘*Grievance Mechanism*’ and create a pathway to link it to the Alternative Dispute Resolution Facility at the National Court to make *CCMA* (+Regulations) work. It will also provide a ‘safety-net’ to the implementation of ESS and GESI policies, promote public participation and hold the CCDA/NDA, AEs and EEs accountable and will add value to the ‘No Objection’ process.
- CCDA needs to undertake a ‘training needs analysis’ to identify what specific training is required, where it can be obtained and who can provide funds for the analysis.
- Also create a system where available expert knowledge and skills are not gone to waste but is fully utilized.
- CCDA need to undertake a detailed analysis of the private sector to identify available expertise and capacity to invest in climate change adaptation or mitigation projects with support of the GCF financing instruments.

1. INTRODUCTION

This ‘Capacity Needs Assessment’ is focused on the National Designated Authority’s (NDA) current status towards the Green Climate Fund (GCF) requirements in the context of strengthening the NDA capacity to facilitate project development and implementation and managing the ‘no-objection procedure’.

The assessment reviewed the ‘USAID Climate Ready Joint Organization Assessment (JOA), the Pacific Island Forum (PIF) ‘Options for Climate Finance Reports’ and Climate Change and Development Authority’s (CCDA) ‘Plan of Action’ in its Corporate Plan¹. Drawing from these reports and the one-on-one meetings with key staff of the CCDA, the assessment focusses on an **“analysis of NDA’s capacity status towards GCF requirements and summarises this information into a capacity check-list with a plan of action for capacity building”** (Appendix-1) along with a brief private sector assessment and investment opportunities presented in Appendix 3 to 5.

The assessment looks at the potential challenges that may arise and how it will be resolved; what are the ‘safety-nets’ to the non-compliance of environmental and social safeguards (ESS) and the gender policies and how the project coordination and management unit (PCMU) at the NDA be institutionalised in order to effectively facilitate and coordinate the implementation of the GCF financed projects.

Considering the above, the assessment is categorized into the following five sections, with Section 2 emphasizing on effective governance—how to make policies, laws and regulations work. Section 3 looks at Inter-Agency Coordination and National Ownership, while Section 4 elaborates on the importance of institutionalizing the project unit. Section 5 highlights the essential work of Monitoring, Reporting and Verification (MRV) in greenhouse gas inventory and reporting; and supporting climate change mitigation and adaptation planning. Section 6 provides a brief analysis of the private sector and points out the gaps that are currently limiting CCDA’s active engagement with the private sector.

Section 7 elaborates on the role of the NDA in facilitating and coordinating project identification and development, and managing the no-objection procedure. Section 8 concludes the assessment with Appendix-1 summarising the Assessment and action plan for Capacity Building and Appendix-2 points to where the NDA is in the six-step GCF project financing proposal

¹ See example, “*Options for Strengthening Climate Finance Coordination and Accessibility in Papua New Guinea*”, A Report Prepared by the Pacific Islands Forum Secretariat for the Department of National Planning & Monitoring (DNPM) and the Climate Change and Development Authority (CCDA), Port Moresby, Papua New Guinea (2019); Keith Bettinger, Peniamina Leavai and Harry Gubala, “*USAID Climate Ready and Papua New Guinea Climate Change and Development Authority ‘Joint Organizational Assessment Report’*”, Port Moresby, Papua New Guinea (2018).

requirement and Appendix 3-5 provides a brief overview of the different private sector categories and the potential investment opportunities under the GCF financing.

2. EFFECTIVE GOVERNANCE

The GCF process, in essence, introduces a domestic policy mechanism in which governments; civil society organizations, private sectors and multilateral institutions come together to establish an on-going dialogue in the design, implementation and monitoring of the obligations included in the *Paris Agreement* through a range of climate change mitigation and adaptation projects under GCF financing.

At the international level, GCF provides a global platform to connect, empower and support domestic reformers committed to deliver the goals of climate compatible development by shifting to the ‘low carbon’ or ‘green economy’. The overall aim of which is to hold the global temperature at 2°C or lowering it to 1.5°C². To effect this at the national level, GCF works closely with the National Designated Authority (NDA). The NDA is the Focal Point of contact for GCF. In the case of PNG, the CCDA which was established under section 8 of the *Climate Change and Management Act* is the NDA. The NDA develops country programmes, oversees the project proposals, manages the no-objection procedure; and convene stakeholder consultations.

To engage competently with GCF, the NDA needs to look at effective governance by:

- making its policies, laws and regulations work;
- develop and manage a “no-objection letter” procedure through which quality assurance and national ownership of the project will be reflected;
- facilitating effective inter-agency coordination; and
- promoting and implementing sound project design and management³ including a grievance mechanism that links the NDA, Accredited Entities and Executing Entities (EEs) to the PNG judiciary’s Alternative Dispute Resolution (ADR) to counter ESS, Gender Equality and other issues that may arise during project implementation.

2.1. Making Laws Work

The Constitution of PNG “commits the country to ‘wise use of its environment and natural resources with fair and equitable benefit sharing through a participatory development approach’”.⁴ Following this, PNG has formulated some of the best ‘policies including environment and natural resource laws to guide ‘sustainable development’. However, the enforcement of these laws has been ineffective to date. For example, the *Environment Act* grants ‘Environment Permits’ tied to

² *Paris Agreement (Implementation) Act* (2016), Article 2

³ See Strategic Outcome # 1, ‘Improving Climate Change and Development Governance, Policies and Regulations’ which aligns to MTDP-III 7.2 (8), CCDA Corporate Plan 2018-2022 (2018), p 13.

⁴ *Constitution of the Independent State of Papua New Guinea* (1975), Preamble, “Five National Goals and Directive Principles”.

specific ‘conditions’ to regulate activities in a specific project but ineffective compliance monitoring resulted in social and environmental burdens borne by the community as in the Ok Tedi and Tolukuma mine cases. Although these projects differ from climate change projects, it draws experience on how law enforcement or compliance monitoring is ineffective.

In view of this, the *Climate Change Management Act (2015) (CCMA)* passed by Parliament in 2015 by a ‘vote of 67-0’ demonstrating the importance of the *CCMA* may follow the similar trend if no practical pathway is pursued to make it work. The *CCMA* differs from other legislations that it is not sector-specific as in the *Environment or Forestry Act* but it cuts across sectors that requires a coordinated approach of governance that can work. One way to make such laws, policies and regulations work in PNG is perhaps an ‘environmental law reform’ to set-up a ‘specialized Environment Court’⁵ as in the New South Wales Land & Environment Court in Australia and such similar Environment Courts and Tribunals elsewhere. Although an ‘Environment Court is essential for PNG whose economy is based on an extractive industry, it may also be viewed as ‘putting controls’ on development progress. Taking this into consideration, a good pathway would be an internal ‘Dispute Resolution Mechanism’ that links to the Alternative Dispute Resolution (ADR) facility at the National Court. This has potential to make the *CCMA* and its regulations work and to create a win-win situation for all parties as climate change projects involve several actors from international to national level.

2.1.1 Recommendation

- Establish ‘a Dispute Resolution Mechanism’ and **create a pathway to actively utilize the ADR facility at the National Court** given that climate change mitigation and adaptation projects involves several stakeholders with different expectations.
- A regulation needs to be developed to guide the establishment of the internal dispute resolution mechanism and how it can link to the ADR. The NDA with the support of its delivery partners may hire a legal expert to develop the regulation.
- The NDA in consultation with the Department of National Planning and Monitoring (DNPM) and the Central Agencies with support of the development partners should develop and manage the NOL procedure. The NDA with development partner support should engage an expert or a consultant to design and develop the NOL procedure.

⁵ Pole Kale, “Establishing an Environment Court and Tribunal in Papua New Guinea”, an ‘ideas paper’ submitted to the Constitutional Law Review Commission of PNG (2014).

The ADR has potential to make policies and laws work, deliver low carbon, climate-resilient economic growth; and ensure 'ESS' policies in any projects are implemented. The ADR creates a win-win outcome for all parties (see section 2.3).

2.2. Operationalizing Climate Change Management Act

PNG is a signatory to a large number of international environmental treaties including the UN Framework Convention on Climate Change (UNFCCC) and UN Convention on Biodiversity (UNCBD). These treaties are the primary source of "international legal rights and obligations in relation to environmental protection".⁶ The UNFCCC and UNCBD for example, are considered "law-making treaties since their provisions lay down basic rules of general conduct capable of adapting to accommodate different sets of environmental circumstances over time".⁷ This provided a forum for subsequent legal development as in the case of the 1997 Kyoto Protocol which is supplementary to the UNFCCC and now the Paris Agreement.

The 'Paris Agreement' was the result of the Conference-of-Parties to UNFCCC meeting -21 (COP-21) in December 2015 in Paris, France. The primary focus of the Paris Agreement was to take a global action to keep the global temperature at 2°C or lower to 1.5°C. In addition, the agreement aims to increase the capacity of countries to deal with the impacts of climate change through GCF as a main funding mechanism.

One of the significant achievements of PNG with the leadership of the PNG Climate Delegation to the COP-21 Meeting was the negotiation for REDD+ to be accorded its legal position at the international level because REDD+ was legislated in the *CCMA*. This negotiation resulted in Article # 5 of the Paris Agreement. With this achievement, PNG immediately enacted the *Paris Agreement (Implementation) Act* (2016).

At the domestic level, however the compliance of these international environmental law treaties does not happen automatically upon ratification of a treaty. The international treaties need to be translated into PNG's domestic legal framework, and requires awareness and consultation on its purpose and encourage society to adapt and change in human behaviour.

In line with this, CCDA has translated the UNFCCC 'commitments' and the 'obligations' of the *Paris Agreement* into its domestic legal framework which is the *CCMA*⁸ and the *Paris Agreement (Implementation) Act* (2016). However, operationalizing the *CCMA* depends heavily on the 'implementing regulations'. This was pointed out in the CCDA Corporate Plan which emphasized the need to review the *CCMA* and develop the 'implementing regulations' with support of the

⁶ Philippe Sands, Jacqueline Peel, Adriana Fabra and Ruth MacKenzie, *Principles of International Environmental Law*, (3rd ed, Cambridge University Press, UK, 2012), p 96...

⁷ Ibid, p 97

⁸ See *Climate Change Management Act* (2015); *Paris Agreement Act* (2016)

delivery partners such as UNDP, Global Green Growth Institute (GGGI), DFAT/AUSAID, USAID Climate Ready and other key state agencies.

2.2.1. Recommendations

- Develop a regulation for engagement with GCF and other international climate funds that should also include the process for nomination of ‘direct and indirect access entities’.
- Hire a Legal expert “specialized in climate change and development law” to develop regulations.
- In the long term, CCDA needs to build its legal capacity to provide legal advice to all its operations including GCF fund transfers and contracts; project administration and to provide support to the NDA Grievance Mechanism.

