Multidimensional Poverty and Vulnerability in Solomon Islands and Vanuatu

Simon Feeny

RMIT University, Australia

Lachlan McDonald

Oxfam Australia and RMIT University, Australia

Abstract

This paper draws on a recent household survey to examine the incidence and depth of poverty in the Solomon Islands and Vanuatu. It replicates the Multidimensional Poverty Index recently developed by the Oxford Poverty and Human Development Initiative. This represents the first time that the Multidimensional Poverty Index is calculated for the Solomon Islands and the first time that it is reported in either country at a sub-national level. The paper proceeds by tailoring the Multidimensional Poverty Index to become more appropriate to the Solomon Islands and Vanuatu. An additional, new, dimension of welfare is introduced to capture household access to productive gardens, basic services, and social support. Results indicate that rates of poverty vary greatly across location with the highest found in urban communities, as well as in remote locations. In addition to high rates of poverty, a large proportion of the population in these countries is close to the poverty threshold and therefore vulnerable to experiencing poverty.

1. Introduction

The relevance of income-based poverty to Melanesian countries such as the Solomon Islands and Vanuatu is disputed. With generally good access to environmental resources and strong family and social support networks, outright destitution has been rare and the term hardship preferred over poverty (Abbott and Pollard, 2004). With ongoing debates about the specific nature of poverty in these contexts, assessing poverty and developing policy responses is challenging. It has been considered, for example, that people in these countries live in 'subsistence affluence', in which subsistence producers have ample endowments of environmental resources and the ability to selectively apply labour to produce as much as is needed whenever required (Fisk, 1971; Cox, *et al.* 2007). As such, income-based assessments of poverty have largely been considered irrelevant or, at best, unsuitable. However, the term 'subsistence affluence' has itself been challenged: largely because it is inconsistent with low scores in indicators of human development (Morris, 2011). According to the UN's Human Development Index (HDI) Vanuatu ranks amongst the poorest third and the Solomon Islands amongst the poorest quarter of all countries – with the latter considered to have 'Low Human Development'. Pockets of malnutrition and hunger, while rare, are also known to exist (MICS, 2007) and neither country is on track to meet all of its Millennium Development Goal (MDG) commitments (PIFS, 2012). Moreover, the increasing need for money to enable the payment of school fess and the purchase of basic household goods and services is inconsistent with subsistence affluence.

A direct approach to assessing poverty is therefore likely to be more relevant to the Solomon Islands and Vanuatu. By focusing on the actual failures of the poor to meet minimum standards of living – including access to health, education, clean water and sanitation, and markets, as well as other factors which impact on a household's ability to meet its cultural obligations. Given the propensity of these countries to experience shocks,

vulnerability to poverty, defined as the likelihood, or risk, of falling into poverty in the future must also be assessed.

This paper uses the data from a household survey conducted in the Solomon Islands and Vanuatu in 2010-11 to calculate a Multidimensional Poverty Index (MPI). The survey was conducted in twelve diverse communities in the Solomon Islands and Vanuatu and was specifically designed to measure the incidence and depth of poverty. The paper replicates the MPI, developed by the Oxford Poverty and Human Development Initiative (OPHI) (Alkire and Foster, 2011a). The MPI directly measures a household's level of deprivation across ten indicators of wellbeing. These are split across three dimensions: education, health, and living conditions. Eight of the indicators are directly based on the MDGs (Alkire and Foster, 2010, p8). By linking the MPI with the MDGs Alkire and Santos (2013, p19) consider the measure to be an "acute measure of poverty conveying information about those households that do not meet internationally agreed standards in multiple indicators of basic functions, simultaneously". The paper proceeds by augmenting the MPI with information on access to a produce garden, health, education services, and local markets, to be more appropriate to Melanesian countries. The augmented index is referred to as the Melanesian MPI (or MMPI). In the case of Vanuatu, the analysis complements recent work from the Malvatumauri National Council of Chiefs in Vanuatu (MNCC), which examines alternative indicators of wellbeing in the Melanesian context (MNCC, 2012). The MNCC report focuses on self-reported happiness and life satisfaction and correlates these scores with resources access, measures of culture and community vitality.

2. Household poverty data

Fieldwork was conducted during 2010-2011 and consisted of over one thousand household surveys, more than fifty focus group discussions and a number of key informant interviews.

Six locations were targeted in both the Solomon Islands and Vanuatu. These were selected based on criteria that sought to reflect diversities: remoteness, economic activity, and environmental differences. The locations of the communities and their common characteristics are provided in Table 1 below. See Feeny *et al*. (2013) for further details.

