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Poverty standardized factor loading in province of Bali island

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Abstract. Poverty has multidimensional problems perspectives. It includes dimension of economy, social, psychology, culture, and politic. These poverty indicators also have different contents of measurements and its poverty phenomena that are why it needs to specify the formulation standardized poverty construction in province of Bali which is most popular province in Indonesia. This research focuses on poverty measurements to determine poverty indicators construction including economy, social, psychology, culture, and politic. Research method is used mix-methods: quantitative to find standardized loading index for every indicator by using basic model T-Value analyzing with standardized factor loadings > 0, 50 and qualitative is to formulate the mental or behavior constructions by using in-depth interview. The research areas were divided into two parts; city was around Denpasar; marginal was around Jembrana. The results of the study are; the loading factor of economy is 0, 65, social is 0, 80, psychology is 0, 70, culture is 0, 70, and politic is 0, 48. Four indicators have above standardized factor loadings (> 0, 50), it means that these four indicators can influence to construct poverty in Bali province, but politic indicator has low influence to construct poverty. The interview result shows that the poverty according to the poor is the family who cannot fulfill their basic needs, who have limited skills, access, income, and work ethos. Finally, the findings can be used for reference that poverty alleviation considers to fix indicators and involve the community to decide the program.

1. Introduction

A number of poverty indicator, stated by various parties show different point view. 1), Sayogyo used consumption level of rice equivalent per capita as a poverty indicator [1]. He differentiated consumption level of rice equivalent both in rural and urban area. For rural, if someone just consumes rice equivalent less than 240 kg per year, he will be determined as very poor, while for the latter, he will be determined as very poor if he consumes rice equivalent 360 kg per year. 2), In line with Sayogyo's way, Central Statistic Board (BPS), calculated poverty figure through people's consumption rate on basic needs. The difference is that BPS does not include basic needs with rice quantity. In term of food. BPS implement indicator, recommended by Widyakarya Pangan and Gizi in year 1998 which account for 2,100 calory per person per day, while on side of non food needs, poverty is measured not only just on clothing and house but also include in education and health.

Different with BPS, 3) National Family Planning Coordination Board (BKKBN) is closely focusing on welfare side rather than poverty side. BPS unit survey uses household, while BKKBN uses family. This definitely is in line with "Qualified Family" tagline of Family Planning program vision. To measure welfare rate, BKKBN launched a Family Survey program to gain basic data on demography and family in carrying out development program and poverty elimination. 4) World Bank implements poverty rate based on Human Poverty Index (HPI) which focuses on three human dimensions; life expectancy age, knowledge and properly living standard. This HPI is developed by United Nation to complete Human Development Index (HDI) which shows quality or living standard of certain nation compared to the others.



A report of Human Development, commonly known as Human Development Report(HDR) is firstly created in 1990 and then developed by more than 1209 countries. Indonesia government through Central Statistic Board and National Development Planning Board was also developing this kind of model. The first HDR was created in 1996 for situation year 1990 and 1993. Indonesia Broad Guidelines of State Policy in 1993 had appointed HDR as a national development model, popularly known as 'Integrated Human development'. Poverty indicators stated by various parties, definitely need to be completed. Thus it will become the right measurement tool to potrait and measure peverty and its phenomena. Indonesia Social Ministry as an official institution which directly responsible on the implementation of Indonesia social welfare need to formulate comprehensive indicator and concept of poverty. It can be done by using clear and measurable indicator through realible method of research, so it can be used as a policy reference. This is so important whereas the doer of social welfare problem, as a primary target of Social Ministry program have special character of social walfare. This study is one of efforts in formulating comprehensive poverty indicators to gain reliable conceptual and empirical reference to form and complete various policies, especially on handling poverty policy. Based on clear poverty indicator, poverty solving problem program is expected to directly on the right target and hopefully become more and more effective, efficient and sustainable.

