POVERTY MEASUREMENT IN INDONESIA

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Commitment on the Poor in Indonesia:

1. International Commitment

   MDG’s target: Reducing poverty incidence by 50% in 2015 from condition of 1990

2. National Commitment:

   Basic Law 1945, development goal: Improving the welfare of Indonesian people and to protect poor people

   Target of Medium Term National Development Plan 2010-2014: Reducing poverty incidence from 13.3% in 2010 to 8-10% in 2014
# Poverty Data for Targeting the Poor in Indonesia

## Geographic Targeting
(Annually, since 1976)

1. **Methodology:**
   - Concept: Basic Needs Approach (Monetary Assessment)
   - Based on Poverty Line (PL):
     \[ PL = \text{Food PL} + \text{Non Food PL (Essential)} \]

2. **Source of data:**
   - National Socio Economic Survey or SUSENAS (sample):
     - Before 2010: Annually (± 70,000 hhs)
     - 2011-2014: Quarterly (75,000 hhs)
     - 2015-now: twice in one year (March and Sept)

3. **Poverty data:**
   - Poverty incidence for every region based on **aggregate estimation**

4. **Advantages:**
   - For Geographic targeting
   - For Performance Indicator

   **Limitation:**
   - Can not use for individual targeting

## Household Targeting
(Every 3 year since 2005)

1. **Methodology:**
   - Non-monetary assessment
   - Multidimensional Indeces or Proxy Means Test (PMT) from characteristics of households (non-monetary variables) completed through poverty census

2. **Source of data:**

3. **Poverty data:**
   - Poor household and individual **by name and by address**

4. **Advantage:**
   - For individual and household targeting for social protection programs

   **Limitation:**
   - Inclusion and exclusion error
Poverty Data for Geographical Targeting
Measurement of Poverty Practical Concerns

- Poverty Definition
- Identification of Poverty Line
- Defining the Unit of Measurement
- Selecting the Indicator of Well-being
Poverty Definition in Indonesia

- Poverty is condition where a person or a group of persons is not able to fulfill his/their basic rights according to socially acceptable life.

- Basic rights is fulfilment of basic need for:
  - Food consumption: Rice, noodle, sugar, etc
  - Non-food consumption: clothing, health, education, housing, clean water, transportation (including fuel), etc
  - Secure from crime
  - Freedom to participate in social and political activities.
Identification of Poverty Lines

• The point at which the poor are separated from the non-poor
  – Relative Poverty Lines
  – Absolute Poverty Lines
## Absolute Poverty Lines

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Energy Intake</td>
<td>▪ Based on observed relation between calorie intake and total household expenditure</td>
<td>▪ PL may vary by sub-groups of population e.g. by region</td>
</tr>
<tr>
<td>Cost of Basic Needs</td>
<td>▪ Identifies bundle of goods necessary to meet basic needs, then estimates cost</td>
<td>▪ Most common method</td>
</tr>
<tr>
<td>World Bank US$1 / day</td>
<td>▪ US$370 / year</td>
<td>▪ Identification of basic needs may not be straightforward</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Eases comparison across countries</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Zero cost of calculation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Conversion to local currency problematic</td>
</tr>
</tbody>
</table>
Cost of Basic Needs

• PL is equal to the value of a bundle of consumption goods necessary to meet basic needs
  ➢ May include just food (extreme poverty)
  ➢ But more commonly includes non-food items
Cost of Basic Needs

• STEP ONE: Establish the minimum consumption bundle necessary to meet basic needs
Cost of Basic Needs

• STEP TWO: Establish the cost for the items in the basic consumption bundle
Additional Considerations in Setting Poverty Lines

• Regional Poverty Lines
  ➢ Significant regional price differences may exist
  ➢ Urban / Rural poverty lines common

• Sensitivity Analysis
  ➢ Typically near mode of distribution
  ➢ Multiple poverty lines often tried
Distribution of Expenditure

Measurement of Poverty
Cumulative Distribution of Expenditure
1. Concept:
   - Basic Needs Approach: based on per capita consumption
   - Poor is a condition of living when someone is not having or not being able to afford certain minimum necessities
   - Poverty line is based on minimum nutritional requirement of 2100 kcal per capita per day (National Congress of nutritionists, 1978) and consumption of essential non-food. Person who has expenditure less than poverty line is considered poor.

