A Socio-economic Development of PNG AND Mozambique from 1975 to 2025: A Statistical Analysis

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Abstract: When we celebrate the Golden jubilee of our country's independence, it is significant to study Papua New Guinea (PNG) and Mozambique because both countries gained their political independence in 1975. This paper titled, a socio-economic development of Papua New Guinea and Mozambique from 1975 to 2025: A statistical Analysis, will use four sets of statistical data; (a) Gross national product, (GDP), (b) the national government expenditure (NGE), (c) the per capita of GDP, and (d) the per capita of GNE of two countries to analyse socio-economic development of Papua New Guinea and Mozambique in half a century. The research discovers that PNG had a higher level of the GDP and the NGE, than Mozambique in the 50 years of independence. It also discovers that PNG had a higher level of per capita GDP and per capita GNE in the same period. Th paper will facilitate the research and development of economics, economic-social development of Papua New Guinea.

Keywords: Papua New Guinea (PNG), Mozambique, socioeconomic development, economy, independence.

1. INTRODUCTION

This is a socio-economic Development of PNG AND Mozambique from 1975 to 2025: using statistical data of two countries. Papua New Guinea and Mozambique gained their political independence in 1975.
The purpose of the paper was to discover whether Papua New Guinea, or Mozambique had performed well with respect to four sets of statistical data; (a) Gross National Product, (GDP), (b) the National Government Expenditure (NGE), (c) the per capita of GDP, and (d) the per capita of GNE. The data analysis was done using the US$ for fifty (50) years, so that we may perceive and understand the long-term trends of the four set of statistical data, between 1975 and 2025. The main research questions are as follows;
What are the *average annual population growth rates of* Papua New Guinea and Mozambique?
What are the *average annual gross domestic product and the national government expenditure growth rates of* Papua New Guinea and Mozambique?

The research discovers that PNG had a higher level of the Gross National Product (GDP) and the National Government Expenditures (NGE), than Mozambique in the 50 years of independence. It also discovers that Papua New Guinea had a higher level of per capita GDP and per capita GNE in the same period. This research also identified some negative impacts, (1). There was a rapid growth of population in the 50 years period; and (2) Also there was a rapid growth in bribery or corruption in the country that could influence the long-term developments of Papua New Guinea in the coming years to come.

The reminder of this paper is organized as follows: Section 2 analyses the growth of PNG's gross domestic product (GDP) and national government expenditure (NGE) from 1975 to 2025. Section 3 discusses the growth of Mozambique's GDP and NGE of 50 Years. Section 4 examines the GDP per capita and the NGE per capita of PNG from 1975 to 2025. Section 5 explores a Generative Pre-trained Transformer (GPT) and presents GPT survey. Section 6 looks at challenges encountered in PNG and will face its future. The final section ends this paper with a few concluding remarks and suggestions for future work.

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Gomi J Gipe | 2 (2) : 186 - 195 | Received: 07/07/2025 | Reviewed: 10/08/2025 | Accepted: 01/09/2025 | DOI: https://doi.org/10.63900/bberft69

Table 1 A Comparative study of **(GDP), (NGE),** the per capita **GDP** and the per capita **GNE** of **PNG** and **MOZAMBIQUE, 1975-2025**

