Institution: University of Oxford

Unit of Assessment: 24B Development Studies

Title of case study: Multidimensional poverty measurement improves policy-making

1. Summary of the impact

Poor people define poverty to include a simultaneous lack of education, health, housing, employment and income, among other factors. Recognising this, Sabina Alkire and James Foster developed an axiomatic methodology of measurement that incorporates multiple dimensions of poverty – the Alkire Foster method (AF). The AF method provides a robust, 'open-source' measurement tool for policy-making. One key impact is an AF index covering 100+ countries, published annually in the UNDP's *Human Development Reports.* Another is national adoption by three governments and a multidimensional poverty peer network of 22 governments and agencies. The AF method is also incorporated into other internationally recognised well-being measures such as USAID's 19-country Women's Empowerment in Agriculture Index, and Bhutan's Gross National Happiness index.

2. Underpinning research

In 2007, Sabina Alkire established the Oxford Poverty and Human Development Initiative (OPHI) (www.ophi.org.uk) at the University of Oxford and, with James Foster, developed a new, multidimensional poverty measurement methodology that is implemented by choosing context-specific variables that go beyond income and consumption **[see Section 3: R1–R3]**.

The Alkire Foster (AF) method employs a set of user-designed indicators, cut-offs and weights to identify who is poor and to generate a rigorous class of poverty measures. The simplest measure reflects both the incidence of poverty (the percentage of the population who are poor), and the intensity of poverty (the share of deprivations suffered by each household); other measures also reflect the depth and severity of poverty.

The AF method identifies who is poor by considering the joint deprivations they experience. It then aggregates that information to reflect societal poverty in a way that is robust and decomposable; for example by gender, ethnicity or geographic region. The final measures can be broken down by indicator, after identification, to show the composition. It is a very flexible methodology; different dimensions (e.g. nutrition) and indicators (e.g. stunting) can be used, depending on the requirements of the policy-makers concerned, to target support to the very poorest accurately.

Following the development of the AF method, a number of papers were published by OPHI in which authors used the new methodology to analyse multidimensional poverty in countries and continents around the world; for example, in Bhutan, India and Latin America **[R4, R5]**. These papers demonstrated how policy insights arise from the new methodology, by showing how deprivations vary between groups of people and regions. Methodological papers developed applications such as targeting, and tools such as standard errors. A manual, *Multidimensional Poverty Measurement and Analysis*, will be published by Oxford University Press in 2014.

By comparing the new multidimensional measures with standard income measures of poverty, this research drew attention to how the AF measures complement income poverty statistics. In particular, the AF measure provides a meaningful at-a-glance number, which can then be broken down to reveal how many are poor, how they are poor, and who are the poorest **[R6]**. The fact that the AF measure is both compact and transparent makes it attractive to policy-makers wishing to coordinate policy, target resources more effectively and monitor the impact of programmes over time **[R7]**.

Key researchers:

- Sabina Alkire, Director, OPHI (2007–present)
- James Foster, OPHI Research Associate (2007–present), OPHI Visiting Fellow (2006–07), and Professor of Economics and International Affairs, George Washington University
- José Manuel Roche, OPHI Research Officer (2009–present)
- Maria Emma Santos, OPHI Research Associate (2010–present), OPHI Research Officer (2008–10) and Universidad Nacional del Sur and CONICET, Argentina

3. References to the research

[R1] Alkire, S and J E Foster (2011) 'Counting and Multidimensional Poverty Measurement,' *Journal of Public Economics* 95 (7–8): 476–87. (Impact factor: 1.520; citations in Google Scholar: 487.)

This paper was originally published as OPHI Working Paper No. 7 (2007).

[R2] Alkire, S, and J E Foster (2011) 'Understandings and Misunderstandings of Multidimensional Poverty Measurement,' *Journal of Economic Inequality* 9 (2): 289–314.

One of the top five most downloaded documents from the *Journal of Economic Inequality.*

[R3] (2013) *Journal of Economic Inequality* 9 (3): 479–99

This issue of the journal featured six thought pieces on the AF method by Jacques Silber, David Roodman, Erik Thorbecke, Nancy Birdsall, Francisco Ferreira, Jeni Klugman and Francisco Rodríguez and Hyung-Jin Choi. It also included Alkire, S, J E Foster and M E Santos 'Where Did Identification Go?' (pp. 501–5).

[R4] Alkire, S and M E Santos (eds) (2013) 'A Multidimensional Approach: Poverty Measurement and Beyond'. Special issue of *Social Indicators Research* 112 (2). (Impact factor: 1.264.)

[R5] Alkire, S., and M.E. Santos (2010) 'Acute Multidimensional Poverty: A New Index for Developing Countries,' *UNDP Human Development Report Research Paper*, 2010/11

Presented on request to the DFID Chief Economist's Seminar and the Poverty and Inequality Measurement and Analysis Practice Group of the World Bank.