2. Dissemination:
   - Level of estimation: national, province and district/municipality
   - Period of dissemination: Annually
COMPONENT OF POVERTY LINE (PL):

1. **Food PL** => the value of money (in rupiah) for minimum nutritional requirement of 2100 kcal per capita a-day. Calculation is based on **average price of calorie of 52 selected commodities** consumed by **reference population** (Deciles 2-3 population distribution by expenditure).

2. **Non-Food Poverty Line** => Average expenditures of 27 essential non-food commodities of reference population (51 items for urban and 47 for rural), based on Survey of **Non-Food Basket Commodities**

Poverty Line (PL) :
Different for every province.

This method has been applied since 1998.
### Selected Commodities for Calculating Food Poverty Line

<table>
<thead>
<tr>
<th>Domestic rice</th>
<th>Beef</th>
<th>Onion</th>
<th>Brown sugar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glutinous rice</td>
<td>Broiler chicken meat</td>
<td>Chilies</td>
<td>Tea</td>
</tr>
<tr>
<td>Dry-shelled corn</td>
<td>Local chicken meat</td>
<td>Cayenne pepper</td>
<td>Powder coffee</td>
</tr>
<tr>
<td>Wheat flour</td>
<td>Trimmings</td>
<td>Peanut without shell</td>
<td>Salt</td>
</tr>
<tr>
<td>Cassava</td>
<td>Broiler egg</td>
<td>Tofu, Soybean card</td>
<td>Candle nut</td>
</tr>
<tr>
<td>Sweet potato</td>
<td>Duck egg</td>
<td>Fermented soybean cake</td>
<td>Fish paste</td>
</tr>
<tr>
<td>Dried cassava</td>
<td>Sweet canned liquid milk</td>
<td>Rambutan (fruit)</td>
<td>Crisps</td>
</tr>
<tr>
<td>Tuna</td>
<td>Canned powder milk</td>
<td>Zalacca (fruit)</td>
<td>Instant noodle</td>
</tr>
<tr>
<td>Indian Mackerel</td>
<td>Spinach</td>
<td>Ambon Banana</td>
<td>Other bread</td>
</tr>
<tr>
<td>Dried small fish</td>
<td>Swamp cabbage</td>
<td>Papaya</td>
<td>Cookies</td>
</tr>
<tr>
<td>Milk fish</td>
<td>String beans</td>
<td>Coconut/Cooking oil</td>
<td>Boiler or steam cake</td>
</tr>
<tr>
<td>Anchovies</td>
<td>Tomato</td>
<td>Coconut</td>
<td>Cigarettes</td>
</tr>
<tr>
<td>Pork</td>
<td>Cassava leaf</td>
<td>Cane sugar</td>
<td>Prime rice</td>
</tr>
</tbody>
</table>
### Selected Commodities for Calculating Non-Food Poverty Line

<table>
<thead>
<tr>
<th>Commodities</th>
<th>Items</th>
<th>Additional Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>Photo</td>
<td>Kitchen utensils</td>
</tr>
<tr>
<td>Electricity</td>
<td>Ready men clothes</td>
<td>Bag, luggage</td>
</tr>
<tr>
<td>Kerosene</td>
<td>Transportation</td>
<td>Taxes</td>
</tr>
<tr>
<td>Firewood</td>
<td>Ready women clothes</td>
<td>Religious festivals &amp; others</td>
</tr>
<tr>
<td>Water</td>
<td>Ready child clothes</td>
<td>Watch/Clock</td>
</tr>
<tr>
<td>Mosquito revelent, matches, etc</td>
<td>Footwear for men</td>
<td></td>
</tr>
<tr>
<td>Bathing soaps</td>
<td>Footwear for women</td>
<td></td>
</tr>
<tr>
<td>Cosmetic articles</td>
<td>Footwear for children</td>
<td></td>
</tr>
<tr>
<td>Care of skin/face</td>
<td>Headgear</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>Towel, belt, etc</td>
<td></td>
</tr>
<tr>
<td>School fee</td>
<td>Landry soap</td>
<td></td>
</tr>
<tr>
<td>Post, telegram, etc</td>
<td>Household utensils</td>
<td></td>
</tr>
</tbody>
</table>
Poverty Indicators