<p>The implementation of the <i>CCMA</i> and the <i>Paris Agreement Act</i> and its relevant regulations will be effective once a ‘grievance mechanism’ is established and linked to the ADR.</p>

2.3. NDA Grievance Mechanism

The NDA after strengthening its capacity through the ‘readiness programme’ financed by the GCF and delivered by the GGGI, it will be ready to facilitate and coordinate GCF project proposal development. In doing so, the NDA will not only receive an influx of project proposals but also an

influx of complaints and disputes from various stakeholders implementing the projects. This is because climate change, being a cross-cutting issue, cuts across a wide range of sectors with different interests and expectations. The complaints may range from benefit sharing, employment to environment and social issues. Where will these issues be addressed? The forum for addressing this issue is anticipated to be at the ‘dispute mechanism’ to be housed under the PMCU at the NDA.

To manage these issues, the NDA may consider a “Grievance Mechanism” as shown in *Figure-1*⁹ to manage all complaints and disputes that arises from stakeholders in any given GCF financed projects. The NDA Grievance Mechanism will ensure all AEs and their EEs have an internal ‘complaints registry’ and dispute resolution management system at the project

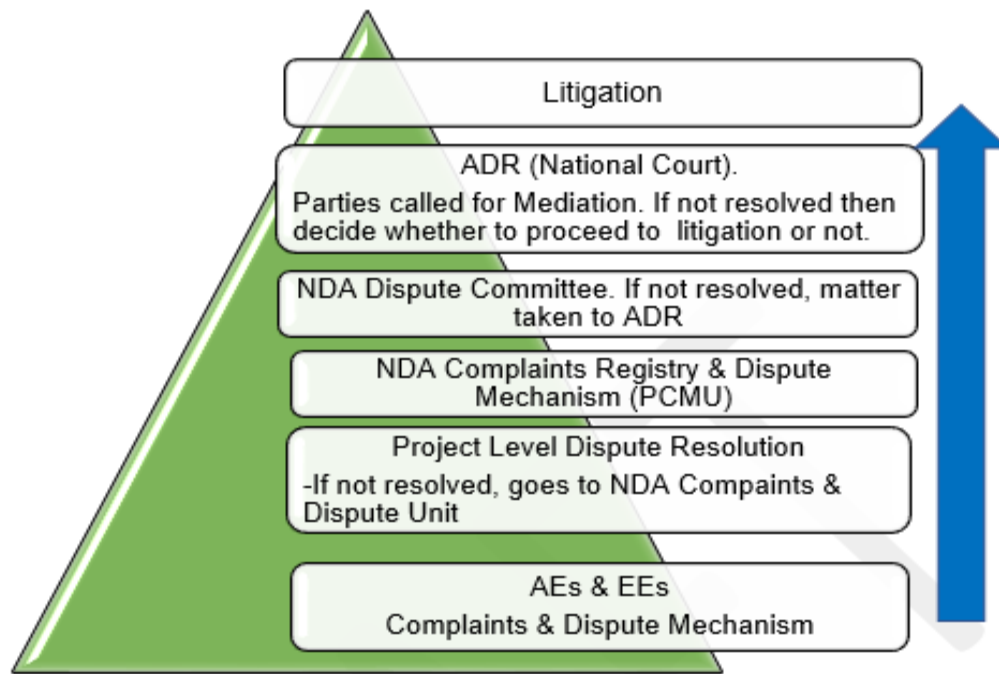


Figure 1. Illustrates an indicative dispute resolution and management mechanism during project implementation.

operational level. If it cannot be resolved, it will be brought to the attention of the NDA Dispute Resolution Committee.

⁹ Note that the MD CCDA has commenced dialogue with the ADR Facility for such a mechanism to take effect. And recently “An International Mediation and Arbitration Conference (IMAAC) was held in Port Moresby (March 25-29, 2019) that also raise the issue of ‘Climate Change being an emerging issue in law’.

The NDA through its PCMU will register the complaints and advise the ‘NDA Dispute Resolution Committee’ (DRC) to call the disputing parties to a mediation. If this fails, the parties could take the dispute to the ADR at the recommendation of the NDA DRC.

2.3.1 Recommendation

- The establishment of a ‘Grievance Mechanism’ to address all complaints or disputes arising from projects financed by GCF including other climate funds;
- The NDA shall create a pathway from its ‘Grievance Mechanism’ to the ADR facility at the National Court; and
- The NDA needs to develop a regulatory guideline or a process that will guide the establishment of the grievance mechanism, its dispute resolution and management committee; and how it will address all issues and link it to the ADR.

The Grievance Mechanism serves as a tool for monitoring compliance of ESS policies at the project operational level and hold NDA, AE and EEs accountable. This also adds value to the ‘No Objection’ process.

2.4. Environment and Social Safeguards (ESS)

It is anticipated that the NDA will utilize its ‘grievance mechanism’ as a ‘safety-net’ to effect the ESS and GESI policies at the project implementation level. However, in practice, the ESS content in PNG is distributed over a number of ‘statutes administered by various state agencies.

The Department of Labour and Industry administers “Labour and Working Condition” and all matters relating to labour, employment and industrial disputes (*GCF-PS-2*) guided by various Acts and Regulations. For all matters relating to land is administered by the Department of Lands and Physical Planning guided by the *Land Act* (1996) (*GCF PS-5*); and for Biodiversity Conservation and Sustainable Management of living natural resources is administered by the Conservation and Environment Protection Authority (CEPA) guided by the *Environment Act* (2000) and the *CEPA Act* (2014) (*GCF PS-6*).

For the most part, ESS is mainstreamed into the ‘Environment Impact Statement’ (EIS) by project proponents in any development application. EIS is mandatory under the *Environment Act* where it has enhanced the internalisation of environmental considerations by proponents and decision-makers, and it has underlined the need for full environmental disclosure and public discussion of development proposals. **Through this process, it ensures that all potential environmental,**

social and economic risks of the projects are identified and assessed; and where possible points out how risks could be avoided.

The problem, however, is lack of enforcement and compliance monitoring on ESS in any development project. This give way to more social and environmental issues arising from projects in PNG. Realizing this, establishing a dispute resolution mechanism and linking it to the ADR will give effect to the compliance of ESS policies at the project implementation level.

2.4.1 Recommendation

- AEs and EEs will design its ESS policies in conformance with GCF ESS policies and formulate a plan of action on how it will implement at the project implementation level;
- NDA will monitor AEs/EEs compliance of its ESS or participating stakeholders can either report or lodge complains on the non-compliance of ESS.
- To effect the ESS at the implementation level; participating stakeholders will utilize the NDA Grievance Mechanism.

3. INTER-AGENCY COORDINATION AND NATIONAL OWNERSHIP

Both the ‘Pacific Islands Forum’s Climate Finance Options’ and the USAID Climate Ready Joint Organizational Assessment (JOA) Reports’ presented a comprehensive report with options and recommendations for strengthening CCDA’s coordination mechanism with the Central Agencies; including climate fund management to demonstrate national ownership in the GCF engagement¹⁰. The Central Agencies who forms the National Advisory Committee on Climate Finance (NACCF) include:

- Department of National Planning and Monitoring (DNPM)
- Climate Change and Development Authority
- Department of Prime Minister and National Executive Council (PM & NEC)
- Department of Finance (DoF)
- Department of Treasury (DoT)
- Department of Provincial & Local Government Affairs (DPLGA)
- Department of Foreign Affairs (DFA)
- Others (apart from the Central Agencies, one nominee each from the civil society, private sector and the development partner will make up the 10-member NACCF).

The 10-member NACCF is the key decision-making body identified and recommended under the PIF Options Report of which is incorporated into the NOL procedure to be managed by the NDA. The role of the NACCF and the ‘NOL procedure’ is explained in detail in the “PNG NOL Procedure Guide”.

PNG has a well-established institutional set-up with inter-agency bodies and organizations well suited for the effective implementation of the sustainable development goals. Unfortunately, very **little coordination and cooperation is inspired through formally instituted bodies**. This has been identified in the Options Report where PNG has no cross-sectoral coordination mechanism for climate change or climate finance¹¹. In view of this, the NACCF and the NOL procedure is expected to fill this gap.

The reports also recommended that the CACC and the NEC establish a “Climate Change Resilience and Green Climate Fund”.¹² When the Fund is established, DNPM and CCDA together with the proposed NACCF; support from development partners and with consultation from stakeholders develop proposal for the Fund for consideration by CACC and NEC.¹³ This

¹⁰ See generally, above n 1: ‘Options study by PIF and Joint Organizational Assessment by USAID Climate Ready’.

¹¹ Ibid, *Options Study*, p 30

¹² Ibid.

¹³ Ibid. Options Study, p 36. Note that the involvement of DNPM is important as counter-funding from government is aligned to the Public Investment Program (PIP), being administered by the DNPM.

coordinated practice will demonstrate a “whole-of-government” approach revealing national ownership as emphasised by GCF. This particular recommendation was fully captured in the NOL procedure of which it mirrors the country’s “public investment programme or PIP process”, that give rise to “decision on planning, budgeting, and co-financing that fully reflects ‘national ownership’”.

3.1. Recommendation

- Review and Implement the recommendation of the Report: “Options for Strengthening Climate Finance Coordination and Accessibility in PNG” by the Pacific Islands Forum Secretariat and the ‘USAID Climate Ready Joint Organizational Assessment Report’.
- CCDA in its capacity as the NDA needs to initiate frequent dialogue with the Central Agencies on the challenges and how they can effectively collaborate on putting workable systems in place on climate finance, co-financing, and mainstream climate change issues into development planning and budgeting.

3.2. Key Players —NDA and DAEs

In the six-step process of the GCF funding proposal¹⁴, the NDA approve the selection of projects (*see Figure-2*) but technically, proposals are jointly developed and submitted by the AEs (Accredited Entities) and the NDA. The AEs are either Direct Access Entities (DAE)¹⁵ or International Access Entities (IAE).¹⁶ The NDA will nominate the DAE and issue a “no objection letter” for the DAE to pursue its accreditation with the GCF.

DAEs will play an increasingly important role in the **“development of the project proposal, securing the NOL and submitting the proposal to GCF. Once the proposal is approved by GCF, the project funding will be channelled through the DAEs. DAEs are emphasized here because experience in PNG had shown that engagement with IAEs have always ‘slowed down’ the delivery of projects because of its long procurement process; financial management and reporting system. This, in essence points to the importance of the DAEs thus the NDA should start the process for the appointment of the DAEs.**

At present there is very little or no strengthening of the DAEs because none has been identified or nominated by the NDA. Potential DAEs who seek accreditation by GCF should demonstrate

¹⁴ See GCF proposal development and approval process available at: www.greenclimate.fund.

¹⁵ *Direct Access Entities* are sub-national, national or regional organizations operating in PNG who can be nominated by the NDA to be accredited by GCF.

¹⁶ Indirect Direct Access Entities are international institutions such as the United Nations agencies, multilateral development banks, international financial institutions and regional institutions.

“specialized fiduciary standards; capacity to design, structure and appraise investments; and able to undertake feasibility assessments, environmental and social impact assessments, economic and financial modelling; and demonstrated experience on project management and implementation as well as familiarity with GCF policies, procedures and standards¹⁷”. To assess the eligibility of DAEs, an online “*self-assessment tool*” is available on the GCF website¹⁸ can be utilized to verify their suitability status prior to submitting an expression of interest to the NDA for nomination.

