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OXFORD POVERTY & HUMAN DEVELOPMENT INITIATIVE
OXFORD DEPARTMENT OF INTERNATIONAL DEVELOPMENT



UNIVERSITY OF
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Measuring Multidimensional Poverty: Insights from Around the World

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Why Multidimensional Poverty?

How we measure poverty can importantly influence how we come to understand it, how we analyze it, and how we create policies to influence it. For this reason, measurement methodologies can be of tremendous practical relevance.

Most countries of the world define poverty in a unidimensional way, using income or consumption levels.

But poor people go beyond income in defining their experience of poverty. They often include a lack of education, health, housing, empowerment, humiliation, employment, personal security and more. No one indicator, such as income or consumption, is uniquely able to capture the multiple aspects that contribute to poverty. Furthermore, levels and trends of income poverty are not highly correlated with trends in other basic variables such as child mortality, primary school completion rates, or undernourishment (Bourguignon et al 2010: 24, 27). A person or household can be income poor but multidimensionally non-poor, or income rich but in multidimensional poverty.

In recent years, the literature on multidimensional poverty measurement has blossomed in a number of different directions. The 1997 *Human Development Report* and the 2000/1 *World Development Report* vividly introduced poverty as a multidimensional phenomenon, and the Millennium Declaration and Millennium Development Goals (MDGs) have highlighted multiple dimensions of poverty since 2000. New academic measurement methodologies are being created.

At the same time, the number of countries conducting multi-topic household surveys that provide the required inputs for the construction of multidimensional measures have increased dramatically from the mid-1980s, to around 130 devel-

oping countries at present. This phenomenon, together with advances in techniques and the increasing demand to understand poverty and social policies, generate a unique framework for the implementation of these kinds of measures.

Counting approaches to multidimensional poverty measurement: the AF method

Multidimensional poverty measures that are based on people's own deprivation profiles can, at a glance, provide an integrated view of the situation. The most widely used multidimensional poverty measures since the 1970s have been what are called 'counting approaches.'¹

Most applications of counting measures tend to report a **headcount ratio**. While this is very easy to understand and communicate, it does not provide an incentive to reduce the deprivations of the poorest of the poor. Nor can it be broken down by dimension to show how people are poor.

In 2007, OPHI Director Sabina Alkire and Professor James Foster created a new method for measuring multidimensional poverty (referred to as AF for Alkire Foster). It uses a counting approach to identifying 'who is poor' by considering the range of deprivations they suffer, and combines this with the Foster-Greer-Thorbecke (FGT) methodology that is the most widely used class of income poverty measures. The resulting measure aggregates information to reflect societal poverty in a way that is robust, can be broken down by regions and groups and, importantly, can be broken down by dimension and indicator to show how people are poor.

It is intuitive and easy to calculate

To identify the poor, the AF method counts the overlapping or simultaneous deprivations that a person or household experiences in different indicators. The indicators may be equally weighted or may take different weights. People are identified as multidimensionally poor if the weighted sum of their deprivations is greater than or equal to a poverty cutoff – such as 20%, 30%, or 50% of all possible (weighted) deprivations.

Having identified who is poor, the AF method then summarizes information to show the deprivations experienced by the poor as a proportion of all possible deprivations in society. The simplest measure in the class – which is the most widely applied – can be computed by simple multiplication. It is the product of $H \times A$: the headcount ratio or percentage of people who are identified as poor (H) multiplied by the average share of weighted deprivations that poor people experience (A), which is termed the intensity of poverty. This product is called the adjusted headcount or M_0 in the AF method; in the construction of a Multidimensional Poverty Index it is termed the MPI value.

1. These are widely applied because most poverty data use categorical or ordinal variables, and counting measures can be created that use these data in a rigorous and appropriate manner. See Alkire, Sabina & Foster, James (2011).



Photo by Mihika Chatterjee

This measure has been found to be rigorous, easy to ‘unpack’ and to use for policy, and flexible, which makes it adaptable to different contexts.

It is unique

One unique aspect of the AF method is that it reveals the **intensity** of poverty. Thus it can distinguish between, for example, a group of poor people who suffer only two deprivations on average, and a group of poor people who suffer four deprivations on average at the same time.

This approach can be employed flexibly in a variety of situations by using different dimensions (e.g. education), indicators (e.g. how many years of education a person has), deprivation cutoffs (e.g. a person with fewer than five years of education is considered deprived), weights (e.g. education and health dimensions are equally weighted), and poverty cutoffs (e.g. a person who is deprived in one-third or more of the weighted indicators is poor).

It reveals differences within and between groups and regions

The measure can be decomposed by **geographic area, ethnicity, gender or other social groups**, to show the composition of poverty within and between them.

The measure can be broken down after identification to show which deprivations (i.e. which dimensions and indicators) are driving poverty within groups.

It gives information across time

The measure can be used to monitor changes in poverty and the composition of poverty over time using time series or panel data. The AF method reflects deprivations directly and changes immediately as these change. This time sensitivity makes it an effective monitoring tool because improvements in the dimensions measured, such as health and education, are reflected more quickly than with traditional approaches.

Common uses

Poverty measures: The AF method can be used to create national, regional or international measures of poverty, using dimensions and indicators that are tailored to the specific context.

Geographic: The AF method can be used to identify which regions are the poorest, for example for geographic targeting, or to inform allocation decisions.