• Poverty headcount index (or poverty rate)
  – the headcount index estimates the percentage of the population living in households with per capita consumption expenditure (or per equivalent adult) below the poverty line.
  – it measures the incidence of poverty

• Poverty gap
  – The Poverty Gap Index expresses the total amount of money which would be needed to raise the poor from their present incomes (c) to the poverty line (z), as a proportion of the poverty line, and averaged over the total population, which measures the depth of poverty
  – The aggregate poverty gap shows the cost of eliminating poverty by making perfectly targeted transfers to the poor. This total cost can be related to GDP.
  – The squared poverty gap measures the severity of poverty as the poorest households are given a greater weight in the equation.
Poverty Indicators

Poverty rates, poverty gap and squared poverty gap formulae can be represented as follows:

\[ FGT = \frac{1}{n} \sum_{c<z}^{q} \left( \frac{z-c}{z} \right)^{\alpha} \]

where

- \( n \) represents the total population,
- \( q \) the poor
- \( z \) the poverty line and
- \( c \) consumption expenditure

- If the parameter \( \alpha = 0 \), then the equation is simply the headcount index.
- With \( \alpha = 1 \), the equation measures the poverty gap, which is the average income / expenditure shortfall of the poor with respect to the poverty line.
- When \( \alpha = 2 \), the equation represents a measure for the severity of poverty

**Poverty rate** = \( \frac{Q}{N} \)

*With \( Q = \) total number of poor*

**Poverty gap index** = \( \frac{1}{n} \sum_{c<z}^{q} \frac{(z-c)}{z} \)

**Squared Poverty gap** = \( \frac{1}{n} \sum_{c<z}^{q} \left( \frac{(z-c)}{z} \right)^{2} \)
Thank You

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www.bps.go.id
Poverty Data for Household Targeting
Individual and Household Targetingn (1): The 2011 Data Collection for Social Protection Programs (PPLS11)
Objective

To produce a unified database of target households and/or families for various social protection programs (Cluster 1):

- By name and by address,
- Covering the lowest 40% of the population nationally (poor and vulnerable people)
- Include additional information based on the proposed social protection programs from line ministries/other government institutions as well as local governments.
<table>
<thead>
<tr>
<th>Individual</th>
<th>Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Ownership of house</td>
</tr>
<tr>
<td>Ake</td>
<td>Size of floor</td>
</tr>
<tr>
<td>Sex</td>
<td>Type of floor</td>
</tr>
<tr>
<td>Status of marriage</td>
<td>Type of housing wall</td>
</tr>
<tr>
<td>Relation to head of household and family</td>
<td>Type of roof</td>
</tr>
<tr>
<td>Ownership of identity card</td>
<td>Source of drinking water</td>
</tr>
<tr>
<td>Disabilities</td>
<td>Ways to get drinking water</td>
</tr>
<tr>
<td>Chronic illness</td>
<td>Main source of light</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>Main energy for cooking</td>
</tr>
<tr>
<td>School partisipation</td>
<td>Ownership of toilet</td>
</tr>
<tr>
<td>Highest level of education</td>
<td>Ownership of asset</td>
</tr>
<tr>
<td>Length of education in year</td>
<td>Inclusion in family planning program and social program</td>
</tr>
<tr>
<td>Main job</td>
<td></td>
</tr>
<tr>
<td>Economic sector of main job</td>
<td></td>
</tr>
<tr>
<td>Status of job</td>
<td></td>
</tr>
</tbody>
</table>
Individual and Household Targetingn (2): THE UNIFIED DATABASE UPDATING (PBDT) 2015
What is the Unified Database?

- The Unified Database (BDT) for social protection programmes is an electronic data system that contains social, economic and demographic information on around 24.5 million households, or 96 million individuals in the lowest welfare bracket in Indonesia.

