

**NATIONAL STRATEGY FOR RESPONSIBLE
SUSTAINABLE DEVELOPMENT
FOR
PAPUA NEW GUINEA
- A PARADIGM SHIFT -**



**ADDENDUM TO THE DEVELOPMENT
STRATEGIC PLAN 2010-2030**

NATIONAL STRATEGY FOR RESPONSIBLE SUSTAINABLE DEVELOPMENT FOR PAPUA NEW GUINEA

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NEC Decision No. 347/2013

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FOREWARD by Prime Minister

A responsible Government must ensure we are walking the correct path towards a successful long-term future for our people. This requires some long term strategic planning and periodic reviews that recognize any significant shifts in the state of play.

There is a growing and important revaluation of the environmental capital of the world and an understanding of how real the threats of unchecked damage to it are being realized. This represents an opportunity for Papua New Guinea to provide solutions to the world because of our natural resources and biodiversity. Our development approach and strategic planning needs to respond to this.

In October 2009 the Government launched the national 40 year development strategy – the Papua New Guinea Vision 2050. The intention is to transform our society and nation by reforming our mindset and attitudes and align our people, institutions and systems into a smart, wise, fair, healthy and happy society. The Vision stressed the importance of engaging the community in the process of building a strategy for sustainable development for all.

The subsequent Development Strategic Plan 2010-2030 (DSP) attempted to translate the Vision 2050 into more specific programs and targets. Four years after the launching both of these plans we are taking the opportunity to re visit them and to elevate aspects that are truly strategic in a rapidly changing world.

This Addendum to the DSP is designed primarily to give more emphasis to STRATEGIC PLANNING and RESPONSIBLE DEVELOPMENT. Together with the Vision 2050 and the

DSP they should now lead to a revised Medium Term Development Plan (MTDP). This MTDP and subsequent MTDPs should align with the five year political cycle.

We are revisiting our policy strategies against some of our assumptions of sustainable growth and managing the resources being exploited to service our economy. We are finding that it is time to refresh our approach to build on strategic short sightedness in some areas and to provide a robust framework for managing the significant challenges we face across a range of economic, social and environmental policy areas.

Whilst our medium and short term plans will continue to rely heavily on resource extraction we need to begin a deliberate process to take steps to build a truly sustainable and responsible economy. How do we sustain ourselves in terms of food and energy? How do we generate the basis of an economy that produces clean and green products that are competitive internationally? What does the changing world consciousness around climate change resilience mean in terms of value of our rainforests? What is the real value of our tuna stocks and biodiversity? How do we view and address the population growth as an underlying causality?

We are happy to engage in the identified green growth conventions as an important contributor to a sustainable future but we need more pragmatic green economic focus to achieve a more mutually supportive interface between environmental protection and economic development, whilst also ensuring that our approaches are environmentally sustainable.

Getting there will require the support and engagement of all sectors of society and I see the effective calibration of this framework as a key challenge. The political direction and awareness is critical but this will also require a concerted effort through government programs and support from CBOs, NGOs, donors, the private sector and the community.

Once we have identified the threshold to allow viable green growth, sustainable economic policy will provide PNG with a platform for a joined-up approach to policy making across all sectors to ensure cohesive action to which we manage our resources

and value our natural environment as we move forward as a responsible and sustainable society that is contributing to a global solution rather than the problem.

In conclusion, I wish to record my appreciation of the leading role played by the Minister for National Planning and Monitoring in this revision of our long term plans. My commendations to the Department of National Planning and Monitoring and the supporting teams who have worked on this project. The Cabinet has fully endorsed the elevation of the responsible development paradigm and our Government has begun the process with funding in the 2014 budget against specific initiatives against strategic policy development, population stabilization, establishment of a green fund and bio-fuel generation.

Hon. Peter O'Neill, CMG, MP

Prime Minister of Papua New Guinea

PREAMBLE by Minister for National Planning and Monitoring

The Alotau Accord following the 2012 election has directed a review of the Development Strategic Plan (DSP) 2010-2030 and subsequent MTDP 2011-2015 with a view to ensuring it (DSP) is 'truly strategic' and aligns with Vision 2050.

The Vision 2050 captures the relevant elements, commencing with direction from the Constitution and establishing seven pillars on which to build our vision of becoming a smart, wise, fair, and happy society by 2050, and ranked in the top 50 in the United Nations Human Development Index by 2050. It calls for the creation of opportunities for personal and national advancement through economic growth, smart, innovative ideas, quality service and ensuring fair and equitable distribution of benefits in a safe and secure environment for all citizens.

However, it has always, been my view, as presented to the Vision 2050 committee in 2009 that we have not taken a TRULY STRATEGIC approach to these plans resulting in documents which are good but actually very generic in nature which has resulted in operational plans which are also quite standard. These plans could apply to any developing country. The only real country specific reference at a macro level is the PNG LNG project.

The doctrine of strategic planning requires that long term plans to begin at as high a vantage level as possible. AS SUCH THEY SHOULD ACTUALLY BEGIN BY EXAMINING THE VERY DEVELOPMENT PARADIGM ITSELF- the underlying values and belief system that underpin the model. They must be strategic, leading to operational plans that quite specifically speaks to our particular strengths and weaknesses, and seeks to better position ourselves based on these in a rapidly changing world.

To adopt a more-strategic approach in our long term planning we must first begin by examining the landscape before us in terms of historical experience.

Historical experience has lead to a generally accepted model of an open market demand driven, growth-based paradigm. This has resulted in a massive explosion of the human population and an equivalent huge appetite in terms of resources to sustain it. It has

resulted in permanent and ongoing damage to the bio-systems of planet earth with frightening effects such as erratic and violent weather patterns and rising sea levels.

When we look at the world we see an obvious rise in consciousness and concern about the impact of the human footprint on the planet. The incidences of global warming and climate change has alerted us to something we already knew but tried to ignore- that the world is finite and cannot sustain endless growth. We see a shift in the value placed on the natural environment and a renewed emphasis on sustainable and responsible development. A physical examination of ourselves as a nation finds a country blessed with natural endowments and a relatively small although rapidly growing population.

We need to step back from this prevailing landscape and question the underlying paradigm and value system that is driving it. It is an oversimplification but a truth that the current development process is driven very much by a values system based on- individual interest and rights, the accumulation of wealth for self, more and bigger is better. It is predicated that an open market system will best allocate resources and drive development, that endless growth is a pre-requisite for 'development'.

If we examine our Constitution we find a reference to PNG ways- a reference to the ways of our forefathers. This is a reference to a culture based on the sharing of wealth, community well being rather than individual wellbeing and spiritual oneness with nature. This theme found in many ancient cultures such as that of the American Indians. Similar values are at the heart of the Christian religion. This should help to lead the way back to a new paradigm.

We must question our automatic adoption of a paradigm that is quite contrary to this, particularly in the light of historical experience and a current new consciousness.

There are consequential changes happening to the planet that is forcing a revision of our development thinking and models and we need to recognize this and help to lead the way back to a new paradigm.

These changes that represent part of the landscape before us are happening whether we like it or not. A strategic planning process must take them into account.

As we attempt to strategically peer into the future we should see a very different world, one where much greater emphasis and VALUE is placed on those factors that are the basis of a SUSTAINABLE and RESPONSIBLE economic modality based on a value system more attuned to our ancient culture and Christian principles.

RESPONSIBLE DEVELOPMENT MEANS WE DONT UNDERTAKE ACTIVITIES THAT COMPROMISE THE WORLDS BIODIVERSITY OR PUTS OUR CHILDRENS FUTURE AT RISK.

Sustainability is a category of responsible development and means we develop an economy that provides all the elements for well being of our citizens in a manner that is self-perpetuating. With these principles in mind we set about the next level of the strategic plan.

What are our strategic strengths or strategic assets in this new context? In the 'new world' the greatest value will be placed on these assets that contribute to sustainable food and water security, sustainable energy and mitigate the effects of climate change.

In our country this would point generally to our relatively intact environment and large biodiversity, but more specifically to our forests which contain the third largest remaining rainforest in the world, our tuna stocks which make up 15% of the worlds tuna stocks and together with the Parties to the Nauru Agreement make up 30% of the worlds tuna stocks, our hydro and geothermal potentials as well as gas reserves, our fertile land, clean and abundant water, and agricultural background.

Our current development plans and pathway is actually eroding these assets. By pursuing this accepted development pathway we are actually caught in a cycle of demand (an ever growing population demanding services), profits, growth driven policies that are resulting in actions that rely heavily on easier means of satisfying this demand such as primary resources extraction. This is undermining our long term assets and economy.

It also results in activities that are reactions to symptoms such as poverty and crime, rather than addressing underlying causalities, such as population growth, because population growth is an integral part of the old paradigm.

The difficulty in our planning strategy is how to begin to move out of this cycle before we find ourselves with a massive population with a massive appetite and a severely depleted

and damaged environment. It is difficult because we are challenged everyday with the primary and symptomatic issues of education, health, law and order, and keeping the economy steaming along to generate the revenues required to meet these needs. It will require a staged approach, but must be very deliberate. Our current plans do not provide for this clarity.

The number of human beings in any given limited space is a fundamental driver of need. Rather than seeing this as a desirable aspect of a progressive economy, it should be recognized as an underlying contributor to the development problem. Ever increasing numbers of people require resources to service them and places pressure on Government to pursue unsustainable policies. Having valuable mineral and petroleum resources has meant our country has deferred learning hard lessons.

The strategic assets together with stabilized population growth rate give us the basic variables for a responsible and sustainable economy- one that can feed and energize itself and export surplus to generate foreign exchange to pay for our import needs.

We must redesign our policies around the strategic assets of fisheries particularly skip jack tuna, and forestry. These are globally significant assets because of their size and because they provide a solution to sustainable food security and climate change (carbon sink and oxygen production) and biodiversity. The strategic partnerships of Parties To The Nauru Agreement for tuna and Coalition of rainforest nations for the forest are crucial.

We need to examine the nature of our soil and weather and undertake to encourage the growth of only agricultural produce we can grow competitively. Are we able to produce grain crops such as rice and wheat on a large scale competitively, for example? Or do they require long term subsidization.

Perhaps we are better off pursuing large- scale root crop production and sago and importing rice. The high rainfall in most areas of the country provide for numerous rivers, all with good volume and flow rate. These can provide both a source of clean, sustainable power, water for export and carbon credits. A single dam on the Purari River for example can provide for 5 times the required on and off grid current power requirement for the country.

The intact environment also provides the basis of a FUTURE ECONOMY based on our strategic assets of tourism, medical research, green technology and carbon credits etc.

An important factor of this future economy is the foreign capital we can attract to build this economy because of our opportunity cost and the desire of the world to encourage such action. By revising our development road map we can actively pursue international aid and commercial funding to contribute to fund to compensate for opportunity cost and investments in global solutions through a new economy.

PNG can be seen to be a world leader in a world looking for solutions through such forums as Coalition of Rainforest Nations and Parties to the Nauru Agreement rather than an impoverished nations always playing catch-up. A marketing strategy can be conducted in conjunction with the New Economy Fund to reposition PNG in the eyes of the world.