The NDA needs to have a regulatory system where it can appraise and nominate a potential DAE who then applies through the GCF accreditation process. At present, the NDA has no such process or guideline in place.

As illustrated in *Figure-2*, only AEs will submit proposal to GCF and also receive GCF funding¹⁹. AEs may not necessarily implement the project directly but it may engage an executing entities (EE) for project implementation on AE’s behalf.²⁰

3.2.1. Challenges on Financial Flows

Past experience had indicated slow financial flows from IAEs to NDA or to EE’s project accounts. This led to the delays in delivering project outcomes on time. Also, it often takes up more time for the Department of Treasury and the State Solicitor to give clearance on amendments to grant agreement (Treasury) or Project Agreement (Minister) whenever there are changes to the grant or project agreements. This again led to ‘time lost’ delaying project delivery within the scheduled timeframe.

Not only challenges on financial flows from IAEs to NDA/EEs but how implementing agencies are efficient in their financial management such as expenditure reporting and timely acquittals. The delay in providing timely acquittals may delay the release of new funds or projects may even be recalled if audit procedures are not complied with.

Since projects have ‘tight delivery time frames’, and considering the past experiences, NDA in consultation with the Central Agencies may consider the idea of setting up the Climate Change Resilience & GCF Fund (CRGCF) with an efficient management arrangement for accessing, utilizing, audit and reporting.

3.2.2 Recommendation

- NDA needs to develop a process for appraisal and nomination of potential DAEs who can apply for GCF accreditation;

¹⁷ Ibid, p 6

¹⁸ Tara Shine, *A guide to support implementation of the Paris Agreement– Part Two, Towards Green Climate Fund Accreditation and Support*, Stockholm (2017), p 5.

¹⁹ Ibid 6, p 4.

²⁰ INFRAS and SDC, *Swiss Agency for Development and Cooperation SDC*, Global Programme Climate Change and Environment (2018), p 6.

- NDA should start the process for making the necessary institutional arrangement through the NACCF and the CCAC- NEC for co-financing support to DAEs and also set-up the CRGCF Fund to overcome the challenges of financial flows.

The type and level of accreditation depends on the funding level and the size of the project. It starts at the NDA with the nomination and accreditation of DAEs and issuing a NOL.

3.3. CCDA Human Capacity

Both the ‘JOA and the PIF Options’ reports have emphasized that the “improvement of the overall staff capacity at CCDA” was critical to its overall operation.²¹ Following the recommendations, CCDA developed its Corporate Plan prioritizing staff training and development.²²

The first point of staff development is ‘among staff’ at their workplace. That is, ‘junior staff engaged with experienced and qualified senior staff at the middle management. The senior staff share their experiences, knowledge, skills and mentor young staff to advance their career. This has been the general practice in the public-sector in PNG. However, at CCDA this is missing.

The top management comprised of experienced and qualified staff; the middle management has very few or almost no experienced and qualified people; while more young and energetic officers are at the operational level. The middle level management to provide mentoring, impart knowledge and skills to the young officers are not available.

The staffing arrangement at CCDA posed the question: How can ‘readiness proceed to implementation’ when there is lack of experienced and qualified people? This presents a challenge to the NDA in terms of its engagement with GCF to competently deliver projects. Realizing this, CCDA should hire experienced and qualified officers to fill the ‘middle gap’ or design a ‘go-ahead’ plan to up-scale the many young energetic officers.

In the long term, CCDA should establish a Human Resources Development Committee’ (HRDC) to guide training and development. HRDC may do a training needs analysis (TNA) to identify, prioritize and list training needs on specific areas of climate change (e.g., Forestry and Land-use/REDD+, Energy, Transport, Sea-level rise etc.). Based on this, candidates will be identified and nominated for short-and long-term training in PNG or abroad.

3.3.1. Recommendation

- CCDA staff have attended many trainings through workshops and short-term training; they are also staff who have specialised knowledge, skills and ideas but are not utilized. CCDA needs to identify this group of staff and create a system for sharing ideas, knowledge, and

²¹ Keith Bettinger, Peniamina Leavai and Harry Gubala, “*USAID Climate Ready and Papua New Guinea Climate Change and Development Authority ‘Joint Organizational Assessment Report’*”, Port Moresby, Papua New Guinea (2018), p 6.

²² Climate Change and Development Authority, Corporate Plan 2018-2022 (2018), p 6.

skills within CCDA and partner agencies such as ‘lunch and learn’ sessions or when someone returns from training, she/he presents a seminar on the training. This leads to good utilization of available human resources.

3.4. No Objection Process

The NOL by NDA” is an important process in the GCF engagement. The ‘NOL is a ‘condition’ for approval of funding but a “condition tied to satisfying all the necessary requirements of GCF tailored to PNG’s development context and correspond to PNG’s climate change policy and strategic plan of action”. The key role of the NDA is developing and managing the NOL.

By issuing the NOL, the NDA implies that the proposed project is in conformance with PNG’s national priorities, strategies and plans and is in accordance with the GCF’s environmental and social safeguards, and adheres to PNG laws and regulations. Importantly, PNG’s process for determining no-objection to the project should reflect national ownership and the national process for ‘no objection’ must be duly followed.

3.4.1. Recommendation

- Develop a regulation outlining the ‘NOL’ procedure and the issuance of NOL by the NDA through which project proposals will be appraised. This will give ‘quality assurance’ to the proposal for NDA to issue NOL with confidence. The NDA with support of the ‘development partners’ should engage a project management and governance expert to develop the ‘NOL Procedure.
- NDA needs to appoint credible, competent and readily available technical and professional people to the CFTWG who will appraise the proposals transparently and recommend it to the NACCF for review and recommendation to CCAC-NEC for endorsement (co-financing) and NDA to issue NOL.
- Institutionalizing and up-scaling the PCMU, establishing the Grievance Mechanism, engagement of DAEs, effective coordination of the Central Agencies and co-financing, and a credible component and committed CFTWG are key to the overall ‘No Objection and NOL’ process.

4. INSTITUTIONALIZING THE PROJECT UNIT

4.1. General View & Consideration

An influx of project proposals seeking GCF funds from various DAEs, IAEs, and stakeholders will hit the NDA office. NDA will maintain its ‘coordination and oversight role throughout the project cycle from entry-to-exit of all projects including monitoring, evaluation and reporting of ‘success stories’ or addressing failures.

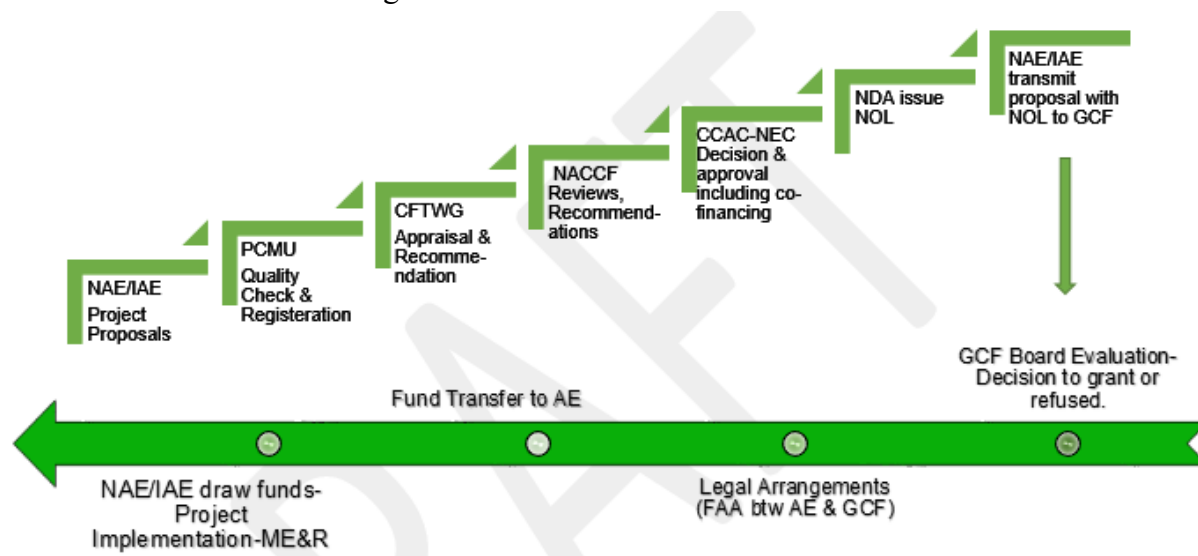


Figure 2. Illustrates NDA’s overall coordination and oversight role from project proposal entry and exit through the proposed NDA-GCF process

The proposed *Project Coordination and Management Unit (PCMU)*²³ will serve as a ‘Secretariat’ or ‘contact point’ for all projects whether it be GCF or other international climate funds. This means an organizational arrangement or re-arrangement is needed to institutionalize and up-scale the PCMU.

The benefits of institutionalizing the PCMU is not only to give ‘quality assurance to the project proposal’ entering and exiting the NDA-GCF cycle but also to ‘generate revenue through project administration fees’.

PCMU will play a lead role as the key contact point in engaging with GCF, AE, EEs, and stakeholders through its advisory and support role while also undertaking quality checks on project proposal and registering projects. After registration at PCMU, the proposal goes through CFTWG

²³ Climate Change and Development Authority Corporate Plan 2018-2022, (2018) p 16: See Strategic Outcome # 2, Strategy 2.1- Objective-1.

for review and appraisal²⁴ and onto the NACCF²⁵ and CACC-NEC for decision and approval (depending on project size and funding level).

All of these processes demonstrate that institutionalizing the PCMU will add value to the overall oversight role of NDA in the GCF engagement or any other climate fund such as the Adaptation Fund.

4.1.1. Recommendation

- Undertake an organizational arrangement or re-arrangement to institutionalize the PCMU.
- PCMU needs to set-up a “**database system for tracking and registration**” of project proposals from entry to exit through to implementation monitoring, evaluation and reporting.
- Increase staff capacity of PCMU by recruiting professional and technical experts in different climate change project areas such as engineers for energy and transport sector, forest ecologist, agriculturalist for FOLU, gender experts for gender equality etc.
- If (c) is constraint by funding, up-scale the technical and professional capacity of existing officers at the PCMU/CCDA through both short-term on-the-job and long-term training in countries where GCF financed activities or green growth model is well executed as in the Republic of Korea where GCF and GGGI is headquartered.
- KOICA funded training administered through the Embassy of the Republic of Korea in PNG is available for short & long-term training. CCDA in consultation with DPM may make a special request to the Embassy for short- and long-term training as part of capacity building through the country cooperation arrangement.
- In addition to recommendations c, d, and e; there are many officers within CCDA (and other key stakeholders) who had expert knowledge and skills that can be utilized. Create a system for ‘sharing knowledge, skills and ideas’ perhaps through a ‘lunch and learn’, bi-weekly or monthly.