Year	Est Total Population of Papua New Guinea	Est Total Real GDP of Papua New Guinea (in US$)	Est Total Real National Government Expenditure (US$)	Est Real Per Capita Expenditure (US$)	Est Real Per Capita GDP of PNG (US$)	Est Total Expenditure of PNG Mozambique	Est Total Real GDP (In US$)	Est Total Real Government of Mozambique Mozambique (In US$)	Est Real Per Capita GDP Expenditure of Mozambique
1975	2,774,000	6,180,000,000	429,310,000	2228	155	10,170,000	5,750,000,000	600,000,000	565
1976	2,852,000	5,900,000,000	455,160,000	2069	160	10,440,000	5,240,000,000	620,000,000	502
1977	2,933,000	6,020,000,000	457,490,000	2053	156	10,740,000	5,300,000,000	650,000,000	493
1978	3,015,000	6,540,000,000	426,710,000	2169	142	11,040,000	5,540,000,000	650,000,000	502
1979	3,098,000	6,660,000,000	498,380,000	2150	161	11,340,000	5,820,000,000	710,000,000	513
1980	3,183,000	6,501,000,000	521,780,000	2042	164	11,630,000	4,620,000,000	680,000,000	397
1981	3,270,000	6,490,000,000	675,190,000	1985	206	11,750,000	3,585,000,000	828,000,000	305
1982	3,359,000	6,510,000,000	633,850,000	1938	189	11,820,000	3,662,000,000	776,000,000	310
1983	3,449,000	6,720,000,000	696,940,000	1948	202	12,070,000	3,280,000,000	846,000,000	272
1984	3,540,000	6,700,000,000	593,480,000	1893	168	12,320,000	3,417,000,000	520,000,000	277
1985	3,632,000	6,960,000,000	569,030,000	1916	157	12,550,000	4,516,000,000	458,000,000	360
1986	3,725,000	7,290,000,000	608,500,000	1957	163	12,770,000	5,303,000,000	368,000,000	415
1987	3,820,000	7,490,000,000	704,590,000	1961	184	12,820,000	2,395,000,000	376,000,000	187
1988	3,916,000	7,710,000,000	764,500,000	1969	195	12,800,000	2,199,000,000	408,000,000	172
1989	4,013,000	7,600,000,000	867,370,000	1894	216	12,910,000	3,529,000,000	498,000,000	273
1990	4,111,000	7,370,000,000	799,540,000	1793	194	13,300,000	3,855,000,000	484,000,000	290
1991	4,210,000	8,080,000,000	899,690,000	1919	214	13,330,000	3,000,000,000	505,000,000	225
1992	4,310,000	9,200,000,000	1,041,360,000	2135	242	13,810,000	2,800,000,000	452,000,000	203
1993	4,411,000	10,870,000,000	1,225,780,000	2464	278	14,370,000	3,120,000,000	530,000,000	217
1994	4,513,000	11,520,000,000	1,023,940,000	2553	227	14,950,000	3,320,000,000	732,000,000	222
1995	4, 416,000	11,130,000,000	791,870,000	2520	179	15,480,000	3,390,000,000	380,000,000	219
1996	4,720,000	12,000,000,000	1,026,310,000	2542	217	15,960,000	3,770,000,000	444,000,000	236

1997	4,425,000	11,530,000,000	951,350,000	2606	215	6,400,000	4,200,000,000	597,000,000	656
1998	4,931,000	11,020,000,000	684,370,000	2235	139	16,810,000	4,620,000,000	770,000,000	275
1999	5,038,000	11,300,000,000	598,340,000	2243	119	17,000,000	5,160,000,000	770,000,000	304
2000	5,145,000	11,000,000,000	583,420,000	2138	113	17,710,000	5,220,000,000	890,000,000	295
2001	5,528, 435	11,000,000,000	500,260,000	1989	90	18,220,000	5,850,000,000	104,000,000	321
2002	5,924,003	11,000,000,000	460,040,000	1857	78	18,760,000	6,390,000,000	130,000,000	341
2003	6,123,997	11,000,000,000	549,510,000	1796	90	19,330,000	6,830,000,000	141,000,000	353
2004	6,238,041	11,530,000,000	601,420,000	1848	96	19,910,000	7,370,000,000	154,000,000	370
2005	6,353,905	12,260,000,000	1,512,500,000	1930	238	20,490,000	7,860,000,000	162,000,000	384
2006	6,747,720	12,920,000,000	1,600,000,000	1915	237	21,080,000	8,630,000,000	178,000,000	409
2007	6,963,345	13,930,000,000	1,720,200,000	2000	247	21,670,000	9,290,000,000	191,000,000	429
2008	7,183,002	13,890,000,000	2,310,000,000	1934	322	22,280,000	9,970,000,000	205,000,000	447
2009	7,406,438	14,890,000,000	2,864,400,000	2010	387	22,890,000	10,600,000,000	221,000,000	463
2010	7,633,523	16,430,000,000	2,621,300,000	2152	343	23,530,000	11,000,000,000	246,000,000	467
2011	7,859,346	16,520,000,000	6,465,900,000	2102	823	24,190,000	12,130,000,000	282,000,000	501
2012	8,081,390	17,930,000,000	6,758,000,000	2219	836	24,860,000	13,010,000,000	326,000,000	523
2013	8,302,698	17,950,000,000	7,255,100,000	2162	874	25,560,000	13,920,000,000	395,000,000	545
2014	8, 523,441	20,380,000,000	4,600,000,000	2391	539	26,260,000	14,950,000,000	467,000,000	569
2015	8,743,246	21,720,000,000	1,512,500,000	2484	173	27,040,000	15,950,000,000	506,000,000	590
2016	8,961,718	22,920,000,000	1,624,600,000	2558	181	27,700,000	16,560,000,000	609,000,000	598
2017	9,178,714	23,730,000,000	4,180,000,000	2585	455	28,600,000	17,180,000,000	629,000,000	601
2018	10,190,000	23,660,000,000	4,900,000,000	2322	481	29,440,000	17,770,000,000	592,000,000	604
2019	10,690,000	24,720,000,000	5,279,000,000	2312	494	30,300,000	18,180,000,000	613,000,000	600
2020	11,220,000	23,850,000,000	6,510,000,000	2126	580	31,300,000	17,960,000,000	495,000,000	574
2021	11,780,000	23,810,000,000	5,740,000,000	2021	487	32,300,000	18,390,000,000	3,000,000,000	569
2022	12,030,000	25,170,000,000	6,930,000,000	2092	576	33,000,000	19,470,000,000	3,210,000,000	590
2023	12,280,000	25,940,000,000	7,200,000,000	2112	586	34,300,000	20,520,000,000	3,600,000,000	598

