

# Proper Financing is a Key to Increasing Housing Accessibility in Emerging Economies: The Papua New Guinea Housing Situation

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## INTRODUCTION

As in many developing countries, housing demand in Papua New Guinea's urban areas far exceeds supply. It seems that only the housing needs of the very well off expatriate advisors and politically connected are being met. Everyone else seems to be either living many families to a dwelling and/or living in some form of shanty housing. There have been many suggestions, studies and actual attempts to ablate this problem. Even the most successful have had little if any impact on the problem. This paper briefly covers some of the history, issues, concerns, programs and problems, and then proposes an innovative approach that could greatly reduce the housing shortage for the Papua New Guinea citizens who have jobs that may have implications to other developing economies. Internal papers, reports and staff interviews with the Ministry for Housing and the Government's housing agency The National Housing Corporation were relied on for sources. The collection of background information for this paper was collected during the 1993 through 1998 period.

## BACKGROUND

Papua New Guinea (PNG), a member of the British Commonwealth of Nations, occupies the eastern half of the large mostly mountainous, tropical island just north of Australia. The western half of the island is part of Indonesia. The northern half of PNG was originally claimed by the Germans and the southern half by British. After World I till its independence in 1975, PNG was a UN protectorate administrated by Australia. Papua New Guinea has about the same landmass and population, as New Zealand, (somewhere around 3.5 to 4 million people speaking over 800 different languages). Most of the population (over 85%) lives in the rural areas surviving mainly on gardening as they have for the last 20-40,000 years. Nearly half of the urban population (300,000) lives in the capital Port Moresby. The economic situation for most urban dwellers is rather grim. The employment rate for Port Moresby at the best is less than 30%.<sup>1</sup>

## THE HOUSING SITUATION

When the visitors or international experts first arrive in Port Moresby they are overwhelmed with what appears to be almost endless layers of urban blight and squatter villages. In 1996 Wilbur Smith & Associates in gathering background information for developing the National Capital District's Master Plan reported a high percentage of the housing stock in very poor condition and extreme over crowding.<sup>2</sup> Typically, the first response is that the country has to do something about the conditions that most seem to live in. This usually results in over ambitious unattainable proposals to house the urban poor and unemployed, which tends to exacerbate the problem, while the employed nationals in desperate need of affordable adequate housing go ignored.

In Papua New Guinea, the indigenous population still has title to most of their ancestral land. Ninety-seven percent of the land is still held under traditional village title. This means that most if not all nationals own land and a traditional house or the right to build a traditional house along with the right to live the traditional village life style.<sup>3</sup> It appears that most of the unemployed who are living in the squatter villages and on streets choose to be there rather than at their homes in the village and should be considered extended stay 'tourists' rather than 'homeless' that need to be taken care of. Spending money on this group for better housing appears to just exacerbate the problem as it encourages more to leave the traditional life of the village for the possibly increased opportunities and more exciting life in the city. Additionally the traditional title situation has posed its own set of problems on development in Papua New Guinea and has resulted in effectively rendering most of the land unavailable for development or use.

The Government's housing agency, the National Housing Commission (NHC) built most of the existing housing in the country first to house the Australian administrators and other government workers. After independence most of the these expatriates left and the housing was occupied by various national government workers at extremely subsidized rents. Over time, under various government directives this housing

was sold to the sitting tenants at 10 to 20% of replacement value. The government through NHC continued to build housing during the first 10-15 years of independence. NHC in building the housing acted as a developer and financier using private contractors to actually develop the land and build the housing. NHC supplied the capital, did the planning, engineering, architectural and construction supervision.<sup>4</sup>

**THE HOUSING BUST**

After independence under the influence of expatriate advisers, local and foreign entrepreneurs the National Government was persuaded to direct its housing agency NHC to stop building housing and to only develop land. Under the guise that “private industry could do it cheaper.” It was expected that a very profitable private housing industry would develop. However, because of the very subsidized of both rent and sales of the existing housing stock, few realized what the real cost of the housing actually was. Housing was really considered as part of the workers salary.

