Multidimensional Child Poverty in Papua: Empirical Evidence from 6 Districts[1]

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Abstract

Childhood poverty is on root of adulthood poverty. It became their barrier and destroyed their opportunities to play successively in adulthood. Poor children are more likely to have worse adult outcomes than non poor children. Poor children with lack of access to survive and develop will likely grow to be poor adult who will more likely to transfer poverty to their children when they become parent. Because of limited sources child poverty in district level in Papua context, this paper would like to explore child poverty analysis using a Multiple Indicators Cluster Survey (MICS) data. The analysis on this paper focused on non-monetary dimension of child poverty and follows the Bristol approach of 8 Dimension of severe and are limited to the dimension of safe drinking water, sanitation facilities, health, shelter, education, information, The findings show that children in Jayawijaya are most deprived in almost all dimension (are most deprived). Jayawijaya also dominates the distribution of poor children from multidimensional perspectives.

Key Words: Multidimensional Poverty, Deprivation, Children, Papu

[1] The views expressed in this paper are the views of the author and do not necessarily reflect the view or policies of UNICEF.

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Introduction

The United Nations Convention on the Rights of the Child (CRC) at 1990 has significant impact to create more attention on fulfilling child rights. Indonesian constitutions provide strong attention on protecting child rights and also had ratified the CRC (Government of Indonesia, 1990). Some government's policies and programs that complementary to protect child right have been launched especially to protect the poor from the impact of 1998 economic crisis (Sparrow, 2006), to provide universal access to basic education (World Bank, 2010) or widening health access for the poor (Sparrow et al, 2010; World Bank, 2011).

Child poverty is evidence on the country cannot provide universal access on fulfilling child rights With higher attention on child rights, child poverty issues are increasingly discussed and observed in last decade. Studies on child poverty show that child poverty happens not only in third world country but also in developed world (Gordon et al, 2003; UNICEF, 2005a; Eurochild, 2007; Roelen 2010).

Childhood poverty is a root of adulthood poverty. It became their barrier and destroyed their opportunities to play successively in adulthood. Poor children are more likely to have worse adult outcomes than non poor children (Duncan et al 1998; Oshio et al, 2009; Ratcliffe and McKernan 2010) including lower success in labor market than non poor children (Gregg and Machin, 1998). Poor children with lack of access to survive and develop will likely grow to be poor adult who will more likely to transfer poverty to their children when they become parent (Moore, 2005; Bird, 2007).

Poverty has multi-face and multi-dimension and denies children their fundamental human rights. Reducing child poverty means fulfilling child right on required good and service on their survival and development. It also means to provide opportunities for disadvantaged children to participate on society. Without concern to provide universal access to education, health and protection for children, it seems to be impossible to meet equal opportunity for children. In this aspect, governments' roles to provide public services are crucial (Gordon et al, 2003; UNICEF, 2000; UNICEF 2005a, Eurochild, 2007). Unfortunately, even if government provides equal access for children to public access, children are relatively vulnerable to deprivation if they or their parent have obstacle to get benefit from public access (Gordon et al 2003a; 2003b; UNICEF 2005b).

The high level of poverty and challenge on providing access to public services can be found in Tanah Papua. Tanah Papua, the name for the two most eastern provinces of Indonesia (Papua Province and West Papua Province) have higher proportions of populations living below the poverty line than any other provinces in the country (Landiyanto 2011). According Smeru, (2011) Children in Papua is also among the most deprived in Indonesia.

Papua and West Papua Provinces are two of few provinces in Indonesia that have special autonomy status. Special autonomy in Papua and West Papua is a tool of political compromise and the new balancer to accommodate local interests in Papua. As a point of political compromise or balance, Autonomy is expected to be a solution to the various problems faced by Papuans in the past, and also become the basis for the provision or improvement of social, political, economic and cultural. A new development paradigm in Papua is to improve the welfare of native Papuan in which there are provisions that mandated the government to do things related to the rights of the people of Papua in obtaining access to education and health care (Bappeda Papua, 2013).

Contrasting to Law No. 32/ 2004, and PP No. 38/2007) that providing autonomy to district governments, special autonomy in Papua was given to provincial government in which also supported by presidential regulation No. 65 Year 2011 on the Acceleration of Development in Papua and West Papua stating "Accelerated Development in Papua and West Papua Provinces implemented through improved coordination, synergy and synchronization of planning, implementation and control of programs and activities that are derived from various funding sources and agents of development in accordance with the provisions of the legislation in the field of public finance.