2024	12,576,502	27,000,000,000	7,500,000,000	2147	611	35,300,000	21,300,000,000	518,000,000	603
2025	12,800,000	28,000,000,000	7,800,000,000	2188	609	36,300,000	22,360,000,000	610,000,000	616

Sources: The sources for PNG and Mozambique are drawn from historical records and estimates from United Nations and World Bank, GPT was accessed in June 2025. Largely, the populations were estimated from the national censuses and the international data sets for both countries. Also for both countries' population estimates soon after 1975 were largely based on projections and national demographic surveys. The financial statistical data for both countries in constant US$: Using the GPT the constant financial statistical data were estimated using the various national and international sources. The specific sources are identified as shown: The United Nations, the World bank, the International Monetary Fund (IMF), and the Index Mund.

2. THE GROWTH OF PNG'S DOMESTIC PRODUCT (GDP) AND NATIONAL GOVERNMENT EXPENDITURE (NGE) FROM 1975 TO 2025

Error! Reference source not found. reveals the detailed calculations of the gross domestic product (GDP), the National Government expenditures (NGE), the GDP per capita and the NGE per capita of the two named countries--Papua New Guinea and Mozambique.

What is the date of Sources for PNG and Mozambique? For Papua New Guinea, different sources were used: the United Nations, the World Bank, the Bank of Papua New Guinea, the PNG national censuses of the country and other data. Different sources were used for Mozambique: The United Nations; the World bank; the different population estimates based on original data and also the different projections after 1975.

From this section on, we will analyze the results in some detail below, in terms of;

1. Growth of PNG's Domestic Product (GDP) and NGE of 50 Years.
2. The Growth of Mozambique's GDP and NGE of 50 years.
3. The GDP per Capita and the NGE per Capita of PNG from 1975 to 2025.
4. The GDP per Capita and the NGE per Capita of Mozambique from 1975 to 2025.

2.1 Growth of PNG's Domestic Product (GDP) of 50 Years

In 1975, PNG's GDP was estimated to be US$6.18 Billion. In 2025, PNG's GDP had increased to be an estimated US$28 Billion. Overall, in the increase for 50 years, there was an increase of US$21.82 Billion, for PNG. There was a growth of about 353.07% in the 50 years. This represented an estimated growth of 7.06% GDP growth per year for each of the 50 years.

2.2 Growth of PNG's National Government Expenditure (NGE) OF 50 YEARS

In 1975, the NGE of PNG was estimated to be US$429 Billion. In 2025, the NGE of PNG was estimated to be US$7,800 Billion. Overall, there was a growth of US$7,371 Billion, in the 50 years. Thus, there was an estimated growth of 1,718.18% of the NGE in 50 years; which represents a growth of about 34.36% per year, for each of the 50 years.

