
Addressing rural-urban disparities: A case of government service delivery in Papua New Guinea

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Rural disadvantage, access to services, social value, seed funding, Papua New Guinea

Abstract

Papua New Guinea (PNG), a resource rich country, despite many years of positive GDP growth and development efforts, is ranked 157 out of 187 countries on the Human Development Index. Over 80% of the population live in rural areas and have seen very little improvement in living standards since independence in 1975. This paper proposes an alternative, to the usual 'top down' approach, to rural development in PNG, one that engages villagers in improving their own wellbeing, with faith-based organisations and non-governmental organisations as partners in development. The performance of indicators of wellbeing, such as health, access to water and sanitation, education and income generation, between 2000 and 2015, is first reviewed, at national, regional, and village levels, to highlight the rural – urban disparity in access to services. A 'bottom-up' approach to raising rural wellbeing, by creating social value, with private sector involvement, in remote villages and engaging in social entrepreneurship is then outlined. Seed funding would be necessary for this approach to be applied successfully.

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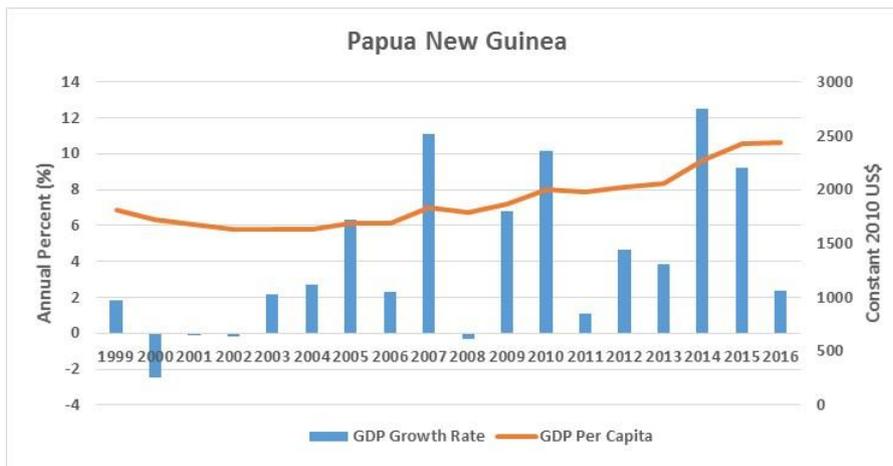
Introduction

Papua New Guinea (PNG), with deep reserves of natural resources, experienced almost 14 successive years of GDP growth from 2003 to 2015 (World Bank, 2018) but failed to meet any of the global targets of the Millennium Development Goals (MDGs). Some national targets were met, indicating moderate progress, mainly due to improvements to service delivery in urban areas (World Bank, 2017b, p. 42). However, 87% of PNG's 8 million population (World Bank: 2017a) are subject to deteriorating conditions in the rural areas in which they live. Now that the Sustainable Development Goals (SDGs) are in place, with a target date of 2030, the question remains whether or not another top-down approach to development can redress conditions in rural PNG by that date. This paper proposes an alternative approach to rural development in PNG, one that engages villagers in improving their own wellbeing, with faith-based organisations (FBOs) and non-governmental organisations (NGOs) as partners in development. The performance of indicators of wellbeing, such as health, access to water and sanitation, education and income generation, between 2000 and 2015, is first reviewed at national, regional, and village levels, to highlight the rural – urban disparity in access to services. A 'bottom-up' approach to raising rural wellbeing, by creating social value, with private sector involvement, in remote villages and engaging in social entrepreneurship is then outlined. Seed funding would be necessary for this approach to be applied successfully.

A review of wellbeing at national level in PNG: 2000 – 2015

At the time of independence in 1975, improving life expectancy, education standards and health delivery suggested that, equitable and sustained development in PNG was achievable

(Manning, 2005). But 40 years later PNG is still categorised as a lower middle income country with a Human Development Index (HDI) ranking of 157 (ACFID, 2015). Graph 1 illustrates PNG's real GDP growth rates and GDP per capita between 1999 and 2016. Notable at the national level are the positive GDP growth rates reflected in the growth in GDP per capita since 2004. With agriculture and resources as main drivers of the economy, benefits from the commodities boom between 2003 and 2011 and the recent opening of the LNG plant in 2014 (World Bank, 2017b) have led to some improvements in various indicators of wellbeing but given rise to other challenges.