[R6] Alkire, S, R Meinzen-Dick, A Peterman, A R Quisumbing, G Seymour and A Vaz (2013) 'The Women's Empowerment in Agriculture Index', *World Development* 52: 71–91. (Impact factor: 1.527.)

Key research awards that supported this and related research:

- IDRC-CIDA Project 104071, 'Human Development and Capabilities Network - Phase III', $2,107,500 (CDN), 2006–10
- ESRC-DFID Grant Reference ES/I032827/1, 'Multidimensional Poverty: Enriching Methodologies of Measurement and Policy Analysis', £387,416, 2011–14
- UNDP Human Development Report Office grants for developing the Multidimensional Poverty Index and training programme for policy-makers, $326,572 (USD), 2009–12
- UK Department for International Development (DFID) Grant Component Code 200440-102, 'Multidimensional Poverty: Consolidating Innovation', £94,305, 2010–11
- USAID-IFPRI grant to create the Women's Empowerment in Agriculture Index, $124,450 (USD), 2011–12
- BMZ-Georg-August-Universität Göttingen grant on 'Multidimensional Poverty Measurements: On Developing Alternative Poverty Measures for Development Policy', €140,300, 2011–13
- BMZ-GIZ Project 11.2066.6-002.00, 'Millennium Goals and Poverty Reduction', seed grant for a multidimensional poverty peer network for policy-makers, €100,000, 2012–13

4. Details of the impact

Since its first publication in working paper form in 2007, the AF method has been adapted by several governments to create tailored multidimensional measures of poverty and well-being which contribute directly to poverty reduction **[see Section 5: C1–C5]**. Furthermore, it is used to construct the 104-country Multidimensional Poverty Index (MPI) included in UNDP's annual flagship publication *Human Development Report (HDR)* **[C6]**, and in the monitoring and evaluation of US government aid programmes **[C7, C8]**.

In June 2013, OPHI with President Santos of Colombia and high-level representatives of 22 countries, the Organisation for Economic Cooperation and Development (OECD), the Economic Commission for Latin America and the Caribbean (ECLAC) and the Southern African Development Community (SADC), launched the Global Multidimensional Poverty Peer Network. The Network connects policy-makers who are exploring or implementing official multidimensional poverty measures based on the AF method at the regional, national and international levels. Network participants include China, India, Nigeria, Brazil, Philippines, Iraq, and Morocco, and OPHI acts as the Network's Secretariat.

Key users:

UNDP Human Development Report Office (HDRO) – Global Multidimensional Poverty Index

OPHI collaborated with the HDRO to develop a new Multidimensional Poverty Index in 2009–10. This index was constructed by Alkire and Santos using the AF method, was launched in the *Human Development Report* in 2010 and updated with new estimations and analyses for subsequent reports **[C6]**. Covering over 100 countries, the MPI shows the nature and extent of poverty from the household up to the regional, national and international level. It continues to attract attention from the media and high-profile thinkers and commentators around the world, including, in 2013, the Economist, the Telegraph and the Observer in the UK, the China Post, Bloomberg, Fox News, and the Times of India.

Government of Mexico – National Multidimensional Poverty Measure

Following a 2006 law, requiring the construction of a multidimensional poverty measure, the Mexican government's National Council for the Evaluation of Social Policy examined five multidimensional poverty measurement methodologies, including the AF method. Based on their research, Alkire and Foster participated as international experts in a two-year process, applying the AF model to suit the specifications of the Mexican government via a two-way dialogue process. Mexico's official multidimensional poverty measure, using a version of the AF method, was launched in 2009 and updated in 2011 and 2013. This pioneering measure reflects people's simultaneous deprivations in income and social rights, including health, housing, education and food, enabling policy-makers to devise more effective poverty-reduction strategies **[C1]**.

Government of Colombia – National MPI and Poverty-Reduction Strategy

In 2011, the government of Colombia launched a national multidimensional poverty measure using the AF method and developed in close collaboration with OPHI researchers. Devised by Colombia's Ministry of Planning, the measure reflects the national plan's goals and targets. It has been cascaded through the policy process, and is used for policy coordination, for geographical and household targeting, and for monitoring and evaluation. The MPI is now an official statistic, updated annually based on new survey data **[C2]**.

Government of Bhutan – Gross National Happiness (GNH) Index

In 2008, the president of the government of Bhutan's Centre for Bhutan Studies (CBS) co-developed the first (pilot) GNH Index with Alkire using the AF method, and co-authored two OPHI working papers. The index was updated and strengthened in 2012, again using the AF method, with Alkire as co-author **[C3]**. The landmark measure has nine domains and 33 indicators, and the surrounding policy framework creates incentives for the government, as well as NGOs and businesses, to increase GNH. Bhutan has also adapted the AF method to construct a national MPI, with tailored indicators that reflect deprivations in rudimentary services and core human needs.