3. THE GROWTH OF MOZAMBIQUE'S GDP AND NGE FROM 1975 TO 2025

3.1 The Growth of Mozambique's GDP of 50 Years.

In 1975, (the same years as when PNG gained her independence), the GDP of Mozambique, was estimated to be US$5.7 Billion GDP. In 2025, Mozambique's GDP growth was estimated to be about US$22.36 Billion. In 50 years, the Mozambique's GDP had increased to be about US$16.90 Billion. This implies that the growth in 50 years, was estimated to be 296.49%, overall, in Mozambique. For Mozambique, there was a growth rate of about 5.92% per year, in each of the 50 years. In contrast, for PNG, the annual GDP growth rate for each of the 50 years was about 7.06% per year. This implies that PNG had an annual growth of about 1.14% per year, above Mozambique.

3.2 The Growth of Mozambique's GDP and NGE of 50 Years

In 1975, Mozambique's NGE was estimated to be about US$ 6 Billion. In 2025, the NGE of Mozambique was estimated to be about US $6.10 Billion. Overall, Mozambique's NGE grew an estimated US$10 Million, in 50 years. This was a growth rate of about 166.66%, in the 50 years. For each of the 50 years, there was a GNE growth rate of an estimated 3.33% per year for Mozambique. By contrast, in PNG there was a growth of an estimated 34.36% per year for each of the 50 years; while a similar annual growth for Mozambique of her GNE was 3.33%.

4. THE GDP PER CAPITA AND THE NGE PER CAPITA OF PNG FROM 1975 TO 2025

4.1 Changes in PNG's GDP per Capita from 1975 to 2025

In 1975, the GDP per capita of PNG, was about US$2,228. In 2025, the GDP per capita had *declined* to US$2,128 per head of population in PNG. There was a *decline* in the GDP per capita of PNG, overall, by about US$100 per head, in 50 years. This information is important to PNG leaders. The information shows that in 50 years, there was a *decline* in the per capita GDP in PNG by about US$2.00, per head.

The information also, seems to imply that per capita income in PNG had been *declining* over time, without the PNG leaders and the general public noticing the gradual downward trends, in 50 years.

Of course, the declines over time, may been quite gradual! However, it seems that many PNG leaders and the majority of the PNG people may not have been aware of the gradual *declines*. There may have been a number of possible causes, which are identified.

First, a superficial implication is that there had been delays in increases of the minimum wages in PNG, over the years, for example, in 2025.

Second, the wages of the grassroots farmers in PNG may have been ignored without a genuine justification. Why should PNG government neglect or ignore the wages of the rural farmers? Why does PNG government only maintain the minimum wages of the urban or the city workers in PNG? After all, they are the citizens of PNG.

Third, there had been a general rising of the population of PNG over time, with no or little efforts taken by the government to slow them down, or to control them; through PNG's family planning, health measures, and other means. Why so? In the long-run, the ignorance or negligence may have important implications for the future! For example. Long-term poverty could increase in PNG.

But what are the implications for future of PNG? We will briefly discuss the two points regarding the implications for future of PNG.

First, population, income and welfare: One important reason as to why many Western countries, may have a generally higher per capita GDP, or a generally higher welfare, is that there are relatively smaller population levels, or a smaller population growth rates, than in the developing countries; such as Papua New Guinea.

Second**,** generally higher economic impacts: Also in many Western countries, generally, the lower are the population, or the lower are the growth rates; the higher are the GDP per capita, or the higher are the living standards, overall. Papua New Guinea needs to learn from the hints, given by the Western countries, in relations to impact of her population and per capita income; which had declined in the first 50 years of independence.

In light of the *declining per capita GDP*, a brief survey was conducted by the author, about PNG for the last 50 years.

5. A GENERATIVE PRETRAINED TRANSFORMER (GPT) SURVEY

Generative Pre-trained Transformer (GPT), is a state-of-the-art language model developed by OpenAI. GPT uses deep learning techniques to generate natural language text, such as articles, stories, or even conversations, that closely resemble human-written text. GPT was introduced in 2018 as part of a series of transformer-based language models developed by OpenAI (Source: Accessed on https://encord.com/glossary/gpt-definition/, August 26, 2025). This section uses the generative pretrained transformer to conduct a GPT survey**.**

We carried out a brief survey using the GPT. The author wanted to discover the average annual growth rates of seven (7) areas, in the developed countries (DC); and similar growth rates for the less developed countries (LDC) in the world.

QUESTION 1: What are the average annual population growth rates in the following seven (7) areas in the developed countries (DC)?