²⁴ CFTWG will convene to appraise the proposal to ensure it meets the GCF requirements and aligns to PNG’s development priorities and climate change plans and strategies. If it fails to meet the requirements, CFTWG may issue corrective actions to review and revised the proposal. If the CFTWG is satisfied, it recommends the proposal to the National Advisory Committee on Climate Fund (NACCF) for further review. When NACCF is satisfied, it transmits to the CACC-NEC for decision and approval (depending on project size and funding level). The CACC-NEC decision will deliberate and approve on co-financing if it is a government project.

²⁵ See ‘Options Report by PIF’ for details on the options proposed with recommendations.

4.2. Stakeholder Capacity Building for Project Development & Implementation

The Pacific Island Forum and JOA reports have identified that “capacity of community groups, CSOs, PCCCs and private sector to develop proposals, implement and report on projects is not built”.²⁶ On the other hand, many staff and individuals in the one-on-one meetings have expressed concern that the GCF project proposal and co-financing requirements; and its process becomes very expensive for community groups and PCCCs to develop project proposals.



Figure 3. Illustrates the approach to build capacity of stakeholders including PCCCs to design and develop project proposal for GCF Funding.

While these are the challenges, the NDA look forward to reaching out to the sub-national level where “80-percent of Papua New Guineans live and it is where climate change impacts hits them the most”. The NDA through the GCF readiness support project will support capacity building of stakeholders in project design and development as illustrated in the diagram. A first step are four regional workshops which the NDA plans for 2019 and several other workshops in Port moresby to build stakeholder capacity and engage with stakeholders on priority areas for climate finance.

4.2.1. Recommendation

A Project Development and Implementation manual will be produced and distributed to all stakeholders including PCCCs and community groups with training on the use of the manual throughout all PCCCs. Capacity support for production, distribution and training is needed.

As illustrated, Climate Change mitigation and adaptation projects (*based on the 4-Mitigation and 4-Adaptation categories defined by GCF*) will be identified and listed; a Project Design and Development Manual tailored to PNG’s development and climate change context and in

²⁶ Above n 9, p 36.

conformance with GCF Requirements will be developed; the manual will be produced and distributed to all stakeholders followed with training on how to use the manual. This will build capacity of PCCCs, community groups and private sectors to design and develop project proposals.

4.3. REDD+: The Challenges of Moving to Implementation

REDD+ has advanced its strategic plans and is ready for implementation but its limitations are:

- Regulation to clearly define and guide the “Benefit Sharing Agreement” in REDD+ projects and to guide the overall implementation of REDD+ in PNG.
- CCDA lacks financial capacity to support REDD+ project area land owners to secure “Incorporated Land Group” (ILG) registration. The ILG registration is key to “land-use planning and benefit-sharing arrangements” in REDD+ projects.

4.3.1. Recommendation

- Capacity need is required to develop ‘implementing regulation’ for REDD+.
- Capacity support is required for ILG registration which is key to benefit sharing and land-use planning in REDD+ projects.

An appropriate legal framework that clearly defines land tenure, carbon property rights, and provides fair and equitable participation and benefit-sharing mechanism and good governance will give effect to investor confidence in REDD+ projects. Equally important is, there must be a transparent, stable and sustainable carbon market with an attractive carbon credit price for REDD+. This will shift the competing land use interest thereby reducing deforestation and achieve the goals of REDD+.

5. MONITORING, REPORTING AND VERIFICATION

5.1. General View and Consideration

If NDA is to manage climate by managing state emissions, it needs to know how much PNG emits; and to put price on Greenhouse Gases (GHG) so that ‘polluter pays’ (e.g., the 2t fuel levy), it must be able to track GHGs; and moving further, if for the economic efficiency, PNG sets up a market in which greenhouse gas pollutions are traded. All of these hangs on MRV. MRV is, in essence the foundation to PNG’s climate change plans and strategies and how it can link climate data into its development planning and budgeting.

While MRV is foundation to progress climate change initiatives in PNG, it must be noted that preparation of a ‘state inventory and national communication’²⁷ is a state-governed activity undertaken within a framework of international regulation. Although State parties have GHGs inventory and reporting obligations²⁸ and the *CCMA* provides for such monitoring, reporting and verification²⁹, there is no implementing regulation guiding the ‘national inventory’ or MRV activities in PNG.

In view of this, it must be noted that in one way or another, much regulation gravitates or will gravitate down to the level of measuring and reporting. This again raise the importance of capacity building of MRV at the NDA.

5.1.1. Recommendation

- MRV is a specialized area of the climate change regime that requires ‘specialized technical and human resources’ of which are lacking at the NDA. There is need for up-scaling the ‘technical and human capacity at the MRV Division, in particular, expert technical training for officers on greenhouse gas inventory in accordance with UNFCCC Guidelines; and reporting of the inventory data.
- Identify where the expert technical training can be obtained either through short-or long term or on-the-job training; who will provide and who will fund. CCDA may identify training and in consultation with Department of Personnel Management (DPM), make a special request to Country party partners of the UNFCCC and Paris Agreement for capacity building support through training. For example, approaching the Korean Embassy for KOICA funded expert technical training in Korea is possible.

²⁷ *UN Framework Convention on Climate Change* (1992), Article 4 (1) (a); Art 12 (1).

²⁸ *Paris Agreement* (2015), Article 4 (1) & (2).

²⁹ *Climate Change (Management) Act* (2015), Part IV. Part IV of the ‘Act’ is committed MRV.

- There is a need to develop an ‘implementing regulation’ to guide the GHG inventory that will specify the coordination and cooperation of the private sector and other stakeholders.
- Set-up a data-base to store all information (and to be updated yearly) that can be utilized easily for reporting and to support mitigation, adaptation and to support development planning.

The First, Second and now the Third National Communication along with the Nationally Determined Contributions (NDC) are the testament of what the MRV section can offer. However, building its capacity will unlock the uncertainties in various sectors such as the LULUCF which serves as both ‘source and sinks’ for GHGs or estimates of CO₂ emissions from energy consumption from industrial process.

6. MOBILIZING THE PRIVATE SECTOR

6.1 Assessing Private Sector readiness for climate finance – what is missing?

Most private sector actors in PNG are unaware of the legal and regulatory developments and the emerging investment opportunities brought about by the climate change regime. This, for the most part is attributed to NDA’s limited engagement with the private sector to date. The shortcoming for this, is the absence of the “Sections 71 and 78 Regulations and the Sections 69 and 77 Standards” under the *Climate Change Management Act*.³⁰ Sections 71 and 78 of the *CCMA* gives the legal effect to “make regulations specifically targeted to mitigation and adaptation activities”. For example, section 71 (3) states ‘...Minister may make a regulation to provide for (a) mitigation actions; and (b) compensation or economic allocation of the cost of such mitigation actions; and (c) applicable fees, enforcement or penalty mechanisms, and any other matter required to be done to achieve mitigation in the ‘regulated sector’. Section 78 (3) provides the same clause for the purpose of adaptation under the *CCMA*. The requirements for ‘adaptation and mitigation in the regulated sector which is mostly the private sector can be regulated or monitored if there is an enabling instrument, i.e., the sections 71 & 78 regulations.

The sections 71 & 78 regulations provide the interface between the CCDA/NDA and the private sectors. At present, there is a regulatory gap to bridge the private sector to the NDA to effect the mitigation and adaptation plans and introduce the GCF Investment opportunity to the private sector.

The Part V and VI Regulations under the *Act*³¹ refers to the provisions within the two Parts which deals with regulations that will guide planning and monitoring of mitigation and adaptation activities in the regulated sector; and monitoring standards and practices in the unregulated sector that emits, may emit or avoid emissions. This will lift the confidence of the CCDA as it will have something concrete both on ‘law’ and on ‘investment’ to offer to the private sector. This will make NDA to engage meaningfully with the private sector but it is missing. It is also important to note that most private sectors would not be willing to invest in mitigation and adaptation projects where laws are unclear or regulatory framework for guiding such investments are not in place.

The implementing regulations under Part V and VI of the *Act* are critical to the overall engagement of the NDA with the private sector as it will clarify several issues such as the question of some entities being regulated while others are not; what benefits or incentives are available for the regulated entity; and what is in it for the unregulated, who in essence would be a ‘free rider’? And what if a regulated entity improved its production efficiency through new technology innovation

³⁰ *CCMA* (2015), ss 71, 78, 69 and 77. The ‘Regulations’ and ‘Standards’ will give strength to the CCDA to reach out and to engage effectively with the private sector.

³¹ *Climate Change Management Act* (2015), Part V & VI. *Part V* provides for the development of regulations to guide Mitigation activities by the ‘regulated sector’ while *Part-VI* provides the same for Adaptation by the regulated sector.

and brings its greenhouse emission level to its targeted limit; or through innovation it has internalized its externalities. If in such cases, will the climate levies be exempted or what other incentives are there. These questions will be answered under the Part V and VI Regulations and will guide investments on mitigation and adaptation respectively.

The 4-months grace period for awareness raising on the ‘regulation’ is an opportune time for the CCDA to engage fully with, and bring the GCF investment plan to the private sector. A good point of entry to the private sector is the Business Council of PNG (BCPNG) where most businesses in PNG are a member of.

6.1.1 Recommendation

- Review the *CCMA* with particular focus on Part V and VI to incorporate the Mitigation and Adaptation plans with the GCF private sector facility to chart genuine investment undertakings. This requires the hiring of a legal expert to develop the regulations.
- NDA needs to do a detail private sector analysis to ascertain the various activities/operations of the private sector, what their specialized areas are and what they are capable of doing against the investment plan under the GCF. A private-sector specialist is required to do a private sector analysis and provide the necessary information.

The emerging challenges brought about by climate change will shift the ‘business-as-usual’ mode for most private sectors with the ‘imposition of climate levies or regulatory controls’. This may be viewed by the private sector as an added burden to the cost of doing business. CCDA however, through its awareness may inform the private sector on the benefits from the cleaner production (CDM) strategies they can employ in their businesses to reap more profit and make their businesses more resilient. Legal and Regulatory Framework to effect Private Sector participation on climate change mitigation and adaptation investments and to engage with GCF Private Sector facility. To effect this, the legal and regulatory framework will give ‘strength’ to CCDA to issue “notice, direction or orders as it should as an ‘Authority.’” This is missing at present because of the absence of the Part V & VI Regulations for the purpose of private sector engagement on climate investments.

6.2. Bringing GCF Investment Plan to the Private Sector and Its Challenges

The GCF financing instruments comes in the form of ‘**Grants, Loans, Guarantees and Equity**’. The “**Loans, Guarantees and Equity**” instruments are probably most appropriate to the **private sector in PNG**, but it may be transacted at a cost due to financial intermediaries. For the most part, private sectors would anticipate an open and transparent undertaking that promotes investment through direct engagement and dealings with GCF and at less transaction cost.