Special autonomy law for Papua Province give mandates to Province government that at least 30% of the Papua provincial government revenues from natural resources revenue from the mining of 70% oil and natural gas mining by 70% is allocated for education expenses and 15% for health care costs (Law No 21, 2001, Article 36 Paragraph 2).

Under Special autonomy, Papua and West Province have authority to coordinate districts on the implementation of special autonomy and utilization of special autonomy funds to increase the welfare of Papua people.

Unfortunately, comprehensive child poverty profile did not exist to support government policy to protect the poor children under special autonomy in Papua. The study that discusses more specific aspect on child poverty such as measurement in sub-national level (especially in Papua context) are very limited[3]. The previous study on child poverty and inequality in Indonesia is limited and only discuss on measuring child poverty at national level (Smeru, 2011)[4]. On the other hand, Papua is place where monetary based poverty measurement will be not working well because of inconsistency between high expenditure (high price and lack of supply) and deprivation.

In 2010, UNICEF and Government of Indonesia conducted the piloting of multiple indicators cluster survey (MICS) in Tanah Papua. MICS would be able to provide rich data on health, education, child protection, HIV and AIDS data at district level. MICS conducted in 3 districts in Papua Province and 3 Districts Tanah Papua. MICS also filled the data gap and open opportunity to conduct child poverty measurement at districts level and compare the situation among districts

Therefore, the research objectives for this study are to identify on the methods on how to measure child poverty and identify the characteristics of poor children based on multiple indicators cluster survey (MICS) in the Tanah Papua context. Based on the findings from this study, it will be expected to provide policy recommendation the appropriate strategy to reduce child poverty and to protect poor children in Tanah Papua.

Literature review

The conceptual debate of poverty measurement rose rapidly since 1970 (Maxwell, 1999). Sen (1979b) proposed two methods to measure poverty. First is direct methods, that is identify whose consumption fails to meet minimum needs. The second method is money methods. Using money methods, the people classified as poor and non poor based on poverty line. People who have income below poverty line would be categorized as poor. Non poor classification is for who have income higher than poverty line. Fusco (2003) classified poverty as traditional a dimensional approach that usually use a single

[3] Base on Google search with keyword "Child Poverty Indonesia"
[4] The first child poverty study in Indonesia is conducted by Smeru Research Institute in 2010 with support from UNICEF. The report will be available by 2011. The statement is based on author's observation on the Smeru's report.

monetary indicators and more recent multidimensional approach. Followed Sen (1979a), Ravallion (1994) and Haughton and Khandker (2009) stated that poverty could be classified as welfarist approach that focus on measuring input to generating "utility" and nonwelfarist approach that focus to measure the reflection of attainment of certain level of "utility"

Consistent with Coudouel, et al (2002), those classifications above (Sen, 1979a, 1979b, Ravallion, 1994; and Haughton and Khandker 2009) can be simplified as monetary approach for poverty measurement for which is consistent with Sen's welfarist classification and non-monetary approach for which is consistent with Sen's non-welfarist approach.

Monetary approach is widely used for poverty measurement. According sen (1979b), the advantage of monetary approach is ability to provide numerical distance from poverty line, in which non-monetary line doesn't provide. Thorbecke (2005) explained that the common approach to measure proxy of income is through aggregation of goods and services consumed or enjoyed by individual that measured in single indicator of monetary value.

Despite the advantages, monetary approach also has some identified weakness. Fusco (2003) and Thorbecke (2005) stated that poverty has multidimensional faces and cannot be measured by singe income indicator. The monetary approach works on basic assumption of equal access of goods and services. When the market goods and services work imperfectly, the same threshold of income cannot generate equal access to utility. Delamonica et al, (2006) argued that the monetary approach gives little consideration to household structure, gender, and age. In child poverty context, It ignores that children's needs are different from those of adults

Non-monetary poverty measurement provides wider perspective of poverty. The evolution of non-monetary poverty measurement brings holistic approach to capture multi-dimensional aspects of poverty. Poverty can be seen from the wider perspectives such as sufficiency of basic needs, access to education, health, access to political participation (Fusco, 2004; Thorbecke, 2005; Wordsworth et al, 2005) and also includes capabilities variables that may not be so easily measurable – like the capability to participate in society without facing discrimination (Delamonica et al, 2006)

Ravallion, 1994 and Haughton and Khandker (2009) perceived that although the non-monetary approach might useful to measure certain multidimensional picture of poverty, the interpretation will be demanding since possibility of bias because imperfection from input to output.