1.1 Mayor Heading

The most difficult things to overcome poverty is not only on its own multidimensional characteristics but also it is binding to each other; dynamic, complex and full of institutional system (social consensus), gender, and specific occasions in each locations. Poverty pattern is diffrent among social groups, age, cultture, locations and countries and also different in economy context [2]. Poverty is not easy to define because of poverty concept has prural dimension, half faces and multimendimesional. In general, poverty can be meant as a powerless condition in term of economy, social, culture, phychoLOGY and politic happened to someone, group of people and society in creating a proper life.

This research analysis unit is family, especially poor family. Thus, poverty is able to be meant as a powerless condition of the poor in term of economy, social, mental, cultural and politic in creating properly life. Based on this point of view, poverty has five dimensions; economy, social, mental, culture and politics.

1.2 Sub-Heading

Poverty rate is a measurable thing, so there is term 'Poverty Line'[1]. To measure poverty there are several strategies and one of them is basic needs strategy. United Nations (1961), and UNSRID (1966) have recommended basic needs as a poverty measure tool and in 1976 this concept is promoted and popularised by International Labor Organization (ILO). In the same year (1976) Gangguli and Gupta have also made basic needs indicator, followed by Gren and Hendra Asmara [8]. For Indonesia context ,according to Central Statistic Bureau basic needs comprise of food. It is quite different from food formed according to urban and rural based on The National Socioeconomic Survey (SUSENAS).

Anyalisis on poverty needs accurate data to determine poverty line, measured from the poor's cost of living (total income and spending cost for consumption) [3]. By determing accurate poverty line, target of receiver program can be identified. The determination of poverty line can be used to calculate poverty figure on international, national, regional and household level. On international scale World Bank stated that main indicator of poverty is on limitation land ownership and capital, limitation on standard facility, and difference on other aspects like work opportunity, dhealth service, human resource quality, poor life culture, poor or bad governance administration and excessive natural resurces management, without considering on environemtal sustainable. World Bank uses poverty line on basis average people income US 1 dollar for per capita per day [4]. Meanwhile in developed country like Europe has determined 1/3 of PDP per year as a poverty line.

In this research context, dimension / indicator of poverty is expanded into five dimensions ; economy, social, culture, politic and mental. These five dimensions is assumed as a construct which form poverty in Bali. Economic dimension relates to fulfilment of human basic needs, reflected on eight indicators. They are 1) fulfillment of food needs, 2) capability of buyng cloth, 3) availability on proper housing/ place to live, 4) fulfillment of 9 years basic education needs, 5) fulfillment of health service, 6) fulfillemnt of job needs, 7) the availability of income souces and 8) asset ownership.

Social dimension of poverty has six indicators. They are, 1) involvement on social-religious activity, 2) ease on information access, 3) communication inter family members, 4) involvement in decision making, 5) involvement in social fund raising/ humanity assistance and 6) ease on accessing social /public service (government service, health service, education, clean water /electricity service and transportation facility)

Mental dimension of poverty has six indicators. They are, 1) freedom of implementing religious activity, economy, social, mental, and economy politic and belief of social politic, 2) Security fulfillment and freedom of fear, 3) Self confident fulfillment, 4) healthy social and natural atmosphere fulfillment, 5) meaningful spare time spending and 6) ease on getting help when needed. Cultural dimension of poverty has eight indicators. They are 1) Maintaining society harmony, 2) Healthy and clean life habit, 3) Having work ethic (diligent and love working hard), 4) Love saving/ invest and have life planning, 5) future thinking oriented (always move forward), 6) independence/ not depend on someone else, 7) free from creditor / harmful economy system, 8) binding with norm, custom and social cultural values

Political dimension of poverty has four indicators. They are, 1) Involvement in decision making which relate to general public interest, 2) Freedom of speech through social and governmental organization, 3) Opportunity / chance to maximise potential / source of the existing environment, 4) Participation in determining target of social/public service program. Based on those concepts, the frame of mind of this research can be seen on following picture.