Once the government removed the subsidies and took NHC out of the housing construction business, because of the low wages, lack of appropriate housing financing and lack of understanding among the nationals of the real cost of housing the housing industry collapsed. No one including the government’s expatriate advisers fully understood the real need for the citizenry to have affordable access to capital for a housing industry to exist. The result is that since the late 80’s when the supplying of housing was turned over to private industry the construction industry focused on housing for the very well to do and very few houses have been built for the normal working citizen. Chart I, below, shows the new urban housing need projected for the twenty-year period starting in 1996.<sup>5</sup> It should be noted this does not include any allowance for the much-needed replacement of the run-down housing stock or to lessen the current severe over-crowding.

Removal of housing as a part of employment resulted in a major lowering of real income, as wages were not increased. The citizenry just could not afford the real cost of housing

creating a major housing bust instead of the profitable housing boom that the advisors predicted. The people just doubled and tripled up in existing housing and worked to obtain one of the remaining discounted government houses.

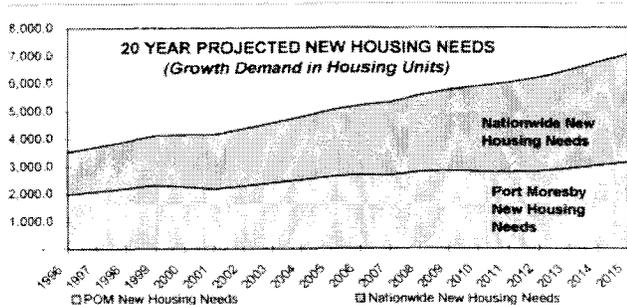
**TYPES OF HOUSING**

All ranges of housing types, cost and construction methods can be observed in Papua New Guinea. Non-traditional housing can be loosely classed in four categories or levels of cost. “luxury”, “high covenant”, “medium covenant” and “low covenant”. The design and use of materials is similar to housing in other tropical environments. Luxury homes for the very rich are typically constructed and outfitted the same here as elsewhere. The more common high covenant house is typically a well-finished house both inside and out with usually three or more bedrooms and over 90 square meters (1000sf) in area. The low covenant houses typically are very tiny with two to three bedrooms with an area of 20-40 square meters and have a low quality finish with glassless windows and exposed framing. Medium covenant housing, the most common, fits in a niche between the other two. In each class, the houses are built of either concrete block or wood framed with cement board siding, wood framing being the most common. Roofs are almost always low pitched metal. Concrete block houses are usually built using an on grade slab foundation. Wood houses are usually built above grade with the preference being a full story above the ground. This follows the tradition of building above the ground to be free of the ground insects and to take maximum benefit of any breezes. Most housing usually has large floor to ceiling opening slat windows. The wood framed standard National Housing Commission house of any class are very well designed, very durable in the tropical environment, make maximum use of the materials, are well built and suitable for the climate. After 40 years they are still the houses of choice.

**THE COST OF HOUSING**

On first observation, the cost of housing appears to be very high. In late 1998 a very modest 3 bedroom, one-bath home without air-conditioning in Port Moresby would rent for around US\$350 a week, a small home to US standards would go for over US\$700 a week. A clean well-finished two/three bedroom security apartment /or house rent for over US\$1000 a week. Observing these rates, most expert advisors tend to make the serious mistake that the construction cost is extremely high and must be reduced to make the housing affordable. So most of the energy is directed at lowering the cost of constructing housing. However, construction cost appears to be about 10-15% higher than in Australia<sup>6</sup>, and this is mostly the result of government protecting local industries causing materials to cost more than they should. I.E. imported lumber has a 250% duty and cement cost several times more than it should.

Lowering the cost of housing construction while main-



Based on data from the May 1996 Report by Wilbur Smith & Assoc. Washington, DC and National Housing Corporation data

Chart I. 20 Year Projected New Housing Needs

taining durability and livability is extremely difficult. NHC built housing had set a high standard of maximum durability at the lowest cost. NHC has had a continuous research program and developed a series of housing solutions that are very livable in the environment, made maximum use of the available timber, and were about as economical to construct as possible in the given circumstances. Testimony to this is that most of the housing that NHC built over the years is still standing, in spite of the lack of maintenance, tropical environment and lack of understanding how to care for a non traditional dwelling. NHC's designs and houses are still the housing of choice.