Table 1: Research fieldwork locations and their characteristics

	Vanuatu	Solomon Islands	Characteristics
Urban	Port Vila (Efate) (Ohlen and Blacksands)	Honiara (Guadalcanal) (White River and Burns Creek)	Settlements in each country's capital city
	Luganville (Santo) (Pepsi and Sarakata)	Auki (Malaita) (Lilisiana and Ambu)	Settlements in each country's second largest town
Rural	Baravet (Pentecost)	Guadalcanal Plains Palm Oil Limited (GPPOL) Villages (Guadalcanal)	Rural communities heavily involved in commercial agriculture
	Hog Harbour (Santo)	Malu'u (Malaita)	Rural communities separated from the respective second city by a direct road
	Mangalilu/Lelepa(Efate)	Weather Coast/Marau Sound (Guadalcanal)	Communities on the same island as the respective capital city with known links to Oxfam Australia.
	Mota Lava (Banks Islands)	Vella Lavella (Western Province)	Remote communities a significant distance from the respective capital cities

3. The Multidimensional Poverty Index

Following Sen's conceptual work and utilizing improved availability of data, there has been increased interest within the literature on moving beyond the common monetary-based headcount of poverty to develop a multidimensional measure (Kakwani and Silber, 2008). Yet, while the multidimensionality of poverty is no longer disputed, there is not a full consensus on how multiple dimensions should be captured and assessed.

The MPI is perhaps the best known of recent efforts in this field, and is certainly the most widely applied, having now been estimated for more than one hundred countries (Alkire and Foster, 2011a). Poor households are identified using a dual cut-off method. The first cut-

off is an indicator-specific cut-off, which identifies whether a household is deprived with respect to each individual indicator. For example if a household has no electricity then it is considered deprived the electricity indicator. This draws from the contention of Bourguignon and Chakravarty who argue that a "multidimensional approach to poverty defines poverty as a shortfall from a threshold on each dimension of an individual's well-being" (2003, p25). The second poverty cut-off draws on the "counting" approach to multidimensional poverty, espoused by Atkinson (2003), in which households are allocated scores based on the number of indicators in which they fall below the respective threshold. Using the weights that are allocated to each indicator, a household's deprivation score is calculated as the weighted sum of its deprivations. A household is then considered MPI-poor if its deprivation score is greater than a critical threshold. The MPI statistics reported in the annual HDR are based on a threshold of one third (0.33).

The MPI is calculated using the following formula:

MPI = H x A

where *H* is the headcount or the percentage of people who are identified as multidimensionally poor and *A* (intensity) is the percentage of dimensions in which the average poor person is deprived. A household is deemed poor if it is deprived in at least 33 per cent of the weighted indicators.

In multidimensional, as in single-dimensional poverty, *H* (the headcount) is familiar, intuitive and easy to communicate. It can be compared directly with an income poverty headcount, or with the incidence of deprivations in another indicator, and also compared across time. *A* (intensity) reflects the extent of simultaneous deprivations poor people experience. Table 2 below provides the dimensions, indicators, deprivation thresholds and weights for the MPI. Note that there is no direct indicator for income or consumption. This arguably makes the index particularly appropriate for measuring poverty in Melanesia given

the region lacks reliable data on income and that a large proportion of the region's population lives a semi-subsistence lifestyle.

Table 2   Dimensions, indicators, deprivation thresholds and weights for the Multidimensional Poverty Index

Dimension (weight)	Indicator (weight)	Deprived if…
Education (1/3)	Years of Schooling (1/6)	No household member has completed 5 years of schooling
	School Attendance (1/6)	At least one school-aged child is not attending school years 1 to 8
Health (1/3)	Child Mortality (1/6)	A child has died within the house
	Nutrition (1/6)	Any adult or child for whom there is nutritional information is malnourished
Standard of Living (1/3)	Electricity (1/18)	The household does not have electricity
	Cooking Fuel (1/18)	The household cooks on wood, dung or charcoal
	Floor (1/18)	The house's floor is dirt, sand or dung
	Sanitation (1/18)	The household does not have adequate sanitation (according to the MDG guidelines) or is shared
	Water (1/18)	The household does not have clean drinking water (according to the MDG guidelines) or is more than 30 minutes' walk away
	Assets (1/18)	The house hold does not own more than one of: radio, television, telephone, bicycle, motorbike, or refrigerator, and does not own a car or truck

Source: Alkire (2011)

4. The Multidimensional Poverty Index for Melanesia

Although the OPHI has devised the MPI at the country level for Vanuatu, (relying on data from the UNICEF (2007) Multiple Indicators Cluster Survey (MICS) focusing on the health of children and women), data constraints have prevented the estimation of the MPI for the Solomon Islands. Moreover no regional index exists for these countries.

The household survey that was administered in these countries was designed to replicate the MPI for each of the twelve communities visited, as well as to collect specific information to tailor the index to the Melanesian context.

4.1 The Multidimensional Poverty Index for the Solomon Islands and Vanuatu

The household survey in this study collected data on all of the key deprivations, with the exception of the malnutrition indicator. The nutrition deprivation cut off in the index is if any adult or child for whom there is nutritional information is malnourished (Alkire, 2011). Malnourishment is measured using anthropomorphic indicators. Adults are considered to be malnourished if their Body Mass Index (BMI) is below 18.5.