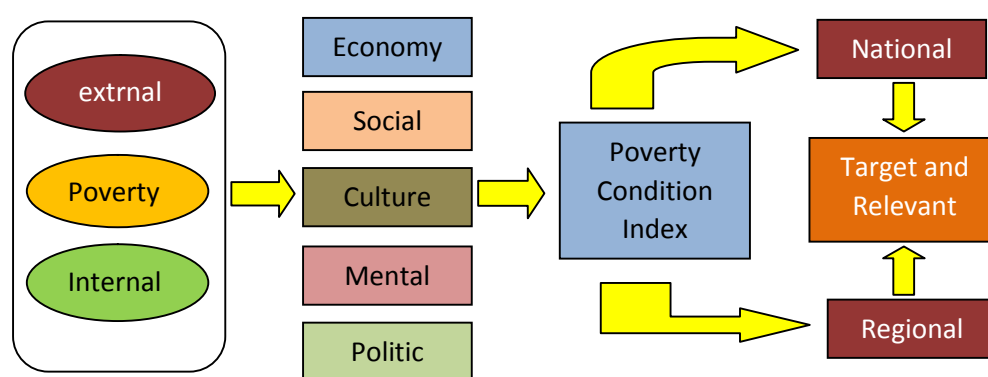


Figure 1. Research frame of mind

Based on this frame of mind, the writer is able to arrange hypothesis as follows. ‘Indicator of Economy, social, politic, mental and cultural is a right construct to measure poverty.’

2. Methods

This research use combination approach, annexation of quantitative and qualitative methods (mix method). The annexation of several methodology according to former terminology is called ‘Triangulation’. In this study context, quantitative approach is used as a main method while qualitative method is used as a secondary one. Population of this research is all poor registered families (the receiver of government program service (Raskin, Program IndonesiaPintar/ pemegangKartu Indonesia Pintar (KIP) or Indonesia Smart Card holder, Program Indonesia Sehat/PemegangKartu Indonesia Sehat / Smart Card, Program Indonesia Sejahtera/pemegangKartuKeluarga Sejahtera (KKS), Jamkesda, and et cetera) and unregistered poor family. This research use Multi Stage Cluster Random Sampling as a sampling technique. For Denpasar city and Tabanan regency, there are five subdistricts each chosen as a research sampling. Each subdistrict is involving six people as a data collector and each person is responsible for collecting data by involving 20 poor family’s respondents. Among those respondents 18 of them are registered poor families and the remaining are unregistered. Thus, each city/town needs 600 respondents and total there are 1200 respondents. Research sampling is determined randomly.

Collected data in this study is quantitatively. To describe target description, / the spread of data research will be managed manually and computerized using Excel program and SPSS statistic program,

17 00 version for Windows. To examine validity and reliability instrument, this research will do inferential statistical analysis by using the assistance of SPSS version 17.00 program for Windows. Meanwhile to test poverty construct, this research uses Confirmatory Factor Analysis by using LISREL 8.4 program. Moreover, for model strategy, this research chooses Strictly Confirmatory or Confirmatory Modelling Strategy (examination is applied to accept or reject model so there is no model reprecipitation) [5][6].

Qualitative data was analyzed descriptively, then interpretatively by data reducing (selection, centralized, simplification and raw data abstraction in accordance with research objective, and then described and interpreted. Analysis process is carried out on and after data collecting, flowing from early step to conclusion. In term of model analysis, the research refers to Miles and Huberman model [7].

3. Results and Discussion

To examine poverty construct in Bali which involving 1.200 head of poor family in Denpasar city and Tabanan regency in Bali, the writer proposes research hypothesis as follows'; "*The right construct to measure poverty is comprising of economy, social, mental, culture and politic dimensions*". To test this hypothesis it should examine appropriate model with empirical data by using Confirmatory Factor Analysis model (CFA) technique analysis model. CFA is one of approaches in factor analysis. By using this CFA technique, it can be known whether latent variable can be measured and analysed by observer variable. Meanwhile latent variable in this research is comprising of five dimensions; economy, social, mental, culture and politics. Observer variable on the other hand, is a poverty itself. Economic dimension comprises of 13 indicators, while social, mental culture and politics has 12, 8, 8 and 4 indicators consecutively.