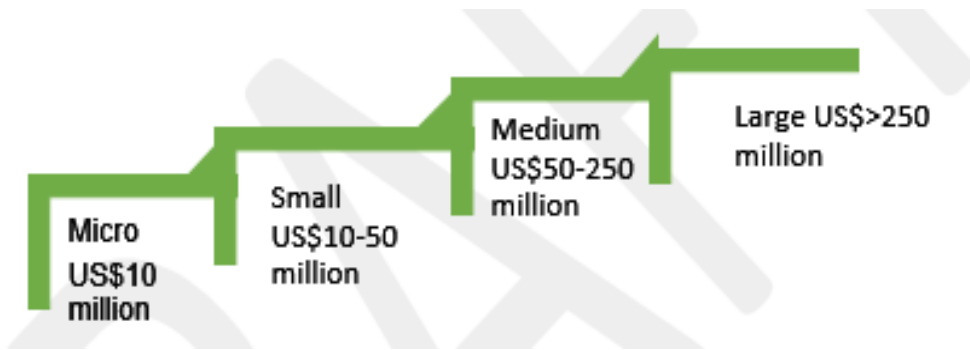


Figure 4. The GCF Financing Instruments at micro to large project level range from US\$10 million to US\$>250 million (Source: Adapted from GCF info graphics).

The ‘direct access to GCF’ by private sectors may not be possible for most business as they may not have the capacity to be accredited. This is likely to weaken the private sector interest to engage with GCF. Added to this, most private sectors may view their investments as risky considering unclear laws and lack of government support on climate investments. This is already demonstrated in the current low level of engagement with the private sector where only about two private sectors have signed a MoU with the NDA investing on renewable energy. One on ‘biomass energy’ to generate its own energy source while the other is investing on both ‘biomass energy and Afforestation/Reforestation under the Clean Development Mechanism (CDM). The former intends to supply 30 MW of power as an independent power producer to the PNG Power’s main grid while also selling its Carbon Emissions Reductions (CERs) to international carbon markets.

The GCF financial instruments also creates competition among the public, private and civil society sectors to access GCF funds of which some private sectors may find themselves to be in weak position in the competition because of their weak capacity to be accredited. In addition to this, PNG’s mitigation and adaptation plans did not support or provide traction for the private sector to invest.

A good entry point to the private sector is the Business Council of PNG (BCPNG). BCPNG represents PNG private sector and business leaders to contribute to public policy. For information on BCPNG, see www.bcpng.org.pg. Through this, identify and list all private sectors specialized in different areas of business and what they are capable of doing; identify private sectors who have already undertaken climate related investments or those who have plans to undertake such projects. This will assist in promoting the GCF private sector facility and investment opportunities under the climate change mitigation and adaptation portfolio.

6.2.1. Recommendation

- CCDA/NDA may commence dialogue with the BCPNG. All private sectors are ‘registered members of the business council’. The business council will be a good contact point for raising awareness, consultation and engagement with the various business houses.

- In consultation with the BCPNG, create a support facility for the private sector to actively engage in the GCF or CCDA/NDA climate change mitigation and adaptation investment plans.

GCF finances low-emission (mitigation) and climate-resilient (adaptation) projects, and programmes that can be developed by the private sector to contribute to PNG’s sustainable development and climate change priorities. While there are good investment opportunities, there are also key challenges of doing business in PNG. These challenges range from land tenure system, law and order, lack of political will, corruption, remote and rugged terrains making infrastructure development costly; and frequent “power black outs”. These challenges act as a ‘constraint’ to investment progress undertaken by investors in PNG.

6.3. Potential Climate Mitigation and Adaptation Investments

GCF identified eight strategic climate change mitigation and adaptation investment portfolios³² of which its funding spreads equally (50-50 percent on mitigation and adaptation) but every country’s adaptation and mitigation plans vary depending on the country context. In PNG’s context, the GCF/GGGI Readiness Proposal, CCMA, NDC, NAP and the NCCDMP have all identified and listed areas of priority for ‘mitigation and adaptation’.

In the context of PNG, “**Forestry, Agriculture, Energy and Transport** were the most featured area of ‘mitigation in PNG in almost all climate change plans, strategies, policies and law. The reasons why these areas are most featured is obvious. It is virtually impossible to discuss energy without first explaining how our use of energy is directly correlated with climate change. The total energy consumption for PNG was 3.21bn kWh of electric energy in the years 1979 to 2014 which generated a total of 6.32 mtCO₂ (and per capita at 0.77 tCO₂)³³. Similarly, Agriculture and Forestry combined contributed 95-percent of the total greenhouse emission in PNG.³⁴ Of these, commercial logging contributes 68-69 mtCO₂-e while subsistence agriculture contributes 28-43 mtCO₂-e; and agriculture leases and commercial agriculture at 6 mtCO₂-e and 3 mtCO₂-e respectively.³⁵ This is no surprise as ‘agriculture and forestry combined takes up almost 90-percent of all land-use in PNG. Added to this, 97-percent of all land in PNG is customarily owned with 80-percent of the population living in rural areas relying on subsistence agriculture.

For adaptation, the NAP and s 74 of the CCMA listed priority areas for adaptation. The impacts of climate change has already being felt by citizens in various parts of PNG. People have experienced,

³³ Worlddata at <http://www.world.info/oceania/papua-new-guinea/energy-consumption.php>, accessed 20/04/2019.

³⁴ UNDP REDD+ Team, Readiness Preparation Proposal (R-PP) Assessment Note on the Proposed Project with PNG, REDD+ Readiness Preparation Support, UNDP Geneva, International Environment House, 11-13 Chemin des Anémones, CH-1219 Châtelaine, Geneva, Switzerland. (2014), p 11.

³⁵ Ibid

witnessed or observed and call for immediate actions. There are also several adaptation and mitigation options, plans and strategies outlined in the NCCDMP.

The NCCDMP stresses three strategic action for mitigation including “carbon neutrality where PNG is climate compatible by 2050; abate emissions from land-use and forest sector, and shift to green economic growth”. On the part of adaptation, the policy focuses on ‘building resilience and adaptive capacity to the impacts of climate change.’³⁶ In both mitigation and adaptation plans of PNG, the private sector will play a significant role in accessing the GCF funds to undertake climate resilient projects while at the same time it will be regulated in order to shift from its ‘business-as-usual’ mode to the ‘green economy’.

6.4. Energy Sector

Energy consumption is directly correlated with climate change. The total energy consumption for PNG was 3.21bn kWh of electric energy in the years 1979 to 2014 which generated a total of 6.32 mtCO₂³⁷. The 2009 APEC Energy Balance report however, projected an annual increase rate of 5.1 per cent, from 1.8 Mtoe in 2005 to 6.3 Mtoe in 2030.³⁸

The PNG Power Limited (PPL) is the main producer and supplier of electricity in PNG. Its Hydroelectricity presently accounts for 65 percent of PNG Power’s electricity provision in the country. Renewable energy however, is considered as critical to sustainable development in the country as it confronts ‘high fossil fuel costs and the impacts of climate change’ but there is limited investments in renewable energy. Given the demand on renewable, there is great opportunity for private sector to invest through the GCF financing arrangement.

The recent expansion of development in the construction, infrastructure and with the unprecedented population growth, PNG’s electricity demand is massive versus low supply and the energy supplier’s capacity to meet the growing demand is poor. This poor energy situation of the country was realized by the recent APEC meeting:

“recognizing the critical importance of energy security to support sustainable economic growth in the APEC region, we commit to enhance access to affordable, sustainable, reliable and clean energy, including and advanced fossil fuels and technologies by facilitation-energy related trade and investment, reducing energy intensity, enhancing

³⁶ Climate Change and Development Authority, ‘National Climate Compatible Development Management Policy’ (2014), p 11-12

³⁷ Worlddata at <http://www.world.info/oceania/papua-new-guinea/energy-consumption.php>, accessed 20/04/2019.

³⁸ APEC 2009 Energy Balance Report

energy resilience to avoid disruption to the sector, and scaling up deployment of efficient and clean energy”³⁹

With the recent development expansion, unprecedented population growth and the low energy supply, there is immense opportunity for the private sector to invest in the energy sector.

6.5. Agriculture

Agriculture sector continues to be the backbone of the country’s economy and its people. It takes up 11-percent of land-use in PNG. The export commodities from this sector generate significant revenue for the country. The main exports are oil palm, coffee, cocoa, rubber and coconuts.

Though an estimated 30 percent of the land in PNG is suitable for agriculture, only 4 percent is currently being utilised for commercial agricultural production. Also, the agricultural sector is generally less productive. This is because of the widespread use of traditional, small scale farming practices, poor road access and difficulties on land acquisition (see Appendix-3).

6.5.1. Land Acquisition for Commercial Agriculture Development

The major hindrance to agricultural development is customary land acquisition. Most of the land in PNG is customarily owned. There is a total land area of 462,000 square kilometres and 97 per cent of this overall land mass is owned by customary landowners. Only 3 per cent is alienated. Since 2001, 2.6 million hectares of land have been issued under the Special Agriculture Business Lease (SABL) emitted 6mtCO₂-e⁴⁰. Some of these lands were granted through illegal means. Currently there are 5 million hectares of customary lands under SABL and most of these leases are currently under question.

6.6. Forestry Sector

Forestry is one resource whose use affects all dimensions of sustainable development and emits over 90-percent of all greenhouse gas emissions in PNG but is also one of the major revenue earners to the country. The government’s overarching goal is to ensure ‘*effective management of the forestry sector such that it is environmentally sustainable and responsible, economical viable and socially equitable*⁴¹’. Within this framework, by 2030, the government aims to develop the forestry sector to achieve three national deliverables:

³⁹ APEC Economic Leaders meeting Port Moresby, Papua New Guinea (2018), “Chair’s Era Kone Statement”, available at www.apec.org, accessed 27th April, 2019.

⁴⁰ Above n5.

⁴¹DNPM (2014), PNG Bridging Medium Term Development Plan2015-2018, Forestry and Biodiversity Sector

- a) 80 per cent of processed timber to be exported;
- b) Logs to be provided by plantations and managed forests; and
- c) Substantial increase in plantation forests⁴² and more recently REDD+ potential.

It is now 2019 and only 11-years away before reaching 2030 and that already indicates that achieving points (b) and (c) will be very challenging as plantation forests do not reach their commercial value in 11 years unless it is fast-growing soft wood for pulp and paper production. Point (a) is possible if the government implements its plan on ceasing round log export and promotes REDD+ further. REDD+ has potential in PNG but it depends on a ‘sustainable market and attractive offset sale price’ in international carbon emissions trading schemes and at the domestic level, there must be proper registration of ILGs that links to ‘benefits sharing’ otherwise REDD+ is likely to fail (see Appendix-4).

6.7. Transport Sector

PNG’s transport system is key asset for country’s economic boom and it is a very vital link for the PNG social and economic development. The transport sector comprises of the “Road, Air and Sea Transport”. The entire system provides critical links for the vastly scattered 8 million population of PNG that are occupying the total land mass of 462,000 square kilometres in the highlands region to the coastal areas and 600 plus islands of the country.