- It is can be used for programme planning and identifying the names and addresses of prospective social assistance recipients, whether they target households, families or individuals.

- The Unified Database contains social, economic and demographic information on the roughly 40 percent of Indonesians in the lowest welfare bracket.
Chronologist of BDT

PSE* 2005
- 19.1 Millions HHs
- Unconditional Cash Transfer (UCT) 2005

PPLS** 2008
- 18.5 Millions HHs
- UCT 2008, 2009

PPLS** 2011
- 25.2 HHs
- UCT 2013 and KKS, KIS, KIP 2014

PBDT 2015
- Public Consultation Forum (FKP)
- Data Collection
- 25.8 Millions HHs

Note:
*PSE = Socio Economic Data Collection
**PPLS = Data Collection on Social Protection Programme
**Public Consultation Forum (FKP)**
1. Verified : 24.1 Millions HHs
2. Unidentified: 3.9 Millions HHs
3. New HHs Proposed: 4.7 Millions HHs
4. Recommend to drop: 1.2 Millions HHs

**Data Collection**
1. Unidentified: 2.6 Millions HHs
2. Sweeping : 0.9 Millions HHs

**HHs Dropped**:
1. Civil Servant (0.025 Millions HHs)
2. By FKP (1.2 Millions HHs)

**Ranking of Households by PMT**
(27.0 Millions HHs)

**BDT 2012/2013: 28.0 Millions HHs**
1. PPLS 2011:
   25.2 Millions HHs
2. Data Program:
   2.8 Millions HHs

**BDT 2015: 25.8 Millions HHs**
(92.9 Millions individuals)

**First Prelist**: 28.0 Millions HHs

**End Prelist**: 28.8 Millions HHs

**BDT 2012/2013**
28.0 Millions HHs

**BDT 2015**
(27.0 Millions HHs)

**BDT 2015**
25.8 Millions HHs
(92.9 Millions individuals)
SOME INFORMATIONS IN PBDT 2015

Identity of HHs
- Name of HH Head
- Address
- Village
- Sub-District
- District
- Province
- HH size

Demographic
- Name of HH members
- Relationship to HH Head
- Sex
- Age
- Marriage status
- Identity card
- No. Induk Kependudukan (NIK)
  - Akte/Buku Nikah
  - Akte Cerai
  - Akte Kelahiran

Labor Force
- Activity
- Sector
- Status
- Micro and Small Enterprise (UMK):

Housing
- Dwelling ownership status
- Electricity
- Drinking water
- Energy
- Floor area
- Toilet Facility
- Cooking fuel
- Floor main material
- etc

Social Protection Programme
- Hope Family Programme (PKH)
- Rice for poor
- Health Insurance
- Jamsostek
- KKS
- KIP
- BPJS/KIS

Asset
- Car
- Bicycle
- Motor bike
- Television
- Sailboat
- Computer
- Refrigerator
- etc

Health
- Disable
- Penyakit kronis menahun
- Status kehamilan wanita
- Family Planning

Education
- School attendance
- School participation
- etc
Proxy Mean Testing (PMT)

- Proxy Means Test (PMT) is the methodology for estimating the per capita income of households based on a set of verifiable indicators.

- Proxy means tests generate a score for applicant households based on fairly easy to observe characteristics of the household such as the location and quality of its dwelling, its ownership of durable goods, demographic structure of the household, and the education and, possibly, the occupations of adult members.

- The indicators used in calculating this score and their weights are derived from statistical analysis (usually regression analysis or principal components) of data from detailed household surveys. We have Socio Economic Survey (Susenas) as resource data.
Summary

- Data for targeting the poor people in Indonesia consist of two kinds:
  1) for geographic targeting
  2) for individual and household targeting
- Data collection is conducted by BPS-Statistics Indonesia.
- Geographic targeting is disseminated annually for:
  1) poverty policy planning at regional level
  2) performance evaluation of region on poverty
- Individual and household targeting is disseminated every 3 years for:
  1) social protection programs
  2) other anti poverty programs
Visit us at:
www.bps.go.id