The debate and evolution of poverty measurement bring new dimension on how to measure children living in poverty (Delamonica et al, 2006). They argued that child poverty should be measured as a multi-perspectives problem that requires comprehensive strategies to address its many features. Their argument conceptually ideal but bring a big question as explained by Roelen (2010) on how to implement the analysis since the debate on monetary versus non-monetary approach also occurs on measuring child poverty. As summary, **Table 1** provides some literature surveys of the debates on how to measure child poverty using survey data.

Table 1. Debates on Methods for Measuring Child Poverty using Survey Data

	Dimension	Advantages	Disadvantages	Sources
Monetary				
Per-capita Approaches	Household Income/ expenditure. Usually based on poverty line	Simple to compare	Cannot capture non-economic dimension	UNICEF, (2000b; 2005c)
Child Cost	Household expenditure on children	More accurate than percapita approaches	Need more detail expenditure data	Lino, 2011
Equivalence Scales	Incremental cost of children	Regard household size and ages	Need more detail expenditure data	White and Masset, (2002a; 2002b)
Non-Monetary				
Bristol Approach	8 Dimension of Deprivation: • Food • safe drinking water, • sanitation facilities, • health, • shelter, • education, • information, • access to services.	Can be generated from household survey data	Did not cover exclusion	Gordon et al, (2003a ; 2003b); UNICEF, (2005a)
Child Well Being Approach	Dimensions of Well Being: • Material well being • Health and safety • educational well being • family and peer relationship • Behavior and risk • Subjective wellbeing.	Provide comprehensive picture	Need specific data collection on subjective well being	Bradsaw et al (2006), UNICEF (2007)
DEV Framework	• Deprivation • Exclusion • Vulnerability	Provide comprehensive picture	Difficult for operationalize	Wordsworth et al (2005)
Young lives multidimensional poverty	• Nutritional status • Physical morbidity • Mental morbidity • Life skills (literacy, numeracy, work skills etc) • Developmental stage for age • Perceptions of well-being and life chances	Provide comprehensive picture	Need comprehensive data	Young lives (2011)

Source: Multiple References, compiled by author

Roelen (2010) compared the result of monetary and multidimensional non-monetary approach in Vietnam. She found that each method provide different picture of poverty that lead to different conclusion that means that multidimensional non-monetary approach cannot serve as proxy of monetary approach and vice versa. Therefore, review and testing each child poverty measurement approach based on local situation and data availability will be essential strategy to eradicate child poverty.

Although the UNICEF global approach for measuring child poverty are using Bristol methods, adaptation of the methods based on data availability and local situation in Papua are very crucial. Multiple indicator cluster survey (MICS) in Papua will be important sources to fill data gap for conducting child poverty measurement. Therefore, adapting UNICEF global child poverty measurement approach based on MICS and local context will be rational strategy for the optimization of MICS data utilization and policy advocacy to address child poverty in Papua.

Methodology

This paper would like to explore child poverty analysis using a Multiple Indicators Cluster Survey (MICS) data that collected by BPS in Papua and West Papua in 2011 with support from UNICEF. The sample size is 5912 households from 6 districts in Papua Province (Biak, Merauke and Jayawijaya) and West Papua Province (Manokwari, Kaimana and Sorong). The analysis focused on selected cases of 10628 children under 18 and households that have children under 18 years old that extracted from the MICS data set.

Following Gordon et al (2003b)'severe deprivation of basic human need in this paper is defined as those circumstances that are highly likely to have serious adverse consequences for the health, well-being and development of children. Severe deprivations are causally related to both short-term and long-term poor developmental outcomes of children.

The analysis on this paper focus on non-monetary dimension of child poverty and follows the Bristol approach of 8 Dimension of severe deprivation and its thresholds (Gordon et al, 2003a; 2003b) that widely used on UNICEF's sponsored in global studies in child poverty. Since MICS data of Papua did not adequately provide food (anthropometrics measurement) and access to services indicators, the analysis in this paper are limited to the following dimensions and selected indicators in which will be analyzed from both uni-dimensional and multi-dimensional lens:

- Safe drinking water ➔ Severe Water Deprivation - children who only had access to surface water (e.g. rivers) for drinking or who lived in households where the nearest source of water was more than 15 minutes away (e.g. indicators of severe deprivation of water quality or quantity).
- Sanitation ➔ Deprivation of Sanitation Facilities – children who had no access to a toilet of any kind in the vicinity of their dwelling, e.g. no private or communal toilets or latrines.
- Health ➔ Severe Health Deprivation – children who had not been immunized against any diseases or young children who had a recent illness involving diarrhea and had not received any medical advice or treatment.