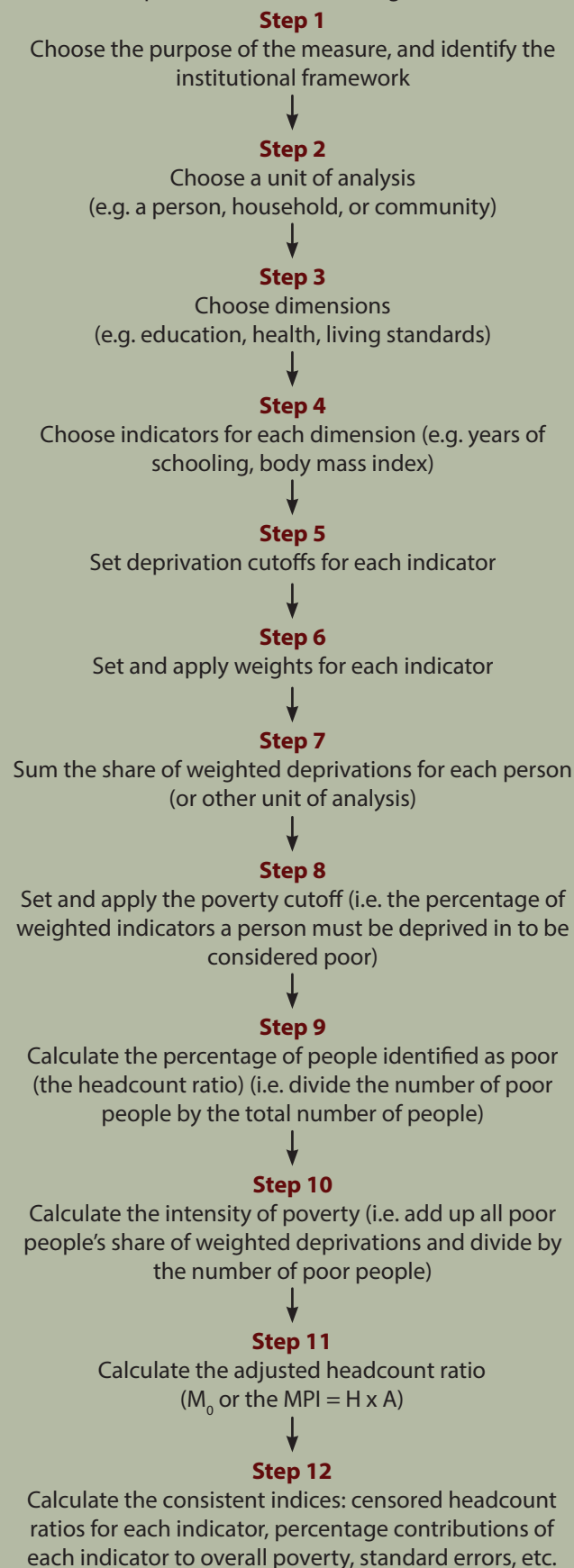
Monitoring and Evaluation: The AF method can be used to monitor the effectiveness of programmes over time.

Targeting the poorest groups and beneficiaries: A person’s ‘deprivation score’ can be used to target the poorest beneficiaries and can be broken down to show the indicators in which they are most deprived, to further inform interventions.

Complement other metrics: The AF poverty method can be used to complement other measures, such as income poverty, GDP, and inequality measures.

Using the Alkire Foster method

An AF M_0 measure can be intuitively constructed in 12 steps. The first 6 steps are common to many multidimensional poverty measures; the remainder are specific to the AF counting method.



Colombia: Using a multidimensional poverty measure to monitor

Colombia is a pioneering country in the use of multidimensional poverty measurement for poverty reduction. In 2011, the Government of Colombia adopted a new poverty-reduction strategy, which sets firm and binding targets and outputs based on budget constraints and priorities. Colombian President, Juan Manuel Santos, announced a National Development Plan with poverty reduction as the centrepiece. The government plans to reduce multidimensional poverty by 13 percentage points by the end of 2014 – from 35 per cent of the entire population in 2008 to 22 per cent in 2014. Devised by Colombia's Ministry of Planning, it is the first National Development Plan to use the Alkire Foster (AF) method for measuring multidimensional poverty through the Colombian Multidimensional Poverty Index (MPI-Colombia).

Unit of analysis

The MPI-Colombia uses the household as unit of analysis. Household members are considered to be deprived or not according to the achievements of all household members simultaneously (e.g. a person is considered to be deprived if any of his or her fellow household members are deprived in literacy). This respects the family as the fundamental social unit in Colombia.

Three criteria based on the Colombian context were used to select this unit of analysis:

First, a normative criterion draws on the Colombian Constitution, which claims that the guarantee of living conditions and rights is the joint responsibility of the family, society and the State.

Second, an empirical criterion draws on academic evidence relating to Colombia which shows that households historically respond to adverse situations collectively.

The final criterion relates to the social policy context of the country. This criterion draws on existing policies, programmes and instruments in the country, all of which use the household as the unit of analysis and intervention.

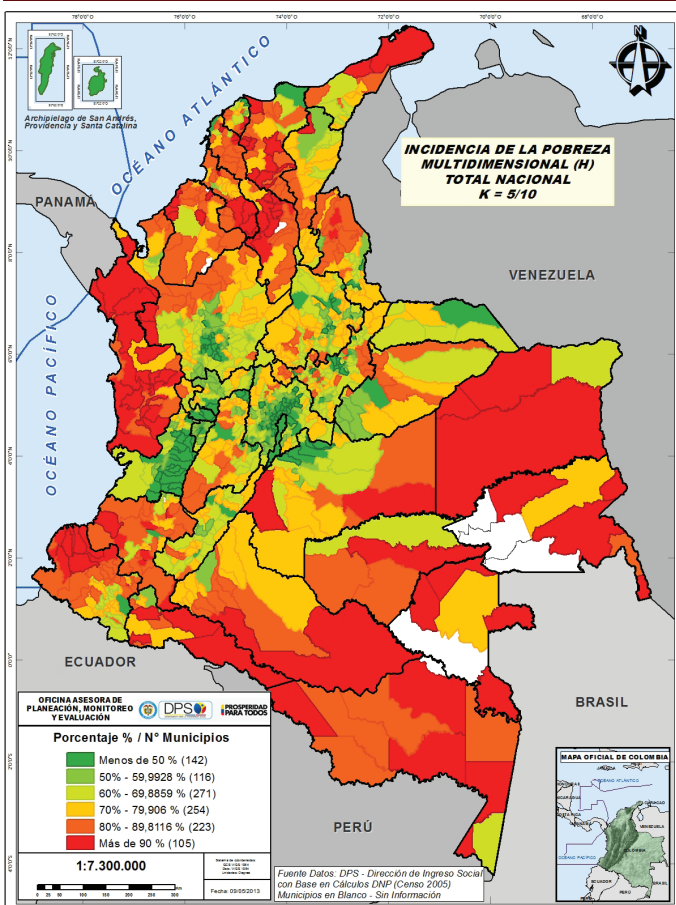
Dimensions and indicators

Building on the flexibility inherent in the AF method, the MPI-Colombia assesses broader aspects of poverty in five dimensions using 15 indicators.

Weights

The MPI-Colombia uses a nested weighting structure where each dimension has the same weight (20%), and each indicator has the same weight within each dimension (see figure on page 5). Based on a consultation process in which alternative weighting structures were considered, this set of weights was selected to reflect the equal importance of each dimension as a constituent element of quality of life.

MPI – Incidence at a municipal level



Source: Archivo Oficina de Comunicaciones. Departamento para la Prosperidad Social - DPS

a national development plan

Poverty cutoff

The poverty cutoff – the share of dimensions in which a person must be deprived in order to be considered multidimensionally poor - was set at one-third of the weighted dimensions. This decision was taken based on both statistical criteria and analytical validation. The statistical analysis included computing poverty for all possible poverty cutoffs and systematically checking the robustness of the results to changes in these values.