Collecting accurate measurements for an adult's height and weight (even if present) was not possible for the household surveyors. Instead a proxy must be used for whether there is a malnourished adult in the household. This proxy is best based on information regarding the food security situation of each household. This is based on the strong (albeit incomplete) link between food insecurity and malnutrition (Black, *et al.* 2008). As consistent access to adequate food for active healthy living is an important dimension of nutrition. Health survey questions from the US Food Security module (a self-reported indicator of behaviors, experiences and conditions related to food insecurity), were used in the household survey conducted in the Solomon Islands and Vanuatu. The US Food Security Module has been shown to be an inexpensive, easy to use analytical tool for evaluating food insecurity (Rafei, *et al*., 2009). Moreover, it has been successfully adapted for use in a wide variety of cultural and linguistic settings around the world – in particular in Asia and the Pacific (Derrickson, *et al*., 2000).

Thus, as a proxy for malnutrition, responses to the following are used: "did you or any other adults in the house not eat food for an entire day because there wasn't enough money to buy food". Food is generally the most pressing of priorities for any human being and to have

gone without food for an entire day suggests severe food insecurity – particularly in Melanesia, where subsistence agriculture is so prevalent, social networks are strong and gift-giving is an ingrained cultural norm. Accordingly, if any household member is unable to draw upon these customary coping mechanisms for an entire day then the households' food insecurity situation is probably acute. Adults were chosen as the appropriate referent object for food insecurity since the original index threshold asks whether there is "any adult or child" that is malnourished. Given the tendency of parents to feed their children before feeding themselves, should children go without food for an entire day it clearly indicates more severe food insecurity (and one can doubtless infer that if a child in a household has gone without food, then so too have adults).

4.2 A Melanesian Multidimensional Poverty Index (MMPI)

Alkire and Foster (2011) consider the existing MPI as a generalized framework for measuring multidimensional poverty. They note that "While this flexibility makes [the MPI] particularly useful for measurement efforts at a country level, [decisions on dimensions cut offs and weights] can fit the purpose of the measure and can embody normative judgments of what it means to be poor" (Alkire and Foster, 2011b, p291). This paper therefore tailors the MPI to include further information relevant to the nature of poverty in Melanesia. In modifying the index it is important that any indicators are objective and quantifiable, have clearly-defined thresholds, can be categorised as a binary measure and, of course, are actually available.

In tailoring the MPI we introduce a new, fourth, dimension of welfare – that of *access*. Previous analysis illustrates that poverty in the Pacific is not about destitution, *per se*, but rather poverty of opportunity and a lack of access to key services (Abbott and Pollard, 2004). The importance of having access to a social support network is also a key aspect of well-being in Melanesia. Within the dimension of access we have devised three separate

indicators of poverty: the produce garden, remoteness of services, and the existence of a strong social network. Each of the four dimensions of wellbeing (i.e. health, education, standard of living and access) has been re-weighted to account for one quarter of the total weighting (compared with the one third that the three incumbent dimensions are each given in the standard MPI). The individual indicators for each of these respective dimensions have also been re-weighted accordingly. Each indicator and its deprivation cut-off are discussed in turn.

A garden is probably the most fundamental livelihood asset that households possess in Melanesia. Much of Melanesian culture revolves around the garden, both in terms of its fruits and the practice of gardening itself. Households that do not have access to a garden and its produce are therefore isolated from an important cultural activity and, more practically, must rely on the cash economy (or extended family favors) for their food. According to this indicator, a household is considered deprived if it reports not having access to a garden.

Remoteness of essential services is another important dimension of hardship in the Pacific, as identified by the ADB's Participatory Poverty assessments (Abbott and Pollard, 2004). The remoteness of many villages, and the funding constraints facing policymakers, results in a limited number of education and health providers. Additionally, access to centralised markets in which individuals can buy and sell a range of differentiated goods and services is also limited. This constrains the range of basic goods available for purchase and limits income earning opportunities. Specifically, a household is considered to be deprived if it takes more than half an hour to travel to a health service (hospital or clinic), a secondary school or to a market. While access to essential services might be partially picked up by other indicators of the index (in the health and education dimensions), this will not always be the case. The importance of access to services in Melanesia warrants the inclusion of a separate indicator.

Health is fundamental to human well-being and having good access to health clinics and hospitals is paramount during serious illness, injury or during child birth. High rates of infant and maternal mortality in Melanesia reflect poor household access to these services and the resultant human suffering.

Access to a secondary (rather than primary) school is assessed for a number of reasons. Having no secondary school close by was a very common complaint made by focus group participants and key informants. Similar complaints were not registered against the proximity of primary schools – even in the most remote and rural areas. Moreover, primary school education is (notionally) free in Melanesia and enrolment rates are high. Consequently, remoteness from a primary school (if it exists) does not appear to be a major constraint on education. In contrast, secondary schools are much less widely available in the Solomon Islands and Vanuatu. Thus, when a secondary school is not nearby, families are often required to send their children to school as long-term boarders (AusAID, 2012).