Based on construct analysis result which is done by using 9 parameters goodness of fit index model, it can be known that there are two parameters which show not good fit on *Chi Square (X^2)* on score 2236.67 with P value = 0.00 or ≤ 0.05 and *RMSEA* is 0.10 or ≥ 0.08 (*marginal fit*). After all, this analysis result also indicate that there are seven parameters which shows good fit as seen on score *NFI (Norm Fit Index)* is 0.97, *NNFI (Non Norm Fit Index)* is 0.95, *CFI (Cooperative Fit Index)* is 0.97, *NNFI (Non Norm Fit Index)* 0.95, *CFI (Cooperative Fit Index)* 0.97, *IFI (Incremental Fit Index)* 0.97, *RFI (Relative Fit Index)* 0.95, *GFI (Goodness of Fit Index)* 0.98 and the last but not least *AGFI (Adjusted Goodness of Fit Index)* score is 0.94. These total scores are more than 0.90 which means on good fit position. Complete data of the result construct test of poverty indicator in Bali based on 9 parameters *goodness of fit index model* is presented on chart 3.3 as follows. To pay close attention on table 1 below, which use 9 parameters of *goodness of fit index model* criteria in this research, it proves that 7 parameters has qualified to fulfil *goodness of fit index model* criteria. Fulfilled by most of *goodness of fit index model* criteria, it means that model hypothesized can be declared is in accordance with empirical data. It can be concluded that *fit index or model fit* tested is good. It means population covarians matrix is not different from sample data covarians matrix. In other word, proposed model has got strong support from sample to clarify the existing population. It told us that poverty indicator model that we proposed, is definitely right to describe supporting variable which comprise of economy, social, mental, culture and politic dimensions. From the result of poverty construct measurement, it proves that four observer variables; social, mental, culture and economy have equal contribution in forming poverty in Bali. It can be seen on how high score of standardized factors loading in those fourth variables > 0.50 . According to Igbaria et al (1991), a variable has good validity on construct if its *standardized factor loadings* > 0.50 .

Table 1. *Goodness of Fit Index Model Poverty Indicator in Bali*

No	Index	Score limit	Result	Fit Rate
1	Chi Square (X^2) and Probability (p)	Small & $P > 0.05$	2236,67 $P = 0.00$	Not Good
2	Root Mean Square Error of Approximation (RMSEA)	< 0.08	0,10	Not Good
3	Normed Fit Index (NFI)	> 0.90	0,97	good fit

4	Non-Normed Fit Index (NNFI)	> 0,90	0,95	good fit
5	Comparative Fit Index (CFI)	> 0,90	0,97	good fit
6	Incremental Fit Index (IFI)	> 0,90	0,97	good fit
7	Relative Fit Index (RFI)	> 0,90	0,95	good fit
8	Goodness of Fit Index (GFI)	> 0,90	0,98	good fit
9	Adjusted Goodness of Fit Index (AGFI)	> 0,90	0,94	good fit

Thus, four dimensions in this research have good validity, as its standardized factor loadings of economy dimension is 0,66, social is 0,79, mental is 0,77 and culture dimension is 0,72. While politic dimension has standardized factor loadings 0,46. It can be concluded that most of dimensions have high contribution in forming poverty as they got standardized factor loadings ($> 0,50$). It means that proposed hypothesis is accepted. We can say that economic, politic, culture, mental and social dimensions are the right indicator to measure poverty construct in Bali

Among these four dimensions, social dimension have 0,78 standardized factor loadings, following mental (1,77), culture (0,72) and economy (0,66). It means poverty in Bali mostly are formed by these four observer variables. While politic dimension has small influence on national poverty construct as its standardized factor loadings score just 0,46 or less than 0,50. However, this influence is positive.