Institutions

The MPI-Colombia has been used both to set the specific targets and to track progress towards them in the National Development Plan. As mentioned, the Development Plan has specific targets for multidimensional poverty reduction alongside income poverty and inequality. It also has specific targets for each of the dimensions and indicators considered in the Index.

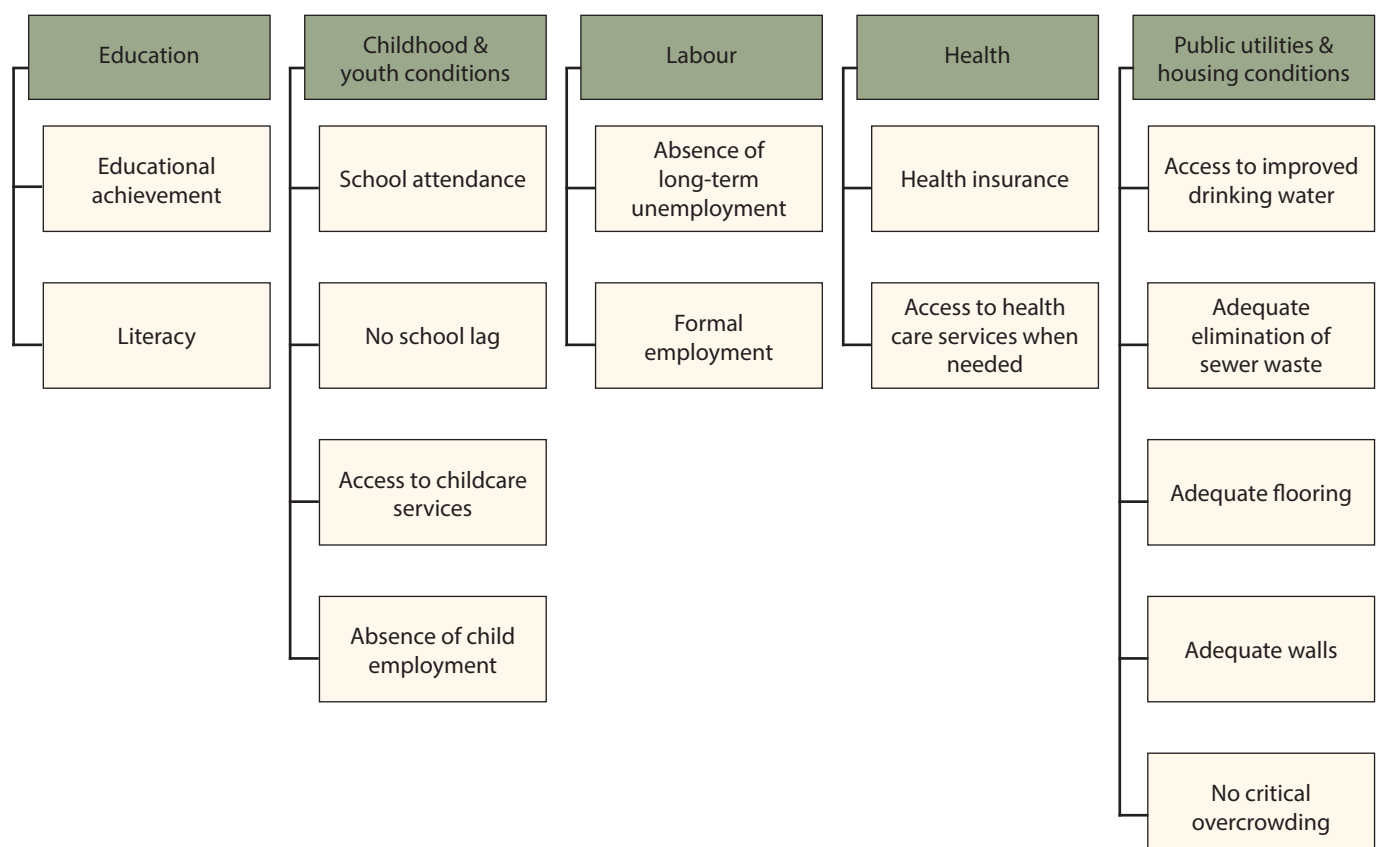
To ensure that the targets are on track, President Santos has established a special ministerial Cabinet commission. This commission is headed by President Santos and includes each of the ministers and heads of departments responsible for the specific targets included in the Development Plan. The commission holds monthly meetings where each member reports on the advances of his or her sector. The commission has a technical secretariat for monitoring the advances in the plan. This secre-

tariat produces reports based on a “traffic light” system, which triggers alerts when progress towards each indicator falls off track.

The characteristics of the AF-based MPI-Colombia (e.g., it can be broken down to observe the contribution of each of the dimensions to overall poverty levels; it allows analysis of specific groups or regions, or the possibility of analysing simultaneously experienced deprivations) result in rich discussions regarding public policy at a multisectoral level, and a clear map for coordinating the design and implementation of policies to achieve an integrated strategy for the reduction of poverty.

An additional element of this monitoring system is its transparency and the accountability it generates, viz-a-viz the general public as well as within government. As part of the institutionalisation of the MPI-Colombia, the government has now transferred the responsibility for the calculation of the Index to the National Statistics Department (an independent institution) and established an independent board of national and international experts to oversee the data. Moreover, surveys are now fielded and the MPI released on an annual basis in order to support the follow up of the Development Plan. The information depicting the advances in the plan is made public annually, allowing for the results to be widely scrutinised and lagging sectors identified.

MPI-Colombia: A nested weighting structure



Colombia (continued)

MPI-Colombia at the municipal level

A proxy of the national MPI-Colombia was constructed at the municipal level using Census data from 2005. The municipal MPI allowed poverty maps to be created and updated using the new multidimensional approach and assessment tool. These maps were subsequently used as instruments for geographical targeting and differentiation of the social programme's interventions.

As can be observed, there is a high level of rural poverty relative to urban poverty, and poverty is lower in the central regions. Furthermore, urban-rural and center-periphery gaps have intensified over recent years.

Policy applications

Families in Action Plus

Families in Action Plus is a conditional cash transfer programme for poverty reduction. Under the scheme, selected families receive direct cash transfers that are incremental and conditional on the improvement of the education and health outcomes of the members of the household. The programme currently exists in 1,102 municipalities and targets 2.6 million families in Colombia (approximately 10 million people). Since 2012, the MPI-Colombia has been used to define the regions for the allocation of the Families in Action Plus cash transfers programme. The MPI-Colombia allows for geographical targeting in order to differentiate coverage, interventions, and adapting the amounts of the transfers according to regional specificities.