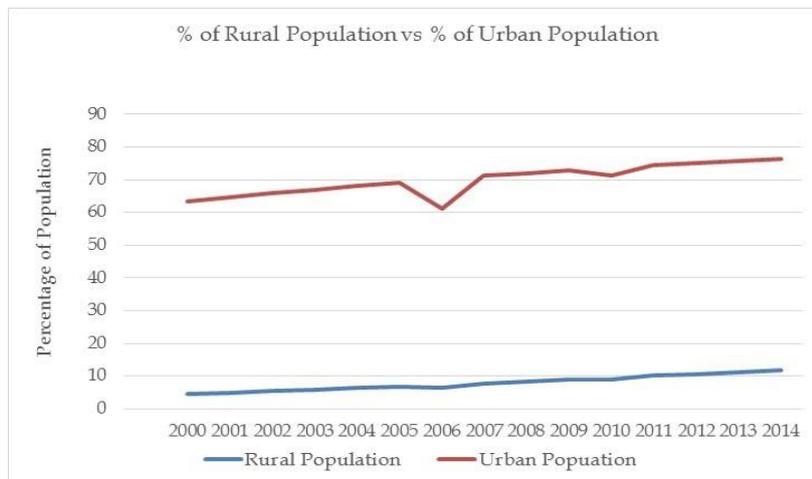
Graph 1. Real GDP growth and Real GDP per capita, 1999 – 2016. (World Bank, 2018)

For instance, the Government is ill prepared to meet the increased demand arising from the introduction of free education, as evidenced by the dearth of resources and teachers in schools across PNG. In addition, the previous lack of Government support for small and medium enterprise development, is likely to result in a scarcity of formal sector job opportunities for an increasing number of school leavers (Hayward-Jones, 2015). Over the period 2000 to 2015, life expectancy improved from 61.5 to 65 years and the national under 5 mortality rate declined from 77.2 to 54.3 per 1000 live births (World Bank, 2018). Despite these improvements, the introduction of free health care in 2014, with no user fees being charged, has created a shortfall in hospital budgets which the government is unable to cover effectively (Cochrane, 2014) and many hospitals are currently struggling to access basic medical supplies (Tahane, 2017). Further, access to improved water and sanitation facilities at the national level changed little between 2000 and 2015 and is described as the lowest among countries not just within the region, but in the world (Horwood et al, 2013, p. 103).

PNG is also experiencing acute energy poverty (Sovacool, 2013, p. 328) with only 20% of its entire population having access to electricity in 2017 (World Bank, 2018). The logistics performance index (where 1 = low and 5 = high), which rates the quality of trade and transportation related infrastructure, is currently 2.3 for PNG (World Bank, 2018), low by world standards and a hindrance to rural development, as 'employment opportunities have to be clearly targeted at disadvantaged areas' (Starkey and Hine, 2014, p. 5). Before 2007 telephony was restricted to a limited number of people in urban areas of PNG. Since then, with the introduction of market competition, its mobile telecommunications sector has been transformed (Watson and Duffield, 2016, p. 27). By 2016 the mobile telephone subscriptions of 48.56 per 100 people exceeded the fixed telephone subscriptions of 19.98 per 100 people (World Bank, 2018). The macroeconomic statistics described above indicate some improvement over time, yet they mask a vast disparity between urban and rural areas in PNG. With 87% of the population residing in rural areas it is imperative to disaggregate this rural-urban divide to assess the effectiveness of development measures undertaken in PNG.

A review of wellbeing at the rural level in PNG: 2000 - 2015

PNG's cultural and linguistic diversity stems from its '1000 distinct ethnic groups and 800 plus languages' (World Bank, 2017a). Additionally, the geographical diversity that characterises PNG is a major cause of stagnant economic conditions in many villages, especially in mountainous and rugged territory, which are isolated by fragmented and poorly maintained transport networks, preventing access to basic services (Gibson and Rozelle, 2003, pp. 159-160; Allen et al., 2005, pp. 201-202) and limiting opportunities for income generation. Responsibility for the provision of services in rural PNG is devolved to provincial governments, with some functions decentralised further to district and local levels. Differing management styles and cultural differences between provincial, district and local levels also create considerable difficulty in providing services effectively (Hayward-Jones, 2015). Further hampering the provision of services is the scarcity of accurate data. Most rural data are based on estimates due to the inaccessibility of many villages. For instance, much of the data used for modelling estimates to assess progress towards the MDGs for water and sanitation were based on 3 surveys carried out in selected villages in 1996, 2006 and 2010 (WHO-UNICEF, 2017). Moreover, different villages were used to track any improvements resulting from MDG programs between 2011 and 2015, exacerbating rural data consistency problems. Thus, any review of the effectiveness of development programs undertaken in rural PNG cannot address all the indicators reviewed at the national level. Despite these issues a sufficient picture of wellbeing in rural areas of PNG can be established for some of the indicators.