Strong social networks and the system of reciprocity are hallmarks of the traditional economy in Melanesia and key providers of a variety of important services (Regenvanu, 2009). Households that do not have anyone to rely upon in a time of need are therefore likely to be deprived of a key dimension of informal social security. Households are classified as deprived for this indicator if they are unable to rely on anybody in the event of someone in the household getting into financial difficulties and needing support. It is recognised that there is no objective measure of financial difficulty in this instance, and that the number of people relied upon is necessarily imprecise, but this information should nevertheless provide an indication of households that lie outside a social support network.

5. Analysis of the Multidimensional Poverty Indexes

Table 3 provides the incidence of poverty (*H*), the average intensity of poverty (*A*) and the index values for both the MPI and MMPI at a community and country level and Figures 1 plots the incidence of poverty.

At a country level, according to the MPI, the Solomon Islands has a greater proportion of households that are deemed poor, relative to Vanuatu. Focusing first on the headcounts of MPI-poor in each country; according to the household survey data, one quarter of Solomon Islands households are MPI-poor. Relative to other developing countries this is figure is similar to Bhutan, Guatemala and Nicaragua. In Vanuatu an estimated 16 per cent of households are deemed MPI-poor, a rate similar to Tajikistan and Mongolia. For the sake of comparison, in 2006, 26 per cent were estimated to be below the basic needs poverty line in the Solomon Islands and 16 per cent in Vanuatu (AusAID, 2009a). The average intensity of deprivation faced by the poor (*A*), is also relatively higher in the Solomon Islands. The survey data indicate that in the Solomon Islands, the average poor household is deprived on 43.0 per cent of the indicators compared with slightly less (42.3 per cent), in Vanuatu.

The MPI varies greatly across the communities surveyed in the Solomon Islands and Vanuatu and the data provide some important insights into the nature of poverty across location. With an incidence similar to Swaziland and the Republic of Congo, the remote Weather Coast (in the Solomon Islands) is by far the poorest location with 41.6 per cent of households deemed MPI-poor, followed by informal urban settlements in Auki with 34.6 per cent. The location with the least incidence of poverty was the Guadalcanal Plains Palm Oil (GPPOL) villages with 11 per cent of households deemed poor. In Vanuatu, the incidence of multidimensional poverty is highest amongst the squatter settlement communities in the capital Port Vila (with 28 per cent of households living in multidimensional poverty) and the remote community of Baravet, Pentecost, with 16 per cent. The incidence is lowest in

Luganville and Hog Harbour on the island of Santo with about 11 per cent of households deemed MPI-poor.

In the vast majority of developing countries, poverty is predominantly a rural issue. However, findings from this household survey reveal that poverty in Melanesia is actually highest in urban areas (Port Vila and Auki) as well as in remote, rural areas (such as the Weather Coast in Solomon Islands and Baravet in Vanuatu). In contrast, the least-poor communities are those that are essentially rural in character, with good access to land and opportunities to earn income from agriculture and tourism and with effective transport links to market centres (such as Luganville, GPPOL villages and Hog Harbour).[1] Interestingly, when communities are aligned broadly in terms of their remoteness from main markets, a distinctive U-shape pattern emerges in the distribution of poverty (see Figure 1). While this may be partially the result of the sample consisting of squatter settlements in urban areas, it does highlight potential dangers of migrating to urban areas that have limited income-earning opportunities and limited access to land for productive gardening.

Combining the headcount rate of poverty with the average intensity of deprivations yields the MPI values for each region. At a national level the Solomon Islands has a MPI value similar to that of Lesotho, Sao Tome and Principe, and Burma. Vanuatu has a value comparable to Indonesia and Bhutan.

According to the MMPI, which incorporates data regarding various forms of access, there is a higher percentage of households that are poor across all locations except for Malu'u

---

[1] It should be noted that Auki and Luganville are the second largest towns in the Solomon Islands and Vanuatu, respectively. The incidence of poverty in Auki tends to more closely resemble that of remote communities and capital cities while poverty in Luganville is more akin to the well-connected rural communities of GPPOL and Hog Harbour. In part, this may reflect the divergent economic fortunes of the two cities: in particular the steady stream of tourism to the east coast of Espirutu Santo that funnels through Luganville and is largely absent from Malaita. Indeed, it is likely to be no coincidence that Hog Harbour, which is connected to Luganville via the East Santo road, also performs relatively well on poverty and vulnerability metrics. This provides a cautionary tale of the importance of not over-generalising the results from twelve unique communities.