This has three concrete results: 1) there is an increase in the number of beneficiaries according to the headcount ratio of the municipality's MPI (i.e. more beneficiaries in the poorer municipalities); 2) a higher total transfer amount to rural and poorer areas; and 3) a higher impact on reducing households' liquidity constraints according to geographical location.

The programme currently allocates funding according to four main groups: **Group 1**, Bogota; **Group 2**, 21 cities (21 capitals); **Group 3**, 512 municipalities with an MPI of less than 70%; and **Group 4**, 568 municipalities with an MPI over 70%.

The UNIDOS programme

The UNIDOS programme is the main public policy initiative to reduce extreme poverty in Colombia. The objective of the program is to enhance the income-generating abilities and the quality of life conditions of the families involved through a better targeting of the provision of public services. The programme emphasises the efficiency of the targeting and offers specific policies in the following areas: a) income and work, b) education and capacity, c) health, d) nutrition, e) housing conditions, f) family relationships, g) banking and savings, and h) access to justice. The programme currently targets 350, 000 families (around 1,150,000 people).

The identification of beneficiary families is done through a census-type exercise involving a short questionnaire that collects detailed information on multidimensional and income poverty. Beneficiaries are categorized according to the type of poverty prevailing in the household (income or multidimensional), and their particular deprivation profile. A set of social programmes based on each household's needs is then defined for the selected families.






Delegates of the UNIDOS program in each public agency are responsible for enrolling the families in particular interventions and monitoring their progress. For this, regular evaluation sessions are carried out to evaluate the achievements of households. Community meetings are also part of the strategy in order to define a mechanism for local management.

The enrolment of selected families is temporary; once a family no longer lives in extreme poverty, the family is moved into other social programmes (such as Families in Action). Only families classified as non-multidimensionally poor and non-income poor are promoted out of the programme.

Regional development plans

The MPI-Colombia is also being used as an instrument for monitoring regional policies as well as a base line for defining goals on specific interventions. The agenda includes the definition of public resources as well as private alliances for accomplishing these goals.

Colombia's 'traffic light' monitoring system shows progress towards indicators

Poverty	Base Line	2011	Alert	Goal 2011	Goal 2014
Income poverty (% LP)	40.2%	34.1%		35.9%	32%
Extreme income poverty (%LI)	14.4%	10.6		11.6%	9.5%
IPM (Multidimensional poverty) base line 2008	34.6%	29.4		25.7%	22.5%
Families graduated from extreme poverty (UNIDOS)	0	581		10,000	350,000
Gini (Income)	0.557	0.54		0.556	0.544



Mexico: Passing a multidimensional poverty measure into law

Origin

In 2004, a consensus among Mexican political parties led to the approval of the General Law for Social Development (LGDS), which created an independent Council for the Evaluation of Social Policy (CONEVAL) in 2006. The LGDS mandated CONEVAL to design a multidimensional poverty measure based on the insights of the Mexican law. A new multidimensional poverty measure was adopted by the Mexican government on 10 December 2009. It is the first national poverty measure to reflect the full breadth of poverty at the household level, including social factors such as health, housing, education and access to food, as well as income at national, state and municipal level.

The measure enables public policy to focus on moving the population identified as extremely poor to a situation outside of poverty and vulnerability.

There are several elements that make this multidimensional approach an important one:

- a) The dimensions chosen by Congress are based on social rights.
- b) The cut-offs are taken mainly from the Mexican Constitution and the main regulations in the social area. These two elements align the poverty measure to the Mexican legal framework.
- c) The methodology makes visible the link between poverty and social programmes and strategies, for public policy purposes.
- d) Estimations are done every two years at the national and state level, and every five years for the municipality level.

Institutions

The LGDS established CONEVAL as a decentralized agency from the Federal Government with technical and administrative autonomy. On one hand, it regulates and coordinates the evaluation of social development policies and programmes; on the

other, it establishes the guidelines and criteria for the definition, identification and measurement of poverty in Mexico. To carry out these tasks, CONEVAL is led by an executive secretary and six academic councillors, elected by the National Commission of Social Development, from the Deputies Chamber, through a national call.

The LGDS mandated CONEVAL to develop a multidimensional measure of poverty, which considers at least the following indicators: current income per capita, educational gap, access to health services, access to social security, housing quality and spaces, basic services in homes, access to food and the degree of social cohesion.

The law argued two essential areas should be balanced in the new measure: economic wellbeing and social rights. This informed the decision to have equal weights on income poverty and social rights. The new methodology allowed a more thorough study of poverty, for besides measuring income, social deprivations are analyzed from a social rights perspective.

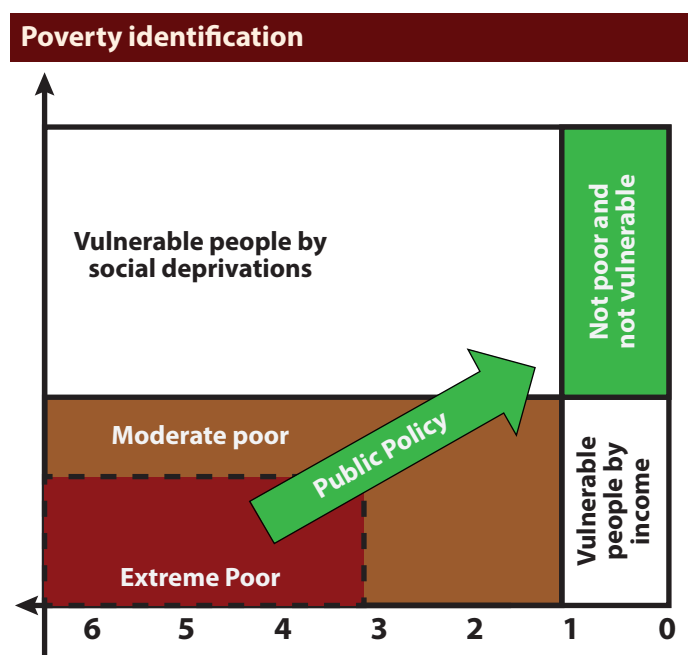
CONEVAL's multidimensional poverty measure is well institutionalized, having been used both before and after the 2012 general election that resulted in a change in the ruling coalition.

