



CONNECT PNG INFRASTRUCTURE

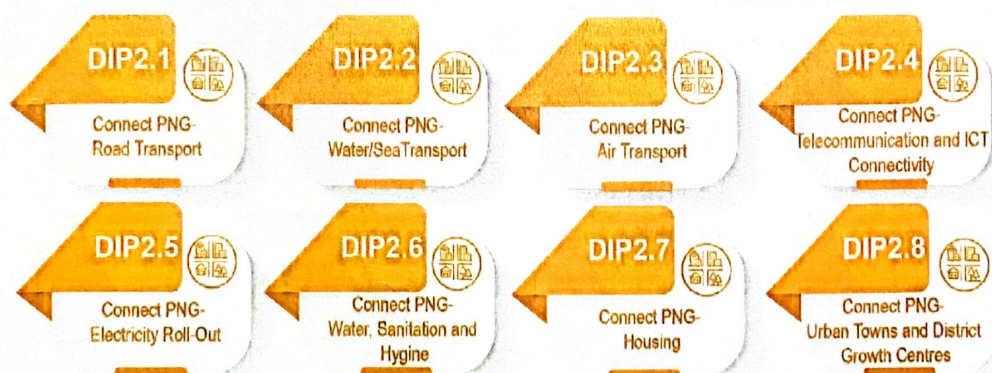
Objective: Building country-wide critical enabling infrastructure for socio-economic connectivity

The Connect PNG Program is focused on infrastructure, which is a critical enabler for economic growth. To achieve economies of scale, the Government plans to connect the country by providing good quality transport infrastructure, reliable and affordable energy, access to better telecommunication networks, the provision of clean and safe drinking water, sanitation services, urban growth centers and national housing.

The Government's strategic economic investments, such as industrial hubs, growth centres, petroleum and mining projects, special economic zones, including the provision of goods and services at the Provincial and District levels, are dependent on the quality and accessibility of basic infrastructure in the country.

The Department of Works and Highways, Department of Transport, National Energy Authority, Water PNG Limited, Telikom PNG Limited, DataCo Limited, Public Private Partnership Centre, National Housing Corporation, Provinces and Districts are entrusted to collaborate with stakeholders to take lead and accomplish the targets and indicators for connectivity.

A projected investment of K17.8 billion is needed to deliver these infrastructure priorities by 2027. Priority investments will be focused on the following DIPs:



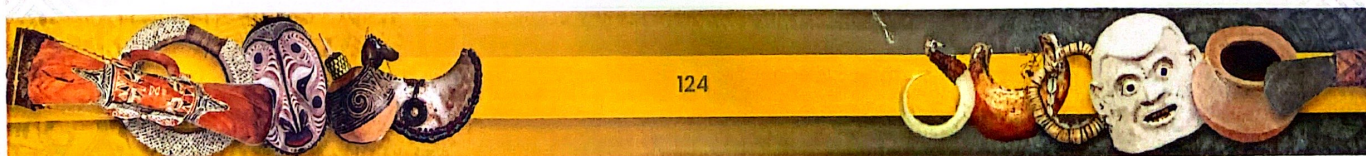
2.1 Connect PNG - Land Transport

PNG has approximately 30,000 kilometres (km) of total road network, of which 8,740km is the National Road Network (NRN), whilst approximately 21,260km are Provincial and District roads. Of the NRN, 4,260km are Priority Roads and 4,480km are Non-Priority Roads. A total of 3,000km of priority roads are covered under the Connect PNG Roads Program (Phase 1) in MTDP IV.

Under this plan, 75% of National roads are envisaged to be in good condition, and 4 economic corridor roads and 10 of the 16 missing link roads will be constructed.

The Government will develop, rehabilitate and/or maintain 500km of National roads and highways, 4,000km of provincial and district roads, 400km of roads under the 20-year Connect PNG program, 10 national bridges, 60 rural bridges, and 2 railways. DoWH, Department of Transport, Provinces and Districts are entrusted to take the lead and ensure greater coordination to achieve these targets.

A projected investment of K7.2 billion is needed to deliver the road infrastructure priorities by





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2027. The investments will focus on the following programs under this DIP:

- i) Connect PNG Missing Link Roads;
- ii) Connect PNG National Highways;
- iii) Provincial Roads;
- iv) District Commodity Roads;
- v) National Railway/Tram Network;
- vi) National Bridges Constructions; and
- vii) National Bridges Rehabilitation and upgrade program.

Tables 1 to below show the investment requirements, KRAs, strategies and indicators to develop the Connect PNG Road Network.

Table 1 Investments

DIP Link	Investment	2023 (K'mil)	2024 (K'mil)	2025 (K'mil)	2026 (K'mil)	2027 (K'mil)	Total Est. Cost (K'mil)	Funding Source(s)
DIP 2.1	Connect PNG Missing Link Roads	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	5,000.0	GoPNG/ DPs//TCS
	Connect PNG National Highways	200.0	100.0	100.0	100.0	100.0	600.0	GoPNG/DPs/TCS
	Provincial Roads	100.0	100.0	100.0	100.0	100.0	500.0	GoPNG/ DPs/TCS
	District Commodity Roads	100.0	100.0	100.0	100.0	100.0	500.0	GoPNG/DPs
	National Railway/Tram Network	0.0	10.0	20.0	20.0	20.0	70.0	GoPNG/DPs
	National Bridge Construction	100.0	100.0	100.0	100.0	100.0	500.0	GoPNG/DPs

Table 2 Key Result Areas

No.	Key Performance Indicator	2023	2024	2025	2026	2027	Total	Responsible Agency(ies)
1	Total kilometres of (National Roads) highways rehabilitated and maintained (km)	840	840	840	840	840	4,200	DoWH
2	Total length of Provincial and District roads rehabilitated (km)	4,000	4,000	4,000	4,000	4,000	20,000	DoWH/ Provinces/ Districts
3	Total length of Connect PNG Road constructed (km)	400	400	400	400	400	2,000	DoWH
4	Total number of National Bridges upgraded or reconstructed	93	93	93	93	93	467	DoWH/ Provinces
5	Total length of Provincial and District Commodity Roads (incl. 4 Regional City Roads and Provincial Town Roads) rehabilitated (km)	450	450	450	450	450	2,250	DoWH/DDAs/ Provinces
6	Total number of rural bridges on Sub-National roads constructed	70	70	70	70	70	350	DoWH
7	Total length of National Railway network established (km)	-	-	40	50	70	160	DoT/DoWH/ DNPM/ Treasury