Graph 2: PNG - Access to electricity 2000 - 2014 (World Bank, 2018)

For example, many villages on the periphery of provincial towns benefitted from the expansion of the mobile phone industry. Also, as noted in Graph 2, the percentage of the rural population with access to electricity more than doubled between 2000 and 2014, from 4.57% to 11.89%. However, the graph highlights the persistent inequity as access to electricity of the urban population increased from 63.31% in 2000 to 76.35% in 2014. The rural-urban inequity is also evidenced by the percentages of rural and urban populations with access to water services and sanitation facilities in Table 1. These data underline not only the disparity in the provision of services to urban and rural areas but also the lack of significant improvement in 15 years. Considering the geographical diversity of rural PNG, it should be noted that the information in Table 1 is based on modelled estimates (WHO UNICEF, 2017).

As a percentage of rural/urban populations.	2000 Rural	2000 Urban	2015 Rural	2015 Urban
Drinking water estimates in PNG				
Basic	29	84	29	84
Limited >30 minute walk	1	4	1	4
Unimproved (not protected)	21	8	21	8
Surface	48	4	48	4
Improved water supplies (protected from contamination)				
Accessible on premises	16	43	16	43
Available when needed		80		80
Piped	13	71	13	71
Non piped	18	17	18	17
Sanitation estimates in PNG				
Basic	13	55	13	55
Limited (shared)	3	9	3	9
Unimproved (not protected)	70	32	70	32
Open defecation	14	4	14	4
Improved sanitation facilities excluding shared (protected from human contact)				
Wastewater treated	0	11	0	11
Latrines & other	11	14	11	14
Septic tanks	1	21	1	21
Sewer connections	1	20	1	20

Table 1: Access to water services and sanitation facilities. (WHO UNICEF 2017)

Thus, focus at a micro-level is essential when determining the need for and effectiveness of development programs aimed at improving wellbeing in PNG. Moreover, a review of village living conditions can provide an illustrative guide to the challenges that are faced by rural communities in accessing basic services which are taken for granted in urban areas.

A review of wellbeing in a PNG village: 1999 - 2017

Buansing is a coastal village in Morobe, a Province of PNG, with mountainous and rugged territory encircling the village on its land-side preventing the construction of roads or access to electricity. Neighbouring villages such as Laukanu, Busama and Salamaua can be accessed only by banana boat (a dinghy with an outboard motor) or canoe. Lae, the administrative capital of Morobe, is approximately 2.5 hours from Buansing and also accessed only by banana boat. Four clans inhabit the village and in 1999 there were 64 households whose size varied from one to fourteen members, due to insufficient means to build new homes. The authors interviewed 31 of these 64 households on the provision of and their access to basic services. The interviews were based on a semi-structured questionnaire. Two follow-up interviews were conducted, with a group of village elders in 2009 and village residents in February 2018, to track improvements in services provided and access since 1999.

In 1999, all of the households in Buansing were engaged in subsistence agriculture. Further, 60% of the sample surveyed stated that they engaged in fishing only when subsistence food was in short supply. Sales of artefacts and surplus food at the main market, in Lae, were limited due to the prohibitive price of fuel for travel to the market by banana boat. As opportunities for income generation were scarce in the village, participation in the cash economy was limited and villagers mainly relied on barter, even to travel to Lae. Clan members residing in Lae or elsewhere assisted with processed food and cash when required for purchases from the trade store, or for education and health related expenses. The location and geographic conditions of Buansing are indicative of the difficulty that many rural villages in PNG face in accessing markets for selling surplus subsistence food or accessing towns for income generation purposes. Villagers were reluctant to access health services in neighbouring villages or Lae, citing the cost of transport and medical fees as impediments. It was also stated that local residents in Laukanu and Salamaua were given preference in treatment to Buansing residents. Students who successfully completed grade six had the option of moving to Salamaua High School. However, the lack of money for boarding school fees,

homesickness or senior students' bullying resulted in very few students from Buansing getting a secondary education.

