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20 December 1991  
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TO  
Pias Wingti  
C/- National Parliament  
Waigani

Dear Sir

Subject: Construction of Railways & Rural Development.

Attached is a copy of a letter concerning the possibility of constructing railways to help in the reconstruction of Bougainville and improving rural employment there. I have sent this copy to you for your consideration.

The ideas expressed in the letter could be used in any other part of Papua New Guinea.

I would suggest that while Parliament is discussing the National Youth Service, the idea of having a National Railway using our youth be considered. This would not only give employment to rural youth but also provide the impetus for economic growth particularly in the rural areas and finally provide self esteem to our disillusioned youth.

For your consideration.

Yours servant

Michael R. Pearson.

PO Box 5934  
Boroko  
NCD  
13 November 1991

TO  
Pias Wingti  
C/- National Parliament  
Waigani

Dear Sir,

### Use of Railways.

This letter mainly refers to Bougainville but the Ideas expressed hold for many areas of Papua New Guinea

### Introduction

One of the main features of national economic development is the need for transportation, while at the same time controlling the movement of people without infringing on their constitutional rights for freedom of movement.

### The Present Transport System

There are at present 3 forms of transport in general use for the movement of cargo and passengers:

Air services - The existing system provides an extensive but very expensive service which is particularly unwilling to go to remote areas. It is at the mercy of the weather is gradually losing its customers to land transport. The serviceable life of an aeroplane is about 20 years .

Shipping services - These only apply in coastal areas and are of particular importance for inter-island transport rather than coastal shipping where it has given way to land transport in some coastal areas because it is seriously affected by weather. The life expectancy of coastal ships is about 20 years.

Road network - The advance of the all weather road provided a more reliable alternative to shipping or plane but the cost in vehicles was very high. The service life of most vehicles is only about 3 years and heavy vehicles seriously damage the road surface.

A fourth form of transport used in some locations and particularly on the island of Bougainville continuously since the 1920s is light railways. The use of these has been limited to plantations. Most of these operated until the 1960s but at least 2 continued to operate on plantations without any great expense to the owners, except the initial outlay and the occasional replacement of locomotives, until this crisis. The life expectancy of the locomotive etc was about 25 years.

### The Problems of the Current Land Transport System

The use of motor vehicles at the present and in the near future provides special privileges to some but also offers certain abuses of the freedom of movement to others which disrupt law and order and therefore the maintenance of services.

The Problems are:-

- 1 That the abuse of freedom of movement by criminal or subversive elements, militates against the restoration of law and order and services.
- 2 The misuse of government and commercial vehicles and the wastage of private transport through excessive and wasteful movements means that the economic effectiveness of the system is seriously reduced as the convenience of the "users" is satisfied at the cost of efficiency.
- 3 The theft and illegal use by criminal elements of motor vehicles leads to the destruction of motor vehicles through improper use and accidents leading to Repair and Replacement costs of the vehicles which have to be borne by the honest owners of the vehicles.

4 The social and economic cost of injury and death of people, either travellers in the vehicle or pedestrians particularly children in village adjacent to roads. (In PNG the injury and death rate for motor vehicles is annually about 1 person/1000 people in the population).

The cost of animals killed by vehicles. The disturbance of rural life by the unpredictable nature of the motor vehicle transport system, ie vehicles roaring at high speed through villages at any time of day or night, which leads to road blocks which in their turn become a further hazard to the road users.

5 The road user although travelling through a society area is indifferent to that society which leads to social problems. The society through which the road goes is therefore often, justifiably, hostile to the road users.

6 In the current situation motor vehicles are an unprotected target that is easy for subversive elements to attack and so make use of the road network for their own advantage.

Currently the problem of land transport is to provide safe, reliable transport that will help to reunite and rebuild the society. Motor vehicles are unable to do this because of their self contained, individual nature. The alternative is to build railways which because of their organised nature tend to unite societies and help build up the social interdependence that is needed at the moment.

#### The Alternative:

The construction of Light Railways (3' 6" gauge) would satisfy this current desire for transport to develop both the economy and the society.