### TYPICAL HOUSING PROPOSALS

The proposals received by the PNG government to lessen this housing shortage dilemma seem to fall in a few general categories: the romantic, gifts from the government, overseas technology, letting the market place freely determine the housing built—usually through an unregulated private industry. The following is a brief overview of the various proposals that NHC received over the last ten years.<sup>7</sup>

The Romantic proposals typically these proposals attempt to solve the nation's housing by:

- having the people take time off work to build their own houses, or
- those who propose that the traditional grass hut villages are the ideal living model and all housing, including urban housing, should be built using traditional materials, forms and methods, or
- that national professionals and other skilled workers do not really need a modern house with its conveniences and health advantages.

An example of this logic was a very costly study done for NHC by UNDP experts in 1994-5 proposing that PNG Government provide small loans of around US\$2,000 and free developed land (at a cost to the government of US\$4500 each) for families to build their own urban houses. The reality is housing materials suitable for the existing urban environment cost more in PNG than in the US and when does a busy skilled worker, that the country is desperately short of, find the time and the building skills to build a modern house suitable for the urban environment?

Gifts from the government proposals come in many disguises. The free developed land in the above proposal is one. The minimum cost to the government in the Port Moresby area for this gift would be about US\$4500 per buildable lot. The great give away of government housing to the sitting tenants at substantially below replacement cost is another one. This also would include all proposals that assume the government should somehow subsidize rents or building cost. Where does a cash strapped government in a developing country find the funds for any of these when even rich country such as the USA can not afford to do this?

Overseas technology—if one reads the reports and listens to the proposals that the Housing Ministry and the NHC

continuously receive, every patented building technology from a new concrete panel connection to a new form of spray on foam would be the solution to PNG's housing problem. Most of these proposals are not well thought out, are inappropriate for the conditions or environment, and appear to be mostly get-rich schemes for the salesman. Though, some of these technologies used in a thoughtful logical way could help.

Let the market place determine what housing is built—through an unregulated and unguided private industry—as the best and only way to solve the housing shortage. This appears to be the common theme of the current crop of advisors. The existing situation with the housing needs of the well off being met and the building of only a few low quality houses for the not very profitable everyone else is a prime example of how a unregulated/unguided private industry works in solving the housing shortage. Private industry by both definition and practice is attracted to where the maximum profit exists for the least risk. For private industry to supply housing to the masses there must be funds available to build the building in a profitable way and to allow the end user to purchase the housing. Currently these funds are quite limited.

The "affordable housing" being built by the mostly unregulated private industry is being built to a lower standard, using wood species that are not as durable as those built by the government through NHC at a lower cost. This new free market housing is just not up the environment, climate and use.

### HOUSING FINANCING

In Papua New Guinea where there is a base of appropriately designed housing with the economical use of locally available building materials it seems that there are other causes for the high cost of housing. It appears that the major problem is the way housing is financed. Currently almost all housing loans are for three to five-years. Think of how few could afford housing in the US or other developed countries if they had to repay their housing mortgage in less than five years.

To most people, how much house they can afford is not how much a house costs, but how much they have to pay each payment or rent period. Table 1, Relationship of Loan Term to Payment, below, shows how the affordability of home purchase is effected by the term of the financing. It uses a fortnightly payment period (two weeks) the normal pay period for PNG. This table clearly demonstrates that the length of the mortgage is the major item that effects the affordability of expensive items such as housing. Addressing and resolving this is the major focus of this paper. The real essence is how to get the house mortgage payments (or rent) low enough that the intended market sector (employed citizens) can afford the fortnightly expense without subsidies or having several families sharing a residence built for only one.<sup>8</sup>