and Honiara in the Solomon Islands and Hog Harbour and the Banks Islands in Vanuatu. The higher incidence of MMPI poverty relative to MPI poverty in most communities is, in large part, due to the fact that most communities have a relatively high incidence of deprivation in the 'access' dimension. Urban regions stand out in terms of the lack of access to gardens, with 28 per cent of households, on average, across the four urban locations deprived in this indicator compared with only two per cent in rural communities. With the exceptions of the Banks Islands, Hog Harbour, Luganville and Honiara, communities recorded deprivation rates in the 'support' indicator in excess of 20 per cent, with Mangalilu and GPPOL recording deprivation rates in excess of 30 per cent. On the 'access to services' indicator, the geographically remote communities of Weather Coast, Vella Lavella and Baravet each recorded particularly high rates of deprivations, in excess of 80 per cent, reflecting a general lack of access to hospitals, secondary schools and markets (though access to a market in Baravet was much better than in the other two locations).[2] The provincial sub-station of Malu'u has the lowest rate of observed deprivation in the 'access to services' indicator, on account of the fact it is well serviced by a hospital, secondary school and market places. This evidence provides support for the importance of accounting for access when mapping the incidence and depth of poverty in Melanesian countries.

---

[2] Somewhat surprisingly, the Banks Islands, a particularly remote community, the deprivation rate in the access to markets indicator was the lowest of all the communities surveyed. This probably illustrates one of the potential shortcomings of different perceptions of what a market constitutes. However, this is unlikely to substantially bias the results since the market component is but one of three indicators of services access (which, in turn only comprises one twelfth of the MMPI) and the Banks had a relatively high proportion of households that were deprived according to the access to education indicator.

Table 3:Multidimensional poverty indices by location and country

	Honiara	Auki	GPPOL	Weather Coast	Malu	Vella	Vila	Luganville	Baravet	Mangalilu	Hog Harbour	Banks	Solomon Islands	Vanuatu
Multidimensional Poverty Indices														
Headcounts of Poverty and Average Intensity of Poverty; Comparisons Across Location and Country														
Multidimensional Poverty Index (MPI)														
Headcount Ratio (H)	23.0	34.6	10.6	41.6	26.8	15.4	27.6	10.6	16.4	13.3	10.5	15.4	25.1	15.8
Average Intensity (A)	41.4	41.6	44.4	46.9	42.4	38.9	43.8	43.8	43.9	42.8	38.2	38.9	43.0	42.3
MPI = H x A	**0.095**	**0.144**	**0.047**	**0.195**	**0.114**	**0.060**	**0.121**	**0.046**	**0.072**	**0.057**	**0.040**	**0.060**	**0.108**	**0.067**
Rank	5	2	10	1	4	7	3	11	6	9	12	7	1	2
Melanesian Multidimensional Poverty Index (MMPI)														
Headcount Ratio (H)	20.7	41.0	11.8	49.4	19.5	19.2	34.5	12.9	19.4	18.7	7.9	11.5	26.5	17.7
Average Intensity (A)	41.0	41.9	40.8	45.2	40.6	38.6	39.3	40.2	39.4	39.3	40.3	37.5	42.1	39.3
MMPI = H x A	**0.085**	**0.172**	**0.048**	**0.223**	**0.079**	**0.074**	**0.136**	**0.052**	**0.076**	**0.073**	**0.032**	**0.043**	**0.112**	**0.070**
Rank	20.7	41.0	11.8	49.4	19.5	19.2	34.5	12.9	19.4	18.7	7.9	11.5	26.5	17.7

Notes: Sample size N=955

Figure 1: Percentage of households in multidimensional poverty by location and country
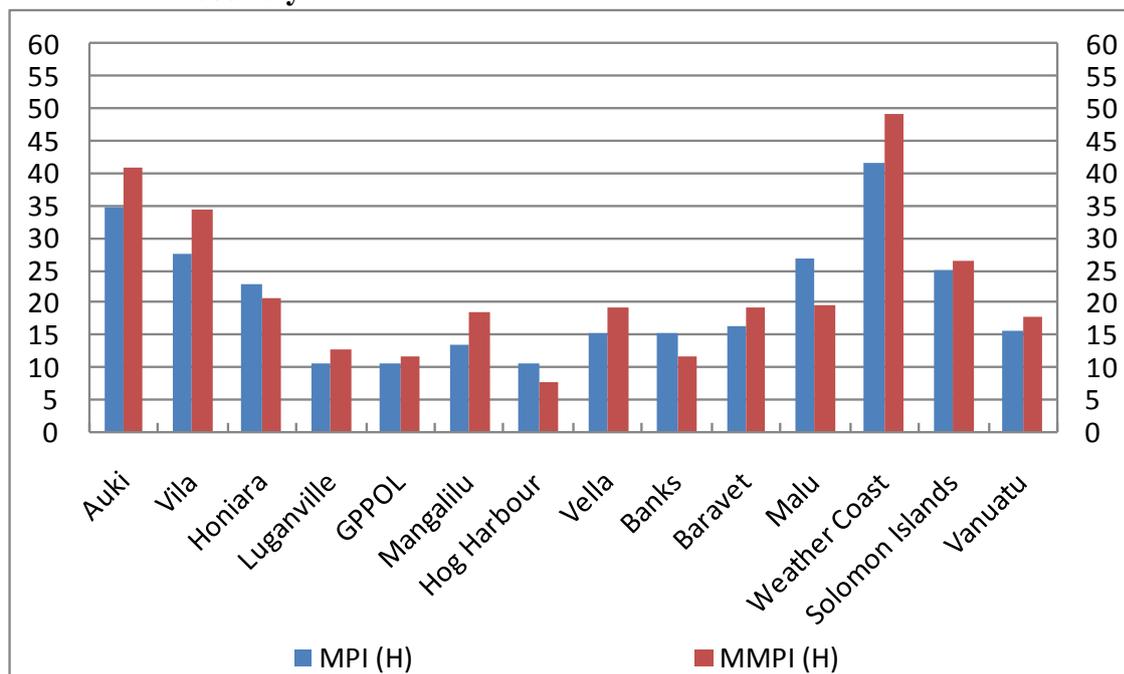