If we to simply assume that we continue doing as we are of as the current DSP suggests, we will have a population of 30 million by 2050, surviving on an economy heavily based on extractive industries sector and an environment badly damaged by this, and forest and tuna stocks greatly depleted by unsustainable harvesting. Even if we begin a population stabilization program tomorrow, at the current demographic profile the numbers will reach 24 million before it stabilizes. We will have become an example on a large scale of what has happened on Kiriwina and Karkar Islands. We must begin a strategic and deliberate intervention now.

Changing the development paradigm will have to be staged because of the prevalence and immediacy of our goods and services deficit. There will have to be a calculated environmental and philosophy compromise given the prevailing drive for the attainment of basic social and enabling economic growth imperatives that form the foundational building blocks for the forward movement of the country.

Intermediate plans therefore will have to rely on 'old economy' developments to sustain current needs and lay the infrastructure, education and health foundations whilst the population is stabilized and investment begun around our strategic assets and future economy. This can be structured around the current gas project.

A policy examining the staging and general approach to further large-scale extractive projects needs to be developed immediately. The establishment of a sovereign wealth fund from current mineral and gas proceeds for the provision of an income stream into the future is required.

The National Strategy for Responsible Sustainable Development is the plan that builds on the gains made by the Vision 2050 and the current DSP 2030 and prescribes a new development road map that incorporates these elements that make for a growth strategy that is truly strategic, futuristic and appropriate for the future.

This plan will be supported by the newly adopted National Monitoring and Evaluation Framework which provides for the tracking and reporting of progress on goals and envisioned outcomes.

As Minister for National Planning and Monitoring, I commend this plan and urge the national to truly respond and embrace the call for a paradigm shift in mindset and expectations for the future for this generation as well as the next.

By embracing the call for a change in paradigm we will be able to recognize the meaning of PNG WAYS and be truly STRATEGIC in our understanding of the context of HISTORICAL EXPERIENCE and the strategic positioning of our country in the NEW WORLD CONSCIOUSNESS AND ORDER.

Accordingly it is with great pleasure and hope that I commend the National Strategy for Responsible Sustainable Development to the nation and the people of Papua New Guinea.

Hon. Charles Abel, MP

Minister for National Planning and Monitoring

Executive Summary

- Papua New Guinea (PNG) achieved its independence from the colonial rule in 1975. The development goals of the independent PNG, as directed by the national constitution, are to achieve a high quality of life of all Papua New Guineans (women, men, girls and boys) through:
 - Integral human development
 - Equality and participation of all
 - Enhancement of national sovereignty and self-reliance
 - Responsible management and use of natural resources for environmental sustainability, and
 - Sharing of resources in Papua New Guinean ways for the benefit of clans, tribes and communities rather than for an individual benefit
- The development strategy, plans and vision of PNG need to give a high priority to achieve the above-mentioned development objectives of the national constitution. Therefore, in order to achieve these objectives, the country came up with the following plans in the post-independence period.
 1. National Development Strategy, 1976–1985
 2. National Development Plan, 1986–1990
 3. Development Plan, 1989–1997
 4. Medium Term Development Strategy, 1997–2002
 5. Medium Term Development Strategy, 2003–2007
 6. Medium Term Development Strategy, 2005–2010
 7. PNG Development Strategic Plan 2010-2030
 8. Medium Term Development Plan 2011-2015
 9. Vision 2050

- The objectives of these plans, in general, were to achieve economic growth and social development through the development of health, education, infrastructure, minerals (such as, gold and copper) and fossil fuels (petroleum and gas), and maintaining law and order in the country.
- The Vision 2050 aimed at positioning PNG as one of the top 50 countries on Human Development Index by 2050, while PNG Development Strategic Plan aimed at achieving the status of prosperous middle income country by 2030.
- It is apparent that, all the strategies and plans, except Vision 2050 and PNGDSP were focussed on achieving short term growth and development. But, as directed by the national constitution, we need to focus on long term development for achieving growth, equity and sustainability for the benefit of our present and future generations.
- Long term sustainability requires that more attention be paid to the responsible management and use of our natural resources. The non-renewable natural resources, such as, minerals (gold, copper, etc.) are in fixed quantity. Excessive extraction of these resources led by foreign companies leads to their exhaustion leaving nothing for our future generations. Similarly, our renewable resources, such as, forest, fishery and coral reefs also needs to be used responsibly without exploiting them beyond their critical biological re-generational limits for their sustainability.
- PNG has the third largest tropical forest in the world. However, in recent years, this resource has been rapidly declining because of excessive logging by foreign companies, conversion of forest land into agricultural land, and by fires. Similarly, over 500,000 tonnes fishes are extracted every year for domestic consumption and export. Enough researches have not being conducted to understand the critical biological re-generational limits of our fish stocks.

- PNG has several big and small rivers for the generation of hydro-electricity. It also has tropical sun, wind, bio-gas and geothermal resources to produce clean energy. Yet less than 15% of the population have access to electricity.
- According to Hon. Charles Abel, MP and current Minister for National Planning, the previous strategies, plans and vision are not strategic enough to lead the country towards a green economic future and responsible sustainable and equitable development. On 19 June 2009, commenting on Vision 2050, Hon. Abel wrote “we need to outline the vision that we seek, i.e., a country with a small, healthy and educated population enjoying a sustainable access to modern comforts supported by a new economy based on carbon credits, biodiversity and medical research, cultural and environmental tourism, and limited resource extraction under a new regime of improved value to the country”.
- A lot of people and politicians in PNG, including the present and former Prime Ministers as well as academicians share the feelings of Minister Abel. They want a responsible sustainable use of the natural and cultural resources of the country for the benefit of the present and future generations.
- Thus, during the formation of the O’Neill-Dion Government in Alotau, after the 2012 elections, 78 key priorities were identified as *Alotau Accord* for implementation during its five-year term in office (2013-2017). One of the priorities of the Accord is the review of the current PNG Development Strategic Plan (DSP) 2010-2030 developed by Department of National Planning and Monitoring. This is an activity the O’Neill-Dion Government intended to undertake during the first 18 months of its term. This activity is also one of the 14 major activities of the Government in the 2013 whole of the Government matrix.
- The DSP 2010-2030 is designed to translate the focus areas of PNG Vision 2050 into concise directions for socio-economic development, spelling out sector interventions with clear objectives, quantitative targets, and baseline indicators. However, from a strategic strength, weakness, opportunities and threat (SWOT)

analysis, it is not strategic enough since it does not prescribe a road map that builds on PNG's unique natural and cultural resources. In DSP, even the strategic importance of the assets and strengths of the country were not given the recognition they deserved in the rapidly changing global environment. Instead the plan prescribed a development roadmap that simply followed a consumption driven natural resources intensive high carbon producing "brown" economic growth path that the industrialized world followed. This type of growth path does not have competitive advantage for PNG.

- Strategic planning doctrine requires the identification of strategic issues within as well as external to the country, and develop policy responses to address them appropriately. Thus, to identify the strategic issues and address them, PNG drafted a national strategy for responsible sustainable development in 2013. The central theme of this strategy is to move away from an unsustainable, too much energy and resource using and carbon producing "brown" or "dirty" economic growth path, that leads to increased global warming and climate change with so many negative effects, including sea level rise, drowning of low level islands and coastal areas, and downgrading of environmental health and well-being of our citizen and biodiversity, that the country has followed so far, and to transit to a sustainable less energy and resource using low or zero carbon-generating "green" or "clean" inclusive and innovative economic growth path to strengthen PNG's strategic positioning and competitiveness in the world and contribute towards sustainable development and a high quality of life of all people of PNG at the present and in the future.
- According to United Nations Environmental Program (UNEP) "a green economy is one that results in improved human well-being and social equity while significantly reducing environmental risks and ecological scarcities." In its simplest expression, a green economy can be thought of as one which is low carbon, resource efficient and socially inclusive.

- Greening of economy is not generally a drag on economic growth but rather a new engine of growth. It is a net generator of decent jobs, and is also a vital strategy for the elimination of poverty and the achievement of development goals such as Millennium Development, Goals, human development and sustainable development goals.
- Investment is needed to create decent jobs and increased income in environmentally significant sectors such as:
 - Renewable energy: Hydro, Solar, Wind, Bio-gas, biodiesel and geothermal
 - Green agriculture
 - Sustainable fisheries development
 - Sustainable use of water resources for domestic consumption, export and irrigation
 - Conservation of forest and biodiversity
 - Cultural and eco-tourism
 - Greening of transport system
 - Waste management
 - Small and medium enterprise development
 - Greening of buildings, cities and towns
- Growth in income and employment in a green economy is driven by public and private investments that reduce carbon emissions and pollutions, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services¹.
- Green growth path of development increases resource efficiency and productivity; monitors the stock and flow of resources for the use of planners and policy makers; improves environmental health and well-being of human beings and biodiversity; and identifies green business opportunities and policy responses.

¹ Environmental services are defined as the benefits that the people receive from the ecosystem.

- Equity and justice is enhanced through improved access of the poor on green jobs, income generating opportunities, health, education, skills development, potable water, sanitation (improved toilet facility) and protection and sustainable use of natural resources.
- The Responsible Sustainable Development Strategy provides policy shift in long term planning to guide the actions of current and future governments to positioning PNG as:
 - A prosperous middle income country by 2030
 - One of the top 50 countries on HDI by the year 2050, and
 - Aid recipient as well as aid donor by 2050
- This new perspective acknowledges that the medium term development challenge requires some reliance on the exploitation of primary resources to fund the investment needed for an inclusive and innovative green economic growth as well as in education, health and law and order sectors.
- It introduces three enabling dimensions to pave the way for the transition from the brown driven growth to inclusive green growth. These are:
 - A national green growth plan to create enabling conditions
 - Green growth mainstreaming mechanisms to ensure opportunities are explored through existing economic activities, and
 - Green growth policy instruments to tap specific opportunities within spatial and resource systems
- Based on the platform of these three enabling dimension, it recommends a framework of guiding principles based on the principles of sustainable development, to help sectoral planners to craft and manage sectoral development plans. These guiding principles are:

1. Internalizes externalities
2. Drives innovation
3. Maintains economic growth
4. Open and competitive markets and avoid trade restrictions
5. Creates decent work and green jobs
6. Inclusive, democratic, participatory, accountable and transparent Governance
7. Equitable, fair and just – between and within countries and between generations
8. Poverty reduction, well-being, livelihoods and social protection, access to essential services
9. Facilitates education and skills development
10. Supports human rights and workers' rights
11. Retains and protects biodiversity and ecosystems and services
12. Is resource and energy efficient
13. Respect planetary boundaries or ecological limits
14. Sustainable consumption and production
15. Below carbon and low emissions
16. Precautionary approach
17. Is a means for achieving sustainable development
18. Uses integrated approach to decision making
19. Uses beyond GDP Principle to measure growth
20. Promotes international cooperation, and
21. Is resilient to risks and shocks

- Together with these guiding principles it recommends a framework of governance, legislative and regulatory platform to facilitate for the transitioning of green growth modalities of development together with options for the financing and the monitoring of progress of the green growth modality.