Table 3 Strategies

No.	Implementation Strategy	Policy Reference
1	Rehabilitate and maintain the National Road Network (NRN) including bridges	NTS, NRNS, MTTP 2/ Provincial Plans
2	Construct Missing Link Roads	NTS/NRNS/MTTP 2
3	Construct and maintain Provincial Roads, District Roads and Rural Economic Access Roads	Provincial Plans/District Plans/MTTP 2



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|---|--|------------------------------|
| 4 | Financing and Implementation of Connect PNG Roads | MTTP 2, Connect PNG Strategy |
| 5 | Improve road safety measures | Road Traffic Act 2014 |
| 6 | Review and align the MTTP2 to capture the development of a national railway network, including appropriate legislative frameworks | MTTP 2, Connect PNG Strategy |
| 7 | Establish an efficient and modern railway network in PNG | MTTP 2, Connect PNG Strategy |
| 8 | Establish long-term maintenance program for the principal contractor to maintain the road for the next 5-10 years to keep it in good trafficable condition | MTTP 2, Connect PNG Strategy |

Table 4 Indicators

No.	Indicator	Source	Base-line (2020)	Annual Targets				
				2023	2024	2025	2026	2027
1	Total length of National Roads (km)	RAMS	8,740	10,000	11,500	12,500	14,000	15,000
2	Proportion of National Roads sealed (%)	RAMS	40	44	56	63	69	75
3	Proportion of National Priority Roads is good and trafficable condition (%)	RAMS	45	55	58	64	70	75
4	Proportion of Provincial and District Commodity Roads in good condition (%)	DoWH	11	30	40	50	60	70
5	Proportion of Connect PNG Missing Link Roads (3,000km) constructed (%)	DoWH	13	18	23	30	40	45
Executing Agency:		DoWH, Department of Transport, Provincial Administrations, DDAs						
Sector Coordination Mechanism:		Transport Sector Coordination and Monitoring Investment Committee (TSCMIC)						
Lead Sector Agency:		Department of Transport and DNPM (oversight)						





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Road Construction between Rabul (Western Province) and Teletomin (WSP)



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2.2 Connect PNG - Air Transport

The Government plans to install international air navigation aid systems in all the National airports and in 80% of the rural airstrip in order to ensure a large portion of the people have access to air services by 2027. National Airports Corporation, Civil Aviation and Safety Authority, Rural Airstrips Agency, Department of Transport, and Provinces and Districts are responsible to take the lead to build up the air transport sector.

MTDP IV interventions will focus on:

- upgrading 5 regional airports, including Jacksons Airport, to take international flights;
- upgrade and capacitate at least 5 airports to take Fokker 100 or its equivalent;
- ensure that all National airports comply with National Civil Aviation Regulation and International Civil Aviation Organization (ICAO) Standards and Recommended Practices;
- upgrade and certify the 22 National airports;
- increase the number of international airlines accessing PNG airspace; and
- upgrade and operationalise at least 500 rural airstrips.

The Government plans to invest over K2.2 billion to deliver these infrastructure priorities by 2027. The investments will focus on the following programs under this DIP:

- National Airport Infrastructure Development Program;
- International Airports Security Systems Upgrade Program;
- Development of 5 Regional Airports (Nadzab, Tokua, Gurney, Kagamuga, Wewak) to cater for international and commodity airfreight flights;
- Rural Airstrips Redevelopment Program; and
- National Weather Service Support Program.

Tables 1 to 4 below show the investment requirements, KRAs, strategies and indicators to develop air transport connectivity.

Table 1 Investments

DIP Link	Investment	2023 (K'mil)	2024 (K'mil)	2025 (K'mil)	2026 (K'mil)	2027 (K'mil)	Total Est. Cost (K'mil)	Funding Source(s)
DIP 2.2	National Airport Infrastructure Development Program	419.0	330.0	140.0	190.0	70.0	1,149.0	GoPNG/DPs
	International Airports Security Systems upgrade program	0.0	10.0	10.0	10.0	10.0	40.0	GoPNG/DPs
	Redevelopment of five Regional Airports	0.0	200.0	200.0	200.0	200.0	800.0	GoPNG/DPs
	Rural Airstrips Redevelopment Program	10.0	25.0	25.0	25.0	25.0	110.0	GoPNG/DPs
	Rural Air Services Support Program	0.0	20.0	20.0	20.0	20.0	80.0	GoPNG/DPs
	National Weather Service Support Program	0.0	10.0	10.0	10.0	10.0	40.0	GoPNG/DPs

Table 2 Key Result Areas

No.	Key Performance Indicator	2023	2024	2025	2026	2027	Responsible Agency(ies)
1	Number of Regional Airports upgraded to cater for International Flights	0	1	2	3	5	NAC/CASA/NSL
2	Number of Airports upgraded and maintained for Fokker 100 Flights		4	5	5	5	NAC/CASA/NSL
3	Number of National Airports that comply with National Civil Aviation Regulation and International Civil Aviation Organisation (ICAO) Standards and Recommended Practices (SARPs)	5	10	15	4	20	NAC/NSL/CASA



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4	Number of new National Airports upgraded and certified	5	10	15	20	22	NAC/NSL/CASA
5	Number of International Airlines accessing PNG Airspace	10	20	30	40	50	NAC/NSL/CASA
6	Number of Rural Airstrips upgraded and made operational	140	180	240	340	480	NAC/CASA/RAA/ Transport
7	Number of Third Level Airlines supported by Government to expand their operations	2	4	6	8	10	NAC/CASA/RAA

Table 3 Strategies

No.	Implementation Strategy	Policy Reference
1	Upgrade and declare selected national airports to international airport standards to cater for international flights	MTTP 2/NAC Corporate Plan
2	Ongoing maintenance of National airports throughout PNG	NAC Corporate Plan/MTTP 2 NTS
3	Ongoing rehabilitation and maintenance of rural airstrips	RAA Corporate Plan/MTTP 2 Provincial Plans/District Plans/MTTP 2
4	Improve Aviation Safety Standards and navigational systems to cater for both domestic and international flights.	MTTP 2/CASA Corporate Plan
5	Upgrade Airports (Kokopo, Nadzab, Wewak) to cater for international flights, including export of organic food produce	MTTP 2/NAC Corporate Plan
6	Elevate the status and functions of National Weather Services to an Authority with its own legislation to provide timely weather updates to all modes of transport in PNG	MTTP 2/NWS Corporate Plan
7	Installation of modern security systems at all Airports throughout PNG to scan cargoes and people	MTTP 2/CASA Corporate Plan/NAC Corporate Plan
8	Review existing legislations to Open up PNG Airspace to competition and also to allow international carriers to access PNG International Airports	MTTP 2/CASA Corporate Plan/NAC Corporate Plan
9	NAC to formulate and make available Airport Redevelopment Master Plans for PPP financing arrangements to further develop airside land assets for hotel and shopping complexes, sky trains, improved terminal facilities to cater for both day and night flights into PNG and also transit to other destinations	MTTP 2/NAC Corporate Plan
10	Review legislation to permit international airlines to access PNG International Airports so that each international carrier brings its own citizens thus leading to exponential growth in tourism in PNG	MTTP 2/NAC Corporate Plan/CASA Corporate Plan/NSL Corporate Plan
11	Fully upgrade all Air Traffic Control Systems throughout the 22 National Airports to modern facilities, including the upgraded District Airstrips	NAC Corporate Plan/NSL Corporate Plan