- Shelter ➔ Severe Shelter Deprivation – children in dwellings with more than five people per room (severe overcrowding) or with no flooring material (e.g. a mud floor).
- Education ➔ Severe Education Deprivation – children aged between 7 and 18 who had never been to school and were not currently attending school (e.g. no professional education of any kind).
- Information ➔ Severe Information Deprivation – children aged between 3 and 18 with no access to, radio, television, telephone or newspapers at home.

Gordon et al (2003a; 2003b) argued that children who suffer from these levels of severe deprivation are very likely to be living in absolute poverty because, in the overwhelming majority of cases, the cause of severe deprivation of basic human need is invariably a result of lack of resources/income. Gordon et al (ibid) also argued that there may also be some children in this situation due to discrimination, (particularly girls suffering severe education deprivation) or due to disease (severe malnutrition can be caused by some diseases). Therefore, they assumed that a child is living in absolute poverty only if he or she suffers from multiple deprivations (for example two or more severe deprivations of basic human need as defined above). Similarly, a household with children is defined as living in absolute poverty if the children in that household suffer from two or more severe deprivations of basic human need.

Alkire and Forster (2011) identified three criterions for identify persons who are multidemensionally poor. The first identification criterion is called union method of identification in which for example was used by Bourguignon and Charavarty (2003). In this approach, a person is said to be multidimensionally poor if there is at least one dimension in which the person is deprived. The other multidimensional identification method is the intersection approach, which identifies a person as being poor only if the person is deprived in all dimensions. A natural alternative is to use an intermediate poverty cutoff level of k between 1 and d dimensions (k=1,…,d). Following the Gordon et al (2003), children will be categorized as deprived if he do suffer according the criteria of union method of identification (k=1) but children will categorized as absolute poor if meet poverty criteria of intersection approach with k=2.

Findings and Analysis

Children living in poverty experience deprivation of the material, spiritual and emotional resources needed to survive and develop. It leave them unable to enjoy their rights, achieve their full potential or participate as full and equal members of society (Badame et al, 2005). Household level monetary based poverty analysis will not adequate for supporting child specific social protection because it's left high exclusion of poor children from non-monetary poor household. Especially for areas in which frequently and deprivation are not consistent. Therefore, identification of non monetary dimension and deprivation are very crucial to strengthen targeting and support the child poverty reduction in Papua.

Table 1: Correlation among Child Poverty Indicators (Children)

	Water	Sanitation	Health	Edu	Shelter	Info
Water	1					
Sanitation	.312**	1				
Health	.285**	.262**	1			
Education	.246**	.230**	.[b]	1		
Shelter	.037**	.103**	.025	.073**	1	
Information	.296**	.405**	.272**	.259**	.129**	1

**. Correlation is significant at the 0.01 level (2-tailed).
b. Cannot be computed because different age groups

Table 1 shows correlation among the indicators of child poverty. Consistent with findings in other country (Roelen 2010), the correlations between severely deprived in accessing water and severely deprived in sanitation without access to any toilet those are considerably high. Additionally, correlation between severely deprived in information, it means without access to, radio, television, telephone or newspapers at home to sanitation is also very high, even it has the highest correlation. On the other hand, the correlation between shelter deprivation and health deprivation on without access on immunization is low in which not surprising since in Papua, lack of immunization is also depend on the quality of health services outreach.

Table 2: Deprivation Headcount of Individual Indicators of Children (%)

	Water	Sanitation	Health	Edu	Shelter	Info
Merauke	12.3	7.4	3.7	2.6	10.7	11.5
Kaimana	6.8	29.6	19.1	2.9	5.8	12.4
Manokwari	3.3	20.3	17.3	2.2	5.1	10
Jayawijaya	38.7	58.1	34.9	16.2	8.8	45.5
Sorong	3.6	9.4	8.3	1.8	5.8	12
Biak	4.2	11.1	7.4	2.1	7.6	12.7
Urban	1	7.5	9.7	1.3	6.2	3.1
Rural	14.9	27.1	16.9	5.4	7.8	21.9
Total	10.5	20.9	14.5	4.1	7.3	16

Source: MICS data 2011, calculated by author

The relationship between clean water, health and poverty has known for a long time. About 38 percent of children in Jayawijaya severely deprived in access of water and only had surface water as drinking water sources, it much higher if compared to Sorong with only 3.6 percent of children. . According Gordon et al (2003b) deprivation in water is evidence that health services are unable to meet the basic needs of the population and diseases resulting from a lack of water contribute to the overburdening of the system. Sick children are unable to attend school, so affecting their education and further limiting what opportunities they have. Where people are water deprived, the burden of collecting and transporting water often falls on women and children and fetching water is a activity that takes up valuable time which could be spent at school or working.