A further way of examining the indices is the identification of those who are severely poor and those that might be vulnerable to experiencing poverty. Disaggregating the indices can identify households that are severely poor (with weighted deprivations greater than 0.50 per cent and those that are less severely poor (those with a weighted deprivation between 0.33 and 0.50). Additionally, near-poor, or vulnerable, households can be identified in the sense they fall just shy of the threshold value to be considered MPI-poor. Vulnerable households are those with a weighted average of deprivations somewhere between 0.20 and 0.33 (Alkire and Foster, 2011a). Results from this exercise are presented in Figure 2.

Using both the MPI and the MMPI, the share of households that are neither poor, nor vulnerable to poverty is much higher in Vanuatu than it is in the Solomon Islands. Using the MPI, 62 per cent of households in Vanuatu are not poor or vulnerable, compared with 47 per cent of Solomon Islander households. Using the MMPI, these proportions are 49 per cent and 32 per cent, respectively.

However, in both countries a large proportion of households are vulnerable to experiencing poverty: 23 per cent in Vanuatu and 28 per cent in the Solomon Islands according to the MPI, rising to 33 per cent and 42 per cent for Vanuatu and the Solomon Islands respectively for the MMPI. In fact, in each case a greater proportion of households are deemed vulnerable than are actually in poverty – considerably so in the case of the Melanesian index. Given the higher degree of exposure of Melanesian households to shocks, these vulnerable households face a high likelihood of experiencing poverty in the future.

A relatively small proportion of households are observed to be in severe multidimensional poverty. In Vanuatu 3.8 per cent of households have a weighted average of deprivations in excess of 50 per cent. This is almost half of the rate of severe poverty in the Solomon Islands (7.2 per cent). While only 2.1 per cent of households in Vanuatu are severely poor according to the MMPI, the rate remains at 7.2 in the Solomon Islands (though these are not the same households, with the correlation between the two measures of severe poverty in the Solomon Islands only 0.66. However these aggregate results mask some significant variations between the regions. In the Weather Coast only 2.6 per cent of households are neither vulnerable nor MPI-poor (and 2.7 per cent of households are neither vulnerable nor non-poor using the MMPI). The Weather Coast and Auki also have the highest rates of severe poverty, with 11.7 per cent and 11.5 per cent of all households severely MPI-poor, respectively.