- Within the Strategic Planning Framework it will sit alongside Vision 2050 and the DSP and feed directly into the MTDPs and the annual budget plans. In this way, the integrity and design of the Planning Framework remains intact, but the responsible approach to inclusive green growth and sustainable development will be strengthened in MTDPs and annual budget plans by the guidance provided by this document.



1. A New Strategic Planning Focus on Responsible Sustainable Development

1.1 Need for a National Strategy for Responsible Sustainable Development

Papua New Guinea's economic growth over the last decade has shown a lot of promise. Between the years 2007 – 2012 GDP growth averaged 8 per cent placing PNG among the top 20 nations in the World in terms of positive economic performance.² This growth based principally on the country's unique resource endowment of oil, LNG, metals, Agriculture, Fisheries, Forest and its Tourism, and is poised to grow further over the coming decades. This growth opportunity is being supported by the demands of the current dynamic industrial and urbanization growth in the Asia region with export revenues expected to grow to four to six times current levels, or US\$23 billion to US\$ 36 billion by 2030.³

However, such potential can only be realized through the prudent management of the socio-economic development affairs of the nation. This is an important challenge in itself given that our experience of the past has shown that inappropriate policy regimes, poor governance and ineffective administration, among many other constraints, had contributed to the inefficient translation of the economic gains into sustainable broad based growth that is socially and environmentally responsible.

Vision 2050 and Development Strategic Plan 2030, the principal policy documents that define the development road map for the country, have attempted to steer development

² Government of PNG, 2013, *Post 2015 National Consultation Report for PNG*.

³ Issue 4 ANZ Insight, 2013.

planning and management towards improved broad based growth outcomes. However, both broad policy documents advocate a growth strategy that falls short of being truly strategic in approach.

Both plans prescribe a traditional industrialization growth model, like the rest of the world, that locks the country into the cycle of growth that continues to demand for increased services, exponentially expanding population, and over reliance on the non renewable sector whilst negating the seriousness of the finite nature of non renewable resources together with the irreversible damage to the ecology and environment.

On current indications the entire human family of developing nations, including PNG is expected to suffer from the disappearance of rain forests in the tropics, the loss of plant and animal, bird, and fish species, changes in rainfall patterns and rising sea levels, and unpredictable weather patterns due to climate change. The industrial nations on the other hand are already facing the life-threatening challenges of toxic chemicals, toxic wastes, and acidification and nuclear fallouts.

The examples of the consequences of this mode of development can be seen in the wastelands of Bulolo valley, mine generated river and water pollution from Panguna and OK Tedi mines, the environmentally destructive logging practices scattered throughout the country that are contributing to deforestation and soil erosion, and the rising sea levels of outer islands of Bougainville and Manus.

These global and domestic experiences are clear indications that the human footprint has become too large for the planet to sustain at the first world life style and has led to growing global consciousness regarding the dangers of these modes of economic growth that are destructive to the environment.

In recognizing these dangers the Rio Declaration appealed to all nations, including PNG, to break out of past patterns of thinking and socio-economic development practices and to embrace growth strategies that are more sustainable and that ensures that the needs of the present generation are met without compromising the ability of future generations to meet their own needs.

This realization has now forced many national governments to seriously introduce greater environmental and ecological responsibility considerations in their socio-economic growth strategies. Papua New Guinea is among the many nations that recognizes the environmental and ecological dangers of pursuing the current model of growth that is largely dependent on the extraction of non renewable resources and unsustainable use of natural assets.

The leadership foresight shown by the Minister for National Planning and Monitoring to revise the development road map is therefore very timely and strategic.

The 'National Strategy for Responsible Sustainable Development', is the strategic policy response not only to this global consciousness, but more so is a futuristic leadership response to the nations need for a development road map that is responsible and strategic in terms of the consolidation of comparative advantage built on the strategic assets of the country.

This strategy is based on a new paradigm that begins by EXAMINING THE VERY DEVELOPMENT PARADIGM ITSELF- the underlying values and belief system that underpin the model.

As a long term strategic plan it looks further into the future and charts a path to the future that Vision 2050 has envisioned, a future in a very different world, one where much greater emphasis and VALUE is placed on those factors that are the basis of a SUSTAINABLE and RESPONSIBLE economic modality based on a value system more attuned to our ancient culture and Christian principles.

It elevates and reasserts the ethic that; RESPONSIBLE DEVELOPMENT MEANS WE DONT UNDERTAKE ACTIVITIES THAT COMPROMISE THE WORLDS BIODIVERSITY OR PUTS OUR CHILDRENS FUTURE AT RISK.

It reasserts the *Earth Integrity Principle* that the Earth, her natural communities and ecosystems, possess the inalienable right to exist, flourish and evolve, and to continue the vital cycles, structures, functions and processes that sustain all beings and that every human has the duty to protect her.

This model of development is truly strategic because it builds on assets that represent the strengths and comparative advantage of the country and enables us to bridge the competitive gap we have with the developed world.

1.2 Overview of Development Plans of Papua New Guinea

PNG achieved its independence in 1975 and enshrined in the National Constitution the Five National Goals and Directive Principles (5NGDP's). These are:

1. *Integral Human Development* - providing all citizens with the opportunity to achieve their potential. Quality education for all and a world class health system are key elements of the PNGDSP for human development, helping to develop a highly skilled workforce and equipping PNG's entrepreneurs with the skills they need to grow their businesses.
2. *Equality and participation* - all citizens should have equal opportunity to participate in and benefit from the nation's development. Prosperity in rural areas of the country where the vast majority of citizens live.
3. *National Sovereignty and Self-reliance* – to be strengthened by PNG's economic and political success. Good governance and broad based growth will help build PNG into a prosperous nation including by facilitating PNG investors. Among other things, PNG's prosperity will alleviate the country's reliance on aid.
4. *Natural Resources and Environment* - PNG is well endowed with a wealth of natural resources. These resources must be managed sustainably to ensure they benefit both future and current generations. In particular, resource revenues need to be focused on nation building, while at the same time protecting the environment.
5. *Papua New Guinea Ways* - PNG has a rich heritage of traditional wisdom and knowledge, reflecting the greatest cultural diversity of any nation of the world. PNG's development will be fostered in ways that learn from and build upon PNG's cultural heritage. Policy measures for law and order, land, education and health need to draw on PNG ways to improve the effectiveness of service delivery in these sectors.

Building on the PNGDP's the long and medium term development plans were developed as road maps for development effort into the future. The roadmap is contained in a strategic planning framework comprising planning documents at three levels.

At the first level is Vision 2050. The Constitution of Papua New Guinea is reinterpreted in Vision 2050 to define the aspirations of the nation for the year 2050. Vision 2050 therefore sets the long term direction for the country with guidance from the Constitution and the seven pillars towards the vision – 'We will be a smart, wise, fair, and happy society by 2050'; and the accompanying development goal - 'to be ranked in the top 50 in the United Nations Human Development Index by 2050'.

At the second level, the Development Strategic Plan (DSP) 2010-2030 translates the focus areas and aspirations of Vision 2050 into concise directions. This is implemented by setting out long term targets built around a range of social and economic indicators. A comprehensive social and economic policy framework is outlined in the DSP designed in a strategic way to enable Papua New Guinea to reach the targets. The targets in the DSP are ambitious, but achievable so long as the DSP is implemented.

Implementation of the DSP is spelled out at the third level of the strategic planning framework in rolling 5-year Medium Term Development Plans (MTDP). The MTDPs will mobilise resources and dictate expenditure priorities for the purpose of reaching clear 5-year social and economic targets. The 5-year targets are steps on the way to reaching the 2030 targets outlined in the DSP 2030.

1.3 Priorities of the Government as Espoused in Vision 2050 and Development Strategic Plan 2030

The core strategic objectives of development over the next 30 years as espoused in the current DSP 2030 is aligned to the 7 pillars of the Vision 2050. These pillars are:

- 1) **Strategic planning:** articulating long-term national goals and formulating strategies to provide guidelines for action plans and resources programming. This involves Four x five-year Medium Term Development Plans (MTDPs) aligned to the PNGDSP 2030. Other statutory plans, such as the lower- level government plans, line

departments and agencies plans and corporate plans, as well as the annual budgets to be aligned to the MTDP also.

- 2) **Systems and institutions:** ensuring that good governance principles are upheld and that current institutions become more effective as platforms for development.
- 3) **Human development:** focusing on how investment in human resources can accelerate the development process.
- 4) **Wealth creation:** setting the direction for the economy to move from an economy heavily dependent on non-renewable natural resources to one which has a broader base with dynamically developed industries in both secondary and tertiary sectors and with well connected and vibrant markets.
- 5) **Security and international relations:** spelling out and managing specific directions for defense and security, and adopting appropriate broad objectives and strategies for foreign policy and foreign aid.
- 6) **Environment and climate change:** managing environmental issues such as the health of the environment as well as addressing the issues of climate change in ways that best suit PNG's developmental needs.
- 7) **Partnership with churches for integral human development:** recognizing that churches play an important role in the spiritual and cultural needs of the people and using them as well as other organizations in both decision making and development work towards achieving goal of a quality life for all Papua New Guineans.

Government's intervention programmes are being designed and implemented around these 7 pillars aimed at Papua New Guinea becoming a prosperous middle-income country by the year 2030.

1.4 Where is PNG at now in Responsible Sustainable Development?

PNG's Development indicators show that we are far from achieving the development objectives espoused in the National Constitution.

In terms of Integral Human development, the country's Human Development Index (HDI) still remains low in comparison to other Pacific Island countries that have lower economic growth figures than PNG. HDI shows the average level of development in the country in

terms of development in health, education and income, particular on the life expectancy at birth, average and expected years of schooling and per capita income. In 2012, PNG's position (rank) on HDI was 156th out of 186th countries (where 1st = highest rank and 186th = the lowest). This means that PNG is one of the least developed 30 countries in the world on HDI in 2012.

In terms of citizen participation and benefit in economic development the picture has not improved either. Policies in the past have been more concerned with improving the rate of Foreign Direct Investment (FDI) led and financed growth in ways which helped government revenue but had further exacerbated the dependency and rent seeking culture as well as disempowered people from meaningfully participating in commerce and business and economic development.

Inadequate attention has been given to addressing the problem of dual structure of the economy by encouraging the locally financed development, in particular the rural sector that is endowed with the greatest potential for the country, but is where the bulk of the population is still engaged in subsistence activities.

In terms of environmental sustainability more and more pressure has been placed on the government to over exploit non-renewable resources to pay for the cost of basic development whilst conveniently downplaying the seriousness of the critical and finite nature of such natural resources and the environmental damage they are causing to the ecology of the country. Unsustainable logging of our pristine forests and destruction of river systems by tailings from mining operations are two major black marks against our environmental record. Moreover much of Papua New Guinea's economic growth to this point has been driven by the extraction and export of non-renewable natural resources.