Roads are the main mode of transportation and consume 80 per cent of the country’s freight and passenger demand. PNG’s land transport system comprised of more than 30,000 km. The Water (Sea) Transport network comprises of the coastal shipping services and the entire maritime infrastructure in the 15 Maritime Provinces. There are 17 national commercial ports plus the small wharves, jetties and beach landings. The Air Transport and airports infrastructure link the country’s widely fragmented population, and air transport service is an alternative transport for communities hindered by difficult terrains and isolated seas.

The key relationship between the transport and climate change is the rate of energy consumption by the various sectors of transport. The expansion on business, population growth, increase in new investments means more transportation of people and cargoes and use of transports. All of these burn energy that release greenhouse gas emissions.

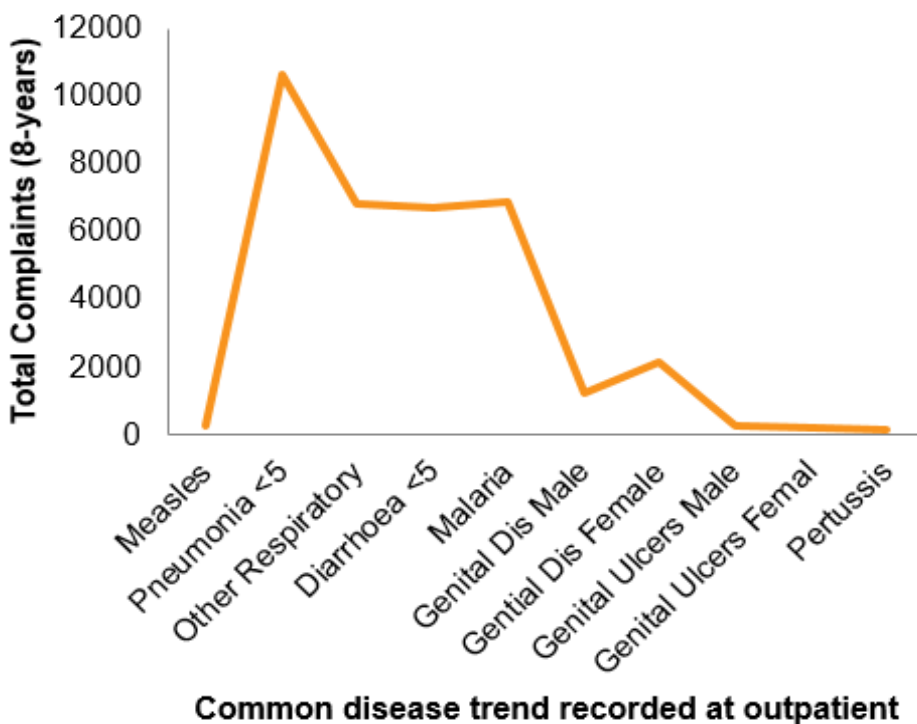
⁴² Ibid footnote 8, forestry and Biodiversity sector

6.8. Some Options on Adaptation Measures

The GCF identified four strategic areas of adaptation and according to the country context, the NAP identified and listed 9-priority areas of adaptation where the private sector can participate. Some of these adaptation measures are elaborated below.

6.8.1. Addressing the Emerging Health Issues

UNDP estimated the current “population growth rate at 2.3 percent annually could reach 9 million by 2020 and will double by 2050”.⁴³ Of this population growth, over 80-percent live in rural areas where health services are poor. Added to the population growth is climate change. Climate change brings new health issues of which the local people are unaware of. It may affect health through a range of pathways, like increasing the frequency and intensity of natural disasters occurring such



as floods, landslips, droughts, changes in the distribution of vector-borne diseases and effects on the risk of disasters and malnutrition”. For example, malaria has already found its niche in South Chimbu and elsewhere in the highlands of PNG where it has never been there before. This is believed to be a result of climate change with 19-

Figure 5. Common disease trend recorded at the Gumine Health Centre (2013-2017) percent of total cases reported in the last 8-years at the Gumine Health Centre being malaria (*Figure 5*)⁴⁴ and malaria is reported through the highlands region. The Government is aware of the importance of health in

⁴³ UNDP Papua New Guinea, http://www.pg.undp.org/content/papua_new_guinea/en/home/countryinfo/html. accessed 30/09/2018.

⁴⁴ Pole Kale, “A development proposal for the construction, maintenance and delivery of Health Services in Gumine, Simbu Province by transforming the Gumine Health Center to a Level 4 District Hospital (2019).

supporting its economic growth and aims to make “gains in the health outcomes, especially on primary health care, health promotion and to bring specialist health services close to the people especially in rural areas where most of the population live”.⁴⁵ One of the Government’s “key focus for 2018 onwards is to strengthen health service with a strong efficient system for the health workforce, financing, information, medical supplies, leadership, and governance and upgrading of district hospitals in accordance with population size and geographical requirements and to sustain them over the long term”.⁴⁶ This creates opportunities for the private sector to engage in rural health infrastructure development.

6.8.2 Ecosystem-based Adaptation



While it is difficult to make precise sea level predictions for any given geographic area using various climate models, virtually all models agree that effects of sea level rise on the pacific island region are potentially dramatic and actions must be undertaken to reduce the impacts. In line with this, GCF aims to move from talk to action by providing financial instruments that brings action against climate change by working with the NDA. The NDA/CCDA aims to partner with the private sector to bring climate change governance to the sub-national where the “consequences of

climate change hits them the most”. To do this, the PCCCs may link provincial and district development plans with climate change adaptation activities so that projects are sustained through DSIP/PSIP funds. There is no best-fit solution to manage the ‘impacts of climate change’ at a specific site. Mangroves alone is not adequate either. However, it is worth doing something then to do nothing. And the simple thing the government, its private sector stakeholders and participating communities can do is to maintain the health of natural coastal systems such as the “mangrove forest”. Mangroves have played a crucial role in protecting the coasts against natural hazards and indeed reduce the risk from a large number of hazards. For example, most coastline villages in PNG have witnessed rising sea levels and increased storm surge height, PNG is home to the first climate change refugees in the world as it witnessed the first batch of Carteret islanders

being resettled in mainland Bougainville Island, in 2009; climate-induced weather changes are believed to cause frequent landslides that resulted deaths and damage of properties.

Both adaptation and mitigation on climate change opens up new opportunities for investment which the private sectors can participate by utilizing the GCF private sector facility.

7. PROJECT IDENTIFICATION, DEVELOPMENT AND IMPLEMENTATION

The primary role of the NDA in its GCF engagement is “facilitate, coordinate and lead stakeholder consultation on climate projects; and manage the NOL procedure”.

In terms of project identification, the NDA through its various stakeholder consultation at the national and sub-national levels have identified and prioritized adaptation and mitigation projects. The national adaptation plan (NAP) has listed nine priority hazard areas also listed in s 74 of the CCMA. For mitigation, the priority areas are listed in the NCCDMP of which the most featured areas are forestry, agriculture and land-use; renewable energy, transport and ecosystem conservation including REDD+.

7.1. NDA Role on Project Identification, Development and Implementation

The NDA (CCDA) will not implement GCF projects or programmes but its role is to facilitate and coordinate project identification and development and manage the NOL procedure to ensure that:

- The mitigation or adaptation project or programme identified by the project proponent fits within the GCF key result areas and aligns with the climate change and development priorities of PNG;
- The project identified has the potential to deliver the six-investment criteria of GCF); and
- The project development should clearly demonstrate national ownership through its co-financing and national coordination mechanism.

The success of the project proposal will rely on its quality and presentation of the material but most importantly the proposal should clearly demonstrate the three bullet points above. While it may be clear to understand and identify project, it may not be easy to identify a climate rationale to give evidence to or provide support to augment the ‘paradigm shift’. This is an area that require capacity strengthening in terms of knowledge improvement to clearly understand the GCF’s six investment criteria. The knowledge improvement and clear understanding of the investment criteria will assist in appraising project proposals that seeks NOL through the NDA.

7.1.1. Recommendation

- Development partners such as GGGI, UNDP, USAID Climate Ready, AUSAID/DFAT or GCF Help Desk may assist NDA with knowledge transfer through written briefs or lunch and learns sessions to fully understand the 6-investment criteria in particular the ‘paradigm shift’ concept of the GCF.

- The NDA with this knowledge transfer and support of the development partners along with the members of the Climate Fund Technical Working Group (CFTWG), should design and develop a multi-criteria appraisal template to appraise every proposal that enters the NDA’s NOL procedure.

7.2. Capacity Support on Project Identification and Development

As part of the GCF readiness programme, GGGI in consultation with the NDA and key state agencies and other development partners ‘have developed or are close to developing’ a range of materials to support project identification and prioritizing. These materials will form part of the CCDA’s capacity strengthening. The main documents to be developed include:

a) Country Programme

The project identification and proposal development start with the Country Programme (CP). The main focus of having a Country Programme is to foster country ownership. To effect this, the “CP should be driven by a robust and inclusive engagement process that brings together key stakeholders across all levels of governments, local and community government, local and community-based institutions, the private sector and civil society to put forward clear and country-owned priorities that GCF can support”.⁴⁷ The Programme identifies and list all the priority climate change mitigation and adaptation projects or programmes out of which proposal can be developed.

b) NDA Capacity Assessment Towards GCF Requirement

This capacity assessment analyzed the current capacity of the NDA in terms of its “coordination, facilitating and consultation role on project identification and development and managing the NOL procedure. The assessment evaluates NDA whether it had the capacity to manage NOL, provide support and advisory role to stakeholders on project development; and engaging with accredited entities. The recommendation is presented in this report.

c) The Guidebook for Writing GCF Project Proposal

The guidebook aims to provide essential information and guidance on how to go about developing a GCF Project proposal. Its aim is to:

- Enable various stakeholders engaged in GCF in PNG to understand how GCF funding could be accessed, mobilized and utilized to implement, monitor, evaluate, scale up and replicate climate adaptation and mitigation activities and businesses (e.g. within

⁴⁷ GCF Information: http://www.nab.vu/documents/gcf-country-programme_development-guide, accessed 27/06/2019.

the GCF Country Programme) for achieving the development and climate priorities of PNG.

- To ensure various participants engaged with GCF to clearly understand the specific roles and responsibilities of the NDA, and the different players in the GCF application process such as the national and international accredited entities, executing entities and the project proponents including public, private and CSOs in the GCF project cycle.
- To enable project proponents to understand how to identify and convert project ideas into concept notes (CNs) and developed into high quality and competitive funding proposals (FP) for meeting GCF investment criteria.
- To elaborate on how to appraise and approve Concept Notes and Full Funding Proposals in a fair and transparent manner using the criteria and decision-making tools (multi-criteria and cost-benefit analysis) within the no-objection procedures.

7.2.1. Procedure for the No-Objection Letter (NOL)

GGGI is supporting the NDA to develop a No Objection Letter (NOL) procedure for PNG to be managed by the NDA where all GCF project proposals will be appraised and be issued a NOL. Without a NOL, the proposal will not be submitted to GCF. The NOL is a significant procedure that will be implemented by the NDA

In all, most participants at the recent GCF Regional workshop have expressed concern that GCF project identification and proposal development was “complex, lengthy and expensive” while others expressed excitement that GCF was an opportunity for funding. GCF project development may look complicated and lengthy but if all institutional arrangements work effectively, GCF presents great potential for contributing to the goals of climate change and supporting development in PNG.