Table 4 Indicators

No.	Indicator	Source	Base-line (2020)	Annual Targets				
				2023	2024	2025	2026	2027
1	Proportion of National Airports installed with international air navigation aid systems (%)	MTTP 2, Niusky Limited Annual Report RAMS	N/A	70	85	90	95	100
2	Proportion of Rural Airstrips installed with Navigation Aid systems (%)	RAA Annual Report AMS	N/A	10	20	30	40	50
3	Proportion of national population having access to air services (%)	NAC Annual Report/ RAMS	N/A	33	35	39	43	48
Executing Agency:		NAC/Department of Transport/CASA/RAA/NSL						
Sector Coordination Mechanism:		Transport Sector Coordination and Monitoring Investment Committee (TSMIC)						
Lead Sector Agency:		Department of Transport and DNPM (oversight)						



2.3 Connect PNG - Water Transport

The Government is focused on developing a sea transport system that is easily accessible by maritime communities. It also intends to harness the potential of the trans-shipment hub by investing in the infrastructure to cater for the growing demand from domestic and international commerce. PNG Ports Corporation Limited, Department of Transport, National Maritime Safety Authority, Public Private Partnership Centre, Provinces and Districts will take lead to develop the water transport system.

The MTDP IV supports the construction of new wharves in Wewak, Vanimo, Kikori, Arafura Port and Manus, rehabilitate five national ports, upgrade and maintain 24 wharves and jetties, equip five ports with safety standards and compliance requirements (ISP Code) and train at least nine Master-3 Captains by 2027.

A projected investment of K714 million is needed to deliver these infrastructure priorities by 2027. The investments will focus on the following programs under this DIP:

- Construction of five National Wharves (Wewak, Vanimo, Kikori, Arafura Port and Manus);
- Rehabilitation and upgrade of PNG's National Ports;
- Rehabilitation of Jetties;
- Support to National maritime navigational aids systems strengthening;
- Establishment of a national shipping service under PPP financing arrangements to service the 15 Maritime Provinces; and
- Establishment of the Madang Maritime College to a National Maritime University.

Tables 1 to 4 below show the investment requirements, KRAs, strategies and indicators to build up water transport connectivity.

Table 1 Investments

DIP Link	Investment	2023 (K'mil)	2024 (K'mil)	2025 (K'mil)	2026 (K'mil)	2027 (K'mil)	Total Est. Cost (K'mil)	Funding Source(s)
DIP 2.3	Construction of four National Wharves (Wewak, Vanimo, Kikori, Arafura and Manus)	10.0	20.0	20.0	20.0	20.0	90.0	GoPNG/DPs
	Rehabilitation and upgrade of PNG's National Ports	35.2	50.0	50.0	50.0	50.0	235.20	GoPNG/DPs
	Rehabilitation of jetties program	0.0	30.0	30.0	30.0	30.0	120.0	GoPNG/DPs
	Support to National maritime navigational aids systems strengthening	4.0	30.0	30.0	25.0	25.0	114	GoPNG/DPs
	Establishment of a National shipping service under PPP financing arrangements to service the 15 Maritime provinces	1.1	10.0	10.0	10.0	10.0	41.1	GoPNG/DPs
DIP 4.3	Establishment of Madang Maritime College as a National Maritime University	4.0	10.0	20.0	30.0	50.0	114.0	GoPNG/DPs

LNG Tanker Departing PNG LNG Liquefaction Plant, Central Province



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Table 2 Key Result Areas

No.	Key Performance Indicator	2023	2024	2025	2026	2027	Responsible Agency(ies)
1	Number of National Ports improved	1	2	3	4	5	MTTP 2/ PNGPMP
2	Number of wharves and jetties maintained and upgraded	4	9	13	19	24	MTTP 2/ PNGPMP
3	Number of ports equipped with safety standards and compliance requirements (ISP Code)	1	2	3	4	5	MTTP 2/ PNGPMP
4	Number of new wharves built under PPP financing arrangements (Wewak, Vanimo, Kikori, Arafura and Manus)	0	1	2	3	5	MTTP 2
5	Number of Masters 3 Captains	1	2	5	7	9	MTTP 2/ PNGPMP

Table 3 Strategies

No.	Implementation Strategy	Policy Reference
1	Rehabilitate and maintain the declared International Ports	NTS, NRNS, MTTP 2/ Provincial Plans
2	Rehabilitate rundown and dilapidated provincial wharves	NTS
3	Rehabilitate rundown Jetties throughout the maritime provinces	Provincial Plans/District Plans/MTTP 2
4	Implement the five new wharves (Wewak, Vanimo, Kikori and Manus)	NEC Decision No. 18 of 2021
5	Elevate Madang Maritime College to a National Maritime University to cater for the increasing tertiary education demand	Road Traffic Act 2014
6	Review the existing legislations and policies	NTS, NRNS, MTTP 2/ Provincial Plans