Examples of the consequences of this mode of development can be seen in the wastelands of Bulolo valley, mine generated river and water pollution from Panguna and OK Tedi mines, the environmentally destructive logging practices scattered throughout the country that are contributing to deforestation and soil erosion, and the rising sea levels of outer islands of Bougainville and Manus.

Furthermore, Papua New Guinea faces the pressure of exponential population growth which has increased the pressure on resources and improvements in living standards.

These indicators clearly show that PNG's growth model is not sustainable in all the critical areas of economy, social and environmental considerations and steps need to be taken to address them immediately.

The higher the position of PNG on development indicators, the better will be the quality of life of its people. When the quality of life of the people improves, the country will have better opportunity to transform itself from aid recipient to aid donor. This situation will help PNG to have a better position, image, role and influence in international relations. PNGs strategic position in the world will be greatly improved and consolidated by:

- Achieving a high level of Human Development Index (HDI) and becoming one of the most developed 50 countries on HDI by 2050.
- Achieving an environment friendly economic growth and social development by following the principles of broad based export-led inclusive and innovative 'green' economic growth, and
- Transforming PNG from being an aid recipient in 2013 to both an aid recipient as well as an aid donor by 2050.

These and other strategic policy interventions on the back of sustainable development platform will arrest the current causalities and set the country on a more responsible and strategic development pathway into the future.

1.5 Role of National Strategy for Responsible Sustainable Development

Development planning by government involves the definition of a deliberate conscious set of guidelines that determine decisions into the future. It provides a guide for government and all the stakeholders to create opportunities for personal and national advancement, through economic growth, smart and innovative ideas, quality of service, and ensuring fair and equitable distribution of benefits in a safe and secure environment for all citizens.

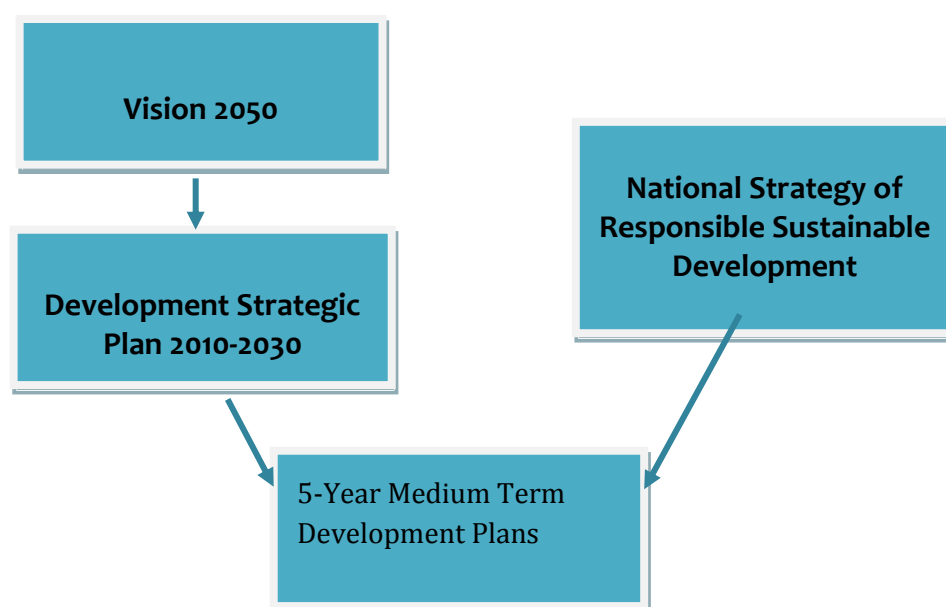
The National Strategy for Responsible Sustainable Development is aimed at redefining the development road map by prescribing a growth strategy that is built on the principles

of sustainable development – a new growth strategy where greater economic growth is built on renewable resources rather than extractive activities with priority placed on preserving the environment and sustainably using it by adding economic value to it.

This supplementary planning document challenges the view that economic growth built on the back of the extraction and export of raw natural resources - minerals, logs, marine resources is the only development model, and it introduces an alternative development paradigm and redirects the focus of planning towards economic development that is more appropriate and responsible in a future that is changing.

It introduces a new paradigm of economic growth called, ‘RESPONSIBLE FUTURE ECONOMY’, by elevating aspects of sustainable development modalities of growth already contained in the Vision 2050 and DSP 2030 to a higher level and initiating policy reviews around particular strategic assets as defined within a world that is changing and redefining values.

Within the Strategic Planning Framework it will sit alongside Vision 2050 and the DSP and feed directly into the MTDPs as shown in Figure B. In this way, the integrity and design of the Planning Framework remains intact, but the responsible approach to sustainable development in the MTDPs will be strengthened by the guidance provided by this document. Figure B below shows the Strategic Planning Framework of the Government



2. Sustainable Development Model of Development as Strategic Positioning

The decision of the Government to have the DSP 2030 revised and to embed the sustainable development paradigm in long-term development policy is strategic positioning of the country into the future.

Essentially it is a call for a new approach to socio-economic development for the country.

It introduces an alternative vision for growth and development; one that can generate growth and improvements in people's lives in ways consistent with principles of sustainable development. It endeavours to promote a triple bottom line: sustaining and advancing economic growth, promotion of responsible stewardship of the environment, and promotion of social well-being.

The ambition to attain such balance in development is enshrined in the National Constitution and the Vision 2050, but one that can only be realized by a development strategy that is able to reconcile economic, environmental and social imperatives on the platform of effective citizen participation in decision-making and policy, and by inclusive and effective democratic government.

However, this shift towards greater sustainable modes of growth needs to be managed not as a fixed state of harmony, but rather a process of change in which the exploitation of natural resources, the direction of investments through government interventions or investment by businesses, the orientation of technological development, and institutional changes are made consistent with future as well as the present needs and circumstances. The revision of the DSP 2030 provides the opportunity for the transitioning the platform for mainstreaming the sustainable development paradigm into development policy and action.

As the revised development strategy Inclusive Green Growth can generate economic growth for the country as well as improvements in people's lives in ways consistent with sustainable development principles - sustaining and advancing economic, environmental and social wellbeing.

The current economic growth strategy has focused principally on increasing the GDP indicator. This strategy has improved incomes and reduced poverty, but it has also brought significant and even irreversible environmental damages and costs as evident by the pollution of the Fly river.

The Inclusive Green Growth strategy aims to address these problems through a variety of institutional reforms and regulatory regimes, tax, and expenditure-based economic policies and tools.

The development goals as espoused in the current DSP 2030 is for PNG to be a prosperous middle-income country by 2030, able to provide a high quality of life for all Papua New Guineans.

The revised National Strategy for Responsible Sustainable Development will continue to pursue this development goal but following an Inclusive Green Growth strategy on the platform of the broader sustainable development paradigm.

2.1 Building on Strategic Assets to Position PNG Strategically in the World

In the 'new world' that PNG is increasingly becoming part of the greatest value will be placed on those assets that contribute to sustainable food and water security, sustainable energy, environmental services etc.

This points generally to our relatively intact environment and large biodiversity, but more specifically to our forests which contain the third largest remaining rainforest in the world, our tuna stocks which make up 15% of the worlds tuna stocks and together with

the Parties to the Nauru Agreement make up 30% of the worlds tuna stocks, our hydro and geothermal potentials as well as gas reserves, our fertile land, clean and abundant water, and agricultural background. The current consumption driven development strategy is actually eroding these assets.

The aggregate effect of this mode of development is that it also results in activities that are reactions to symptoms such as poverty and crime, rather than addressing underlying causalities, such as uncontrolled population growth.

The number of human beings in any given limited space is a fundamental driver of need. Instead of seeing this as a desirable aspect of a progressive economy, it should be recognized as an underlying contributor to the development problem. Ever increasing numbers of people require resources to service them and places pressure on Government to pursue unsustainable growth activities.

The challenge now is to move out of this cycle before we find ourselves with a massive population with a massive appetite and a severely depleted and damaged environment.

This is difficult because we are challenged everyday with the primary and symptomatic issues of education, health, law and order, and keeping the economy streaming along to generate the revenues required to meet these needs because our current plans have not provided adequately the appropriate formulae for addressing this difficulty. This challenge is at the heart of the objectives of the NSRSD.

The strategic assets together with a stabilized population growth rate give us the basic variables for a responsible and sustainable economy - one that can perpetually feed and energize itself and be able to export surplus to generate foreign exchange to pay for our import needs.

In terms of strategic positioning of the country in the global market place this means making deliberate choices to build on the strategic assets of the country to realize a middle income country ranking by the year 2030, and a HDI ranking of being among the top 50 countries by the year 2050. Skilful and prudent development management is needed to achieve these goals.

PNG has distinct natural and cultural resource. These are its strategic assets and strengths which will increasingly grow in importance and economic value and hence the need to recognize them as socio economic and environmental growth drivers for the future and build on them to gain its comparative advantage among other countries.

Tropical Forest: PNG has the third largest tropical forest in the world. This is a large generation of oxygen and carbon sequester. This resource needs to be used as well as to be conserved. If the forest is used responsibly, by cutting trees in certain hectares and replanting forest in the same area, it will benefit the people and also save the forest. To become more strategic to increase employment and income, PNG needs to stop exporting logs and start exporting manufactured products from the logs.

- **Fish Resources:** PNG has abundant in-land and sea fish resources. The country hosts 1.5% of the world's tuna. Thus, this resource needs to be managed responsibly by not over exploiting it beyond the critical re-generational level. Sustainable harvesting together with stewardship based legislation, regulations and pricing policies need to be developed to save the tuna from depletion.
- **Clean rivers and water resources:** PNG has several fast flowing rivers from which a huge amount of hydro-electricity can be produced. The electricity need to be consumed and exported to Australia and Indonesia. Unlike the electricity produced from the fossil fuels (coal, oil and gas), the electricity produced from hydro is clean, which do not create green-house gases and pollution. PNG's physical feature, climate and land resources are also conducive for developing energy from other clean sources such as solar, wind, tide, geo-thermal and bio-fuels. Thus, policies should be designed to use these resources for developing the energy sector. At the same time, carbon tax could be imposed for the energy produced from the fossil fuel. The export of clean water into Australia is now being considered.
- **Fertile Agriculture Land:** PNG has a large amount of fertile agricultural land. The weather and soil of PNG is highly suitable for the production of rice. However, rice is grown in a very small area. Most of the rice consumed in the country is the imported rice. Therefore, it is important to identify the crops, fruits and vegetables that are suitable for this country and produce them for food security

and export. The country needs to be careful also in using chemical fertilizers and pesticides to increase productivity as they destroy the soil quality and also negatively affect the health of human beings and bio-diversity through their intrusion in the food chain. Policy needs to be directed at encouraging sustainable production, consumption and export of organic food. The policy should include training of farmers on the modern techniques of organic food production, storage, packaging and export through revitalization of the agricultural extension programme.