Dimensions & indicators

Multidimensional poverty incorporates three elements of the population's living conditions: economic wellbeing, social rights and territorial context. The new methodology was selected after a review of alternative methods of measuring multidimensional poverty. The first line of research consisted in carrying out a number of studies and seminars with national and international experts. During this stage, a group of well-known experts on poverty measurement were consulted in order to identify the main challenges in defining and measuring multidimensional poverty.

Based on the results of those first sessions in 2007, in the second stage, CONEVAL asked a group of experts to elaborate a methodological proposal that solved the problem of multidimensional poverty measurement according to the LGDS mandates. These proposals were presented at two internal workshops and an international academic seminar, during which their main features, properties and scope were discussed. As a result of the discussion of the methodological proposal, CONEVAL undertook, during a third stage, the task of proposing a poverty measurement methodology that would satisfy the legal regulations, be sensitive to Mexico's social setting, and that was grounded on a strong methodological basis. This proposal was discussed with a group of specialists during the last quarter of 2008 at one national and one international academic seminar.

The selected method adopts a social rights approach and develops indicators for the following dimensions: educational gap, access to healthcare, access to social security, basic services



at home, quality of living spaces, access to food, the current income per capita and the degree of social cohesion, as is set forth by the LGDS.

The indicators for educational gap focus on people aged 2-15 and those who are above 16 years of age. Access to health services is measured using access to popular insurance, a social security public institution or a private medical service. Access to social security is measured through direct access to an existing plan for medical services and pensions for senior citizens, by access through a family member, or voluntary enrolment in another institution for access to the same. The quality of living spaces is determined by looking at the roofs, walls, floors and ratio of people per room. Indicators for access to basic services include access to adequate water facilities, drainage services and electricity. Access to food is determined by a measurement on a spectrum of food security where food insecurity can be characterized as slight, moderate or severe. To measure the income variable, CONEVAL used the National Household Income and Expenditure Survey (ENIGH). The indicators for social cohesion (reported separately) are economic inequality, social polarization, social networks and income ratio. This measurement is conducted at national level and for urban and rural areas.

Cutoffs

The thresholds for the indicators were determined through legal criteria and through consultation with experts from public institutions (health, housing, social security, education). According to this new conception, a person is multidimensionally poor when his/her income is insufficient to acquire the goods and services he/she requires to satisfy his/her needs, and presents deprivation in at least one of the following six indicators: educational gap, access to healthcare, access to social security, housing

quality and spaces, basic services in homes and access to food.

In the educational domain, a person aged 13-15 years is considered deprived if he/she is not attending a formal educational center. For population above 16 years of age, deprivation is reflected by the lack of mandatory basic education current at the time they should have completed it.

A person is deprived in access to health if he/she is not enrolled in or not entitled to receive medical services from public or private services.

A person is considered deprived in the dimension of social security if he/she does not receive medical services through a public, voluntary or family network.

A person is considered deprived in access to basic services if he/she is not in a location where he/she has access to fresh or piped water, public drainage services or public electricity.

A person is considered deprived if the construction of walls, floors and roofs is from residue material or soil, and if the ratio of people per room is greater than 2.5.

People living in households with a level of moderate or severe food insecurity are considered deprived in the dimension of access to food.

Weights and poverty cutoff

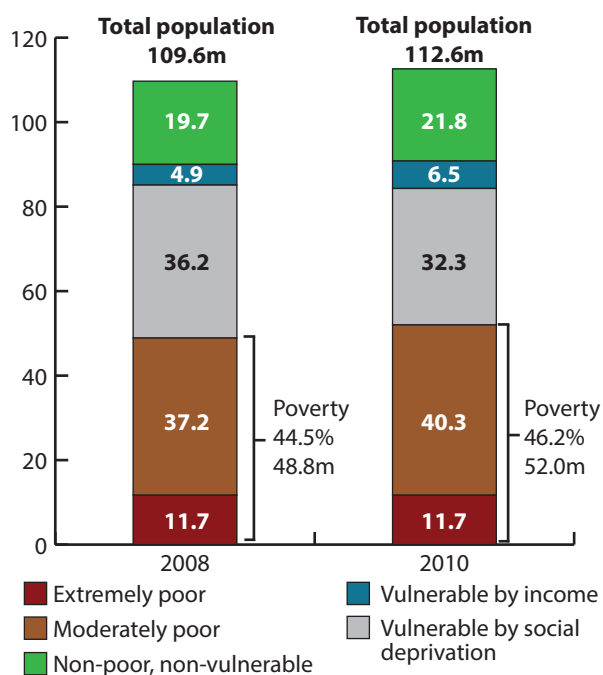
The law named two essential areas that should be covered by the measurement i.e. economic wellbeing and social rights, which it considered equally important for an accurate estimation of poverty. Thus income and social rights are equally weighted. Each social right is likewise equally weighted, giving an effective weight of 50% to all social rights and the other 50% to income.



Photo by Gisela Robles Aguilar

Mexico (continued)

Change in poverty 2008-2010



A person is identified as multidimensionally poor if they are deprived in income according to the cost of a basic needs basket, and are also deprived in one or more social right. A person is in extreme poverty if they are deprived in income according to the food basket, and are deprived in three or more social rights.

Results – regional and by population

In the year 2010, 46.2 percent of the national population lived in conditions of multidimensional poverty, that is, approximately 52 million people in the country were deprived in at least one dimension and had insufficient income to satisfy their needs. This population presented 2.5 social deprivations on average.

The measurement of the degree of social cohesion takes place through four indicators: economic inequality, social polarization, social networks and income ratio. Regarding the concentration of income, in 2008 the Gini index value at national level was

0.506, which is a typical value of societies with a high concentration of wealth.

Between 2008 and 2010 there was an increase in coverage of basic services such as education, access to health, access to social security, quality of housing and basic services in housing. All these are part of the poverty measurement, as stated in the Act.

Two dimensions of poverty however showed an unfavourable trend in that period, reflecting the global financial crisis: the purchasing power of income fell and food insecurity increased. The net balance of poverty was that it increased by 3.2 million people between 2008 and 2010, reaching 52 million people, but at the same time, extreme poverty remained 11.7 million in the two years.

This was because, in general, social policy was directed at people in greater poverty, as the economic crisis and the increase in food prices hit the population, especially in the urban areas of the country. This set of circumstances will be reflected mainly in the poverty intensity and not necessarily in the headcount ratio. In other words, a similar percentage of the population remains in poverty, but those who are poor are less poor in 2010 compared with 2008.

These results, together with the multidimensional poverty maps for states and municipalities, have been taken into account by the new government to design its overall social policy, especially the one focused on extreme poverty and food deprivation.

For this purpose, each ministry has a specific goal to reduce extreme poverty, according to the dimensions they are linked to.