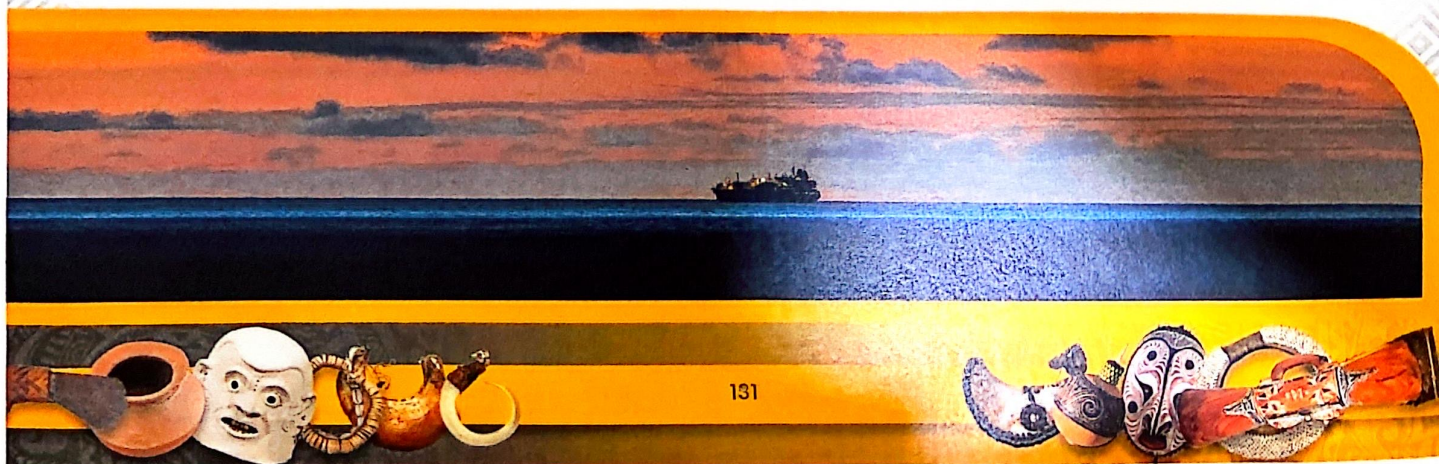
Table 4 Indicators

No.	Indicator	Source	Base- line (2020)	Annual Targets				
				2023	2024	2025	2026	2027
1	Total Number of Ports successfully reconstructed and made operational	PNG Ports Master Plan/ MTTP	15	16	17	18	19	23
2	Total Number of Wharves upgraded and operational	PNG Ports Master Plan	N/A	4	5	6	7	8
3	Proportion of national population accessing quality maritime services (%)	PNG Ports Master Plan	NA	35	40	45	49	60
4.	Number of new wharves operational	MTTP 2	NA	0	1	3	4	5

Executing Agency: PNG Ports, Department of Transport, NMSA, Provinces, Districts

Sector Coordination Mechanism: Transport Sector Coordination and Monitoring Investment Committee (TSMIC)

Lead Sector Agency: Department of Transport and DNPM (oversight)



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2.4 Connect PNG - National Telecommunication and ICT Connectivity

The Government plans to increase accessibility, reliability, and affordability of government digital services and other ICT services while maintaining security of these systems and the cyber safety of our citizens. One key investment is in increasing rationalised investment in core, distribution, and access last mile connectivity, bringing government digital services closer to our citizens. Digitalisation will be the main driver for efficiency in government service delivery. Protection of data and systems through improved cyber security posture is a key consideration during digitalisation. Investments in critical digital infrastructure will, improve quality and pricing as it drives competition amongst industry players. Integration of digital networks further drives interoperability and increase coverage to wider areas, thus addressing accessibility, transforming public administration, driving a culture of transparency and citizen experiences using digital technologies. The Department of Information and Communication Technology, the National Cyber Security Centre, National Information Communication and Technology Authority through the Universal Access Scheme (UAS) Secretariat, Telikom Ltd., PNG DataCo Limited, Kumul Consolidated Holdings Limited are responsible to take lead to achieve the targets.

The Government aims to deliver 90% access to telecommunication (access to voice and data), 70% radio and television, and 50% internet access by 2027. The Government's proposed satellite investment envisages to transform the ICT landscape to avail development information to all sectors of the economy.

The National Information and Communications Technology Authority (NICTA)'s UAS provides a levy-based framework and industry-led delivery mechanism that shall drive last mile access connectivity to meet these accessibility goals.

An investment projection of K2,034 million is required to deliver these infrastructure priorities by 2027. The investments will focus on the following programs under this DIP:

- i) National Telecommunication and NBC Infrastructure Development Program;
- ii) National Satellite Program;
- iii) Critical Digital Infrastructure and Government Private Network (GPN);
- iv) National Cyber Security Program; and
- v) Access to Digital Services.

Tables 1 to 4 below show the investment requirements, KRAs, strategies and indicators to develop the national telecommunication and ICT connectivity.

Table 1 Investments

DIP Link	Investment	2023 (K'mil)	2024 (K'mil)	2025 (K'mil)	2026 (K'mil)	2027 (K'mil)	Total Est. Cost (K'mil)	Funding Source(s)
DIP 2.4	National Telecommunication Infrastructure Program	0.0	55.0	100.0	100.0	100.0	355.0	GoPNG/DPs
	National Satellite Program	5.0	300.0	400.0	400.0	400.0	1,505.0	GoPNG/DPs
DIP 6.3	National Cyber Security Centre (NCSC) and Program	0.0	10.0	10.0	10.0	10.0	40.0	GoPNG/DPs
DIP 8.1	Critical Digital Infrastructure and Government Private Network (GPN)	4.0	5.0	5.0	5.0	5.0	24.0	GoPNG/DPs
	Government Cloud and Digital Services	10.0	25.0	25.0	25.0	25.0	110.0	GoPNG/DPs

Table 2 Key Result Areas

No.	Key Performance Indicator	2023	2024	2025	2026	2027	Responsible Agency(ies)
1	Number of Provinces connected to optic fibre NTN	12	15	18	20	22	DICT/NICTA/ UAS



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2	Number of Provinces connected onto the Government Private Network (GPN) and National Data Centre	10	13	15	18	22	DICT
3	Total number of Districts having access to voice and data communication services	40	50	60	70	96	DICT/NICTA/ UAS
4	Total number of Districts having access to internet connectivity	60	65	70	87	96	DICT/NICTA/ UAS
5	Total number of Districts having access to television and radio broadcasting services	60	70	80	90	96	DICT/NBC
6	Number of Provinces having access to Government's Digital Services	3	6	9	12	16	DICT

Table 3 Strategies

No.	Implementation Strategy	Policy Reference
1	Roll-out and upgrade of National telecommunications infrastructure networks	Digital Government Act 2022
2	Roll-out of fibre optic national transmission network infrastructure	PNG DataCo Act 2014
3	Construction of general telecommunication tower facilities at the District Level to be owned and operated by the DDAs	Digital Government Act 2022
4	Connect all Government agencies to Government Private Network (GPN)	Digital Government Act 2022
5	Promote private sector participation in digital sector	Digital Government Act 2022
6	Provinces and Districts to invest in telecommunication transmission network	Digital Government Act 2022