8. CONCLUSION

The assessment reveals CCDA has progressed well in terms of planning and strategizing but it has yet to fully operationalize itself by making its policies, strategies and laws visible under its mandated role as CCDA. It needs to prioritize what key areas it needs to improve in order to operate effectively. This assessment is of the view that the priority areas CCDA might channel its resources to get it operational become visible are:

- Operationalizing the 'CCMA' and Regulations: The 'Act' and its various implementing regulations will guide the overall operations of CCDA. Effective governance of programmes and projects are based on law and its regulations.
- Effective Coordination and Cooperation among Central Agencies: CCDA as the NDA needs to take ownership of 'frequent dialogue with Central Agencies' on accessing and managing climate finance; co-financing, integrating climate issues into development planning among others.
- Institutionalizing the Project Unit: This gives 'quality assurance' to the overall project management while also generating revenue for the 'authority'.
- Implement Programmes: Some CCDA programmes are well advanced with its strategic plans and is ready to be implemented such as REDD+ but it still hangs on the Act to be fixed and the regulation to be 'right' such as an implementing regulation guiding 'benefit-sharing'.
- Implement the Corporate Plan: The options and recommendations of the USAID Climate Ready and the PIF Options Reports are summarized into a "strategic plan of action" under the CCDA Corporate Plan. The Corporate Plan needs to be implemented together with the recommendations of this Assessment and those by PIF Options and USAID JOA Reports.
- Human Capacity Development: There is a need for a 'training needs analysis' to identify what specific training is needed and where it can be obtained and who will fund. Also create a system where available expert knowledge and skills are not gone to waste but is fully utilized.
- Private Sector Engagement: The global pressure on climate change has tasked every nation to take action through a 'whole-of-society' approach with public and private sectors playing a lead role to shift from the 'business-as-usual' mode to a low carbon, climate resilient development'. To effect this, the legal and regulatory framework will

give ‘strength’ to CCDA to issue “notice, direction or orders as it should as an Authority.” This is currently missing as *the Part V & VI Regulations* under the *CCMA* is not in place to make way for effective private sector engagement on climate investments.

Most of what is being discussed in this Assessment and in the other reports are slowly taking shape and soon CCDA (NDA) will move from ‘readiness’ to ‘implementation’ fully engaging with GCF. The summary in *Appendix-1* further indicates the NDA status towards meeting GCF requirements, what is missing and what needs to be done to meet the GCF requirement.

Appendix-1: CCDA Capacity Check-list Towards GCF Requirements and Plans for Capacity Building

Notes: *x- Not in place yet ✓- Done ✓✓-Done & Ready but one component missing (?)- Some progress made or proposed but not in place yet*

Towards GCF Requirements	NDA Status	Met GCF Req'mt	Gaps/Missing	Capacity Building Required
Country-level Policy	<ul style="list-style-type: none"> • Preamble of the Constitution provides the Foundational Policies—5 NGDP • Vision 2050 • PNG DSP 2010-2030, • StaRS • MTDP-III • Sectoral Policies 	√	<ul style="list-style-type: none"> • Impacts of climate change including mitigation and adaptation plans are not fully integrated into development planning and budgeting. • Lack of information/data to support development planning. 	<ul style="list-style-type: none"> • Capacity improvement in technical areas of MRV will collect the needed data for development planning and budgeting. • More awareness on climate change in the context of development
Climate Change Plans, Strategies	<ul style="list-style-type: none"> • National Adaptation Plan • National REDD+ Strategies • National Climate Change Compatible Development 	√	<ul style="list-style-type: none"> • Greenhouse gas inventory, analyzing and reporting, and information storage systems. • Regulations to guide activities to limit GHG emissions. • Specialized technical skills for GHG inventory. • Communication portal 	<ul style="list-style-type: none"> • Specialized technical skills training to up-scale officers on GHG inventory and reporting. • Need to set-up data-base for centralizing all information for easy access and utilizing it for planning mitigation and adaptation projects including development and budgeting.
Climate Change Laws	<i>Climate Change Management Act, Paris Agreement Act,</i>	√ (?)	<ul style="list-style-type: none"> • Operationalize CCMA through further review of Act & Develop Regulations • Make CCMA (and its Regulations) work 	<ul style="list-style-type: none"> • Hire legal expert to develop implementing regulations. • Establish a 'Grievance Mechanism' to link CCMA to the ADR.

Central Agencies Coordination & Cooperation	A ‘whole-of-government’ approach to ensure national ownership is the focus of GCF. This can be achieved through the effective coordination and cooperation of the Central Agencies.	√ (?)	PNG has a well-established institutional set-up with inter-agency bodies but very little coordination and cooperation is inspired through formally instituted bodies	<ul style="list-style-type: none"> • NDA take ownership on frequent dialogue with Central Agencies on “accessing and managing climate funds, providing co-funding, and shifting to ‘green growth’”.
Implement the US Climate Ready JOA & PIF Options Reports and CCDA Corporate Plan	The Reports identified the “strengths and weakness” of CCDA with ‘Options & Recommendations’ for improvement. CCDA’s Corporate plan summarized a ‘plan of action’ to implementation.	x (√)	<ul style="list-style-type: none"> a) Financial and technical capacity is needed to implement the recommendations. b) Prioritize and deliver key areas. 	<ul style="list-style-type: none"> ○ Secure financial and technical support to implement the recommendations. ○ Financial, human and technical capacity required to up-scale PCMU.
Gender/Equity/Inclusion	Proposed to hire 2-gender experts.	x (?)	<ul style="list-style-type: none"> ○ GCF Proposal includes gender equity component but no gender expert at CCDA 	<ul style="list-style-type: none"> ○ Funding needed to hire gender experts.
Mobilizing private sector	Progress has been slow or rather weak	x (?)	<ul style="list-style-type: none"> ○ Regulation on engagement with private sector—highlight level of engagement and in what area; conflict-of-interest situation etc. 	<ul style="list-style-type: none"> ○ Funding needed to hire legal expert to develop a ‘detailed and clear guideline/regulation’ in the engagement with the private sector. ○ More awareness raising & information sharing on ‘regulations’ and how it support or affects the private sectors.
National Accredited Entity	NDA nominates NAE with ‘no objection’ to GCF.	x	<ul style="list-style-type: none"> ○ No NAE yet for PNG. Proposed but perhaps due to no process or guideline for nomination in place yet. 	<ul style="list-style-type: none"> ○ NAE nomination guideline to be developed and implemented.
No Objection Process & NOL	An important process in the GCF engagement that demonstrates	x (?)	No process established.	Develop a ‘No Objection’ process and implement it.

	“National Ownership”. NDA is the ‘authority’ in the issuance of NOL.			
Environment & Social Safeguards (ESS)	Spread out in various Statutes administered by different Agencies. Mainstreamed into EIS by proponents through development applications.	√	Good system available through EIS but enforcement is ineffective.	The ‘grievance mechanism’ provides a ‘safety-net’ to effect ESS at the project operational level.
NDA ‘Grievance Mechanism’	No such grievance mechanism or none proposed by NDA.	x	<ul style="list-style-type: none"> ○ More complains and disputes may arise during project implementation. NDA must have a system to resolve disputes. ○ No link between <i>CCMA</i> (+ Regulations) to the Court—making enforcement is likely to be ineffective. 	<ul style="list-style-type: none"> ○ Establish a ‘grievance mechanism’ and create a pathway to link it to the ADR Facility at the National Court. An expert is required to design it.
REDD+	Policies & strategic plans completed and is ready for implementation.	√√ (?)	<ul style="list-style-type: none"> ○ REDD+ investments involve various ‘actors’ cutting across different jurisdictional boundaries that presents different layers of complexities on ‘benefit-sharing arrangement (BSA). 	<ul style="list-style-type: none"> ○ Hire legal expert to develop REDD+ Implementing Regulation (specify BSA, land tenure).
Stakeholder (PCCC) Capacity Building	Plans for bringing climate change governance to the sub-national level (PCCC).	√ (x)	<ul style="list-style-type: none"> ○ PCCC established in five provinces (through BRCC) project. Other provinces not yet. ○ Challenges with proposal development and co-financing. 	<ul style="list-style-type: none"> ○ Climate change mitigation and adaptation projects will be identified and listed, project proposal manual will be developed and produced followed with training on use of manual. Financial capacity is needed for production, distribution and training on use of manual.
Institutionalizing CCDA Project Unit	PCMU was Proposed. Currently one officer as GCF ‘point of contact’ and also responsible for all projects.	x (√)	<ul style="list-style-type: none"> ○ Need for institutionalizing the PCMU & realize its potential not only as a project administration 	<ul style="list-style-type: none"> ○ Capacity support is needed for institutionalizing PCMU and up-scaling its human capacity.

			unit but also a ‘revenue generation’ mechanism.	
CCDA Climate Fund Technical Working Group (CFTWG)	Establish CFTWG as an advisory group in CCDA.	x (?)	<ul style="list-style-type: none"> ○ Provide advisory role and technical assessment of proposals. 	Establish CFTWG
National Advisory Committee on Climate Fund (NACCF).	NACCF proposed by the ‘PIF Options’ study for CCDA to review and establish.	x (?)	<ul style="list-style-type: none"> ○ Not established. Proposed. 	Establish NACCF (<i>see Figure-2</i>)
Climate Resilient & Green Climate Fund (CRGCF)	The PIF Options study has proposed for the establishment of the CRGCF.	x	<ul style="list-style-type: none"> ○ Yet to be established. 	<ul style="list-style-type: none"> ○ Establish the CRGCF where co-funding can be sourced and demonstrate national ownership.
Monitoring, Reporting & Verification	MRV set-up with no data-base established for systematic storage of GHG data/ information and reporting.	√ (x)	<ul style="list-style-type: none"> ○ MRV requires ‘specialized technical and human resources’ of which are lacking. ○ No data-base to store all information (and to be updated yearly) that can be utilized easily for reporting and to support mitigation, adaptation and development planning. 	<ul style="list-style-type: none"> ○ Capacity support is required for expert technical training for officers on greenhouse gas. ○ Develop an ‘implementing regulation’ to guide GHG inventory that will specify the coordination and cooperation of the private sector and other stakeholders.
CCDA Human Capacity	Good composition of staff (73-fixed positions and casual hires).	√ (x)(?)	<ul style="list-style-type: none"> ○ The staffing arrangement has a “widening gap” between the top, middle management and junior staff. ○ CCDA has top management who are highly experienced and qualified and junior energetic officers who are inexperienced. ○ The middle-level ‘qualified and experienced’ officers to provide 	<ul style="list-style-type: none"> ○ Consider ‘experienced and qualified people in the middle management’. ○ Do a TNA and prioritize human capacity building. ○ Share ideas, knowledge and skills within CCDA through lunch and learn.