On July 16 2013, the National Institute of Statistics and Geography (INEGI) will publish the Survey of Income and Expenditure 2012 (ENIGH 2012) and the Socioeconomic Conditions Module. These surveys were conducted by INEGI between August and November 2012. CONEVAL will release estimates of poverty figures for 2012 for the country and all the entities of the Republic on 29 July 2013.



China: Incorporating environmental data

In the 12th Five-Year Plan (FYP) for the period 2011-2015, the Chinese government placed the issue of inequality high on its policy agenda; the CPC Central Committee convened the Development-oriented Poverty Reduction Working Meeting at its highest level in November 2011, officially releasing the *Outline for Development-oriented Poverty Reduction for Rural China (2011-2020)*.

The *Outline* highlights the main mission between 2011 and 2020: to help people move out of poverty and improve their living standards more rapidly. For this purpose, the *Outline* has identified 14 key regions as priority national anti-poverty regions in the next ten years, of which Wu Ling Mountain Region is the first.

The current criterion for identifying the poor is income or consumption, which is only one dimension of poverty. Multidimensional measurement is required to recognize the specific characteristics of poverty in China. For this purpose the International Poverty Reduction Center in China (IPRCC) is developing a Geographic Information System (GIS) for National Poverty Reduction which will identify and monitor multidimensional poverty, and plans to pilot it in the Wu Ling Mountain Region. OPHI will support IPRCC's work to design the multidimensional poverty indicators and create a measure. It is expected that the GIS for National Poverty Reduction will be completed and used in 2014.

Institutions

The IPRCC was established in 2005 by the Chinese government and the United Nations Development Programme, and is based in Beijing. Two members of the IPRCC attended OPHI's Summer School on Capability and Multidimensional Poverty in Jakarta in August 2012. IPRCC will work closely with the National Statistics Bureau of China in order to obtain the household data and to conduct the poverty research properly. Field trips to Wu Ling Region will have the following aims: (a) To collect information from the government officials, academics and development workers in these regions; (b) To conduct focus group discussions and field visits for farmers; (c) To identify and confirm local partners for the research projects; (d) To identify potential regions for the sample survey.

Objective of initial study

The proposed study has dual objectives: using the multidimensional poverty measure to measure the extent of poverty in the Wu Ling Mountain Region; and identifying the character and underlying causes of poverty in the regions.

Methodology for study

In measuring multidimensional poverty, the IPRCC seeks to make decisions about the domains relevant to well-being, their respective indicators and threshold levels, and the aggregation function. The institution uses the Alkire Foster measure, which



combines information on both the number of deprivations and their level, and information on poverty depth and distribution. Methodologically the study will integrate household and village survey information with GIS data on the environment.

The measurement includes demographic, economic, social, ecological and environmental dimensions, both standard poverty indicators (for example, type of house, drinking water, sanitation, electricity, assets, access to market, farmland and health insurance), and resource indicators (such as soil quality, environmental safety and ecology frangibility).

Coverage

The project will cover the Wu Ling Mountain Region in South China. It includes the 4 provinces of Hubei, Hunan, Chongqing and Guizhou and their 71 counties, and covers an area of 71,800 km². The population is 36.45 million, of which 76.6% is rural population with 2553 Yuan income per capita. Wu Ling Mountain Region is the largest poverty-stricken area in China and is home to the highest number of minorities in the country.

Expected outcomes

The study will result in a comprehensive report on multidimensional poverty in the Wu Ling Mountain Region, including policy recommendations to the relevant government departments and financial institutions. A workshop will be held to promote communication among policymakers, researchers, practitioners and NGOs, encourage the application of research results and raise awareness.

A system will be built to monitor multidimensional poverty in Wu Ling Mountain Region. The IPRCC will sponsor the set up and design the indicators with OPHI. The monitoring network will involve the NBS (National Bureau of Statistics of China), CPAD (China State Council's Poverty Alleviation and Development Office) and the poverty reduction sector in the local government, with the guidance of the experts of IPRCC. In addition, IPRCC will set up a database of household poverty which will be updated every year, analyze the data and write reports for the NBS and CPAD.

Minas Gerais, Brazil: Collecting data door to door

The State Government of Minas Gerais in Brazil has established a state-wide poverty reduction programme called Travessia focused on multidimensional poverty, utilizing the Alkire Foster measure. To date, Travessia has implemented a Multidimensional Poverty Index (MPI) in 132 of its municipalities. The objective of the programme is to ‘Promote social and economic inclusion of the poorest and most vulnerable populations through the articulation of territorial public policies.’

Results

By early 2013, the program had enrolled 266,114 households in 132 cities and spent approximately US\$1.3 million in research. The results showed that 25.88% of the households are multidimensionally poor; 22.48% are vulnerable to poverty while 9.73% of the households researched could be classified as severely multidimensionally poor. Considering the contribution of each dimension to the index, it was found that education accounted for 66.42% of the MPI rank, followed by child mortality and sanitation, which together accounted for 14.41% of the MPI.

Programme selection

The Travessia Programme uses a two-step process for the selection of participants into its poverty reduction programme. First, Municipalities are selected based on their Human Development Index score. Second, questionnaires are administered and analysed to determine who is MPI poor and to coordinate targeted social services.

Once a municipality is chosen using the HDI, the programme officers visit the municipalities and train locals to administer the questionnaires in every household of the chosen municipality. The programme does not do a sample survey, but rather a full census of the municipality. This phase of the program is called Door to Door (Porta a Porta). At the present time the indicators used are the same as those in the Global MPI; however they are under the process of modification.

Based on the results of the questionnaire, each household is ranked by its multidimensional poverty index score. This is then transferred to a map down to the household level. This data is then taken to the state-level Secretariats that are part of this programme for them to use for targeting actions under the Travessia programme. Each Secretariat is responsible for its outreach programme to the MPI chosen municipalities.

Each Secretariat looks at complementary data that it has from other sources on dimensions related to its work. This helps to enrich the map of deprivations in the municipality. Each Secretariat also works in other municipalities not covered by its local MPI. It therefore integrates the local MPI results into the information data that it has for each municipality.

Coordination and implementation

The success of its targeting efforts comes from coordination among the different state-level Secretariats. A formal meeting of the secretaries is called every two months to plan, coordinate and review results of the MPI. The deputy secretaries in each Secretariat are in turn part of an on-going technical committee.