USAID and IFPRI – Women's Empowerment in Agriculture Index (WEAI)

Alkire and OPHI consultant Ana Vaz constructed the WEAI in 2012 in partnership with the US government's Feed the Future initiative, the United States Agency for International Development (USAID) and the International Food Policy Research Institute (IFPRI). The WEAI, which was commissioned by the US government to monitor the impact of its Feed the Future interventions, captures women's empowerment in the agricultural sector directly, without using proxies such as income and education **[R6]**. Alkire and Vaz developed the index from pilot survey data using an adaptation of the AF method. The work has now been expanded to representative datasets in 19 countries, and there is uptake from NGOs, including CARE and Oxfam, and interest from the UN's

Food and Agriculture Organisation (FAO) in further implementations **[C7, C8]**.

In addition to the users above, the AF method has been adapted and applied at the national or subnational level in China **[C4]**, Malaysia, and Minas Gerais and São Paulo in Brazil **[C5].** Official National AF multidimensional poverty measures are under development in Chile **[C9]**, El Salvador, and Vietnam among others, and tailor-made AF MPIs have been published in UNDP national and regional *Human Development Reports* in Mercosur, Eastern Europe and Central Asia, Malaysia, Nicaragua and Iraq, among others **[C10–C12]**, often sparking consideration as national indices.

Training:
Further impact occurred through OPHI's training of policy-makers, which helped to build their technical capacity to implement an AF measure. Two-week training courses have been held in Chile, Nicaragua, India, Indonesia, Jordan, the Netherlands, Peru, the UK and the US, and tailor-made courses given in locations such as Bhutan, Brazil, Egypt, Ethiopia, Hungary, Jordan, Lebanon, Malaysia, Rwanda, Saudi Arabia, Thailand, the US and Venezuela.

5. Sources to corroborate the impact

[C1] CONEVAL (2010) *A Methodology for the Measurement of Multidimensional Poverty*. Mexico City: CONEVAL (see also http://www.ophi.org.uk/policy/national-policy/mexico-mpi).
[C2] Angulo Salazar, R.C., Y. Díaz Cuervo, and R. Pardo Pinzón (2011) *Índice de Pobreza Multidimensional para Colombia (IPM-Colombia) 1997-2010*. Bogota: Republic of Colombia Department of Planning (see http://www.dnp.gov.co/ for other sources)
[C3] Alkire, S, K Ura, T Zangmo, and K Wangdi (2012) *An Extensive Analysis of GNH Index*. Thimphu: Centre for Bhutan Studies. UNDP (2011) Bhutan National *Human Development Report 2011*: *Sustaining Progress: Rising to the Climate Challenge* mentions Bhutan's national MPI (pp 31–33).
[C4] Xiaolin Wang (2013) *Developing GIS of the National Poverty Reduction in China*. Presentation given at the launch of the Multidimensional Poverty Peer Network, Oxford, June 2013, describing the IPRCC's work to identify and monitor multidimensional poverty using the AF method.
[C5] Programa Travessia – Sobre o programa. This webpage explains that the Travessia poverty-reduction programme introduced by the Minas Gerais state government in Brazil uses the Multidimensional Poverty Index developed by OPHI and the UNDP's HDRO.
[C6] The UNDP Human Development Report Office: corroborates the use of the AF method to develop the global MPI published in the 2010 and subsequent *Human Development Reports* (held on file).
[C7] The Monitoring and Evaluation Team, Food Security, USAID: corroborates the use of the AF method to construct the Women's Empowerment in Agriculture Index (held on file).
[C8] USAID, Feed the Future, IFPRI and OPHI (2012) *The Women's Empowerment in Agriculture Index*. Washington DC: IFPRI
[C9] Comisión para la Medición de la Pobreza (2013) *Informe de Avance, abril 2013*. This report states that Chile should incorporate multidimensional poverty measurement and the dimensions that should be used (see Section V).
[C10] UNDP (2011) *Las juventudes construyendo Nicaragua*. This Spanish-language report, which won a 2013 Human Development Award for Excellence, describes the Multidimensional Poverty Youth Index (IPMJ), which was constructed using the AF method (see p 77 onwards).
[C11] UNDP (2009) *Human Development Report* for Mercosur, 2009–10: *Innovar para incluir: jóvenes y desarrollo humano*. This report describes a MPI for young people in Mercosur, the trading bloc set up by Argentina, Brazil, Paraguay and Uruguay.
[C12] UNDP (2011) Regional *Human Development Report*, Europe and Central Asia: *Beyond Transition, Towards Inclusive Societies*. This report presents a Multidimensional Social Exclusion Index based on the AF method.