Figure 2: Multidimensional poverty, vulnerability and severe poverty by country
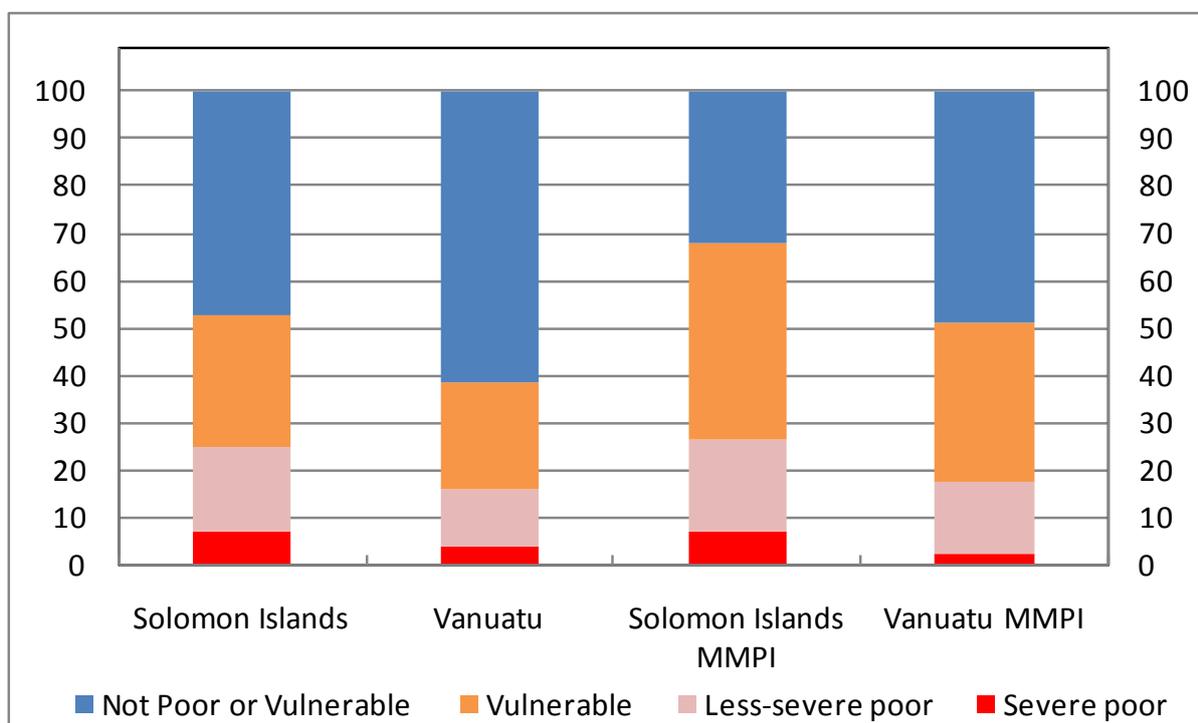
6. Conclusion

This paper is the first to analyse multidimensional poverty at a regional level in Solomon Islands and Vanuatu. Using unique household survey data conduced in 2010-11, it replicates the MPI from OPHI. It also tailors the index to better consider the Melanesian context, by including access to produce gardens, basic services and social support. The MMPI found that poverty in the Solomon Islands and Vanuatu not only varies between rural and urban locations but, in general, increased the incidence poverty reflecting the poor access Melanesian households often have to basic services. Multidimensional poverty was found to be highest in urban and remote locations.

For policymakers, the MMPI provides new insights into both the experience of poverty in the Solomon Islands and Vanuatu and the vulnerability to poverty. Central to

17

poverty responses should be the recognition of the importance of family gardens for the production of staple foods. In urban locations, access to land to tend gardens is limited. Without this underlying means of self-support, people living in urban centers have an increased risk of being unable to meet their basic food needs. Recognition that monetisation is a now an entrenched characteristic of the economies is also necessary for policymakers. Community life for families in the Solomon Islands and Vanuatu can no longer function effectively without access to a certain level of income. Cash is required to pay for basic necessities, including school fees, medical and educational services, as well as other basic necessities, such as electricity. Monetisation affects both urban and rural communities and policy responses to poverty are required to address this new circumstance. While traditional social obligations may have previously ameliorated the most obvious displays of poverty, social mobility, monetization and global economic impacts are limiting the social protection that these once provided.

Importantly, too, the results indicate that rural areas are far from monolithic. Rather, economic geography appears to play a critical role in determining both the incidence and depth of household poverty. The lowest rates of headcount poverty in both countries are observed in communities that are essentially rural in character, yet have good transport links to larger markets. The relative prosperity of these communities therefore appears to be built upon the readily-available land and strong social networks that characterise rural communities, as well as the lack of barriers to accessing markets. By reducing households' transactions costs effective transport links are likely to be simultaneously increasing the economic return from production and also placing downward pressure on the prices of consumables, in line with findings from elsewhere in Melanesia. This, in turn, encourages households to diversify their livelihood strategies, beyond subsistence production, gain access to the income required to pay for certain food items, such as rice and salt, as well as school fees and inter-island transport. In

addition, effective transport networks decreases the economic distance to essential services such as hospitals and schools, which may explain the relatively low rate of non-monetary deprivations in these areas.

Subsistence affluence is clearly now much less of a reality in the Solomon Islands and Vanuatu. The term 'subsistence affluence' may not be dismissed altogether. It can still be useful in helping to explain intermittent labour supply (whereby some households only engage in generating cash income on a needs basis) and potentially higher reservation wages (the minimum amount of money for which a household will choose to work). Moreover, AusAID (1999) notes that poor social indicators can exist alongside subsistence affluence, referring to 'poverty within subsistence affluence' implying that the terms are reconcilable.[3] Lifestyles are changing quickly and this paper demonstrates that the harsh reality faced by a significant proportion of the Ni-Vanuatu and Solomon Islanders is a relatively high incidence of poverty and an even higher rate of vulnerability.

---

[3] The issues are discussed in greater detail in the context of Papua New Guinea by AusAID (1999).

References

Abbott, D. and S. Pollard (2004), *Hardship and Poverty in the Pacific: Strengthening Poverty Analysis and Strategies in the Pacific*, Asian Development Bank, Manila.