- **Mineral and fossil Fuel Sector:** PNG has a vibrant mineral and fossil fuel sector. Presently gold, copper and oil (petroleum) is produced in the country by multi-national companies and are exported. Liquefied natural gas (LNG) will also be produced and exported beginning 2014. This sector is highly important for the government from the point of view of export and tax revenues. However, these resources need to be exploited responsibly to benefit the people. Policies should address minimizing environmental damage resulting from the exploitation of these resources. Substitutes for these resources should also be identified and harnessed to prevent the falling level of welfare after the exhaustion of these non-renewable resources.
- **Rich Traditional Cultures and Languages:** PNG has more than 800 languages, cultural groups. This resource is very good for developing tourism industry. Besides, PNG has mountains, cooler valleys at the height of above 2000 meters, hundreds of islands and beaches to attract tourist. Thus, policies should be designed and implemented to attract larger number of tourists per year. It is important that security is provided to the tourists. For this, the police as well as the communities should be mobilized. Education and awareness creation programme to respect the tourists and the tourism sector given greater value and recognition.
- **Wantok/Communitarian Society:** PNG has 'wantok' system. In this system, related community members share food and other resources which is a form of social protection. Thus, this system should be protected. However, a complementary social protection policy also needs to be designed to protect the disabled persons, olds and children. Social and economic development, environmental conservation

and social protection policies help achieve PNG's Millennium Development Goals (MDGs) and better HDI.

- **Population:** The population of PNG was 7 million in 2011. This is an important resource for development. However, this resource is currently underdeveloped. There exists high rate of population growth, high fertility and mortality. The age structure of population is young and child dependency ratio is high. Thus, policies should be implemented to fasten demographic transition from the current state of high fertility and mortality to low fertility and mortality. This will help focus investment on human capital (health, education and skills) development. The improved human capital gained from this process should be directed to create micro, small and medium size enterprises both in the rural and urban in order to reduce disparities in development and reducing the need for the rural people to out-migrate to cities.
- **Vibrant Private Sector:** Private sector is playing an important role in the development of economic sector in PNG. This sector, however, is not yet fully developed to achieve the development objectives of the government. Therefore, the sector needs to be further developed and incentivized to participate fully in economic growth fortunes of the country through the path of inclusive and innovative green economic growth.
- **Active Civil Society Organizations (CSOs):** PNG has active civil society sector such as churches in PNG are playing a very important role in the social and economic development of the country. Currently, about 50 percent of services on health and education are provided by the churches. The NGOs and local Community Based Organizations (CBOs) such as Women's Groups, Youth Groups, Savings and Credit Groups are, however, much less developed. Such groups are very important for the development of the country. Therefore, they need to be trained and mobilized for achieving social and economic development, environmental conservation and to help the government to achieve its aim on anti-corruption and efficient, effective, transparent and accountable governance.

All these resources and strengths are important enablers and growth drivers for positioning the country within the group of most developed 50 countries on HDI by 2050. By building on these strengths PNG will be able to develop a truly comparative advantage

among the other nations. However, these resources and assets need to be used responsibly, following the paradigm of inclusive and innovative green economic growth to improve the quality of life of people of not only present generation, but also for future generations.

2.2 Concept and Framework of Sustainable Development

2.2.1 Sustainable Development Concept

Sustainable development is development that; ‘meets the needs of the present without compromising the ability of future generations to meet their own needs’⁴. Sustainability means continuity with minimal long-term negative effect on the environment and development means a progressive transformation of economy and society. In PNG sustainable development means continuous progressive transformation of the economy and society with minimal long-term negative effect on the environment. The definition of sustainable development contains two key elements:

- 1) The concept of ‘needs’, in particular the essential needs of the poor, to which priority should be given, and
- 2) The idea of limitations imposed by the state of technology and social organization on the environment’s ability to meet present and future needs.

The satisfaction of basic human needs is the major objective of development. The essential needs of the people for food, clothing, shelter, health, education, employment and security are to be met. Beyond these basic needs, the people also have legitimate aspirations to improve the quality of life.

Sustainable development paradigm involves meeting the basic needs and aspirations of the present and future generations without jeopardizing the ability of the environment to provide the necessary eco-system services, including clean water, clean air, clean energy and healthy food, and processes such as the absorption of pollution and decomposition of wastes. Furthermore, the paradigm also includes intra-generational

⁴ United Nations (1987). Our Common Future, also known as Brundtland Report.

equity through inclusive economic and social development and environmental conservation.

In 1991, the World Conservation Union (IUCN) defined the objective of sustainable development; 'is to improve the quality of life while living within the carrying capacity of ecosystems'.

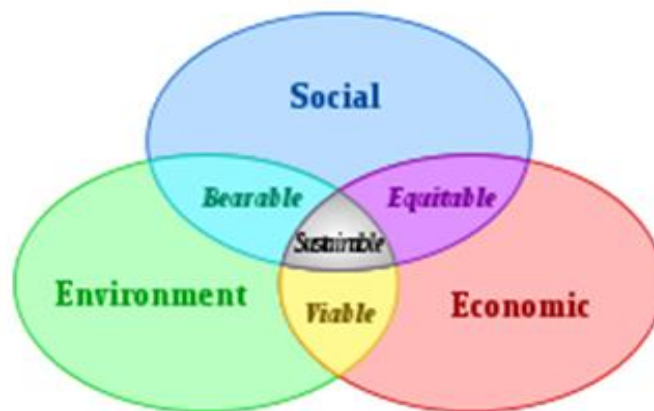
High quality of life of all Papua New Guineans (women, men, girls and boys) with equity and justice is the development objective of both the constitution of PNG and the sustainable development framework. Thus, the sustainable development (SD) framework needs to be operationalized to achieve the development objectives of the country.

2.2.2 Sustainable Development Framework

The three-pillar model is a well known model of SD, used by several countries and international organizations, including the World Bank, Asian development bank, European Union and the United Nations. According to this model, the three pillars (dimensions) of sustainable development are: economic growth, social equity, and environmental sustainability. Each pillar has an equal weight.

As shown in the diagram below, the intersection between two pillars is considered only as partial development. For example, the intersection between social and economic pillars is *equitable*; the intersection between social and environmental pillars is *bearable*; and the intersection between economic and environmental pillars is *viable*. Development is *sustainable* only at the intersection of the three pillars (social, economic and environmental) – the integration of economic growth, social equity and environmental stewardship to achieve sustainable development.

Three Pillars of Sustainable Development



The traditional economic growth or the 'brown growth' includes indicators such as Gross Domestic Product (GDP) growth rate, employment, capital stock, debt, inflation, rules and regulations, energy pricing and provisioning of public goods and services. Social issues include social inclusion, population growth, health, education, gender equality, community and cultural development, governance, etc. Similarly, environmental issues include management and use of natural resources such as land, air, water, forest, fishery, biodiversity, minerals, fossil fuels and climate change impacts.

The brown growth path does not integrate social or environmental concerns effectively. It is therefore, neither inclusive, nor environmentally sound. Whilst producing intended goods and services, it also produces waste, pollution, green-house gases and heat, which are detrimental to the health of human beings, biodiversity and the environment. Increased heat generated in the atmosphere brings climate change resulting into sea level rise and drowning of low level islands and villages and cities in the coastal areas.

The brown growth process led by consumerism depletes or degrades renewable and non-renewable resources. There needs to be movement away from the 'brown' growth path to towards inclusive and innovative 'green' growth path which can still produce decent green jobs to improve the quality of life of the people and the environment.

The sustainable development framework based on inclusive and innovative green growth is presented below.

The sustainable development framework:

THE WHOLE AGENDA



2.3 Benefits of Responsible Sustainable Development

The concept of sustainable development has in the past being associated principally with environmental conservation, a consideration that nations did not commit to because of their need for accelerated economic growth to pay for the cost of socio-economic development. This perception however, has now changed with the increasing monetized value being given to environmental assets such as forests, rivers etc. These assets when developed and managed effectively can return economic yields to pay for the cost of social development without destroying the natural assets.

Like any change in development it will take some time for responsible sustainable development to find true acceptance and traction in policy and planning and in the conduct of business by all stakeholders and actors. However, in a future that is changing quite rapidly the benefits of responsible sustainable development will become mainstream considerations and goals for all stakeholders. The major benefits are:

- The sustainable development framework helps to achieve the development directive of the national constitution to achieve a high quality of life of all Papua New Guineans through integral human development, equality and participation, enhancement of national sovereignty and self-reliance, proper management and use of natural resources for environmental sustainability, and through Papua New Guinean ways.
- PNG's development will follow the path of inclusive and innovative green growth which helps improve income and employment through the creation of innovative green jobs, reduce poverty and inequality, improve environmental sustainability, and enhances the quality of life of the people.
- PNG will be able to use as well as save its large tropical forest. This will help in protecting sources of rivers and streams, absorbing carbon-dioxide and reducing the negative impacts of climate change.
- Fishery resources, including tuna will be used responsibly without extracting them beyond their critical re-generational level. This will improve food security, nutrition and livelihood of the people living in the coastal areas and in river basins.
- Clean energy will be generated from hydro, solar, wind, tide, geo-thermal and bio-fuels. The energy from fossil fuel is replaced by clean energy and environmental degradation and climate change is minimized.
- The fertile agricultural land of PNG will be used for the production of crops, fruits and vegetables using organic manure. They will be consumed, packaged and sold within and outside the country.
- PNG's abundant mineral and fossil fuel resources will be used responsibly for the benefit of present and future generations. Substitutes for these resources will also be developed to prevent the falling level of welfare after the exhaustion of these resources.
- Income and employment will be increased through the development of tourism industry by bringing its more than 800 cultures, mountain peaks, cooler highland valleys and hundreds of islands and beaches to the visibility of the tourists.
- The 'wantok' system, which represents 'PNG Ways', is an important form of social security, will be promoted. It will be used along with the social protection policy of the government to reduce poverty and achieve the MDGs.

- Population policies aimed at reducing fertility and mortality and to protect the human rights of migrants living in the urban slums/settlements must be implemented. The savings from the reduction of fertility and mortality will be used to improve human capital in both rural and urban areas and minimize the need for rural people to migrate to cities to seek a better life.
- The private sector becomes aware and more responsible for creating green jobs and achieving inclusive and innovative green growth.
- The Churches, NGOs and CBOs become very active in bringing social, economic and environmental transformations in the country. They also help the government to achieve its aim on anti-corruption and effective, transparent and accountable governance.
- Prices of goods and services will be adjusted to account for external costs and benefits (environmental externalities) of their production. In addition, proper valuation of ecosystem services, such as clean drinking water, decomposition of wastes, and irreversible damages created by growth will be conducted.
- The country benefits from the development of appropriate laws, regulations and tax and incentive policies and strengthening of institutions for good governance to achieve triple-wins on social, economic and environmental objectives in an integrated manner.
- The SD framework helps PNG to improve its strategic position in the world by encouraging it to invest more on health (life expectancy at birth), education (average and expected years of schooling) and green growth (per capita income), and thereby become one of the most developed 50 countries on HDI by 2050. It also helps the country to develop and transform itself from aid recipient in 2013 to aid recipient as well as donor by 2050.

3.

National Responsible Sustainable Development Strategy for Papua New Guinea

The value and benefits of sustainable development can only find true meaning in the context of socio-economic growth that addresses the basic needs of people and community. Through properly planned and executed sustainable modalities of ‘green’ growth social, economic and environmental objectives can be jointly achieved.