			<p>the mentoring and impart skills and knowledge to young staff is missing.</p> <ul style="list-style-type: none">○ Staff Training and Development Program is ineffective.○ No mechanism for sharing ideas, skills or knowledge within CCDA.	
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Appendix-2: Where are we on the six-step GCF Project Financing Requirements?

STRATEGIC AREAS	STATUS	WHERE ARE WE—WHAT TO DO?
<p>1. Effective Governance—Make Policies and Laws work.</p> <ul style="list-style-type: none"> • CCMA, Paris Agreement (with no Regulations) • Sustainable Development Goals/Priorities & Climate Change Strategic Plans and Priorities 	√/x/?	<ul style="list-style-type: none"> • See Section-2 of the Report • See <i>Figure-1</i> on NDA Grievance Mechanism—to make policies and laws work. Our policies and laws are some of the best but enforcement for the most part is ineffective. A practical pathway is necessary to make laws and policies work.
2. National Ownership and Co-financing	√/x/?	<ul style="list-style-type: none"> • This is a strategic area where PNG demonstrate its ownership in its engagement with GCF. It must show that the project lives beyond the GCF funding period so it can deliver the long term benefit (sustainability). • For national ownership, see <i>Figure-2</i> on NDA-GCF process.
3. Environment and Social Safeguards and Gender Equity and Social Inclusion	√/x/?	<ul style="list-style-type: none"> • NDA will utilize its ‘grievance mechanism’ as a ‘safety-net’ to effect the ESS and GESI policies at the project implementation level. However, in practice, the ESS content in PNG is distributed over a number of ‘statutes administered by various state agencies’. • See Figure 1 NDA Grievance Mechanism Process.
4. Direct Access Entities (DAE), Indirect International Access Entities (IAEs) and Executing Entities (EEs)	√/x/?	<ul style="list-style-type: none"> • NDA-AE Partnership is very vital in the GCF engagement. GCF priority on AEs however is the DAE (National Access Entities) of which NDA needs to fast track its process and nomination of the DAEs. • See <i>Figure-2</i> and Section 3.2 of the Report.
5. No objection and No Objection Letter.	√/x/?	<ul style="list-style-type: none"> • The approach to ‘No Objection from Readiness will differ from No Objection (Letter)’ from Implementation because of the funding and project size. It is likely to be more rigid when it goes to the GCF Board for evaluation. If Strategic Areas 1-4 are in place and actively functions, issuing of NOL is no problem.

Appendix-3: Status and Opportunities for Climate Change Mitigation and Adaptation in the Agriculture Sector

Agriculture	Brief Description of Activities	Climate Change Related Investment done, proposed or Opportunity existing
<p>Agricultural activities are administered by the Department of Agriculture and Livestock (DAL) with no 'Act' of its own guiding agricultural development in PNG.</p> <p>Government's goal is to open up land to create enabling environment; and roads & infrastructure to ensure supply chains to link Producers to markets.</p>	<p>Make BCPNG as the point of contact to reach out to the private sector. BCPNG represents PNG private sector and business leaders to contribute to public policy. For information on BCPNG: www.bcpng.org.pg</p> <ul style="list-style-type: none"> About 11-percent of total land use in PNG is Agriculture. Agriculture is the backbone of PNG with agricultural commodity generating All land matters are administered by the Department of Lands and Physical Planning guided by the <i>Land Act</i> (1996) and Regulations and other relevant Acts such as <i>Incorporated Land Group (ILG) Act</i> 	<p>•46.9 m ha of land in PNG with 77.8 % forest, 11% agriculture, 0.9 % settlement and cities while others are wetlands and grassland.</p> <p>•Land acquisition is one of the critical barriers for large scale projects such as hydropower, forest plantation development, solar or biomass power or other investments that requires large area of land in PNG. Difficult to 'free up land' for development. Why? 97 % is customarily owned with only 3-% own by the State.</p>
Key Players		
New Britain Palm Oil	Major producer of oil palm in PNG and agri-business including Ramu Agri-industries and Milne Bay estates	Energy self-sufficiency through biomass energy generated through its oil palm wastes. NBPOL that generate their own cleaner energy.
Rimbunan Hijau (PNG)	Oil Palm with mill (20,000 ha)	
Hargy Palms Ltd (Palm Oil)	Also own and operated by NBPOL	
WR Carpenters (Coffee and Tea)	Major tea & coffee grower and exporter [intensive labour in growing, harvesting and processing—need to verify]	Can use biomass to generate own energy consumption. Agriculture innovation to improve production and avoid heavy reliance on fertilizers.
Congo Coffee Ltd (Coffee) and others	Coffee factory, processed and export.	Several coffee processing plants in the highlands and Morobe province that can utilize biomass energy.
Rural population of PNG	Sustaining the livelihood of 85-percent rural population With about 28-48	Improve agriculture extension, maximize land-use.
PNG Biomass Project	Over 25,000 ha of forest plantation in the Markham Valley to generate biomass energy as an IPP (independent power producer/supplier) to the main PNG Power's Ramu Grid with A/R CDM to generate CERs for international carbon markets (ETS). A classic example of climate investment that features climate compatible development with equitable participation of local people, ESS and GESI that aims to contribute to the overall goal of sustainable development and climate change priorities of PNG but land and landowners issues and lack if government support is still a concern.	
State-lease for Agriculture Business (SABL)	Illegal land grabbing under the pretext of agriculture development has converted over 2.6 million ha of forest area with no agriculture development that generates over 6 mtCO ₂ -e	

Appendix-4: Status and Opportunities for Climate Change Mitigation and Adaptation in the Forestry Sector

<p>FORESTRY SECTOR</p> <p>Forestry activities are guided under the <i>Forest Act</i> (1991) with several regulations administered by the PNG Forest Authority.</p>	<p>PNG has potential to maximum returns from its forest resources if it ceased round log export and diversify investment opportunities in the forest sector through:</p> <ul style="list-style-type: none"> • Downstream processing of timber (seasoning, treatment) that enhance utility and durability of timber products and exporting processed forest products. <ul style="list-style-type: none"> • Effective forest governance has been a struggle over the years for the forestry sector with the enforcement of Forest Act and Regulation being ineffective which needs strengthening; • REDD+ investments in PNG, however, an appropriate legal framework that clearly defines land tenure, carbon property rights, and provides fair and equitable participation and benefit-sharing mechanism and good governance will give effect to investor confidence in REDD+ projects. Importantly, there must be a transparent, stable and sustainable carbon market with an attractive carbon credit price for REDD+. This will shift the competing land use interest thereby reducing deforestation and achieve the goals of REDD+; • Payment for Environmental Services (PES) is another investment option that the private sector may want to tap into. • Potential for the private sector to invest in carbon enhancement through reforestation/afforestation projects but acquiring land for such a long term investment is a challenge in PNG with 97% of land being customarily owned. • PES – payment for environmental services • NTFP –underexplored • Afforestation/Reforestation under CDM (Biomass energy & A/R) 	
<p>Forest Industry Association (FIA)</p>	<p>Like the BCPNG, FIA is an incorporated association of companies involved in all levels of operation in the timber industry in PNG. FIA is good point of contact for engagement in the forest industry (and also PNG Forest Authority)</p>	
<p>Major Players</p>		
<p>Rimbunan Hijau (PNG) Group Ltd</p>	<p>Major forest operator in PNG (~95%). Mainly export round logs with no reforestation or effective forest management programme in place.</p>	<p>Such forest operators are likely to be a ss 71 and 78 Regulation entity (regulated entity)</p>
<p>Vanimo Forest Products</p>	<p>Log export and processed timber</p>	
<p>PNG Forest Products</p>	<p>Major veneer & plywood producer with timber products supplied from the Bulolo/Wau National Forest plantation owned by the PNG Forest Authority.</p>	<p>Operates its ply mill and Bulolo township from its own Baiune Hydropower. Also generates biomass energy through its timber waste to steam-dry its veneer production.</p>
<p>Open Bay Timber</p>	<p>Private forest plantation covering over 15,000 ha for timber and pulp production.</p>	<p>Potential for A/R CDM</p>
<p>PNG Biomass Project (Oil Search)</p>	<p>Over 25,000 ha of forest plantation in the Markham Valley to generate biomass energy as an IPP (independent power producer/supplier) supplying 30MW to the main PNG Power’s Ramu Grid with Afforestation/Reforestation CDM to generate CERs for international carbon markets (ETS). A classic example of climate investment that features climate compatible development with equitable participation of local people, ESS and GESI that aims to contribute to the overall goal of sustainable development and climate change priorities of PNG but land and landowners’ issues and lack of government support is still a concern.</p>	

Appendix-5: Status and Opportunities for Climate Change Mitigation and Adaptation in the Clean and Sustainable Energy Sector

Energy Sector—PNG Power Ltd	<ul style="list-style-type: none"> • Energy (Electricity) and electricity infrastructure assets are vital for the country’s socio-economic development as it enables electricity that services in other sectors: agriculture, fisheries, production and industry, health, education, information and communication, and tourism to use to advance and enable a modern functioning society. • The PNG Power Limited (PPL) supplies electricity to only 5.5 per cent of households nationally, accounting for 82 per cent of customers but 11 per cent of sales. It is likely that under 10 per cent of the populations are electrified by all means: grid, self-generation, nearby industry, small hydro or solar. • PNG Power Limited (PPL) is the significant energy company of the government currently responsible for generation, transmission and distribution of power nationally, and; technical regulation of electricity provision. The PPL is a state owned enterprise and is been regulated by the Independent Public Business Corporation (IPBC).
Non-PPL Grids	<ul style="list-style-type: none"> • PNG has many small- to medium-sized public and private grids serving industrial and residential areas
Renewable energy technologies	<ul style="list-style-type: none"> • PNG has enormous renewable energy resources and a long-standing interest within its two universities to develop renewable energy technologies. • The private sector has largely driven renewable energy use. The coffee industry still uses wood-burning driers, the palm oil industry used wastes for electricity production, and Ramu Sugar plans to use wood for combustion in its bagasse boilers to increase their energy production. At least several thousand new solar home lighting systems are expected to be installed in rural PNG each year, overwhelmingly through private initiatives. • As a part of the current development plans, total electricity capacity is forecast to increase substantially with most gains in the renewable energy sector
Geothermal Energy	<ul style="list-style-type: none"> • Only commercial geothermal development has been at Lihir, north of New Ireland, where there may be up to 70 MW of developable potential. In 2003, a 6 MW geothermal power plant was commissioned on Lihir Island (the first geothermal power facility PIC. The facility has been expanded to a capacity of 52.8 MW in 2011.
Hydropower	<p>PNG Power has 161.5 MW of hydro capacity and Ok Tedi Mining nearly 60 MW. Church missions, NGOs and community organizations have built a number of small hydro systems but details are not available.</p>
Wind Energy, Solar energy Bio-energy or Biomass energy	<p>NBPOL is constructing two large biogas digester facilities to utilize palm oil mill effluent to produce electricity and provide gas for cooking at company residences and for mill processing.</p>

Appendix-6: List of persons consulted

<i>Name</i>	<i>Organization</i>	<i>Contact Details</i>
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