Access to improved sanitation facilities has been shown to be the critical factor in improving child health. An improved sanitation facility is defined as one that hygienically separates human excreta from human contact. Improved sanitation facilities for excreta disposal include flush or pour flush to a piped sewer system, septic tank, or pit latrine; ventilated improved pit latrine, pit latrine with slab, and use of a composting toilet. In general, 27 percent of children in rural area in Papua did not have access to improved sanitation in which larger if comparing 7.5 percent of children in urban area. Representing highland area, 58% of children in Jayawijaya is severely deprived in sanitation without access to any toilet that are very high if compared with Merauke that have only 7.4 percent deprived children in sanitation.

Education can have significant benefits with respect to the wider goals of development. Gordon et al (2003b) argued that this is particularly the case when the education of women is improved. The mother's role in relation to her children is

significant because it is she who will be responsible for making sure that they have been fed, attended school or are taken to the health services in times of illness. A child who has had no basic formal education is highly likely to be illiterate and have his or her development impaired by modern standards. Table 2 shows that although in general is only about 4 percent of children age 7-18 years old are severely deprived in education and never been went to schools, in some areas the situation are worse. For example in Jayawijaya, 16 percent of children never went to schools. This figure would much be higher when also regard children who ever attended primary schools but drop out.

Immunization against the main childhood diseases is a universally recommended and cost-effective public health priority, for which internationally agreed targets exist. Immunization plays a key part in reducing under-five and infant mortality. Unfortunately, about 14.5 percent of children in six observed districts never get any immunization. Children in rural area were less likely to get any immunization comparing to urban area. Even in Jayawijaya districts the situation was worse, about 34 percent of children are also severely deprived in health without access to any immunization.

Gordon et al (2003b) argued that a crowded dwelling (more than five people per room) an indicator of severe quantity deprivation of shelter since it highly correlated to slum and poverty. 7.3 percent of children in Papua, 7.8 percent in rural area and 6.2 percent in urban area, living in overcrowded with more 5 people per-room and poor quality housing. Borrowing Gordon et al (ibid) severe crowding increase risk of fire (firing) and accidents. Those children with a lack of basic services are exposed to diseases such as diarrhea, respiratory infections, measles, malaria, cholera and dengue fever.

Gordon et al (2003b) also argued that lack of access to information is considered to be a characteristic of absolute poverty. Children's access to information is seen as both a basic human right and an important requirement for children's especially for modern societies. Modern societies require a well educated and informed population in order to prosper and eradicate poverty. Children in Papua need access to information in order to know and understand about the world outside their own communities. Unfortunately about 16 percent of children in Papua did not have any access to information with higher proportion in rural area. The largest proportion of children without access of information

is in Jayawijaya, one of highland districts of Papua, in which about 45 percent, largest among six observed districts.

Table 3: Correlation among Child Poverty Indicators (Households with Children)

	Water	Sanitation	Health	Edu	Shelter	Info
Water	1					
Sanitation	.348**	1				
Health	.287**	.335**	1			
Education	.246**	.252**	.c	1		
Shelter	.034*	.084**	-.015	.084**	1	
Information	.303**	.438**	.336**	.264**	.110**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

c. Cannot be computed because different age groups

Table 3 shows correlation among the indicators of households with poor children. The correlations between severely deprived in accessing of water severely deprived in sanitation without access to any toilet that are considerably high. Additionally, correlation between severely deprived in information, it means without access to, radio, television, telephone or newspapers at home to sanitation is also very high, even it has the highest correlation

Table 4: Deprivation Headcount of Individual Indicators of Households (that have children) with Poor Children (%)

	Water	Sanitation	Health	Edu	Shelter	Info
Merauke	10.1	5.2	2	2.9	6.3	9.3
Kaimana	6.6	27.3	11.2	3.2	4.2	11.6
Manokwari	3.2	19.4	9.2	2.9	2.8	9.2
Jayawijaya	40.0	60.9	20.4	15	6.1	42.9
Sorong	2.4	6.5	3.7	2.2	3.4	7.8
Biak	3.5	10.4	5.4	2.6	5.2	11.9
Urban	0.7	6.9	5.8	1.7	4	3
Rural	14.5	25.7	9.1	5.8	4.9	19.6
Total	10.1	19.7	8.1	4.5	4.6	14.4

Source: MICS data, calculated by author

Unsafe drinking water can be a significant carrier of diseases. Drinking water can also be tainted with contaminants with harmful effects on human health. Household level analysis in Table 4 shows similar result compared to individual children analysis in Table 2. About 40 percent households who have children in Jayawijaya severely deprived in access of water and only had surface water as drinking water sources, it much higher if compared to Sorong with only 2.4 percent of households. Safe drinking water is a basic necessity for good health. In addition to its association with disease, access to drinking water may be particularly important for women and children, especially in rural areas, who bear the primary responsibility for carrying water, often for long distances.