Regarding, the growth rates the GPT provided the following answers: Europe: 0.1%; USA: 0.20%; Canada: 1.28%; Japan: -0.5%; Australia:1.2%; New Zealand: 1.0% per year (Source: GPT accessed 06th July 2025).

QUESTION 2: What are the average annual population growth rates for all the less developed countries (LDC) in the world? The GPT provided the answers. The GPT showed that all the less developed countries (in 2025), have an approximate population growth rates estimated to be 1.2% to 2.5% per year (Source: GPT accessed 06th July 2025). Details of the results are available from the author.

6. CHANGES IN PNG'S NGE IN 1975-2025

In 1975, the NGE per head of population in PNG was US$155. In 2025, the NGE per head of population was US$609. Overall, for the 50 years, the NGE per capita in PNG had grown by US$454. The amount translates to an overall increase of an estimated 292.92%, overall, in 50 years. The level represents a growth of 5.86% per year, in each of the 50 years.

6.1 Growth of Population of PNG and Mozambique in 1975- 2025

In 1975, the population of PNG was estimated to be 2.8 million people. In 2025, the population of PNG was estimated to be 12.8 million people. In 50 years, the net level of PNG's population was 10 million, which was a growth of 357.14%. There was an estimated 7.14% growth per year in each one of the 50 years.

In 1975, the population of Mozambique was estimated to be 10.1 million people. In 2025, the population of Mozambique was estimated to be 36.3 million people. This was a growth of 26.2 million people; which was an estimated growth of 259. 41%. There was an estimated 5.19% growth for each one of the 50 years.

Thus, the average annual growth rate of PNG's population was estimated to be 7.14%; while those of Mozambique was 5.19%. Both have higher rates than that for most of the less developed countries!

7. THE GDP PER CAPITA AND THE NGE PER CAPITA OF MOZAMBIQUE FROM 1975 TO 2025

7.1 Growth of GDP per Capita in Mozambique in 1975-2025

In 1975, the estimated GDP per capita was about US$565. In 2025, the estimated per capita GDP in Mozambique had increased to US$616. The overall level of growth was estimated to be US$51, in 50 years. Overall, the amount translates to a growth of an estimated 1.2% per year, for each one of the 50 years. In contrast, there was a *decline* of about US$2.00 per head of the per capita GDP in PNG, in the 50 years.

7.2 Growth of NGE per Capita in Mozambique in 1975-2025

In 1975, the NGE per capita for Mozambique was an estimated US$59. In 2025, the estimated NGE per capita had d*eclined* to US$7. Overall, there was a *decline* of US$52, in the 50 years. Also, overall, the level of decline of the NGE per head was an estimated 113.46%, in the 50 years. But, for Mozambique the annual rate of *decline* of the NGE per head, for each of the 50 years was 2.27%.

8. CHALLENGES FACING PNG AND ITS FUTURE

From a bird's eye-view, the paper concludes that generally, whilst PNG may have had, higher trends in the results, of the four data sets, many other non-physical aspects, had created many negative impacts for Papua New Guinea. For Papua New Guinea, there had been, at least two important impacts about the long-term outcomes. First, unlike in many Developed Countries (DC), there had been a rapid growth of population in the 50 years period, as shown in Table 2