The 2009 interviews of the Buansing village elders were conducted by one of the authors. The interviews revealed that income generation opportunities had improved, but only sufficiently to offset the increase in the cost of living. With an increase in the number of supermarkets and the demand for fresh fish in Lae, fishermen had progressed to purchasing blocks of ice from Lae for transporting their catch. The ice lasted for approximately 5 to 6 days in portable coolers but the fishermen still had to contact and meet the supermarket representatives close to the main wharf to make the sale. One villager owned a mobile phone, which, with no reception in Buansing, was used on arrival in Lae to contact buyers. Health services had improved in Laukanu and Salamaua. However, the price of petrol had tripled since 1999. These improvements did not benefit the Buansing residents for the same reasons cited before. Any improvement in living standards experienced by individual households in the village between 1999 and 2009 was due more to their own ingenuity rather than government intervention. One hamlet now had constant access to water transported from a mountain spring nearby via pipes constructed with bamboo. The main village still had limited access to water having to walk more than 30 minutes. According to one of the elders, the low levels of literacy and education were major drawbacks in initiating improvements in the village. One major improvement occurred in 2008. The Buansing school was upgraded and students could continue living at home to attend grades 7 and 8, rather than move to Salamaua, thus reducing the cost of education. Additionally, the upgrade gave an opportunity for more female students to proceed to higher levels of attainment.

Category	1999	2009	2018
Village Households	64	Approximately 90	Approximately 160
Income Generation			
Wage Labour Village	None (58% of sample subsistence agriculture only)	None- subsistence agriculture Only- no data)	None- (subsistence agriculture only - no data)
Lae (Main Town)	3	3	Increased (data not verifiable)
Trade store income	3 families	8 families	6 families (data not verifiable)
Sale of artefacts	10% of sample: sales in Lae	No data	Sale of fermented cacao and processed lime in Lae. Items purchased in Lae and sold in Buansing.
Sale of surplus food Sale of smoked fish	Once/ month. Markets in Laukanu and Salamaua	No change in access to markets.	
Sale- fresh fish (Lae)	No	Yes. Increased.	Big fish only. Reduced
Trade stores	3 (semi-permanent structures)	8 (semi-permanent structures)	6 (data not verifiable)
Markets	Lae main market, Laukanu and Salamaua	Lae Market and Supermarkets, Laukanu and Salamaua	Lae markets only. Laukanu inaccessible - tribal conflict.
Communication	Messages through boatman.	1 cell phone but no coverage.	More cell phones - reception poor
Transport	Banana boat (1), Canoes (80% of sample.	Banana boat (increased to 4 then 1 in 2009), Canoes (increased no data)	Data not verifiable. Increased fuel costs (K40 per litre) and freight (K30 per bag).
Health Services Nurses/Doctor	Laukanu aid post (closest) Salamaua Health Centre Angau Hospital in Lae Buansing - No health service	In operation In operation In operation No change	Currently no access to Laukanu, poor service in Salamaua and Lae, shortage in medical supplies. Resident nurse in Buansing - inactive no supplies.
Education	Primary School - Grade 1 - 6 Principal & 2 Teachers	Added Grades 8 (2008) School Principal & 3 Teachers (2007)	No change; Teachers no data
Water	Walk to water source > 30 min.	No change for main village. Piped (bamboo) water in 1 hamlet.	No change since 2009 No change
Sanitation	Bush/ sea. 1 broken pit toilet.	Semi-permanent open pit in 1 hamlet.	Few semi- permanent open pits.

Table 2: An illustration of access to services in a rural village in Papua New Guinea – Buansing. 1999 – 2017
(Source: Based on interviews conducted by the authors 1999, 2009, 2018)

The follow up interviews in 2018 were conducted by the same author who conducted the 2009 interviews, except that the interviews took place in Lae. As such, much of the data could not be verified. However, the anecdotal evidence collected was sufficient to indicate that little had changed in nearly 20 years to improve the lives of the Buansing people. With an increase in population the number of households was now approximately 160. No improvement was reported in access to education services in the village. Six students from Buansing moved to Salamaua to attend secondary school in 2017. A resident nurse had been appointed to Buansing but currently has no access to medical supplies. The aid post in Laukanu is also currently inaccessible due to tribal conflicts. One notable improvement was the introduction of cacao as a cash crop and the construction of a fermentary using mainly natural resources available in Buansing. Consequently, reliance on relatives in the city for supply of processed food and cash has reduced considerably. Villagers also depend on the sale of lime, processed from coral, at the Lae market. Overall, the impact of these activities on household income levels was considered marginal due to increases in the cost of living, especially for the transport of goods and travel to the Lae market. Cell phone usage has increased in Buansing though reception is poor unless the residents access higher ground. Fishermen now transport their fish, still in portable coolers, straight to the supermarkets in Lae. Only large fish are transported to Lae and fishing ventures have reduced with no possibility of sale of smaller fish. There were no improvements reported in the access to water and sanitation, except for a few more semi-permanent open pits constructed from readily available bush material. There appears to be no real acceptance of the concept of the need for better sanitation. Table 2 summarises the progress of selected indicators of wellbeing in Buansing between 1999 and 2017.