The Responsible Sustainable Development Strategy aims to achieve this goal through the introduction of a revised development road map that encourages economic growth but insist on the growth following sustainable development principles. It promotes the principles of inclusive economic and social growth, inclusive environmental conservation, and innovation that integrate the considerations of the three spheres of growth – economy, social and environment as factors of equal value and importance.

- **Innovative Green growth**

Economic and environmental objectives are jointly achieved through the path of ‘green growth’. Such a growth path uses natural resources responsibly, and does not degrade the environment.

Green growth includes external costs and benefits (environmental externalities) in its pricing of goods and services. Furthermore, it also conducts proper valuation of ecosystem services, including clean drinking water, decomposition of wastes, and irreversible damages created by growth. Innovative green growth produces high quality green products and green jobs and improves food security, health, innovative knowledge and living standard of the people.

- **Inclusive Growth**

Social and economic objectives are jointly achieved through the path of ‘inclusive growth’. Such a growth process provides equal access of all on health, education, employment and increased social knowledge. Such a growth is aimed at achieving equity between women and men and between rural and urban areas.

Without inclusive growth, the growth may benefit some and marginalize others. This may result into social conflicts. Inclusive growth minimizes such conflicts. It redistributes budgetary resources to alleviate poverty and reduces inequality.

Global compacts are made between the developed and developing countries to achieve inclusive growth and address social issues such as minimizing conflicts, eradicating poverty and achieving the Millennium Development Goals (MDGs).

- **Inclusive environmental conservation**

Environmental conservation requires the conservation of natural resources including land, water, forest, fishery, minerals, fossil fuel and biodiversity. The conservation activities create green and decent jobs.

Inclusive environmental conservation means poor people are included in the environmental conservation activities and they get benefit from the creation of green decent jobs. Therefore, inclusive environmental conservation activities jointly improve the socio-economic condition of the poor and environmental quality.

- **Integration of economic, social and environmental objectives**

Institutional strengthening and good governance is needed to integrate the economic, social and environmental objectives of sustainable development and implement and monitor the policies. Such governance must have commitment to the rule of law, human rights, transparency, accountability, participation and inclusion.

The integration requires the design of appropriate laws, regulations and tax and incentive policies using ‘polluters pay’ principle and their implementation, monitoring and evaluation. Efficient and effective good governance will help achieve the triple-wins on social, economic and environmental objectives in an integrated manner.

3.1 Inclusive and Innovative Green Economic Growth Platform

The inclusive Green Growth strategy needs to be built on the framework of a conducive governance and policy environment that enjoys stakeholder confidence and able to deliver the kinds of Inclusive Green Growth benefits that PNG intends to pursue. The revision will provide this platform through the integration of the institutional roles of diverse stakeholders and appropriate policy instruments on the sustainable development platform. The framework involves three interrelated dimensions. These are:

- 1) Mainstreaming Inclusive Green Growth approaches into national planning, by building on existing economic, environmental and sustainable development strategies and plans, and addressing synergies and gaps.
- 2) Developing broad economy-wide enabling policies to create the right incentives and controls to deliver Inclusive Green Growth.
- 3) Deploying Inclusive Green Growth institutional mechanisms to link the main players into the collaborative system needed to keep the goal of Inclusive Green Growth on the platform of sustainable development, at the top of the political and policy agenda.

Dimension 1. National Inclusive Green Growth Plan to create Enabling Environment

Inclusive Green Growth will only be possible if the broad governance and policy environment is conducive and one where stakeholders are confident. The principle requirement is the need for a coordinating national Inclusive Green Growth plan that can

integrate diverse institutional roles and creates enabling conditions for Inclusive Green Growth to take traction.

The two principal plans; Vision 2050 and the DSP 2030 are expected to provide this coordinating role through a revised prescription that addresses the following enabling conditions;

1. ***Shifting government expenditure:*** away from activities that waste, overuse or degrade environmental assets because such a ‘disabling’ environment makes green investments less competitive.
2. ***More effective enforcement of legislation:*** in part as a driver of green investment because weak enforcement reduces long-term investor and market confidence and gives little incentive for most businesses to improve. The legislation base should be strengthened with the inclusion of key elements of sustainable development law such as; prior and informed consent, polluter pays principle, and freedom of information.
3. ***Shifting science, research, educational and training priorities to support the transition to a green economy:*** new knowledge and skills will be needed to transition in and embed Inclusive Green Growth modalities of development, the structural employment and institutional changes therefore need to be supported for the fair transitional costs of organizations and their employees.
4. ***Resource and land rights regimes that protect the interests of those with informal rights:*** because too many regimes favor powerful players who are able to claim rights and/or emphasize technical efficiency of resource allocation, at the expense of those who have a special dependence on the resource. This is especially critical in assuring rights to forests, sea, water and customary land.
5. ***Creating enabling conditions for psychological and behavior change:*** Green economic growth and sustainable development has not yet been fully considered

3.1 Inclusive and Innovative Green Economic Growth Platform

in development planning by government, the business sector and even the rural

community at large. The current mindset is still entrenched in the current brown growth modality. Transitioning to Inclusive Green Growth will require a strategy to assist all stakeholders to make mind set changes. This will require framing and presenting Inclusive Green Growth as both a social and economic goal, and initiating nationwide education and awareness campaign to help stakeholders- government, investors, people and community make better decisions on the way they conduct their business.

6. ***Facilitating businesses to fully integrate sustainability and equity concerns:*** Corporate organizations, investors, SME's and rural communities collectively make up the stakeholder grouping that is a key part of the transition to Inclusive Green Growth, through their capacity to innovate, introduce efficiencies, and influence consumers and trading partners. Through the provision of information and coordinating research on potential opportunities, especially to adopt best available technologies and meet standards, enabling technology access through reducing trade barriers where necessary, providing finance, or Public Private Partnerships that share risk and cover upfront costs, and improving accountability, widening reporting requirements businesses need to be assisted to revise their approaches to conducting their businesses and to align them with business models that are aligned with Inclusive Green Growth principles.

Dimension 2. Inclusive Green Growth Institutional Mechanisms to ensure opportunities are explored through existing economic activities

Incorporating Inclusive Green Growth goals into development planning helps to draw together analysis, recommendations and operational plans of stakeholders and actors. However, creating a stand-alone strategy as the only vehicle for Inclusive Green Growth risks privileging certain actors and immediate opportunities, whilst sidelining other possible actors and future activities. Other mechanisms are also needed for integrating environmental and economic objectives.

Inclusive Green Growth institutional mechanisms are needed to ensure that growth opportunities through existing economic activities are realized.

This in turn can conserve the natural and social capital to support long-term, resilient growth; and investment in particular ‘Inclusive Green Growth engines’ that, over the longer term, have the potential to realize comparative advantage for the country.

Inclusive Green Growth institutional mechanisms will require building the institutions and systems that link environment and development goals, and stakeholders together to enable tracking, planning, budgeting and accounting for Inclusive Green Growth in a holistic way that supports continuous improvement. These mechanisms are;

- 1) **Public Environmental Expenditure Review:** A PEER examines government resource allocations within and among sectors, and/or at national and sub-national levels, and assesses the efficiency and effectiveness of those allocations in the promotion of sustainable development modalities of growth. The information is needed for designing policy reforms, government budgets, and investment projects- highlighting the mismatch between (new) environmental policy and plans and (historical) low levels of spending in those areas of government that are now linked to environmental priorities. It provides the rationale for the redistribution of spending towards institutions responsible for Inclusive Green Growth priorities, towards longer-term goals rather than short-term. This review will be undertaken as part of the MTDP review process.
- 2) **Strategic Environmental Assessment (SEA)** involves an analytical and participatory approach to integrate environmental (linked social and economic) considerations into policies, plans and programmes and assess their potential development effectiveness and sustainability. It focuses on identifying trade-offs between environment, social and economic objectives that makes it potentially valuable in assessing whether ‘green’ policies or major programmes such as subsidy reform and introduction of specific green technologies are likely to have unintended consequences. Inclusive Green Growth policies, plans and programmes have positive environmental aims, nonetheless the potentially unforeseen wider

environmental considerations still need to be assessed and taken into account in an integrated way along with associated economic and social concerns.

- 3) **Council for Sustainable Development:** The 1987 report of the Brundtland Commission called for countries to “...consider the designation of a national council or public representative or ‘ombudsman’ to represent the interests and rights of present and future generations”. The 1992 Rio Earth Summit called on countries to establish multi-stakeholder structures and mechanisms to assume the role of following up on commitments made through Agenda 21. The CSD is needed for transitioning to green growth by providing valuable mechanism for a coordinated and principled working relationship between government, business and civil society. CSD can facilitate the integration of the multiple dimensions of sustainable development into planning and strategy formulation, policymaking, programme implementation, and monitoring and evaluation. It can provide a critical means for reconciling priorities at local to national (and global) levels, facilitating the translation of global commitments into national and local initiatives and SD priorities into concrete policies and actions. It can also serve as forum for resolving conflicts among different interest groups, facilitating alliances for private-public action and investments.
- 4) **Green Accounting and Alternative Development Measures:** The idea of integrated environmental and economic accounting has been recognized as a crucial ingredient for development policymaking, on the basis that growth in GDP can be misleading if the natural and environmental capital base on which GDP growth depends is being carelessly exhausted. While a range of resource and wealth accounting approaches has developed, the term ‘green accounting’ is used in a more general sense to refer to the integration of environmental and social information into systems of national economic accounts with the aim of giving a more accurate picture of the state and progress of the economy. Green accounting remains an area of extensive experimentation and work is currently being done to define and mainstream best practice, in large part to support emerging initiatives such as payments for ecosystem services and Inclusive Green Growth plans development planning beginning with the revised DSP 2030 should

explore and allow for its incorporation. Capacity among all stakeholders, in particular in central planning needs to be developed as part of capacity building to

Dimension 3: Inclusive Green Growth Policy Instruments to tap specific opportunities within spatial and resources systems

steer the transitioning and on going governance and management strategy for Inclusive Green Growth.

Inclusive Green Growth opportunities exist across overlapping spatial and resource systems, each with its own technical characteristics and policy challenge. They range from natural resource management (renewable and non-renewable, exhaustible and cultivated) to energy, urban and manufacturing systems and specific Inclusive Green Growth policy instruments need to be identified and used. To maximize social equity from Inclusive Green Growth opportunities policy needs to give special attention to the implications for supporting small producers, alleviation of poverty and the encouragement of job creation. These include:

1. **Certification of Sustainable Production and Trade:** Differentiating ‘green’ products in the marketplace can increase the market value and share for producers who are able to participate, thus contributing to economic growth while improving environmental practices and helping to ensure the long-term sustainability of the resource. The certification scheme will consist of the following elements:
 - (1) Agreement on what constitutes best and acceptable practice in a set of standards,
 - (2) An auditing process to assess compliance of production units with the standards,
 - (3) A tracing process to show that the final product in the market has come from sustainable sources, and
 - (4) Labeling of products to differentiate them in the marketplace.