#### The Advantages of a light railway are that

1 The railway will provide an organised form of transport which can cater to the needs of people without giving an advantage to criminals elements.

2 It is very difficult to misuse a train and so the system is efficiently utilized.

3 The theft of trains is also very difficult as the train cannot go very far before coming to a check point where it will be stopped or derailed with little damage to the train.

4 Trains as a means of transport have proven record of safety through out the world. The number of accidents and deaths caused by trains is minimal (less than 1 person per million).

5 In the current situation (or in other trouble areas) it is easy to armour trains for the protection of the train, passengers and cargo. (It is very difficult to armour motor vehicles)

#### The Constraints of a light railway

The initial cost of instaling a light railway line is about twice the cost of an unsealed road or the same as a sealed motor road but the long term costs are much lower.

#### The benefits of a Light Railway to society are that:-

##### A) During the Construction stage-

1 A large number of local unskilled laborers can be used on the earthworks and the laying of the track - thereby providing employment and income to the local population

2 The local population could also provide the timber sleepers needed for the railway line thus giving them a further source of income or a means of investing in the railway.

3 The local population could/should be involved in the running of the

railway thereby providing them with a constant, if small, income and a pride in their transport system.

B) When in Operation -

the following benefits beyond the mere transportation of goods and people could be received

1.1 If steam power is used the society can supply fuel from coconut plantations or forests/timber stands and thereby provide extra income for society while reducing the need for imported fuels. A permanent water supply is also needed by the railway and this would also benefit the society it travels through.

1.2 If diesel power is used these benefits will not be gained although it may be possible to use PNG oil there will be no added benefits to the local society.

1.3 Animal power (buffalo or donkeys) could also be used to work minor branch lines where the traffic is not heavy and this again would provide local employment and use local resources.

1.4 Electric power if used would harness the natural resources of the country and provide further job opportunities. (Hydro power is not seen as the initial power source but as a future development).

2 A further benefit is communication by telephone or radio along the railway line.

3 The ownership of the railway can be organised so that land owners along the route of the line use their land to become share holders in the railway and so receive annual interest payments for the land on which the railway is built. This should overcome the problem of land owner road blocks because they will no longer feel aggrieved about not receiving payment for their land. The land would actually return to them if the railway is liquidated.

4 As a public corporation the railway could be open to the public in general to buy shares by various means including land, labour and materials in lieu of money.

5 Each village could have its own station manned by its own people again providing local employment.

6 Gatekeepers, signal keepers and maintenance workers could all be engaged from the local area thus providing more rural employment.

C) The Benefits to Society of Law and Order

1 A more ordered and interdependent society is formed. Because the railway works to a schedule society is able to depend on it and like wise the railway depends on the society to keep it operating.

2 The population would have a reliable form of safe, cheap transport while the criminal element has its means of transport removed.

The provision of a small number of train units would provide most of the transport needs without giving excessive freedom of movement.

Because the normal life span of train units is well in excess of 25 years (many units have operated for well over 50 years), whereas the current life in PNG of motor vehicles on average is much less than 3 years the high initial cost of the railway would be recovered in a few years by the saving on the normal expenditure on motor vehicles (including purchase cost, fuel costs, maintenance cost, cost in loss of life and injuries from accidents)

The Cost

The cost as described earlier is about the same as a sealed road but because about half of this cost would go to local population for the purchase of local timber or labour

there would be a significant multiplier effect.

Financing

I am not sure if the World Bank or the Asian Development Bank would fund the project as their financing seems to be in favour of road transport, which make us more dependent on the world community (particularly Japan) rather than making PNG more self reliant, therefore finance needed for this project would be have to be sort elsewhere such as the EEC, China, USSR or Japan. Because of the low technology involved there would be no great need for foreign expert but instead our officers could be attached overseas.

Required laws

The Railway Ordinance of 1914 or the The Private Tramway Ordinance of 1951 could be re-enacted to provide the legal basis for the railway construction.

Further details are attached.

Yours faithfully

Michael R Pearson