Improving developing world nutrition

Research by: Spencer Henson, Professor, FARE

Efforts to address global undernutrition increasingly recognize that simply providing people enough food will not solve the problem; the poor need greater access to healthy diets. A study by FARE Professor Spencer Henson examines the role of business in making nutritious food available to the poor in the developing world.

According to Henson, food systems are changing rapidly. Growing numbers of people access food through markets. In many countries, undernutrition is increasingly an urban problem, and even farming households buy substantial portions of their food. Tackling the undernutrition challenge requires an agenda to improve food markets and incentivize businesses of all sizes to produce and target nutritious foods to the needs of the poor, especially mothers and infants.

New business models for nutritious foods have the potential to reduce undernutrition. These must focus on foods that are of a high nutritional quality, are culturally acceptable and good-tasting, whilst ensuring they are available and affordable to the poor. But this isn’t enough; undernourished populations need to appreciate the nutritional value of these foods and be willing to pay for them. For this to happen, people need to understand the nutrition benefits a product claims to deliver and trust that these claims are true. The challenge for businesses, and for donors, non-governmental organizations (NGOs) and governments looking to work with them, is to implement business models that meet these challenges, whilst also being commercially viable on a sustained basis.

A growing array of processed food products is sold in developing countries, but few of these are directed at the poor. This underinvestment results from failures in markets for nutritious foods that reduce the commercial viability of selling to the poor, in particular:

- The nutritional value of foods is largely invisible and impacts on health aren’t seen until long after consumption. This makes it difficult for businesses to capture the value from selling more nutritious foods.
- Developing these markets entails high costs and risks, since new business models must address the needs of the poor, distribute to where they are located and convince them to buy these products.

Helping businesses overcome barriers in markets for nutritious foods is critical. Developing and manufacturing a product is relatively easy. The more difficult challenges are establishing distribution and marketing systems that reach poor consumers at low cost, and communicating the nutritional value of products. Development actors can respond with new policies (e.g., product labeling or subsidy programmes) or direct engagement in these markets (e.g., public distribution systems). (See sidebar on back page.)
First Nation land management

Research by: Mary Doidge and Bethany Woods, M.Sc. Students, and Brady Deaton, Jr., Associate Professor, FARE

First Nations with reserves in closer proximity to urban areas are more likely to become a signatory to the Framework Agreement (FA) on First Nation Land Management. This finding by FARE students Mary Doidge and Bethany Woods and Associate Professor Brady Deaton, Jr. is consistent with the idea that urban proximity is associated with increased economic opportunities. First Nations close to urban centres may adopt the FA to gain greater control over their reserve land in an attempt to capture these opportunities.

Being signatory to the FA allows First Nations to opt out of the 34 land code provisions of the Indian Act, to develop their own individual land codes. It has been promoted as a means of increasing First Nation autonomy and facilitating economic growth, by reducing the fiduciary role of the federal government in land management decisions on reserves. There are currently 77 First Nation signatories to the Agreement, 39 with operational independent land codes.

“…reserves in closer proximity to urban areas are more likely to become a signatory …”

The study sample consisted of 287 First Nations, a subset of the 617 recognized First Nations in Canada. A unique dataset characterizing each First Nation by socio-economic and demographic characteristics was used with a probit model to determine the effects of these characteristics on the probability of First Nation adoption of the FA. The distance from each reserve to the closest urban area with a population of 100,000 or more was the main variable of interest in this study. For First Nations with two reserves, a weighted average of this distance was calculated.

The statistical strength of the findings are sensitive to the inclusion of an education variable (the proportion of on-reserve population that did not receive a high school diploma) in the regression. This suggests that education may affect the likelihood of adoption, and may be positively correlated with the distance measure. However, the inclusion of the education variable resulted in a significantly reduced sample size, which could also explain the loss of statistical significance.

The FA introduces a new set of property rights for First Nations in Canada, and has the potential to influence the well-being of First Nations people. The researchers’ focus on the spatial pattern of adoption contributes to an understanding of the potential economic motivations for adoption of the FA, and will be useful in developing future research to assess the economic consequences of adoption for participating First Nations.

FA accelerates economic development

“The Agreement recognizes that First Nations are their law makers on their own lands, that they have the power to make laws over their lands and their resources. It allows the First Nations to take advantages of things like economic development potential at the speed of business – by that I mean there is no regulatory red tape and approvals that the Department of Indian Affairs is required to do.”

— Chief Robert Louie of the Westbank First Nation & Chairman of the First Nations Land Advisory Board speaking to Brady Deaton, Jr., host of FARE Talk. For the full conversation: www.aoguelph.ca/fare/FARE-talk/index.html#first.

FARE Talk

Enlightening discussions about contemporary topics relevant to food, agricultural and resource economics

Distribution of U.S. ag subsidies

What do NBA superstar Scottie Pippen, publisher Larry Flint and financial giant Charles Schwab all have in common? Barry K. Goodwin, William Neal Reynolds Distinguished Professor of Economics and Agricultural & Resource Economics at North Carolina State University, uses the unlikely comparison to point out that the beneficiaries of agricultural subsidies often aren’t involved in agriculture at all. These three men are all landowners, and arguably not who most would expect to be on the receiving end of government aid for farmers.