EFFECTS OF MORTGAGE TERM ON THE AFFORDABILITY OF HOUSING		
Amount of Loan 8% Interest	Fortnightly Payment (Five Year Mortgage)	Fortnightly Payment (Thirty Year Mortgage)
K60,000	K561	K203
K40,000	K374	K135
K30,000	K280	K102
K20,000	K187	K68
K10,000	K93	K34
K5,000	K47	K17

Table 1. Relationship of Loan Term to Payment

Table 1 clearly demonstrates that Long Term Affordable Financing helps make housing affordable. In most developed countries, where there is high personal home ownership, 25-30 year mortgages are available and appear to be a major factor in making the home affordable to the purchaser. It is the premise of this paper that if a proper long term mortgage scheme was available to assist home purchase it would help the housing shortage without putting additional financial burden on government funds. This table was developed using the then current mortgage interest rate. However, if the interest rate should become too excessive then the positive effects of a longer term notes can be negated. NHC has housing designs that fit each of the price categories shown in this table.

Chart II, below, compares the latent demand for housing (the need based on growth) and the rate of housing construction using the current financing schemes for the formal housing sector (none squatter housing). Which is mortgage terms of less than five years and employer provided housing—usually for only the upper management. The third line on this chart shows what would happen to housing construction if the following end mortgage financing plan was implemented in a rational way. Note that the chart shows increase growth of housing units beyond the latent demand based on growth. This is mainly due to four factors. These are: the current severe over-crowding, the need to replace uneconomical repairable units, people upgrading to units more suitable to their economic status and a small overbuilding because of developer speculation.<sup>10</sup>

**THE PROCESS FOR INTRODUCING LONG TERM FINANCING**

A long-term affordable mortgage cannot be just legislated in. For success, all the items that make it possible must first be put in place for the banks to be able to afford to continuously make long term mortgages. Some of the issues that have

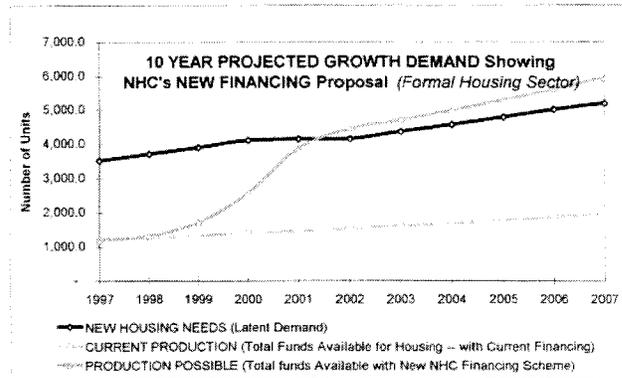


Chart II. Ten Year Housing Demand compared to the Current Construction Rate

to be addressed are listed below. This is just an brief overview description of what is needed as there is insufficient space and time available to fully detail the program needs and process of implementation.

The major items that effect the length of the mortgage and the availability of funds for housing mortgages for the lender are:

- how secure is lender's money,
- how will the interest rate and availability of money fluctuate over the term of the note,
- what will happen if the borrower defaults,
- what is the probability of change in the default rate over the loan period,
- liquidity issues (or that the lender's money is tied up for an extended period and unusable for other purposes by the bank). Establishing liquidity is extremely important for a successful long term mortgage loan program and
- durability of the structure—it must successfully last longer than the term of the loan and have a resale value higher than the remaining loan amount due plus costs of foreclosure.

Currently in PNG, the banks are addressing these risks in a reasonable manner for the situation by requiring a large down payment and keeping the mortgage term very short. However, this results in fortnightly payments that are too high for the average working citizen. For a successful housing industry to develop this has to change. To have a successful housing delivery system—programs need to be put in place that reduce these risks for the lenders to have the necessary business security when making long term housing mortgages, which includes building structures that will last longer than the term of the mortgage without major maintenance expenses.

It appears that the best procedure would be to lengthen the term and reduce the down payment by developing and setting in place programs that reduce the risk that lenders have on making the long term, low down payment mort-

gages. There should also be mechanisms to increase liquidity of the banks' mortgages by allowing investors to invest in mortgages. This will give the banks more money to make mortgages so homebuyers will have the long-term mortgages available.