Discussion

The geographical diversity in PNG, as established in the Buansing study, partially explains the failure of public spending by national and regional government agencies in reaching isolated villages. With customary ownership of land by the 1000 plus tribes, only 3% of land, the open sea and mineral resources are under state ownership (Sakata and Prideaux, 2013, p. 884). The unique geographic nature and cultural diversity of PNG means there is no 'one size fits all' solution that can be applied to development from the 'top down', reflected in the lack of improvement in indicators of wellbeing in rural PNG. Evidence exists that approaches initiated from the bottom-up work better in indigenous communities as it allows for community participation and ownership of developments at village level (Fraser et al, 2005). Such a community-level approach is also culturally more acceptable as it can be applied with consideration to individual differences in culture and geography between villages and communities. Applications of this 'bottom up' approach in commercial (O'Brien and Ponting, 2013) and conservation (Benson, 2012; Ancrenaz, 2007) contexts in PNG have proved successful. Even when applied to the 'amenity poor remote' Waluma community, where external assistance for a conservation project was limited solely to an advisory capacity, this approach still proved successful (Sakata and Prideaux, 2013, p. 880). These examples, of 'bottom-up' development measures making positive change, imply that such measures can be extended to other rural, particularly remote, villages that are poorly integrated in the 'top down' service provision structures of the provincial government.

A lack of literacy, skills and monetary resources underlie the lack of self-initiated improvements in living conditions in most villages. Mainstream churches, other FBOs and NGOs have engaged in social entrepreneurship for many decades, by providing products and services, addressing the needs of rural communities (Seelos and Mair, 2005; ACFID, 2015). For instance, many rural health centres in PNG are church run facilities (Razee et al., 2012). In Buansing, concerns about social, health, education and economic issues are often raised following church services. Also, the Iwal Lutheran parish council is represented at Lutheran district meetings where issues beyond spiritual life are discussed. Iwal speaking women too have a voice through the Lutheran church, acting as an important link between district meetings and their community in Buansing. The rural

population is somewhat cynical about government agencies, given their experience of the political system in PNG. Conversely, churches have historically played a crucial role in the social fabric of village life and done so in a culturally acceptable manner, substantiated by the continued trust and influence churches enjoy in rural areas (Pelto, 2007).

Similarly, apart from their projects for the conservation of natural resources and engaging the local community in its management, NGOs are seen to be in a 'unique position' to liaise between the rural communities and the private sector (ACFID, 2015, 19). As such the NGOs in PNG are well positioned to engage with established businesses within the provinces and urge them to assume responsibility for these marginalised communities and encourage novel ways of creating social value (ACFID, 2015; Seelos and Mair, 2005). Further, remote rural communities are unable to engage freely in the cash economy without readily available income generating opportunities, which could take a while to be established. Thus, private sector involvement in social value creation is crucial in the initiation of social entrepreneurship, especially within these remote villages. As indicated before, women, through their involvement in FBOs, grassroots community organisations and NGOs are a driving force within their communities (Dickson-Waiko, 2003). However, without rapid change in social and cultural attitudes at village level (ACFID, 2015), most rural women will continue as silent partners in development through their involvement in local community organisations. FBOs, viewed as an integral part of the local community, have proven to be influential in changing attitudes (Pelto, 2007). Until then, a challenge at community level would be identifying projects, that create social value in a village, where women's willingness to engage in social development could be harnessed without trespassing on men's territory. A challenge for NGOs in initiating projects would be to earn community support (Bond et al., 2015) without raising community expectations of material benefits (Benson, 2012). A partner agency would need to 'demonstrate the effectiveness' of a project in improving lives (Stilltoe, 2010), to gain the support of men and thereby community acceptance.