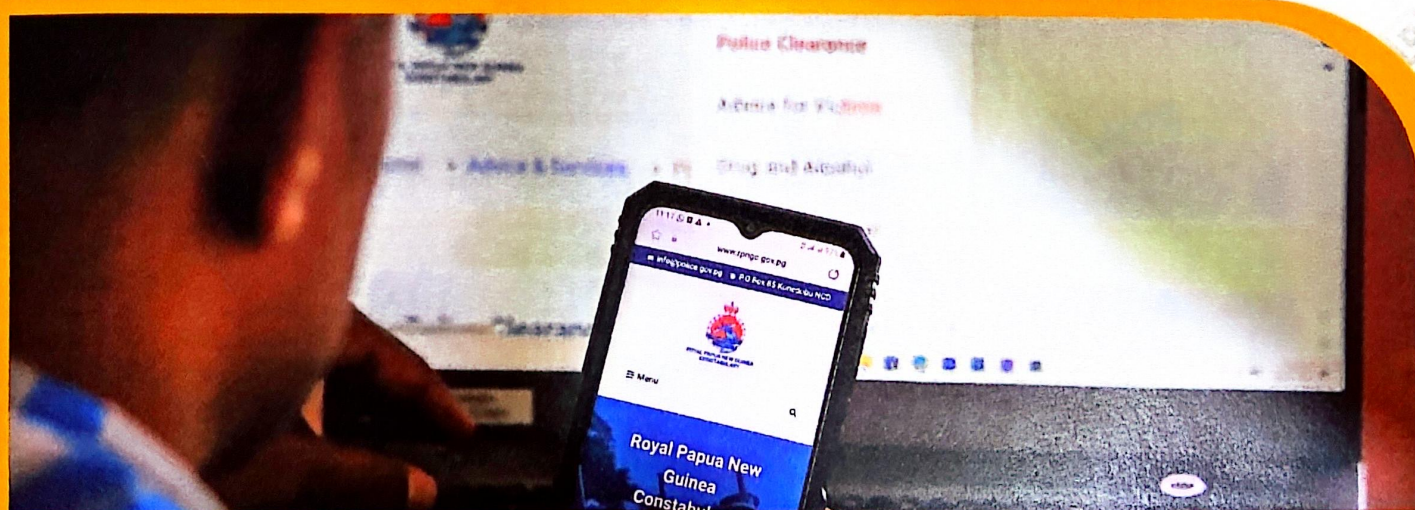
Table 4 Indicators

No.	Indicator	Source	Base-line (2020)	Annual Targets				
				2023	2024	2025	2026	2027
1	Proportion of population covered by telecommunication services (voice and data) (%)	NICTA	50	75	78	80	90	100
2	Proportion of population with access to telecommunication services (fixed or mobile subscribers per 100 people)	NICTA	54	57	60	63	66	70
3	Proportion of population having access to television (%)	NICTA	30	40	45	50	55	60
4	Proportion of population with access to internet (%)	NICTA	36	40	45	50	60	70
5	Global Cyber Security Ranking (NCSI)	DICT	123	112	80	70	60	50

Executing Agency: NCSC, DICT, UAS Secretariat (NICTA), Telikom, DataCo, KCHL

Sector Coordination Mechanism: Public Service ICT Steering Committee

Lead Sector Agency: DICT and DNPM (oversight)



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2.5 Connect PNG - National Electrification Roll-out

As part of the overall objective to provide 70% electricity to our households by 2030 and achieve 100% by 2050, the Government will focus on investments that will increase the generation capacity, establish sub-stations and transformers to power up homes and businesses. The generation capacity will include clean and renewable energy sources; hydropower, biomass, natural gas, geothermal, wind and solar.

PNG Power Limited, Kumul Consolidated Holdings Limited, Independent Consumer and Competition Commission, National Energy Authority, Public Private Partnership Centre, Provinces and Districts are responsible to take the lead to deliver National electrification across the country.

The MTDP IV supports the roll-out of the National Electrification Program to achieve a target of 40% of households from the current 19%. The use of diesel-powered generators will be reduced from 200 MW currently to 150 MW by 2027. It aims to increase electricity generation in Ramu grid up to 500 MW, Pom grid to 250 MW, and Gazelle grid to 40 MW. In addition to these, the capacities of the C-Centres²⁷ will be expanded to cater for the growing demand through the use of renewable energy.

An investment projection of K3,391 million is required to deliver these infrastructure priorities by 2027. The investments will focus on the following programs under this DIP:

- i) National Power Generation Investment Program;
- ii) National Power Transmission Investment Program;
- iii) National Power Distribution Investment Program;
- iv) Rural Electrification Investment Program; and
- v) Off-Grid Renewable Energy Development Program.

Tables 1 to 4 below show the investment requirements, KRAs, strategies and to deliver national electrification connectivity.

Table 1 Investments

DIP Link	Investment	2023 (K'mil)	2024 (K'mil)	2025 (K'mil)	2026 (K'mil)	2027 (K'mil)	Total Est. Cost (K'mil)	Funding Source(s)
DIP 2.5	National Power Generation Investment Program	100.0	150.0	150.0	200.0	200.0	800.0	GoPNG/DPs
	National Power Transmission Investment Program	50.0	150.0	150.0	150.0	150.0	650.0	GoPNG/DPs
	National Power Distribution Investment Program	50.0	150.0	150.0	150.0	150.0	650.0	GoPNG/DPs
	Rural Electrification Investment Program	10.0	50.0	100.0	100.0	100.0	360.0	GoPNG/DPs
	Off-Grid Renewable Energy Development Program	228.0	233.0	120.0	150.0	200.0	931.0	GoPNG/DPs

Table 2 Key Result Areas

No.	Key Performance Indicator	2023	2024	2025	2026	2027	Responsible Agency(ies)
1	Total Power Generation through Hydro (MW)	432	460	480	490	520	PPL
2	Total Power Generation through Solar (MW)	10	12	14	17	22	NEA
3	Total Power Generation through Biomass (MW)	7	9	12	16	22	PPL/PPP
4	Total Power Generation through LNG (MW)	85	90	104	138	156	PPL/PPP/NEA
5	Total Power Generation through Geothermal (MW)	56	67	76	87	98	PPL/PPP/NEA
6	Total Power Generation through other sources (MW)	1	2	3	4	5	NEA/PPP
7	Total power megawatt generated by private sector agencies (MW)	700	800	900	1000	1100	PPL/PPP/NEA

²⁷ C-Centres are isolated generation centres.



