ACADEMIC VIEWPOINT:

ASSESSING INTERVENTIONS THAT IMPROVE NUTRITION

John Hoddinott[1] and Susan Horton[2]

Nutrition has always been important to development. Good nutrition allows for healthy growth and development of children, inadequate nutrition is a major contributing factor to maternal and child mortality. The smart nutrition solutions proposed for Bangladesh encompass nutrition-specific interventions that are intended to have a direct effect on nutrition outcomes (the provision of various micro-nutrient supplements; complementary feeding; and behavior change), interventions that work through improving maternal and thus fetal health (tobacco cessation) and those that work through nutrition-sensitive sectors such as agriculture and education. As these seven papers show, good nutrition is also good economics.

Table 1 summarizes the seven studies, listing the intervention they assess, the alternative scenarios they use to calculate benefits and the benefit cost ratios (BCRs) they estimate using different discount rates. Given that costs are borne largely in the present and the benefits accrue over decades, it is not surprising that the benefit: cost ratios are sensitive to the discount rate chosen. Which rate is most appropriate? The answer depends heavily on the extent to which the welfare of future generations is taken into account when making investment decisions – such as investments in the reduction of stunting – today. Based on this logic, the discount rate set for investments in climate change reduction use a low discount rate, 1.5% (Sunstein and Weisbach, 2008). Alternatively, a "cost of capital" approach would argue that the discount rate should be set at the interest rate at which the public sector can borrow on capital markets. Where these investments are financed by foreign aid, this implies a discount rate of around 3% (Koyhama, 2006). Finally, if the public sector investment is perceived to displace private investment, then it is argued that a higher interest rate be used such as 5.5% (Koyhama, 2006; Sunstein and Weisbach, 2008). Assuming that the displacement of private investment is unlikely for many of these proposed interventions, the results found in the column for the 5% discount rate are the best guide for assessing these BCRs. Mindful of this, there are five lessons to be learned from these studies.

1. Using a 5% discount rate, nearly all these interventions are good investments in that their BCRs exceed one. Interventions that directly affect nutritional outcomes – such as micronutrient supplements – tend to have higher BCRs than those such as investments in schooling and homestead livestock which work through more indirect channels.

[1] Cornell University. Em: Hoddinott@crnell.edu.
[2] University of Waterloo. Em: Sehorton@uwaterloo.ca

2. Investing in healthy mothers – through micronutrient supplementation, improving diets through the promotion and improved access to nutrient dense foods and through encouraging the cessation of the use of tobacco products – has high economic returns. That said, as these seven papers make clear, there is no one single solution that will address all dimensions of undernutrition. Making progress in reducing all dimensions of undernutrition in Bangladesh will require multiple interventions, not just one.

3. We need to know more about the costs of these interventions. Data limitations means that a number of studies are forced to use either old data or data from other countries. Better cost data would allow for more accurate estimates of BCRs and possibly spur innovation in mechanisms that would improve delivery of these interventions.

4. Cost also matters for scaling up. Interventions with high BCRs, but also high unit costs, are excellent investments but for a given budget constraint, can only reach a limited number of beneficiaries. Where two interventions have small differences in BCRs, but the intervention with the lower BCR has a much lower unit cost, for a fixed budget constraint, it may make sense to prioritize the intervention with the lower BCR because doing so will make it possible to reach many more beneficiaries.

5. Hinted at in some papers and made explicit in others, is the importance of the quality of intervention implementation. High quality implementation matters if the nutritional and economic benefits of these interventions are to be achieved. As Hoque's paper on tobacco cessation makes clear, BCRs are sensitive to the extent to which implementation leads to adoption of new behaviors.

These papers, all of which draw on a considerable body of knowledge already generated by Bangladeshi researchers and their international partners, point to a large number of interventions that can improve health, nutrition and economic outcomes. The challenge ahead is to effectively implement these at scale.

REFERENCES FOR DISCOUNT RATES

Koyhana, H., 2006. Selecting discount rates for budgetary purposes. Harvard Law School, Briefing paper 5-22-06. Cambridge: Harvard University.

Sunstein, C. and D. Wesibach, 2008. Climate change and discounting the future: A guide for the perplexed. Harvard Law School, Public law and legal theory research paper 08-20. Cambridge: Harvard University.