To carry out testing on influence intensity or observer variable signifiyancy on latent variable it can be displayed on *Basic Model T-value* form. Analysis result of *Basic Model T-Value* can be described on picture 2. This picture shows that all manifest has t score $> 1,96$ so it can be said significant or not equal with nil. On path diagram we know t statistic of the fifth dimensions which formed povety in Bali is more than critical score 1,96. T score statistic for economy dimension is 136.89, social 171.15, mental 167.87, culture 153.94 and politic 88.95. This condition shows that the fifth dimensions have significant contribution in forming poverty in Indonesia. The result of this research strenghten argument that poverty in Bali is multidimensional. It means the existing poverty is influenced by many dimensions or variables, not just a single dimension or economy factor only. Poverty stress out on single dimension, economy will bring distortion on another dimension. Moreover, to measure reliability, the writer utilizes composite reliability (CR) measure and/ or variance extracted (VE) measure. Based on analysis result construct reliability is $0,81 \geq 0,70$, so poverty variable has good consistency. One of the other ways to see reliability is through variance extracted (VE) where we got variant extract $0,41 < 0,50$. However this method is optional (Hair, 1998), so the focus object to see is CR score as a reliability measurement which result construct reliability $> 0,70$. It shows that all poverty indicators manifest is multidimensional. Poverty indicator construct model visualization in Bali in Basic Model Standardized Solution diagram form can be seen on Figure 2 and Figure 3.

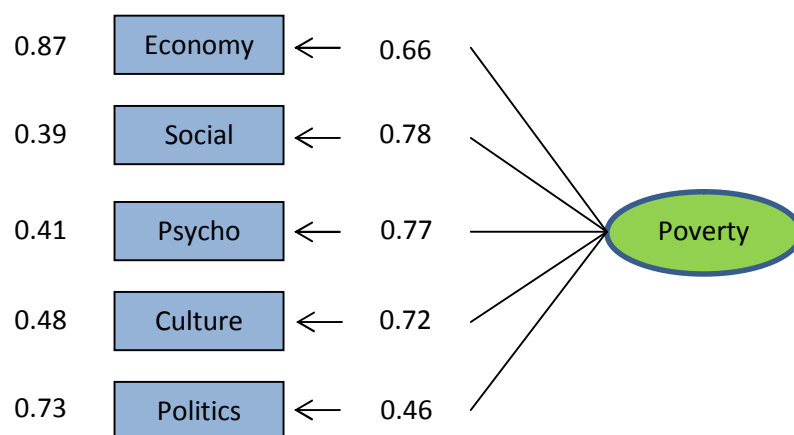


Figure 2. Basic Model Standardized Solution

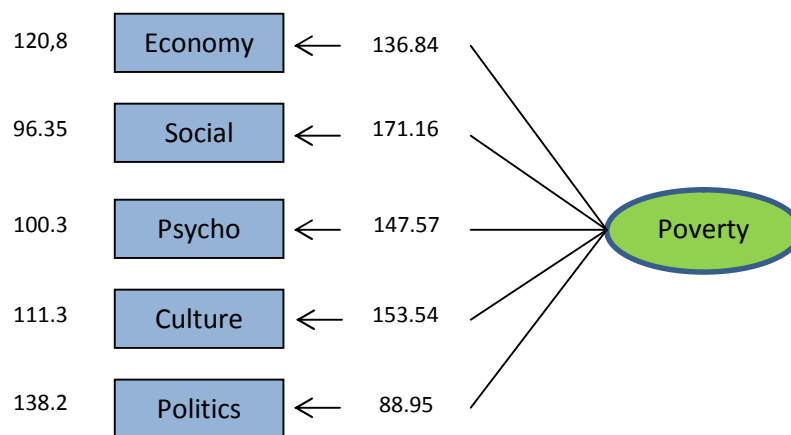


Figure 3. T-Values Poverty Indicator

Implication of this finding is that, informing policy, the direction or poverty elimination program in Bali should consider multiple poverty dimension and employ comprehensive poverty indicator. It should not just focus on economy indicator and dimension only. Result study proves that all dimension (economy, social, mental, culture and politic) have positive and significant contribution in forming poverty in Bali., although contribution of each dimension is not the same. Inaccurateness in understanding poverty (just stress out on single dimension, economy only) will bring in lack of effectiveness poverty elimination program which government did.