Alkire, S. (2011), Multidimensional Poverty and its Discontents, *OPHI Working Paper No. 46*, Oxford Poverty and Human Development Initiative, University of Oxford.

Alkire S. and J. Foster (2010), Acute Multidimensional Poverty: A New Index for Developing Countries, *OPHI Working Paper No. 38.* Oxford Poverty & Human Development Initiative, University of Oxford

Alkire, S. and J. Foster (2011a), Counting and Multidimensional Poverty Measurement. *Journal of Public Economics,* Vol.95, pp. 476–487.

Alkire, S. and J. Foster (2011b), Understandings and Misunderstandings of Multidimensional Poverty Measurement, *Journal of Economic Inequality,* Vol.9, pp.289–314.

Alkire, S. and M. Santos (2013), Measuring Acute Poverty in the Developing World: Robustness and Scope of the Multidimensional Poverty Index, *OPHI working Paper No. 59,* Oxford Poverty & Human Development Initiative, University of Oxford

Atkinson, A. (2003), Multidimensional Deprivations, *Journal of Economic Inequality,* Vol.1, pp.51–65.

AusAID (1999), *The Economy of Papua New Guinea: Macroeconomic Policies: Implications for Growth and Development in the Informal Sector*, International Development Issues No. 53, Prepared for AusAID by Economic Insights Pty Ltd, Australian Agency for International Development, Canberra.

AusAID (2009), *Tracking Development and Governance in the Pacific,* Australian Agency for International Development, Canberra.

Black, R. L. Allen, Z. Bhutta, L. Caulfield, M. de Onis, M. Ezzati, C. Mathers and J. Rivera (2008) "Maternal and child undernutrition: global and regional exposures and health consequences", *The Lancet*, Vol 371 (9608): pp. 243–260

Borguignon, F. and S. Chakravarty (2003), The Measurement of Multidimensional Poverty. *Journal of Economic Inequality,* Vol.1, pp.25–49.

Cox, M, H. Alatoa, L. Kenni, A. Naupa, G. Rawlings, N. Soni, C. Vatu (2007), *The Unfinished State Drivers Of Change In Vanuatu*, Australian Agency for International Development (AusAID), accessed 14 March 2012 http://www.ausaid.gov.au/Publications/Documents/vanuatu_change.pdf

Derrickson, J.P., Fisher, A.G. and J.E.L.Anderson (2000), The Core US Household Food Security Survey Module Scale Measure is Valid and Reliable when Used with Asians and Pacific Islanders, *Journal of Nutrition*, Vol.130, No.11, pp.2666–2674.

Feeny, S., McDonald, L., Miller-Dawkins, M., Donahue, J. and A. Posso (2012), Household Vulnerability and Resilience to Shocks: Findings from Solomon Islands and Vanuatu, SSGM Discussion Paper 2013/3. Canberra: State, Society and Governance in Melanesia Project, RSPAS, Australian National University.

Fisk, E (1971), "Labour absorption capacity of subsistence agriculture", *Economic Record*, Vol. 47 (119): pp. 366-78.

Kakwani, N. and J. Silber (2008), Introduction: Multidimensional Poverty Analysis: Conceptual Issues, Empirical Illustrations and Policy Implications, *World Development,* Vol.36, No.6, pp.987–991.

MICS (2007) Multiple Indicator Cluster Survey: Vanuatu, UNICEF, available at http://www.unicef.org/pacificislands/MICS_Reportsmla.pdf, accessed 14 April 2013

MNCC (2012), Alternative Indicators of Well-being for Melanesia, Vanuatu Pilot Study Report, Malvatumauri National Council of Chiefs, Port Vila, Vanuatu.

Morris, D. (1979), *Measuring the Condition of the World's Poor: The Physical Quality of Life Index*, Pergamon, New York.

Morris, M. (2011), "Measuring Poverty in the Pacific". *Development Policy Centre Discussion Paper No. 9.* Crawford School of Public Policy, Australian National University, Canberra

PIFS (2013) Pacific Regional MDGs Tracking Report, Pacific Island Forum Secretariat, Suva.

Rafiei, M., Nord, M., Sadeghizadeh, A. and M.H. Entezari (2009), Assessing the Internal Validity of a Household Survey-Based Food Security Measure Adapted for use in Iran, *Nutrition Journal,* Vol.8, No.28.

Ravallion, M. (2010), Mashup Indices of Development, Policy Research Working Paper No. 5432, World Bank, Washington.

Regenvanu, R. (2009), *The Traditional Economy as the Source of Resilience in Melanesia*, Vanuatu Cultural Centre, Port Vila.

Sen, A. (1993), Capability and Well-Being, in Nussbaum, M. and A. Sen (eds), *The Quality of Life,* Clarendon Press, Oxford.

UNDP (1990), *The Human Development Report,* United Nations Development Program, Oxford University Press, Oxford.

UNICEF (2007), *Vanuatu Multiple Indicators Cluster Survey*, United Nations Children's Fund, New York.