Inadequate disposal of human excreta and personal hygiene is associated with a range of diseases including diarrheal diseases and polio. Improved sanitation can reduce diarrheal disease by more than a third, and can significantly lessen the adverse health impacts of other disorders responsible for death and disease among children. 60 percent households with of children in Jayawijaya is also severely deprived in sanitation without access to any toilet that are very high if compared with Merauke that have only 5.2 percent deprived children.

Universal access to basic education and the achievement of primary education by the world's children is one of the most important goals of the Millennium Development Goals and A World Fit for Children. Education is a vital prerequisite for combating poverty as well as empowering women and protecting children. 5.8 percent of households with have severely deprived children who are 7-18 years old but never went school. Even in the jayawijaya, the situation are worse, 15 percent households are severely deprived in education because their children never had been went to schools.

Out of all selected districts, the survey results show that Jayawijaya district tended to have most deprived households in health with 20.4 percent households with deprived children under 5 years old without access to any immunization, while the most deprived househouhold in West Papua is Kaimana (11.2 percent).

Children in those districts are also deprived in other dimensions such shelter and information. 4.6 percent of households in targeted districts are deprived in information in shelter. Additionally 14 percent of households in targeted districts are deprived in information in which particularly in rural area with 19 percent.

Table 5: Raw Poverty Headcount

	% Poor Children			% Household with Poor Children		
	K=1	K=2	K=3	K=1	K=2	K-3
Merauke	30.6	10.2	3.8	24.7	7.0	2.9
Kaimana	47.7	16.1	3.9	45	15.5	3.1
Manokwari	32.7	10.5	3.4	31	10.8	3.7
Jayawijaya	70.9	55.9	34.0	73.9	58.5	35.5
Sorong	26.8	7.9	2.2	19.2	4.8	1.6
Biak	32.4	8	2.0	29.5	7.2	1.7
Urban	18.8	3.9	0.9	17.2	3.7	1.0
Rural	47.1	22.3	10.4	43.4	21.3	10.3
Total	38.1	16.4	7.4	35.1	15.7	7.4

Source: MICS data 2011, calculated by author

Consistent to dominance of Jayawijaya dominate on uni-dimensional child poverty, Jayapura has highest incidence of multidimensional poverty. With use K=1 (poor in one of 6 child poverty indicators) for poverty cut off point (union approach), more than 70 percent of children in Jayawijaya categorized as poor. When use K=2 as cut off point more than 55 percent of children in Jayawijaya categorized as multidimensional poor under two of 6 child poverty indicators.

Gordon et al (2002) identify four groups of child poverty. The first groups are demographic factors: such as age, gender, number of adults and children, family structure – child poverty can result if there are too few adults compared with the numbers of children to both adequately care for the children and provide sufficient economic resources to prevent poverty. Despite the various programs under special autonomy initiated to improve the children health condition and survival, and the special attention and assistance being directed to the poor, children in remote areas and highland, in income (asset) poor households are still more deprived.

Second cause is social class/socioeconomic status: such as occupation and educational attainment – child poverty can result from parental occupations with low earnings or asset in which can be explained more by table 6 and table 7.

Table 6: Deprivation Headcount of Individual Indicators of Children by Asset (%)

	Water	Sanitation	Health	Edu	Shelter	Info
Poorest	33.1	68.8	37.8	15.1	12.9	56.6
Second	9.7	20.4	10.4	2.6	9.7	15.0
Middle	5.2	7.0	9.0	1.9	6.2	3.9
Fourth	1.5	2.6	6.0	0.1	4.6	0.0
Richest	0.0	0.0	5.5	0.3	1.9	0.0

Source: MICS data 2011, calculated by author

People who are defined as living in poverty by different measures of poverty are different. This inevitably means that the policy response to poverty will be different depending on which measure is employed. Table 6 shows that there are some children in middle, fourth and richest quintile that are not categorized as poor based on wealth indexes, deprived in child poverty indicators. Consistent to table 6, there are significant exclusion from quintile based wealth indexes when numbers of children poor in one of 6 child poverty indicators for K-1 poverty cut off point (union approach) when are not categorized poor based on wealth indexes from asset perspectives.