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8	Number of Districts rolling out rural electrification	50	60	70	80	96	PPL
9	National Energy Security Policy formulated			√			NEA

Table 3 Strategies

No.	Implementation Strategy	Policy Reference
1	Improve power generation and increase transmission infrastructure	National Energy Policy/NEROP
2	Increase/Improve power generation through renewable energy sources	National Energy Policy/NEROP
3	Strengthen and enforce energy policy and legislative frameworks	National Energy Policy/NEROP
4	Promote PPP in the energy sector development	National Energy Policy/NEROP
5	Promote domestic market obligations	National Energy Policy/NEROP
6	Accelerate Rural Electrification Roll-out, including strengthen partnership	National Energy Policy/NEROP
7	Develop, expand and strengthen partnership on the roll-out of the electrification program	National Energy Policy/NEROP
8	Formulate National Energy Security Policy	National Energy Policy/NEROP

Table 4 Indicators

No.	Indicator	Source	Base-line (2020)	Annual Targets				
				2023	2024	2025	2026	2027
1	Proportion of households accessing electricity (%)	National Energy Policy, NEROP	19	24	31	33	36	40
2	Proportion of rural population accessing electricity (%)	National Energy Policy	12	15	18	21	24	30
3	Proportion of urban population accessing electricity (%)	National Energy Policy	60	65	70	75	80	90
4	Total power generated by diesel generators (MW)	PPL	217a	200	180	170	160	150
5	Total power generation from renewable energy sources (MW)	National Energy Policy	618	650	750	850	950	1100
Executing Agency:		PNG Power Limited, KCHL, ICCCL, National Energy Authority						
Sector Coordination Mechanism:		High-Level Energy Coordination Committee						
Lead Sector Agency:		National Energy Authority and DNPM (oversight)						



Edevu Hydro Power Plant, Central Province



2.6 Connect PNG - National Water Sanitation and Hygiene

The Government aims to improve accessibility to safe drinking water from 48% to 70% and sanitation facilities from 33% to 60% by 2027. For the urban areas, it is aimed for 100% of the urban population to have access to improved drinking water source and 90% of improved sanitation facilities to the people. And, 70% of health and education facilities should have access to safe drinking water and sanitation services.

Water PNG Limited, Kumul Consolidated Holdings Limited, Public Private Partnership Centre, Provinces and Districts are responsible to take the lead on delivering on these targets.

A projected investment of K915 million is required to deliver these infrastructure priorities by 2027. The investments will focus on the following programs under this DIP;

- National Water and Sewerage Infrastructure Development Program (WaSH at Provincial Capitals);
- District Towns Water Supply and Sanitation Program (WaSH at District Capitals);
- Rural WaSH Intervention Programs (Rural WaSH); and
- Establishment of the National WaSH Authority (NWaSHA).

Tables 1 to 4 below show the investment requirements, KRAs, strategies and indicators to ensure the delivery of improved drinking water sources and sanitation facilities.

Table 1 Investments

DIP Link	Investment	2023 (K'mil)	2024 (K'mil)	2025 (K'mil)	2026 (K'mil)	2027 (K'mil)	Total Est. Cost (K'mil)	Funding Source(s)
DIP 2.6	National Water and Sewerage Infrastructure Development Program	5.0	100.0	150.0	150.0	150.0	555.0	GoPNG/DPs
	District Towns Water Supply and Sanitation Program	10.5	50.0	50.0	50.0	50.0	210.5	GoPNG/DPs
	Rural WaSH Intervention Programs	5.0	30.0	30.0	30.0	30.0	125.0	GoPNG/DPs/NGOs
	Establishment of the National WaSH Authority	4.5	5.0	5.0	5.0	5.0	24.5	GoPNG/DPs

Table 2 Key Result Areas

No.	Key Performance Indicator	2023	2024	2025	2026	2027	Responsible Agency(ies)
1	Number of Provincial Capitals having improved water, sewerage and sanitation systems established	2	7	12	17	21	WPNG/LKCH/DNPM
2	Number of District HQs having improved water, sewerage and sanitation systems established	5	12	25	50	70	WPNG/LKCH/DNPM
3	Number of rural communities having clean drinking water, sewerage and sanitation systems	10	30	120	250	500	DNPM/NDoh
4	NWaSHA fully established and functional	NWaSHA Fully Established as an Authority and functional					DNPM/PPP Centre

Table 3 Strategies

No.	Implementation Strategy	Policy Reference
1	Provide improved WaSH facilities at all Provincial Capitals	PNG National WASH Policy 2015-2030
2	Provide improved sanitation and hygiene facilities for District Headquarters	PNG National WASH Policy 2015-2030
3	Provide safe water and improved sanitation facilities for public institutions	PNG National WASH Policy 2015-2030
4	Establishment of National WaSH Authority (NWaSHA) and capacity development arrangements	PNG National WASH Policy 2015-2030
5	Development of necessary policy and legislative frameworks	PNG National WASH Policy 2015-2030