For the certification scheme to become a viable Inclusive Green Growth policy tool, the following factors need to be addressed:

- Local differences in conditions both on the supply side and the demand side, while avoiding confusion for consumers and unnecessary administrative burdens for producers.
 - Backing the system with a strategy to boost demand for certified products while retaining the appropriate degree of rigour in the standards and assessments.
 - Ensuring that smallholders can access and benefit from certification and the certification is supportive of the potentials of the informal economy without requiring stringent formalization constraints.
2. **Subsidy Reforms:** Subsidies in the form of financial transfers, preferential tax treatment, and provision of services by government aims to assist poor households to reduce prices for end users, to buffer shocks from global price spikes, or to promote development of certain productive sectors. Where existing subsidies support the 'brown' economy in industries such as: energy, water or agriculture, and fishing, the challenge is to reform such subsidies towards the development of the Inclusive Green Growth. Reduction in subsidy will depress production and consumption as it may raise prices and costs of production in the short term. However, in the longer term, subsidy reform is expected to encourage greater efficiency in production or in provision of the services. The key to ensure that subsidy reform to reach more inclusive outcomes for Inclusive Green Growth is to make appropriate use of the money that is freed up by subsidy reform to ease the transition for the lower income bracket as well as lead to improvements in the Inclusive Green Growth capacity of the economy.
3. **Payments for Ecosystem Services:** Payments for Ecosystem Services (PES) are schemes that give cash and/or in-kind payments to farmers and other customary landowners as an incentive to conserve and enhance ecosystem services. A good example of this is the April Salumei Scheme. In such schemes payments are made

by direct beneficiaries of the improvements in ecosystem services on behalf of the beneficiaries or society in general. To date, the majority of PES schemes focus on forest ecosystems; however schemes incorporating agriculture are increasingly common, in part due to the preparations for REDD+. Some key lessons that have emerged include:

- (i) Successful PES requires careful design and planning and adaptive management as too rapid expansion can compromise effectiveness.
- (ii) To ensure that customary landowners can voluntarily participate and benefit, PES design should be informed by lessons from existing schemes on how to overcome obstacles such as high transaction costs.
- (iii) Experience from developing countries confirms the importance of enabling policies, such as land use planning and agricultural extension, in the success of PES schemes.

4. Environmental Fiscal Reform: A range of instruments can be good for responsible environment management as well as source of revenue for government. They include taxes or royalties on natural resource extraction, user charges for services such as water supply and waste management to recover costs, and environmentally - related taxes such as pollution charges. Environmental taxes can increase efficiency as well as encourage stewardship in environmental management in the use of natural resources. The resulting improvements in environmental quality can support those productive activities that rely on environmental inputs, for example clean water provision, and build up human capital through positive impacts on the health of communities and people.

5. Green Energy Investment Frameworks and Incentives: Green investment will require the development of a sound framework of fiscal, financial and legislative instruments. This is particularly the case in the energy market, which requires significant government support for renewable energy to establish an initial market share, to gain access to the national electricity grid and other energy infrastructure, and to attract investment. These framework policies include:

- (i) *Key investment principles:* to be applied to entry, establishment, mergers and

acquisitions, and investment incentives in green energy sectors. Domestic investment policy needs to be attractive to foreign investors, given that the country still depends on foreign investment.

- (ii) *Introducing stronger competition in country's energy – especially the electricity sector:* The energy generation sector needs to be opened to independent power producers (IPPs) in order to increase both the amount of electricity generated and the share of renewable energy in the national energy mix. Restructuring of the sector by separating generation, transmission and distribution services can have a significant effect on electric power technologies, costs, prices, institutions, and regulatory frameworks, and can create more space for renewable and clean energy in the national energy mix.

Similarly, deregulating power generation and taking the step towards wholesale power markets can allow IPPs to compensate for biases that traditional utility monopolies may have against renewables. Opening the generation sector to IPPs can also favor green and decentralized private sector-led solutions to energy access, since connecting isolated rural communities to the grid is often costlier than off-grid investments.

- (iii) *Improving PPP legislation and increasing public sector capacity to deal with such arrangements.* The guidance provided by the OECD principles on private sector participation in infrastructure can be useful in this respect.
- (iv) *Financial sector regulation* also has a strong influence on the extent to which large investment projects can access private funding. In general it is difficult for renewable energy projects to obtain private finance, given the perceived risky nature of the investment. In addition, while green investors must often rely on project finance, there are significant risks associated with their projects (which are R&D - and capital-intensive, subject to environmental hazards, involving long pay-back periods, etc. The involvement of investments from pension funds as well as policy to incentivize investment in green and clean energy need to be explored and put in place.

6. **Inclusive Green Social Enterprises or Community-based organizations:** The involvement of Social Enterprises or Community based organizations in achieving ‘triple bottom line’ economic, social and environmental returns in the nation’s growth is highly desirable. Such organizations and enterprises can help to focus on overcoming technological challenges or cost barriers to innovation, an important driver of Inclusive Green Growth. Most of these organizations are in small-scale productions and microenterprises businesses and often operate outside the formal economy, but are important contributors to poverty reduction and improved livelihoods. The current policy on SME’s and non-formal sector businesses need to be further developed to provide incentives for them to participate in Inclusive Green Growth. These social enterprise initiatives include:
- (i) Development of ‘social enterprise’ institutional and policy frameworks that include appropriate tax regimes and incentives, business support programmes that are tailored to the needs of the sector, and access to public sector technological expertise and R&D. The initiative of the SME policy currently under development appears to be addressing this need. The Informal sector policy also needs to be aligned with green growth principles.
 - (ii) Enterprises need to draw on both non-profit and for-profit finance models. Government needs to preserve the co-benefits generated by social enterprises; it may be necessary to introduce regulations and instruments that protect them from undercutting competition and encourage their attention to generation of co-benefits. The initiative of the SME policy currently under development and the informal sector policy need to integrate such initiatives as they seek to be aligned with Inclusive Green Growth strategy.
7. **Sustainable Public Procurement or investment:** Sustainable Public Procurement (SPP) or public expenditure through Government intervention programmes can stimulate demand and supply of products that contribute to social and environmental - Inclusive Green Growth objectives. Government can take the lead

in Inclusive Green Growth investment through its expenditure for services to support the rapid urbanization that is currently taking place, and its expenditure outlays in infrastructure investment, as well as its stake in the development of the extractive industries sector. Some emerging lessons of SPP from other developing countries show that initiatives should:

- (i) Identify high impact goods and services;
- (ii) Pilot initiatives to build capacity and support; and
- (iii) Ensure multi-stakeholder collaboration between the public and private sector from the outset.

8. **Green Innovation:** Innovation, in its broadest sense, is one of the keys to ensuring that environmental improvements can be obtained without sacrificing economic growth. It embraces not only the development and diffusion of new and patented technologies, but also technology collaboration between countries and different groups, and new approaches to planning and work practices that can also contribute to Inclusive Green Growth. Given that PNG is still in the process of establishing its national infrastructure base as well as its manufacturing and industrial systems, there is greater opportunity to introduce innovative means of moving towards Inclusive Green Growth solutions in development, both technological and institutional.

Appropriate low-cost innovations need to be encouraged as means for making products accessible for a larger share of the population in ways that are also greener than those used for other products. Experiences of green innovation from countries such as Brazil, China and India have all become important drivers of green innovation in recent years and the technologies from these countries may be more suited to the needs of PNG than those from advanced economies. Policies to foster green innovation in the country need to be adjusted to national circumstances. Key elements of policies for green innovation include:

- (i) Providing predictable policy signals to ensure that potential innovators and adopters of climate friendly technologies are not dissuaded from undertaking the necessary investments.

- (ii) Focusing the national public R&D effort more on fostering green innovation on local needs such as; water scarcity, soil loss, which are also important for sustaining future economic growth.
- (iii) Strengthening local capabilities to absorb technology from abroad and adapting it to local needs. This is yet another area where green and growth are aligned;
- (iv) Using the opportunities offered by public procurement, standards and regulatory policies to strengthen and improve the markets for green products, fostering innovation in the process.

3.2 Guiding Principles for Inclusive and Innovative Green Economic Growth

Inclusive Green Growth is an emerging concept and new to PNG development planning. Definition of not only the concept but of the guiding principles is therefore essential to provide further clarity to guide planners and practitioners in the application of green economy concept as well as address perceived risks and concerns.

The principles recommended here are generated from the experiences of other countries. They cover a range of key attributes and characteristics of the green economy, areas of potential concern or risk associated with the green economy, as well as direct references to principles from international agreements in particular the Rio + agreements.

The principles cover the three main pillars of sustainable development- economic, social, and environmental as well as a number of related considerations.

These principles can help to guide the framing of guidelines for Inclusive Green Growth principles for the country. The need to be incorporated in the revised DSP 2030 as well as the Visions 2050. The principles are as follows:

1. **Internalizes Externalities:** Externalities are impacts generated by one economic actor's, which are felt by others, but the market doesn't bring these impacts back

to affect the actors that originated them. Internalizing them in terms of compensation payments is essential to holding to account the originators of the negative impacts of careless behavior and actions as well as putting in place a potential revenue stream and assisting actors to act more responsibly.

2. **Drives innovation:** Innovation is key to ensuring that environmental improvements can be obtained without sacrificing economic growth. It embraces not only the development and diffusion of new and patented technologies, but also technology collaboration between countries and different groups, and new approaches to planning and work practices that can also contribute to greener growth.
3. **Maintains economic growth:** Sustained economic growth is imperative to afford the cost of social services and the maintenance of community wellbeing and Inclusive Green Growth strategies need to be designed to sustain the economic growth on the platform of Inclusive Green Growth principles.
4. **Open and competitive markets; avoid trade restrictions:** The promotion of a supportive and open international economic system that would lead to economic growth and sustainable development is imperative. PNG should invest in trade policy measures for environmental purposes that do not possess arbitrary or unjustifiable discrimination or a disguised restriction on international trade. This is consistent with Principle 12 of Rio + Declaration.
5. **Creates decent work and green jobs:** The transition to a sustainable green economy can create large numbers of green jobs across many sectors of the economy, and can become an engine of development. These jobs that help to protect ecosystems and biodiversity; reduce energy, materials, and water consumption through high- efficiency strategies; de-carbonize the economy; and minimize or altogether avoid generation of all forms of waste and pollution. A green economy is an economy that values nature and people and creates decent, well-paying jobs.
6. **Governance - inclusive; democratic; participatory; accountable; transparent:** Efficient, effective, inclusive, transparent and accountable governance institutions (governmental and non-governmental) are needed to plan, implement, monitor

and evaluate Inclusive Green Growth development programs in an integrated manner to achieve triple wins on economic, social and environmental fronts, as well as for peace and security. Governance principle states that subsidiary democracy must be upheld and revitalised in accordance with the principle of prior informed consent. All policies, rules and regulation need transparent and participatory negotiations that include all affected people. Structural transformation should be driven by appropriate public investments that guarantee benefit sharing.