NGOs and FBOs are already engaged in building and supporting social infrastructure and delivering capacity development at grass roots level. The PNG government implicitly accepts the social value creation by these organisations but does not explicitly include them as partners in development. Organisations such as ACFID (2015, 19) have voiced the need for 'Australian bilateral aid' to reach the 'underserved' in rural communities. International aid agencies and governments have spent an enormous amount of resources on rural development projects in PNG, with the expectation that a portion of this aid would flow through the provincial structures to remote villages and improve service delivery. From the PNG government's perspective, effective delivery of services to rural areas was the prime purpose of the reforms to the provincial structures, which came into effect completely in 1997 (Matbob, 2006). However, these provincial structures and aid received so far appear to have addressed only the needs of the urban and peri urban areas of the provinces.

Recommendations and limitations

As a first step remote villages that are not well integrated in the provincial structure need to be explicitly identified for an assessment of their current levels of access to services. Peri urban and other rural villages already integrated in the provincial structure should continue to be served by the provincial government.

Ideally in a bottom up approach to development, the role of the mainstream churches, FBOs and NGO should be formalised to support the local community in an advisory capacity in initiating ideas for improving wellbeing from within the community. This would enable villages to take advantage of the institutional features of these organisations, which are often adept at lobbying regional or national governments on behalf of local communities, for the provision of required infrastructure, education or health facilities. However, garnering political support for formal recognition of these agencies as partners in development may be difficult. Cooperation between the agencies active in a village if encouraged would improve their effectiveness in assisting the villagers in identifying, addressing, and improving village conditions. It would also increase the effectiveness

of lobbying for the provision of infrastructure to access markets, which the community may not be able to effectively address themselves. This would improve income generating opportunities and access to education and health services.

Providing mainstream churches and FBOs support for training programs could address the domestic violence issues (ACFID, 2015), and initiate a change in cultural attitudes of men towards women, which are of concern both to the people of PNG and international donor agencies. This could increase community participation in projects that create social value. Training for capacity development at community level would be essential for the construction of infrastructure, once a relevant project is identified, and for maintaining it on an ongoing basis. Wherever possible the use of natural resources readily at hand should be encouraged, not only for bio diversity conservation purposes but also to make ongoing maintenance financially viable for the community.

Some projects would require seed funding at its initial stages for specific training, specialist advice on biodiversity conservation or for material inputs. Others may require more financial support. External aid agencies are best placed to set up a fund for such purposes and require accountability, together with the provincial government, from the NGOs and FBOs managing the projects. Encouraging the private sector to contribute and assume co-ownership, thus ensuring ongoing maintenance, is essential. However, the community should be encouraged to assume primary ownership of the infrastructure and its maintenance, where able to, financially or otherwise.

Many foreign and local NGOs cease operations due to a lack of funding. Aid agencies could ensure that the NGOs are adequately funded to continue their programs until the capacity of the rural community is sufficiently developed to maintain and improve the systems established. The external aid agencies could also use the presence of the NGOs and FBOs to address the crucial need for accurate data collection, a serious limitation in estimating social indicators. Often, whatever little data collected is not accessible on a public domain and not analysed systematically (Mola and Kirby, 2013).

Concluding comments

Ultimately, it is the responsibility of the PNG government to ensure equitable growth. Nevertheless, it is also the responsibility of the aid agencies to ensure that project funding is pro-poor and reaches marginalised areas. These aid agencies cannot exhort the PNG government to include the mainstream churches, other FBOs and NGOs in their provincial structure as partners in development. However, the aid organisations themselves could explicitly recognise the strengths of these agencies as mediators between the local communities and the top down provincial structure, thus ensuring that the interests of the donors are also met.

Finally, the rural population would benefit the most from this 'bottom up' approach, as it can account for the distinct traditional lifestyles and differing needs of any local community in PNG. This approach could be launched immediately with the support of these agents of change and the aid agencies, thus compelling the government to address the shortcomings of the provincial structure of decentralised service delivery. Access to already existing services could be improved, after identifying gaps in the provision of services, with effective lobbying. Communities, where churches or NGOs are already present, in remote villages could initiate this 'bottom up' solution. Alternatively, external development agencies, as donors, could mobilise these agents of change to identify the gaps, starting with remote villages, and support them in addressing these gaps where possible at community level. Conclusively, a 'bottom up' rather than a 'top down' approach in identifying the 'needs' that have to be met by each community permits 'freedom of choice' for individual communities to determine their own pace of development.

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