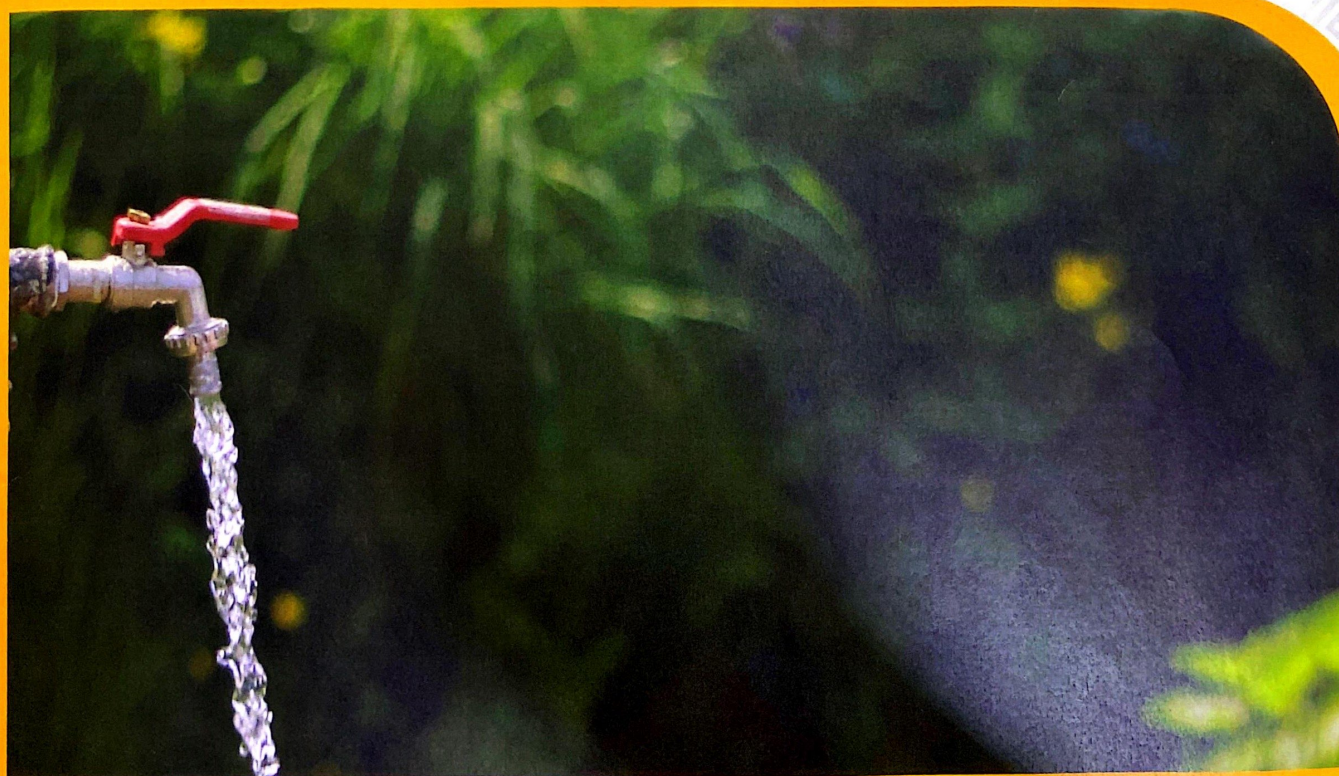
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6	Building Provincial and District Capacity for WaSH Authority	PNG National WASH Policy 2015-2030
7	Upgrading and rehabilitation of existing national and provincial WaSH infrastructure	PNG National WASH Policy 2015-2030
8	Promote desalination	PNG National WASH Policy 2015-2030
9	Development of peri-urban WaSH roll-out	PNG National WASH Policy 2015-2030
10	Development of WaSH sector development plan	PNG National WaSH Policy 2015-2030
11	Coordination of implementing partners in WaSH	PNG National WASH Policy 2015-2030

Table 4 Indicators

No.	Indicator	Source	Base-line (2020)	Annual Targets				
				2023	2024	2025	2026	2027
1	Proportion of total population using an improved drinking water source (%)	WASH PMU	19	23	28	32	35	40
2	Proportion of the total population using an improved sanitation facility (%)	WASH PMU	33	38	43	48	53	60
3	Proportion of rural population using an improved drinking water source (%)	WASH PMU	39	43	49	53	57	60
4	Proportion of urban population using an improved drinking water source (%)	WASH PMU	86	89	92	95	98	100
5	Proportion of rural population using improved sanitation facilities (%)	WASH PMU	15	20	25	30	35	40
6	Proportion of urban population using improved sanitation facilities (%)	WASH PMU	65	70	75	80	85	90
7	Proportion of health and education institutions with access to safe water and sanitation services (%)	WASH PMU	56	59	61	64	67	75
Executing Agency:		Water PNG Limited, DNPM, KCH, PPP Centre, Provinces, Districts						
Sector Coordination Mechanism:		High-Level WaSH Coordination Committee						
Lead Sector Agency:		Water PNG Limited and DNPM (oversight)						





2.7 Connect PNG - National Housing Infrastructure

The Government focuses on providing affordable housing in the cities, Provinces and Districts, aimed at easing the high cost of living and improve the living standards of people. The District Housing Program is important under the decentralisation system where public servants employed in district centres need proper accommodation to live and work.

Department of Personnel Management, National Housing Corporation, Provinces and Districts are responsible to deliver on these targets.

The MTDP IV will map out the eco-system of the housing sector, and then allow the public and private sector participation to facilitate affordable housing solutions in order to stimulate and grow the economy. The Government aims to build 2,000 houses over the medium term.

A projected investment of K640 million is needed to deliver these infrastructure priorities by 2027. Investments will focus on the following programs under this DIP:

- Institutional Housing Development Program (institutional and staff houses development for National Government Agencies);
- District Public Service Housing Program;
- Provincial and District Public Service Housing Program; and
- National Affordable Housing Program.

Tables 1 to 4 below show the investment requirements, KRAs, strategies and indicators to deliver adequate national housing infrastructure.

Table 1 Investments

DIP Link	Investment	2023 (K'mil)	2024 (K'mil)	2025 (K'mil)	2026 (K'mil)	2027 (K'mil)	Total Est. Cost (K'mil)	Funding Source(s)
DIP 2.7	Institutional Housing Development Program	20.0	20.0	20.0	20.0	20.0	100.0	GoPNG/PPP
	District Public Service Housing Program	0.0	50.0	50.0	50.0	50.0	200.0	GoPNG/DDA
	Provincial Public Service Housing Program	0.0	30.0	30.0	30.0	30.0	120.0	GoPNG/PG
	National Affordable Housing Program	20.0	50.0	50.0	50.0	50.0	220.0	GoPNG/PPP

Table 2 Key Result Areas

No.	Key Performance Indicator	2023	2024	2025	2026	2027	Responsible Agency(ies)
1	Number of applicants successfully obtaining housing loans	100	300	600	1,000	2,000	NHC
2	Number of houses developed through Public Service Institutional Housing Programs	60	120	180	240	300	All Govt Agencies
3	Number of public servants who have benefited from Home Ownership home ownership schemes	20	30	40	50	60	NHC
4	Number of institutional houses in the Province	0	100	200	300	400	NHC/DPLGA
5	Number of institutional houses in the District headquarters	0	150	300	450	600	NHC/DPLGA
6	Land made available for housing (hectares)	25	30	30	25	33	DLPP

Table 3 Strategies

No.	Implementation Strategy	Policy Reference
1	Develop Policies, Plans and Regulations	National Housing Corporation Act 1994
2	Regulate the building construction industry in terms of importation and sale of fake lighting bulbs, electrical fittings, ceramic tiles, corrugated iron roof standards, etc.	National Housing Corporation Act 1994
3	Reform NHC: Separate policies (Department), regulatory functions (Authority) and housing assets (SoE)	National Housing Corporation Act 1994