Table 7: Raw Poverty Headcount by Asset

	K=1	K=2	K=3	K-4
Poorest	90.4	63.0	33.0	11.9
Second	50.2	11.3	1.9	0.3
Middle	25.7	2.8	0.1	0.0
Fourth	11.9	0.7	0.0	0.0
Richest	4.6	0.1	0.0	0.0

Source: MICS data 2011, calculated by author

The third cause is recognition factors: such as ethnicity and religion – child poverty can result due to discrimination against low status ethnicities, religions, in which have not discussed well in this paper and the fourth cause is geographic factors: such as location, region, etc. Child poverty can result due to a lack of infrastructure in the geographic location such as highland area of Papua.

Implications and Policy Recommendation

This paper was written with some limitations from methodological perspection, first limitation is the missing of nutrition dimensions as required on Bristol approach of child poverty because it is not available in the dataset. Additionally, this paper did not able to conduct overlap and exclusion analysis since there no income and expenditure data in data set, but instead, this paper tried to conduct overlap analysis between child poverty indicators and wealth quintile based on asset.

Papua has very specific social capital, local custom and culture. Therefore poverty reduction strategy for Papua should be local specific. Social capital, local customs and culture are important aspect to be regarded. Further research should elaborate those aspects on child poverty analysis in Papua context.

Identification of additionally non monetary dimension and deprivation that fit into Papua context and have not captured on Bristol approach of 8 dimension of severe deprivation and its thresholds such as distance to schools, are very crucial to strengthen targeting and support the elevation in Papua. Additionally, it is important also to consider dimensions and indicators for special protection for children such as birth certificates, violence to be integrated into child poverty measurement to ensure the integration between child poverty and child wellbeing measurement. Adoption child well being approach is also will be value added for this research.

The fact that poor children are not always part of poor household because of exclusion from monetary based poverty targeting should be addressed well through integration with non-monetary based poverty on the targeting for social protection and policy development in Papua.

Delamonica et al (2006) argued poverty reduction strategies and development planning neglected, or simply did not prioritize the special needs of children living in poverty and the need to adopt direct policies to deal with child poverty. Basically, the initiative and policy strategies to reduce child poverty can be classified as follow:

Development Strategy and Planning

Espey et al (2010) argued that many evidence show that child issues not sufficiently addressed in development planning documents. Most of them tended to focus only on

some dimensions of child wellbeing such as access to education and health, and perhaps limited safety nets for vulnerable children, without providing more comprehensive dimensions of child development, wellbeing and poverty reduction. According Espey et al (ibid), one of the important aspects of defining child poverty in the policy document is that it has an impact on the goals and objectives poverty reduction strategies, as well as the development of indicators for tracking the success of poverty reduction strategies.

Therefore the existence of child poverty in policy document should encourage policy makers and organizations to directly address the special needs of children. Therefore, it is recommended for better integration of child rights and conceptual framework for the poverty reduction strategic plan at provincial and district level, and development planning cycle. Additionally, it is important to increase child protection mainstreaming and child focus into the regular planning document such as RPJMD and RKPD at province and district level.

Budgeting and Social Investment

Every child should have opportunity to break the poverty cycle. The government plays a critical role in achieving this goals and the budget is one of its main instruments. The budget is linked to most of public policy for alleviate child poverty. The Financing for development must aim to give children a healthy start in life. It means that the goals and priorities to eradicate child poverty and fulfill child rights are better reflected in public policymaking, notably in the government budget (UNICEF 2002, UNICEF, 2010).

In order to do that, the government need to increase the effectiveness of budget utilization for health and education at provincial and district level to achieve the level required. In education sectors, government needs to increase the effectiveness of BOSDA. BOSDA is • A School operational assistance block grant (BOS) was introduced in 2005 as part of a major school finance reform measure, and is allocated to all schools based on total numbers of students enrolled. The BOS program provides funding to schools for non-salary operational expenditures. It aims to reduce schools fees as well as supports quality-enhancing spending for all public and private primary and junior secondary schools in Indonesia. In Papua, some districts are allocated budget for BOSDA because the substantial resources provided by BOS could not compensate schools for differences in school operating costs associated with the populations they

served and their location. For example, the costs of providing basic education (e.g. supplies and travel costs for teachers) in small, remote and rural schools are often higher than in larger, more urban schools. BOSDA provided by provincial or districts as supplement of BOS fund to cover the gap of variability of the cost, especially for rural and remote schools. The transparency and monitoring and evaluation of the implementation of education services service also should be increased in order to improve compliance to the education.