Analysis result above is relevant with empirical condition of Bali society who put social values in the front. This value can be seen on social mutual cooperation spirit among society member, high sense of solidarity, discussion habit in deciding important issue, the strength of inter family relationship, empathy feeling, high tolerance among the others and et cetera. Those values and norms are social capital belong to society and become a motor engine for family, especially poor family to overcome their poverty problem. Many cases found. that poor family lifted from their poverty problem as they have been assisted by their surrounding neighbourhood. It can be seen on building materials assistance when they built a house, funding soft loan for productive business, material and immaterial aid when they encountered natural disaster, death, sick et cetera. However, in their daily lives all those aids, are not free of charge. Proverb says, there is no free lunch for all those things. Concretely, head of poor family will get all assistance and support from their surroundings, if they are able to play their social role whether in their family circle, workplace or in society life. More than that poor family must be active in social activities, religious ceremony and always connected with source access. Conversely, poor family who isolated themselves or anti-social will encounter difficulties in getting support and assistance from their social surrounding. Take and give rule, still exist in plural social life in Bali both in rural and urban area.

In the context of this study, social dimension is measured from 1) low involvement of poor family in social and religious activity, 2) limitation in accessing information, 3) limitation in inter family member communication, 4) low involvement in decision making, 5) low involvement in social fund raising/ humanity assistance, 6) limitation in accessing social /public, health, education, clean water/electricity and transportation services.

Furthermore, mental dimension has second biggest contribution in forming poverty construct in Indonesia. This dimension relates to spirit and mental attitude of poor family which is apatic fatalistic and depend on other's help. It also relates to inadequate security feeling, lack of freedom and conducive conditions needed by poor family. Empirical condition has shown, a family which poor economically, but has positive mental has proved they can get out from poverty conditions. Their strong endurance in facing life challenge and their great effort has proved they can cope or overcome their poor condition. Many cases found that a family with limited access on economy sources turn out to be able to raise their children well and able to educate them successfully.

In this context of this study, mental dimension is measured from 1) low rate family freedom in carrying out their religious belief, 2) unfulfillment of secure feeling/ free from fear and threat, 3) low level of self confident/ pessimistic and apatic attitude, 4) incapability in spending their spare time

menaingfully 5) comfortability in their sosial life, 6) difillculties in getting support/ help from friend, family and relatives when needed.

Culture indicator in this research is also a significant construct in forming poverty. It relates to 1) there is no harmony of poor family in social life, 2) there is no clean and healthty habit in life, 3) low level of work ethic, 4) no habit of saving, 5) low level of independency or high dependency on other's assistance, 6) lack of future orientation.

In a broader context, unconducive culture and developed habit in this local has influenced family. poverty In Balinese society norm, the culture or obligation to provide routinous ritual offerings bring significant impact on poor family. It means, this culture is too hard for them economically. However, poor family cannotrefuse or neglect it as they afraid of making disharmony in social life. The same thing happens on Toraja society. The habit to cut off cow on funeral ceremony is also too much for them economically. Similar thing also happens on Java's society which has 'gift' culture. Javanese are advised to give gift to others when they have ceremony. It also become a burden for poor family. If they do not send a gift, they will feel awkward and worry of social sanction and isolated from social activity. On the other hand, if they insisted to do so, they know that their real economy condition is not in good condition. Thus, it makes poor family to find other sources and even try to get financial loan from creditor with high interest rate just a matter to adapt and follow existing culture in their society.

Economy indicator has proved significantly in forming poverty construct. This indicator adopted 14 indicators of Central Statistic Bureau with sufficient modification relate to capability of poor familiy in fulfilling their basic need. Economy dimension is divided into 2 parts, related to family capbility in fulfilling their basic need and housing condition of poor family to describe their real physical condition.

4. Conclusions

Poverty in Bali is multidimensional. Based on poverty construct testing, it is concluded that poverty in Bali is represented significantly by five indicators, economy, social, politic, culture and mental. The result of this study has strengthened the argument that poverty in Bali is influenced by many dimensions or variables, especially social, mental and culture variables. Implication of this finding is, in forming policy, program or intervention in poverty elimination in Bali should consider multiple dimensions and utilize comprehensives poverty indicators. Thus, so the result will be more effective and efficient. Local aspect in certain area which contributed on poverty should be considered in poverty elimination policy of certain area. It definitely needs more specific approach.

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