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4	Mobilise customary land for public housing development programs at the National and Sub National levels, including the districts	<i>National Housing Corporation Act 1994</i>
5	Promote PPP arrangements in delivering public housing	<i>PPP Act</i>
6	Standardise home ownership schemes, including institutional housing	<i>National Housing Corporation Act 1994</i>
7	Provinces and districts to start planning to build institutional houses in the provinces and districts using local labour and materials	<i>National Housing Corporation Act 1994</i>

Table 4 Indicators

No.	Indicator	Source	Base-line (2020)	Annual Targets				
				2023	2024	2025	2026	2027
1	Proportion of population living in traditional dwelling homes (%)	Census	N/A	NSO and NHC to collect data for these indicators				
2	Proportion of population living in semi-permanent homes (%)	Census	N/A	NSO and NHC to collect data for these indicators				
3	Proportion of population living in permanent homes (%)	Census	N/A	NSO and NHC to collect data for these indicators				
4	Proportion of population living in modern homes (%)	Census	N/A	NSO and NHC to collect data for these indicators				
5	Proportion of Public Servants living in Institutional Housing (%)	NHC Report	NA	30	40	50	60	70
6	Proportion of estimated population living in urban shanty settlements (%)	NHC Report	NA	12	11	10	9	8
7	Proportion of government institutions, including Provinces and Districts with Public Service Housing (%)	NHC Report	NA	30	40	50	60	70
8	Average rental costs in Urban centres	NHC Report	N/A	NSO and NHC to collect data for these indicators				
Executing Agency:		Department of Personnel Management, NHC, Provinces, Districts						
Sector Coordination Mechanism:		Public Service Institutional Housing Coordination Committee						
Lead Sector Agency:		Department of Personnel Management and DNPM (oversight)						



Building Construction, Central Province



2.8 Urban Township and District Growth Centers

The Government intends to develop new Provincial and District towns and growth centres to manage the growing demand and cater for the supply side pressure on modern services and facilities. With the roll-out of the Connect PNG Program, the development of Urban Townships and District Growth Centres along the corridors is necessary.

This will manage internal migration and create socio-economic activities, creating jobs, and revenue generation. Department of Provincial and Local Level Government Affairs, Public Private Partnership Centre, Provinces and Districts are responsible to take lead to achieve the targets.

A projected investment of K760 million is required to deliver these infrastructure priorities by 2027. The Investments will focus on the following programs under this DIP:

- i) Regional Townships/Hub Development Program;
- ii) Provincial Towns Development Program;
- iii) District Growth Centres; and
- iv) Connect PNG Corridor Growth Centres.

Tables 1 to 4 below show the investment requirements, KRAs, strategies and indicators to deliver urban townships and district growth centres.

Table 1 Investments

DIP Link	Investment	2023 (K'mil)	2024 (K'mil)	2025 (K'mil)	2026 (K'mil)	2027 (K'mil)	Total Est. Cost (K'mil)	Funding Source(s)
DIP 2.8	Regional Hub Development Program	20.0	20.0	20.0	20.0	20.0	100.0	GoPNG/DPs
	Provincial Towns Development Program	0.0	50.0	50.0	50.0	50.0	200.0	GoPNG/DPs
	District Growth Centres	0.0	100.0	100.0	100.0	100.0	360.0	GoPNG/DPs
	Connect PNG Corridor Growth Centres	20.0	20.0	20.0	20.0	20.0	100.0	GoPNG/DPs

Table 2 Key Result Areas

No.	Key Performance Indicator	2023	2024	2025	2026	2027	Responsible Agency(ies)
1	Four (4) Regional Hub developed with full scale infrastructure and services facilities	0	1	1	1	1	DPLGA/Provinces
2	Nadzab City developed			√			MPG/GoPNG
3	Number of provinces with full scales trunk infrastructures developed	15	17	19	20	22	All Govt Agencies/Provinces
4	Number of district growth centres developed	30	40	60	70	90	All Govt Agencies/Provinces
5	Number of Connect PNG corridor growth centres developed	0	10	20	40	60	All Govt Agencies/Provinces
6	Number of growth centres having access to full government services	30	40	60	70	90	All Govt Agencies/Provinces
7	Number of private sectors operating in the township and growth centres	NA	+5,000	+10,000	+10,000	+20,000	All Govt Agencies/Provinces
8	Number of towns and district growth centres having financial services established	NA	+10	+10	+20	+35	All Govt Agencies/Provinces



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Table 3 Strategies

No.	Implementation Strategy	Policy Reference
1	The four (4) regions including the ABG to identify their central town for regional hub. It will be one of the existing provincial towns or urban centres	<ul style="list-style-type: none"> Aligned Provincial and District Development Plans Organic Law on Provincial and Local Level Government Affairs Service Delivery Framework Planning and Monitoring Responsibility Act Public Finance Management Act Constitution of the Autonomous Region of Bougainville
2	Promote and establish Nadzab City	
3	Provinces and districts to facilitate the freeing up of land for the development of the towns and district growth centres	
4	Appropriate legislative and policy frameworks to be put in place for the creation and management of these township and growth centres	
5	Proper boundary survey with physical planning is done and approved before resources are mobilised for development	
6	Private Sector is considered as critical partners in facilitating development around these areas	
7	Funding of these growth centres shall be from the PSIP and DSIP. Some support from National Government and Donors will be through Kina-4-Kina arrangement	
8	Local resource and labour to be used to develop these township and growth centres. Local ownership by the people	

Table 4 Indicators

No.	Indicator	Source	Base-line (2020)	Annual Targets				
				2023	2024	2025	2026	2027
1	Proportion of population being served by the Regional Growth Centres (%)	Census	N/A	NSO and DPLLGA to collect data for these indicators				
2	Proportion of population being served by the Provincial Towns (%)	Census	N/A	NSO and DPLLGA to collect data for these indicators				
3	Proportion of population being service by the District Growth Centres (%)	Census	N/A	NSO and DPLLGA to collect data for these indicators				
4	Proportion of Internal Revenue Generated from the Regional Hub (%)	HIES	N/A	NSO and DPLLGA to collect data for these indicators				
5	Proportion of Internal Revenue Generated from the Provincial Towns (%)	HIES	N/A	NSO and DPLLGA to collect data for these indicators				
6	Proportion of Internal Revenue Generated from the District Growth Centres (%)	HIES	N/A	NSO and DPLLGA to collect data for these indicators				
Executing Agency:		Provinces Government and District Development Authorities						
Sector Coordination Mechanism:		Relevant State Agencies						
Lead Sector Agency:		Department of Provincial and Local Level Government Affairs						



Dragahafen, Morobe Province