7. **Equitable, fair and just – between and within countries and between generations:** The equitable Green Economy is transparent and engages all involved and affected actors and stakeholders, with powerful actors having clearly defined responsibilities and forms of accountability, while making sure other stakeholders are empowered to act both as beneficiaries as well as contributors to the Green Economy. The Justice Principle upholds fair sharing of all benefits and burdens. This includes the use of natural resources, access to goods and services, and the responsibility to avoid and compensate for damages. All institutions, corporations and decision-makers need to be subject to equal standards of accountability and personal responsibility for their decisions.
8. **Poverty reduction, well-being, livelihoods and social protection; access to essential services:** This principle reflects Rio+ Declarations 1 & 5 and calls for governments, business and industry and people to co-operate in the task of eradicating poverty and in doing so to decrease the disparities in standards of living and better meet the needs of the majority.
9. **Facilitates education and skills development:** Inclusive Green Growth should facilitate for the development of appropriate skills and education to enable people and communities to exist productively in the changing global environment. The Dignity Principle upholds that every human being, now and in the future, has the right to livelihood. Poverty eradication and redistribution of wealth should be the main priority of governance and measured in those terms.
10. **Supports human rights, workers rights:** Decent work is about been productive and secure; ensure respect of labour rights; provides adequate income; offers social

protection; and includes social dialogue, union freedom, collective bargaining and participation. Unions and employees should be involved in the design of joint environmental policies, and set priorities to improve the working environment and the overall environmental performance of business and industry and develop more collective agreements aimed at achieving sustainability.

11. **Retains and protects biodiversity and ecosystems and services:** Inclusive Green Growth will encourage economic growth while seeking to maintain in sustainable ways the livelihood of the poor who are directly dependent on them. This principle reflects Rio+ Declaration 4 that calls for forms of development that protects the biodiversity and the ecosystem. Earth Integrity Principle asserts that the earth and her natural communities and ecosystems, possess the inalienable right to exist, flourish and evolve, and to continue the vital cycles, structures, functions and processes that sustain all beings. Every human has the duty to protect her.
12. **Is resource and energy efficient:** This principle reflects Rio + Declaration 8 which calls for the efficient use of natural resources, ensuring clean energy access for all, lowering the carbon content per unit of GDP output and reducing polluting emissions to the atmosphere and environment-land, rivers, sea and air.
13. **Respects planetary boundaries or ecological limits or scarcity:** This principle calls for the respect of planetary boundaries and the limits of the ecology to sustain life and that without stewardship such human footprint can destroy the ability of the planet to recover. The Planetary Boundaries Principle establishes that human development is dependent on intact ecosystems and that there are limits to economic growth. Safe economic systems must respect such limits and governments need to set clear targets to maintain a reliable operating space.
14. **Sustainable Production and Consumption lifestyles:** This principle reflects Rio + Declaration 8 which calls for forms of growth that achieve sustainable development and a higher quality of life for all people, and that governments should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies. This will require a population growth strategy

that is manageable in terms of the ability of the country to afford the provision of quality social services for the whole population.

15. **Be low carbon and low emissions:** Most of the world's greenhouse gas emissions continue to come from developed countries. They should therefore take the lead in combating climate change and its adverse effects by reducing their emissions of carbon dioxide and other greenhouse gases to 1990 levels as agreed to in the Kyoto Protocol.
16. **Precautionary approach:** This principle reflects Rio + Declaration 15 that calls for precautionary approach to be widely applied by governments according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation. Precautionary principle should be applied to ensure that new products and technologies do not have destructive or unexpected effects on environmental, social, or human wellbeing. The 'burden of proof' lies with the developer or initiator and problem shifting needs to be avoided.
17. **Is a means for achieving sustainable development:** Inclusive Green Growth is directed at achieving sustainable development and achieving a high quality of life. High quality of life results from a sufficiently high level of long-term economic growth, a high level of human and social development with equity, rational use of natural resources without depletion of the critical resources, and protection of environment from pollution, waste and over heat. In order to achieve high quality of life the sustainable development modality proposes programme interventions under three pillars: economic, social, and environmental.
18. **Uses integrated decision-making:** Given the Inclusive Green Growth responsibility will involve a wide range of stakeholders inclusive consultation and decision-making is essential to cultivate community wide ownership. Inclusive and participatory decision-making in turn can generate social capital to support the long-term, resilient growth; and investment in 'Inclusive Green Growth engines' that have the potential to realize comparative advantage for the country.

19. **Beyond the GDP Principle: measures beyond GDP; indicators/metrics:** The Beyond-GDP Principle recognizes the inherent limits and distorting effects of using GDP as a measure of progress and welfare. Beyond-GDP Principle recognises the inherent limits and distorting effects of using GDP as a measure of progress and welfare.
20. **Promotes international cooperation; avoid conditionalities on Overseas Development Assistance and finance:** Principle 5 & 6 of the Rio+ Declarations call for all states and all people to co-operate in the eradication of poverty in order to decrease the disparities in standards of living of the people of the world and that the least developed and those most environmentally vulnerable, shall be given special priority. Principle 7 calls for States to co-operate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. Principle 9 is a call for States to co-operate to strengthen endogenous capacity-building for sustainable development by improving scientific understanding through exchanges of scientific and technological knowledge, and by enhancing the development, adaptation, diffusion and transfer of technologies, including new and innovative technologies. Principle 27 is a call for States and people to co-operate in good faith and in a spirit of partnership in the fulfillment and in the further development of international law in the field of sustainable development.
21. **Is resilient to risks and shocks:** This principle is based on the Resilience Principle that calls for the building of economic, social and environmental resilience. Resilience Principle emphasizes that diversity and diversification are preconditions for sustainability and quality of life. A diversity of organisational models and governance levels needs to be cultivated, along with diversified economic activity that minimizes commodity dependence.

4. Financing Strategy for Responsible Sustainable Development

4.1 Linking Responsible Sustainable Development Agenda to National Fiscal Policy

Inclusive Green Growth requires substantive finance and investment in clean infrastructure, natural resource management, and capacity and skill development to ensure a smooth transition.

For Papua New Guinea, domestic resource mobilization is one way of meeting the costs required; however, it is unlikely to be sufficient in the short term. It will therefore be essential to draw on foreign financing sources, such as FDI, ODA and other innovative financing, to cover the costs of getting Inclusive Green Growth actions started.

The financing strategy for the Inclusive Green Growth strategy needs to be incorporated into multi-year budget cycle of the national fiscal policy. The revised Medium Term Development Plan will provide the principle resource-planning framework to incorporate the investment strategy for the Inclusive Green Growth.

The establishment and consolidation of the Inclusive Green Growth Platform as discussed in Section 3 provides the guide to underpin the design of the fiscal policy for transitioning to Inclusive Green Growth.

4.2 Opportunity Cost Fund

An Opportunity Cost fund Initiative is being explored as a financing option for transitioning in the green growth strategy. It will build on the Internalization of externalities principle to pull together resources generated from revenue streams such as polluters paying for pollution and environmental degradation. This initiative needs the support of stakeholders and policy and legal framework to put it in place and managed effectively.

5. Legal and Institutional Strengthening

5.1 Ensuring Good Governance and Effective Institutions

Effective enforcement of legislation will bolster enforcement to increase investor and market confidence as part of an incentive for businesses to improve, including mainstreaming inclusive economic development in ways that incorporate, create and sustain environmental and social values. Government therefore, must ensure the interests and rights of present and future generations are represented in a multi-stakeholder structure (s) to be created at various levels or the augmentation of existing bodies to deliver new or expanded functions.

Multi stakeholder bodies should focus on economic governance, to make smooth transition to green growth. Their core functions need to be coordinated and their principled working relationship among government, business and civil society need to be assisted in reconciling local priorities with national levels priorities. Collectively this can from the social capital needed for facilitating the translation of global commitments into national and local initiatives, and the conversion of SD priorities into concrete policies and actions.

5.2 Enabling Legal Framework

PNG's regulatory framework of legislations, institutions and enforcement will be needed to embed green growth and the broader sustainable development strategy in the country's development endeavours going forward. Specific enabling regulations and laws need to be framed and enabling institutional strengthening put in place to enable sustainable development modalities of growth to take traction and progressed.

This will be done at sector levels where green growth and sustainable development modalities of development is already on traction or expected to be pursued.

Comprehensive consultation with the various sectors and stakeholders; principally agriculture, forestry, fishery, water management, financing/taxation, energy, manufacturing, built technology, transport, health, education and training, waste management, trade will be needed to arrive at the most appropriate modes of enabling laws, regulations and enforcement institutions.

6. Measuring progress: Indicators

6.1 Sustainable Development Indicators

Monitoring and evaluation framework prescribed in Vision 2050 and DSP 2030 development plans will be adopted and used but re-scoped to accommodate monitoring and evaluation needs for the tracking and reporting of green growth modes of development.

Social and Economic development indicators already established in the current Vision 2050 and the DSP 2030 plans will also need to be restated and may need readjustment to reflect the scenario presented by the growth model of the sustainable development strategy.

6.2 Inclusive Green Growth indicators

Strategies that promote Inclusive Green Growth need to be based on a good understanding of the determinants of Inclusive Green Growth that include considerations of trade-offs and synergies. They also need to be supported with appropriate information and indicators to monitor progress and gauge results. Such indicators can be used to raise the profile of Inclusive Green Growth issues, inform public debate and gauge how well policies are performing.

A measurement framework for Inclusive Green Growth developed by the OECD could be used but consideration given for specific application to the PNG context, including practical challenges in putting in place indicators to track progress.

The approach to monitoring progress towards Inclusive Green Growth is a conceptual framework that reflects the integrated nature of Inclusive Green Growth and describes the main aspects that need to be monitored. This framework provides a useful tool to organize thinking about indicators and to identify relevant, succinct and measurable statistics. The measurement framework organizes indicators into four groups:

1. Indicators of **environmental and resource productivity**, including demand-based environmental services (footprint approaches), track the extent to which economic growth is becoming greener (i.e. low-carbon and resource efficient).
2. Indicators that monitor the **natural asset base** and whether it is being kept intact.

3. Indicators of the **environmental quality of life** – the direct and indirect interaction between people and the environment.
4. Indicators that capture both the **economic opportunities and the policy responses** that arise from Inclusive Green Growth.

Consultation with the various sectors such as agriculture, fisheries, manufacturing, forestry etc, where green growth modalities of growth will be expected to take place, is needed to agree on the indicators that are appropriate for Papua New Guinea. The agreed indicators will be embedded in the revised DSP 2030 in the various sectors and used to guide the framing of intervention programmes through the medium Term Development Plans.

The indicators need to be linked to the guiding principles for inclusive green growth in Section 3.2. The diagram below represents the measurement framework.



The general Sustainable Development indicators – social, economic and environmental, as prescribed in Vision 2050 and DSPO 2030, together with the indicators of Green Growth form the framework of indicators need to be included in the overall monitoring and evaluation framework to track progress and results. This need to be developed alongside the MTDP review initiatives as part of the overall Monitoring and Reporting Matrix of the governments planning and monitoring function.