But, essential to this whole process is a small, central technical unit that is the motor behind the programme. The Governor’s deputy heads this unit, and is the coordinator and facilitator of multidimensional poverty work in the state. The unit has six professionals. One is in charge of the data analysis and of the process that determines the MPI scores for each household. The others keep in constant contact with the different Secretariats to ensure the programme is moving ahead. They are in charge of modifications to the questionnaires or to any part of the system that has been put in place. They also do periodic evaluations and monitoring of the programme and keep up international dialogue on multidimensional poverty with OPHI and others. They have been instrumental in the transfer of this technology to other municipalities within Brazil. Over the last 12 months the State Government and OPHI, along with UNDP, have conducted two seminars and a one-week training programme in the state on the MPI.

Secretariats responsible for MPI outreach programmes

Secretary of Social Development (Coordinator)	Secretary of Work and Employment
Secretary of Government	Secretary of Education
Secretary of Institutional Relations	Secretary of Sports and Youth
Secretary of Planning and Management	Secretary of Regional Development and Urban Politics
Secretary of Social Defence	Secretary of Transportation and Public Works
Secretary of Health	Secretary of Development of the Jequitinhonha and Mucuri Valleys and the North of Minas Gerais
Secretary of Land Regularization	COPASA (Minas Gerais Water and Sanitation Company)
Secretary of Supply, Agriculture and Livestock	CEMIG (Minas Gerais Electricity Company)
Social Articulation, Partnership and Participation Advisory Body	COPANOR (Minas Gerais North and Northeast Water and Sanitation Company)

Bhutan: Implementing an MPI across states

The Royal Government of Bhutan has taken the view that poverty is multidimensional. Most of its previous poverty reports have focused on income poverty, largely due to an absence of data on other human deprivation aspects of poverty. A multidimensional outlook is fully consistent with the basic development philosophy of Gross National Happiness (GNH) (see page 15); the need to view development more holistically and beyond just income measures. Similarly, a multidimensional approach to poverty and its equivalent measure, the Multidimensional Poverty Index (MPI), captures more than just income poverty at the household level.

The MPI is a useful index of acute multidimensional poverty and reflects deprivations in very rudimentary services and core human needs. The index, which measures both the incidence of poverty and its intensity, has three core domains: health, education and living standards, which are assessed using several indicators. At the global level, the ten indicators used pertain to years

of schooling and child enrolment (education); child mortality and nutrition (health); and electricity, flooring, drinking water, sanitation, cooking fuel and assets (standard of living).

For Bhutan, a varied MPI model with slight changes from the global model has been constructed, using 13 indicators with varying weights. Efforts to further refine the model and attune it to Bhutan's GNH index are underway as relevant data become available. Nevertheless, the basic intent is to explore the value added that such a measure could bring, in addition to supplementing the income poverty measures that are already in use. The 13 indicators that comprise Bhutan's initial MPI pertain to primary schooling and children out of school (education); child

mortality, nutrition and food insecurity (health); and electricity, housing, cooking fuel, drinking water less than 30 minutes away, improved sanitation and asset ownership of livestock, land and appliances (living standards).

25.8% of the population in Bhutan is deemed to be MPI poor and deprived in at least 4 of the 13 indicators. The MPI measure at the national level for 2010 works out to 0.12, with an average intensity of poverty at 0.45. The MPI further highlights the intensity of poverty in Bhutan, i.e. the proportion of indicators in which they are deprived. For instance, 16.9% of

the population in Bhutan is MPI poor in five, or 39%, of the 13 indicators, while there are no MPI poor in all 13 of the indicators. The highest levels of deprivation pertain to access to improved sanitation (pit latrines with slab), cooking fuel (if wood, dung or charcoal used), schooling (five years of school education) and electricity. From the three core domains, education (41%) contributes the most to multidimensional poverty, followed by living standards (37%) and health (23%).

There are stark differences between multidimensional poverty levels in urban and rural areas of the country. There are also considerable variations between 'Dzongkhags', the administrative and judicial districts of Bhutan, with relatively higher levels of multidimensional poverty in Gasa, Samtse, Dagana, Zhemgang and Lhuentse. While there is a strong correlation between income poverty and multidimensional poverty incidences, the two are not, however, the same. A classic case is that of Gasa, which has among the lowest income poverty incidence but the highest level of multidimensional poverty in the country, facing considerable deprivations in access to improved drinking water, electricity and education.



El Salvador

In 2011, the Government of El Salvador, supported by the UNDP and funded by the Grand Duke of Luxembourg, agreed to develop a national multidimensional poverty measure.

The Government created an Advisory Board and a Technical Committee, both under the auspices of the Ministry of the Presidency, with representatives from government, international organizations and members of academia and civil society, to help build a poverty measurement methodology. These bodies reviewed existing approaches to measuring multidimensional poverty as well as experiences in other countries. They also reviewed existing statistical information available in household survey data, and realized that experts and existing data would not necessarily capture fully the reality of poverty in the country.

Therefore, in order to uncover and understand the dimensions of poverty felt by the poor themselves, focus groups were conducted throughout the country with people identified as living in poverty by team members with the participation of grassroots NGOs. As a result of the discussions, eight dimensions were identified: employment, housing, education, security, recreation, health, nutrition and income. Subsequently the Technical Committee developed indicators based on information from the focus groups. Thematic working groups with participants from different social and economic sectors and the technical advice from the OPHI team enriched this process.

The understanding of the phenomenon does not end with this. The Board is conducting a qualitative study that will draw on the habits and decision-making processes of the people in poverty, which will be reinforced by the perceptions of non-poor people and the media about people living in poverty. This information is essential for the design of inclusive and effective programmes for poverty eradication.

The multidimensional poverty measure will also have a practical use, guiding social policy in El Salvador. The new proposed multidimensional poverty index (to be announced in early 2014) will establish a link with the social action programmes of the Government in order to monitor their results, improve them – when necessary – and design new ones.

Malaysia

Since its independence, a set of economic policies promoting growth with distribution has resulted in significant income poverty reduction in Malaysia. However, traditional economic measures alone may not capture societal wellbeing or sustainability across time, providing insufficient policy guidance about deprivation in other dimensions.

In 1999, the Economic Planning Unit (EPU) introduced a multidimensional measure of welfare: the Quality of Life Index. A welfare composite index, this shows the situation of the entire population, averaging their results and hidden overlapping deprivations. The measure (11 components and 45 indicators) has shown positive results since 1990, with significant progress in education followed by transport and communications, and housing.

Recently, the Government of Malaysia through the EPU has started considering the possibility of developing a multidimensional poverty measure able to focus on poverty and capture the overlapping distribution of dimensions. The implementation of a multidimensional poverty index based on the AF method would provide relevant information for the efficient design and monitoring of social policies.