Table 2 Population of the Provinces in PNG

SUMMARY DATA ABOUT 20 PROVINCES															
PROVINCE/DATA, INFORMATION	TOTAL POPULATION	CITIZEN POPULATION	GROWTH RATE 1980-2000 (%)	TOTAL LIT RATE (%)	VOTERS (2007)	HEALTH CENTRES	POPN SERVED BY HEALTH CENTRES	NUMBER OF NURSES	POPN SERVED BY NURSES	MORT PER 1000 UNDER 5 YRS	TOTAL LIFE EXPECTANCY	FOOD CROPS: (%ENGAZED)	(% FOR CASH)	ELECTRICITY CUSTOMERS	% POPN WITHIN 5 KM NATIONAL RDS
CENTRAL	183983	29742	2.3	72.1	99827	29	6344	48	3883	62	56.4	7.3	13.7	3182	63
GULF	106898	17043	2.6	56.9	49474	23	4648	87	1229	160	46.4	73.7	11.7	411	24
MILNE BAY	210412	38942	2.5	78.1	92179	41	5132	181	1162	97	54.1	82.8	9.1	1340	21
NCDC	254158	35188	3.6	90.7	94451	14	18154	54	4707	27	59.2	14.4	5	41766	100
ORO	133065	21840	2.7	69.7	60400	19	7003	83	1603	81	54.5	73.3	7	961	50
WESTERN	153304	22564	3.3	71.3	59722	38	4034	157	976	92	54.3	65.5	5.8	652	17
EASTERN HIGHLANDS	432972	99483	2.2	43.9	355203	32	13530	70	6185	73	55.4	76.7	11.9	5445	45
ENGA	295031	50609	2.9	35	250424	28	10537	104	2837	97	52.5	79.7	9.3	1396	63
SIMBU	259703	54472	1.9	41.8	219385	31	9619	111	2341	73	56.8	81.2	7.9	1721	72
SOUTHERN HIGHLANDS	546265	94069	4.2	36.5	390720	56	9755	259	2109	84	55.2	78	6.8	1131	65
WESTERN HIGHLANDS	440025	95693	2.5	38.4	415291	32	13751	233	1889	63	56.2	77.7	13.2	6175	73
EAST SEPIK	343181	65231	2.2	52.7	174215	37	9275	176	1950	115	52.2	75.7	9.7	2380	44
MADANG	365106	60709	2.7	55.2	157371	38	9608	196	1864	113	51.1	76.3	13.3	3297	36
MOROBE	539404	95774	2.8	63.6	227441	39	13831	310	1740	118	51.7	69.2	12.5	12136	34
SANDAUN	185741	31589	2.4	44.4	91316	31	5991	83	2238	163	46	75.4	9.1	1070	34
AROB	175160	30932	1.5	76.7	54839	32	5474	130	1347	74	59.6	76.7	14.3	570	41
EAST NEW BRITAIN	220133	39220	2.5	81.6	76307	29	7591	244	904	73	57.1	74.4	25.7	6496	61
MANUS	43387	7942	2.6	85.8	21313	12	12.4	53	819	59	58.6	68.1	12.4	3353	36
NEW IRELAND	118350	22053	2.9	77.4	48072	30	3945	109	1086	69	57.9	75.2	55.1	1202	5
WEST NEW BRITAIN	184508	30672	3.6	70.7	70037	27	6834	153	1206	74	56.7	69.5	14.1	1982	60
TOTAL/AVERAGE	**5190786**	**943767**	**3**	**62**	**150399**	**31**	**165068**	**2841**	**42075**	**88**	**55**	**69**	**13**	**96666**	**47**

Source: National Research Institute, Papua New Guinea District and Provincial Profiles, National Research Institute, March 2010

Second, there had been a rapid growth in bribery or corruption in the country. As a result, one perceives that in the next 50 years, PNG may see some negative changes. It was perceived that the problems may have been caused by the rising bribery or corruption, not being successfully decreased or controlled in Papua New Guinea, see Figure 1.

Figure 1. An Index of Bribery and Corruption in PNG

The Island of Bougainville may become independent country soon, separating from the mainland of PNG. This outcome may cause other provinces, to create similar problems. (At the date of the paper, Bougainville has not seceded from Papua New Guinea, yet). However, it is believed that this particular outcome, could create a possible disintegration of a once, peaceful, and a blessed country.

9. CONCLUSION

The purpose of the paper was to provide a review of the gross national product (GDP), the national government expenditure (NGE), the per capita of GDP, and the per capita of GNE of two countries, PNG and Mozambique, both had gained political independence, at the same year, in 1975. In summary, PNG and Mozambique had increased the GDP and the NGE over time, between 1975 and 2025. However, regarding the per capita GDP and the per capita NGE, there were declines, which are summarized.

For PNG, there was a *decline* in the GDP per capita in PNG, overall, by about US$100 per head for the 50 years. The information implies that in 50 years, there was a *decline* in the per capita GDP in PNG, by about US$2.00, per head. For Mozambique, there was a *decline* of US$52 in the 50 years. Also overall, the level of decline of the NGE per head was 113.46%, in the 50 years. However, the annual rate of *decline* of the NGE per head, for each of the 50 years was 2.27%. In future work, we will delve into the inequality distributions and populations in provinces of PNG.

ACKNOWLEDGMENTS

The author hereby acknowledges his colleagues, academics or others with whom he has had some discussions about the changes of the GDP, and the NGE and "Economic Development" in Papua New Guinea.
All errors of facts or judgments belong to the author.

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