It needs to be made clear that legislating long-term mortgages without addressing the underlying problems will not solve the problem. Rather it will just reduce the amount of money available for all mortgages thus exacerbating the problem.

For a long-term mortgage program such as this to work, Papua New Guinea must put the following major components in place:

- a way to insure that durable housing is built,
- a method to guarantee that the lender will in a timely manner receive their money even if the loan goes into default,
- a method to provide liquidity to the lenders money,
- a method to increase the funds available for lending for home mortgages,
- credibility, that the lenders and investments are safe.

NHC has developed a program to implement these steps. It is been waiting for the politicians to give it the authority and support necessary to implement it.

Chart III shows the housing type breakdown for construction implementation schedule that NHC has developed to assist in an orderly implementation of the Long-term-end-mortgage scheme. This is part of NHC's All Nation 5000 Houses Project.<sup>10</sup>

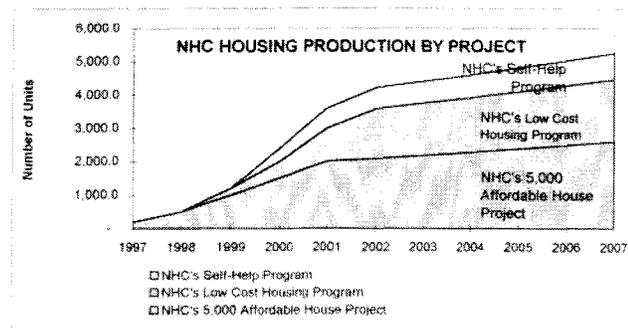


Chart III. Ten-Year Housing Production Schedule by Housing Type<sup>11</sup>

## SUMMARY

For someone who has purchased a house in the United States what is suggested in this proposal is nothing new. It is a modification of the way housing has been made affordable in the USA and made it possible for a normal citizen to purchase a home. FHA first introduced the concept of government guaranteed mortgages in the 1930's during the Great Depression to stimulate the then failing construction industry. It proved to be so successful that the banks ran out of money so FHA developed the way to allow individual investors to invest in housing mortgages. The result is our very successful secondary mortgage and housing bond market.

These FHA financing ideas were adapted to the situation that currently exists in Papua New Guinea. By focusing on the financial solution does not mean that the author feels that improvements could not be made in the areas of construction, materials, design or planning. Much can and should be done. But, before any improvements in these areas can have any real effect, a way to finance housing, such as proposed here, without using the limited resources of the government must be found and implemented.

## NOTES/BIBLIOGRAPHY:

- 1.Data on the County from the Papua New Guinea Department of Statistics and Standards, National Capital District.
- 2.Statistics from the 1996 Master Plan for the National Capital District, Papua New Guinea. Wilbur Smith & Associates, Washington, DC.
- 3.Data on the County from the Papua New Guinea Department of Statistics and Standards, National Capital District.
- 4.National Housing Corporation, Library Data, Boroko, NCD.
- 5.Strueber, James V., Briefing Paper for Prime Minister on Housing Policy, Financing and Construction Program, National Housing Corporation, Boroko, NCD, 1997.
- 6.Strueber, James V., Briefing Paper-Cost of Housing, National Housing Corporation, Boroko, NCD, 1996.
- 7 National Housing Corporation, Library Data, Boroko, NCD.
- 8.Strueber, James V., Briefing Paper for Prime Minister on Housing Policy, Financing and Construction Program, National Housing Corporation, Boroko, NCD, 1997.
- 9.Strueber, James V., Briefing Paper for Prime Minister on Housing Policy, Financing and Construction Program, National Housing Corporation, Boroko, NCD, 1997.
- 10.Strueber, James V., Briefing Paper for Prime Minister on Housing Policy, Financing and Construction Program, National Housing Corporation, Boroko, NCD, 1997.
- 11.Strueber, James V., NHC's All Nation 5000 Houses Project, National Housing Corporation, Boroko, NCD, 1997