The purpose of the measure might include: complementing the national income poverty measure; monitoring the effectiveness of poverty reduction programmes and strategies; and enabling better targeting and design of poverty reduction and development policies.

Malaysia recently started to develop a preliminary Multidimensional Poverty Index based on the Household Income/Basic Amenities Survey (HIS/BA) 2009. The dimensions and indicators used in this initial work are those included in the global MPI (3 dimensions and 10 indicators). The EPU will be utilizing the most recent HIS/BA 2012, which will capture a wider range of dimensions and indicators in the subsequent MPI. This MPI will be used for the national Human Development Report and the Eleventh Malaysia Development Plan.



Gross National Happiness

The Gross National Happiness Index is generated to reflect the happiness and general wellbeing of the Bhutanese population more accurately and profoundly than a monetary measure. The measure informs both the Bhutanese people and the wider world about the current levels of human fulfilment in Bhutan, and how these vary across districts and across time. It also informs government policy.

Using an adaptation of the AF methodology, the Government of Bhutan's Centre for Bhutan Studies released a GNH index in 2008 and revised and updated it in 2011. The recent version has 33 indicators in the nine domains. The domains are:

1. *Psychological wellbeing*
2. *Health*
3. *Time use*
4. *Education*
5. *Cultural diversity and resilience*
6. *Good governance*
7. *Community vitality*
8. *Ecological diversity and resilience*
9. *Living standard*

The index weights the nine domains equally. The nation's wellbeing is measured directly by starting with each person's achievements in each indicator. It identifies four groups of people – unhappy, narrowly happy, extensively happy, and deeply happy – using graded happiness cutoffs. The GNH index uses two kinds of thresholds or cutoffs: sufficiency thresholds, and happiness thresholds. Sufficiency thresholds show how much a person needs in order to enjoy sufficiency in each of the 33 cluster indicators. Happiness cutoffs identify people who enjoy sufficiency in different proportions of indicators (less than 50%, 50-66%, 66-77%, and above 77%).

Policy selection tools are used to review the potential effects of proposed policies on GNH, and the results of the GNH index will be tracked over time to evaluate interventions. This 'GNH Policy Lens' requires that the policy consequences on all relevant dimensions be considered prior to implementation. In addition, project screening tools are to be implemented in nearly twenty project areas. An important innovation is the ability to track results across states. The stated goal is that all government projects and policies work together to maximize GNH.

Women's Empowerment

Launched in March 2012 by OPHI with the United States Agency for International Development (USAID) and the International Food Policy Research Institute (IFPRI), the Women's Empowerment in Agriculture Index (WEAI) tracks women's engagement in agriculture. Women play a critical and potentially transformative role in agricultural growth in developing countries, but they face persistent obstacles and economic constraints limiting further inclusion in agriculture.

The WEAI measures the empowerment, agency, and inclusion of women in the agriculture sector in an effort to identify ways to overcome those obstacles and constraints. The Index is a significant innovation in its field and aims to increase understanding of the connections between women's empowerment, food security, and agricultural growth. It measures the roles and extent of women's engagement in the agriculture sector in five domains: (1) decisions about agricultural production, (2) access to and decision making power over productive resources, (3) control over use of income, (4) leadership in the community, and (5) time use. It is composed of two sub-indexes: the AF-based five domains of empowerment for women (5DE), and the gender parity index (GPI), which measures women's empowerment relative to men within the household. The WEAI is an aggregate index reported at the country or regional level that is based on individual-level data on men and women within the same households.

The WEAI indicates women's control over critical parts of their lives in the household, community, and economy. It allows one to identify women who are disempowered and understand how to increase autonomy and decision-making in key domains. The WEAI is also a useful tool for monitoring progress toward gender equality, which is one of the MDGs.

The WEAI was developed to track the change in women's empowerment levels that occurs as a direct or indirect result of interventions under Feed the Future, the US government's global hunger and food security initiative. Ultimately, the Index will be used for performance monitoring and impact evaluations of Feed the Future programme in 19 countries.



Photo by Cameron Thibos

An MPI 2.0 for the Post-2015 MDGs

OPHI has proposed using the AF method to create a Multidimensional Poverty Index (MPI) 2.0 for the post-2015 MDGs, as a headline indicator of multidimensional poverty that can reflect participatory inputs and be easily disaggregated (Alkire and Sumner 2013).

Most projections suggest ending \$1.25/day poverty would not require much in the way of bending the current trend – so it is achievable. But ending \$1.25/day poverty is unlikely to mean the end of the many overlapping disadvantages faced by people living in poverty, including malnutrition, poor sanitation, a lack of electricity, or ramshackle schools.

A global MPI 2.0 could be used as a headline indicator for the post-2015 MDGs, providing an intuitive overview of multidimensional poverty to complement a \$1.25/day measure. It would show how people are poor (what disadvantages they

experience); to which regions or ethnic groups they belong; and the inequalities between those living in poverty.

An MPI 2.0 is needed because many studies have found that people who are multidimensionally poor are not necessarily income poor, and vice versa; this means that by focusing on the \$1.25/day poor we may fail to reduce or eradicate acute multidimensional poverty.

The dimensions, indicators and cutoffs of an MPI 2.0 should reflect participatory discussions as well as expert views. It need not entail a long survey. Alongside a comparable MPI 2.0, national MPIs should be recognised and reported internationally.

The MPI 2.0 would add value for policymakers, providing political incentives to reduce poverty by reflecting changes swiftly; it could also be used to monitor inclusive growth, and to show the nexus between challenges of poverty and sustainability.

The Multidimensional Poverty Peer Network

The Oxford Poverty and Human Development Initiative (OPHI)

The Oxford Poverty and Human Development Initiative (OPHI) is an economic research centre at Oxford University's Department for International Development (ODID). Led by Director Sabina Alkire, our aim is to build and advance a more systematic methodological and economic framework for reducing multidimensional poverty, grounded in people's experiences and values.

One of the ways in which we do this is by developing and implementing multidimensional measures of poverty, well-being and inequality. These measures go beyond traditional one-dimensional approaches, to incorporate dimensions such as health, education, living standards, quality of work and more innovative dimensions.

The Multidimensional Poverty Peer Network

The Multidimensional Poverty Peer Network has been created in response to overwhelming demand for information on implementing multidimensional measures, and for technical and institutional support. It enables early adopters of such measures to share their experiences directly with policymakers in other countries, including input into the design of the measures, and the political processes and institutional arrangements that will sustain them.

Founded by OPHI with Mexico's CONEVAL and Colombia's DNP and financial support from BMZ, it's hoped the network will grow to include many more members around the world.

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