TABLE 1: SUMMARY OF BENEFIT COST RATIOS BY INTERVENTION AND DISCOUNT RATE

Intervention	Scenario	Discount rate and rank					
		3%		5%		10%	
		BCR	Rank	BCR	Rank	BCR	Rank
Maternal Iron-Folic Acid Suppl.	High wage growth	64.1	(1)	27.5	(1)	5.0	(4)
Bundled package of maternal and child interventions	High wage growth	41.9	(2)	18.8	(2)	3.4	(6)
Maternal Protein-energy suppl.	High wage growth	31.6	(3)	16.7	(3)	6.0	(1)
Promotion of complementary feeding	-	25.3	(5)	14.5	(4)	4.9	(5)
Maternal Calcium Suppl.	High wage growth	28.1	(4)	12.0	(5)	2.1	(9)
Smoking cessation	25% take up	23.0	(6)	11.7	(6)	3.2	(7)
Maternal Protein-energy suppl	Moderate wage growth	17.7	(8)	10.8	(7)	5.1	(3)
Bundled package of maternal and child interventions	Moderate wage growth	18.2	(7)	8.7	(8)	1.8	(=11)
Schooling (Rabbani)	Wage effects for mothers and nutrition gains	10.6	(11)	8.4	(9)	5.5	(2)
Smoking cessation	15% take up	13.8	(9)	7.0	(10)	1.9	(10)
Schooling (Zaman)	High wage effects for mothers and nutrition gains	10.6	(12)	6.4	(11)	2.4	(8)
Maternal Iron-Folic Acid Suppl.	Moderate wage growth	13.5	(10)	5.7	(12)	0.9	(14)
Schooling (Zaman)	Moderate wage effects for mothers and nutrition gains	8.3	(14)	5.1	(13)	2.0	(10)
Smoking cessation	10% take up	9.2	(13)	4.7	(14)	1.3	(13)
Schooling (Zaman)	Low wage effects for mothers and nutrition gains	6.5	(15)	4.2	(15)	1.8	(=11)
Maternal Calcium Suppl.	Moderate wage growth	6.4	(16)	2.9	(16)	0.7	(15)
Homestead livestock	-	3.1	(17)	-	-	-	-

Note: The results from the two education studies use different estimates for schooling costs and this largely accounts for the differences in their BCRs.

AUTHORS

JOHN HODDINOTT is H.E Babcock Professor of Food and Nutrition Economics and Policy at Cornel University. His research interests revolve around the intersection of the causes of poverty, food insecurity and undernutrition, and the design and evaluation of interventions that would reduce these. This builds on earlier work on poverty dynamics, intra-household resource allocation, schooling, labour markets aid allocation and on improving survey methods. Much of his current work focuses on the effectiveness of social protection programs and on the links between economics and early life nutrition. He has led or participated in the evaluations of some of the largest social protection programs in the developing world, including the Vulnerable Group Development scheme in Bangladesh, Brazil's Bolsa Familia cash transfer program, Ethiopia's Productive Safety net Programme, PROGRESA in Mexico and South Africa's Child Support Grant. John has recently completed a four country study evaluating the impact of food, cash and voucher transfers for the World Food Program and is currently engaged in the analysis of the impact of social protection interventions in Bangladesh and Ethiopia. John is currently a Managing Editor of the Journal of African Economies and an Assistant Editor of Economics and Human Biology.

SUSAN HORTON is the CIGI chair in global health economics. She received her B.A. from Cambridge University, and her M.A. and Ph.D. from Harvard University, and specializes in health, nutrition and labour market issues in developing countries. She has worked in over 20 developing countries, and has consulted for the World Bank, the Asian Development Bank, several United Nations agencies, and the International Development Research Centre, among others. Sue has edited or co-edited four books, and is the author or co-author of more than 50 refereed journal articles and book chapters, as well as 30 technical publications. She is currently working on a book on the economics of public health, in addition to articles and chapters on the economics of nutrition. She has given over 80 invited presentations and conference papers in four continents. In addition to English, Sue speaks French, German and Spanish.
She is also associate provost of graduate studies at the University of Waterloo. Previously, Sue has served as associate dean of the Faculty of Arts and Science, chair of the Department of Social Sciences and interim dean at the University of Toronto at Scarborough, as well as vice-president academic at Wilfrid Laurier University in Waterloo.

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