His article, “The Buck Stops Where? The Distribution of Agricultural Subsidies,” focuses on the effect that subsidies have on rental rates. His research results confirm that subsidies have a
Empirical evidence shows that not all countries with high levels of corruption have poor economic performance. China, Indonesia, South Korea, and Thailand are all examples of high-corruption and high-growth economies. This is in contrast to Sub-Saharan African and Latin American, which are classic examples of the co-existence of high corruption and poor economic performance. In his research paper, “The three Cs: Corruption, Centralization and Competence,” J. Atsu Amegashie, Associate Professor in the Department of Economics and Finance at the University of Guelph, examines why corruption is less harmful in some countries than in others.

“If corruption is inevitable or a necessary evil, it need not be a free-for-all because the business of running the country and providing basic services must be paramount.”

He points to Shleifer and Vishny’s (1993) theory of the organization of corruption and its effect on economic performance as one possible answer. Their finding is that a centralized network of collusive corruption could lead to a lower level of bribe payment, a greater provision of public goods, and a smaller scale of distortions than would arise under a decentralized network of non-collusive corruption.

Amegashie points out a shortcoming of this and other research like it – it does not explain why some countries have centralized corruption while others have decentralized corruption. To answer this question, it is important to note that centralizing corruption is not a costless process. Higher-level government officials, such as the president and senior ministers, must pay lower-level officials reasonably well and exert effort in monitoring them to deliver corrupt-free services to the public. For example, the building inspector, sanitation official, tax official, custom official, policeman, public school principal or teacher must be monitored. If the cost of monitoring lower-level officials and/or paying them reasonably well is too high, then incompetent higher-level officials will prefer decentralized corruption to centralized corruption. In this case, corruption will not be centralized because although less harmful for the country, it is less profitable for incompetent government officials.

This analysis is not meant as a prescription for the organization of corruption. Whether centralized or not, corruption is always bad for development and the best outcome is achieved when it does not exist at all. However, the fact that the harmful effects of corruption are different from country to country suggests that the organization of corruption may have something to do with the capacity of the state. If corruption is inevitable or a necessary evil, it need not be a free-for-all because the business of running the country and providing basic services must be paramount. Highly capable and serious leaders understand this fundamental point.
Adoption drivers differ by gender

Research by: Alan Ker, Chair, FARE and Abdoul G. Sam, Associate Professor, and Gracious M. Diro, Ph.D. Student, Department of Agricultural, Environmental and Development Economics, The Ohio State University

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Growing business interest

There is evidence of growing business interest in engaging in markets for nutritious foods directed at the poor. Workable models can be found, but businesses are often unable or unwilling to implement them alone. Most examples involve partnerships with donors, NGOs and/or governments. These include:

- **Public distribution systems** are the most common model of business engagement. A number of businesses manufacture products sold into distribution systems operated by donors, NGOs or governments. The products are generally provided for free to populations suffering from acute malnutrition.

- **National fortification programmes** in many countries have helped to overcome low consumer demand and the invisibility of nutrient content. Fortification programmes ensure that businesses add micronutrients to basic commodities (such as flour or cooking oil) through mandatory requirements or schemes.

The drivers of fertilizer adoption differ between males and females. This finding builds on research that shows male-headed households are more likely to adopt fertilizer use than female-headed households.

While the role of gender on the adoption of agricultural technologies in developing countries has been explored in many studies, this research is the first to specifically compare drivers of adoption.

Using a national survey of 1,912 households in Uganda, researchers estimated separate models for female and male-headed households. Uganda is plagued with poor soil organic matter and yet fertilizer is only minimally adopted, particularly among female-headed households. Despite fertilizer having significant potential for yield increases, only five percent of the respondents had adopted fertilizer use.

“**These findings suggest that different policy instruments will be needed to increase fertilizer adoption for female versus male-headed households.**”

The researchers used control variables drawn from the empirical literature on agricultural technology adoption in developing countries, including:

- Non-farm income (e.g., liquid capital, credit)
- Average education of the household (measured as the mean of formal years of schooling of household members aged at least 15)
- Age of the household head (to capture the effects of human capital and risk tolerance)
- Household size (number of members 15 years or older – to control for labour supply to agricultural activities)
- Distance to agricultural markets (the cost of transportation)
- Farm size (to capture benefits of purchasing economies on fertilizer adoption)
- Agro-ecological zones (may influence fertilizer adoption decisions through their effect on farmer’s perception of soil quality and yield response)

The researchers found that male-headed households are more likely to adopt fertilizer. For these households, the number of extension visits and non-farm earnings both had positive, significant effects while the age of the head of the household had a significant negative effect. Education and distance to market were insignificant. Conversely, with respect to female-headed households, the researchers found education had a positive significant effect while the distance to market had a negative significant effect. The number of extension visits, age of head of household, and non-farm earnings were insignificant. For both male and female-headed households, farm size and household size were insignificant.

These findings suggest that different policy instruments will be needed to increase fertilizer adoption for female versus male-headed households. Policies that reduce transportation costs and subsidize education will have the most pronounced effect on increasing fertilizer adoption amongst female-headed households. Conversely, policies which increase extension visits and nonfarm earnings will have the most pronounced effect on increasing fertilizer adoption among male-headed households.