In more specific in health sectors, The budget allocation for child and maternal health should be increased and more equally allocated between curative and preventive efforts; The implementation of primary health care in should be supported by provincial supplement of operational fund for health (BOK). BOK is a central grant initiated in 2010 to support the operational costs of all public community health centers (Puskesmas) in Indonesia. With a focus on promotive health measures and outreach, it funds preventive health services in Puskesmas, such as maternal and child health, immunizations, nutrition, disease control, and environmental health. The BOK grant cannot be used for curative services, salaries, medicine, vaccines, or health tools but the money can be used for materials for health education within the community, food for meetings, and transportation fees for health volunteers in which directly benefit to the targeted population. The goals of the BOK grant are to ensure that the minimum healthy service standards (SMP) are met at the district level and to meet national health targets. Unfortunately, there is no local (provincial or districts for of BOK) to cover the gap of variability of the cost, especially for rural and remote area. Therefore, provincial government needs to do cost analysis and implement BOK especially for health care in rural and remote area.

Universal Access to Public Services

It means child have rights opportunities to access of goods and social services without discrimination. At a minimum, children need a package of basic social services of good quality health care, education and safe water and adequate sanitation, so that they can fulfill to basic right and grow to their full potential, free of disease, malnutrition, illiteracy and deprivation. Without concern to provide universal access to education, health and protection for children, it seems to be impossible to meet equal opportunity for children. In this aspect, governments' roles to provide public services are

crucial ((UNICEF, 2002; Gordon et al, 2003; UNICEF, 2000a; UNICEF 2005a, Eurochild, 2007).

There is a need for the provincial government to enhance the education and health access by expanding the availability of educational and health service; to devote more attention to children of the poorest household and those living in highland area. In education sectors, government need to guarantee their participation on formal primary education; to overcome distance problem by providing "one roof school" (primary/junior secondary/high school in one building), providing a dormitory or a free school bus for student living in distant; to increase high school enrollment the government should consider more progressive effort to significantly reduce the school fee, Overall, improving and equalizing school and teaching quality is very critical. This can be done by as improving the quality and distribution of teacher. In health sectors government need to develop more facilities in remote regions, distribute health personnel more equally, and increase the availability of medical equipment for respiratory aid in health centers and in every village and also overcome distance problem, such as flying health care to reach population in remote area. Finally, the involvement of civil society including non-government institution and the community is very important in all the efforts.

Social Protection

Social protection intersects broader traditional debates around, among others, public policies, development strategies and aid effectiveness. The overall frameworks that emerge point to multiple objectives – spanning over assistance, insurance and social transformation A broader approach to social protection that protection the poor children could complement health and education-related social protection programmes to mitigate vulnerabilities more effectively In fact, a more systematized approach to current social assistance and social action interventions that provides some preventive and protective support to the vulnerable is crucial to the development of more structured social protection strategy (Pereznieto, 2009; Gentilini and Omamo, 2011).

The focus on minimum standards and non-discrimination suggests that targeting the poorest and marginalized children may be required in order progressively to attain universal minimum standards. However, there is a technical problem as to whether targeted programmes actually reach the most vulnerable children, providing universal

access may in fact provide better coverage than targeted ones (Piron, 2004). For household, investment in human capital is costly and uncertain, even if government provides equal access for children to public access, children are relatively vulnerable to deprivation if they or their parent have obstacle to get benefit from public access and it is therefore understandable that poorer households are less able to make such investments and specific targeted social protection is still needed (Barrientos and DeJong, 2004; Gordon et al 2003; UNICEF 2005b).

Devereux and Sabates-Wheeler's (2004) proposed transformative framework of social protection, which classifies approaches to social protection as protective (to protect people from acute poverty and deprivation); preventative (to avert deprivation); promotive (to enhance income and capabilities so people are less vulnerable to risks); and transformative (to reduce vulnerability by improving the structural position of disadvantaged groups), and included a mapping of some of the main social protection interventions, such as social assistance, social services, social insurance and social equity measures. Related to social protection, government need to consider the following recommendation:

- It is important to transform Rice for the poor (Raskin) program, subsidized rice distributed as a food security measure to some poor families, into strengthening local food and nutrition strengthening to increase food security.
- Improving national led Scholarships for the poor (BSM) with supplement from social autonomy fund with a certain standard with regards of local context.
- Additionally, government also need to increase the effectiveness Papuan health insurance schemes for referral health system so that all income poor households receive and use it and integrated it with forthcoming BPJS scheme.
- Integrated Universal free coverage of maternity care and delivery (Jampersal) that was instituted at national level as an emergency measure to boost progress in reducing maternal and child mortality rates with Papuan health card scheme
- Papua Province should be adjust national based conditional cash transfer, family hope programme (program keluarga harapan), to fit to the local context.

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