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Food Safety Nets:
International Experience and Implications for Mali

By Steven Haggblade, Boubacar Diallo, John Staatz,
Veronique Theriault and Abdramane Traoré
Michigan State University
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1. An Overview of Food and Social Safety Nets

1.1. Safety nets

Food and social safety nets have a history as long as human civilization. In hunter gatherer societies, food sharing is pervasive. Group members who prove unlucky in the short run, hunting or foraging, receive food from other households in anticipation of reciprocal consideration at a later time (Smith 1988). With the emergence of the first large sedentary civilizations in the Middle East, administrative systems developed specifically around food storage and distribution. The ancient Egyptians, for example, stored food in public warehouses for distribution in times of famine.

Today, most developed country governments operate social safety net programs ranging from social security payments, to public welfare programs to food stamps. At the same time, church groups and civil society organizations run a wide range of privately finance food banks, soup kitchens and social welfare programs.

In the developing world, governments and civil society organizations operate similarly a broad of food and social safety net programs. Typically, these fall into one of the following four broad categories: 1) Targeted income transfer programs aim to deliver increased purchasing power to vulnerable groups in order to enable them to increase both food and nonfood consumption levels. 2) Direct feeding programs focus on provision of prepared foods to specific vulnerable groups – from refugees, to drought victims to low-income students. 3) Price subsidies, in contrast, tackle food poverty and malnutrition by lowering the price of key food staples required to maintain nutrition of vulnerable groups. 4) The fourth category of programs takes a longer-term perspective, building up the asset base of vulnerable groups in order to improve their income-generating capacity over the long run.

This paper reviews international evidence about the broad trends, operation and effectiveness of these various food safety net programs. Discussion begins with a review of the four major categories of food safety net programs. Then, as a way of sorting through a great volume of experience, the ensuing discussion examines experiences of three representative countries, one from each of the major developing regions, including Asia (Bangladesh), Africa (Ethiopia) and Latin America (Mexico). The paper concludes by summarizing key lessons learned and their implications for Mali.

1.1.1. Targeted income transfers

Public works programs. In the post-World War II developing world, Maharashtra State in India launched one of the first large-scale safety net programs, the Maharashtra Employment Guarantee Scheme (EGS). Building on earlier pilot schemes begun in the mid-1960's and a series of drought-relief employment programs, the Maharashtra state government extended the program state wide beginning in 1972. Financed entirely by the state government, the program guaranteed employment at a fixed cash wage to landless wage laborers for the construction of rural infrastructure, including irrigation works, drainage canals, wells and roads. Employment levels varied seasonally, with heaviest demand for employment occurring during the slack

agricultural season. At the program's peak, in the middle 1980's, it employed about one million workers per month (Dev 1995).

The era of large-scale donor food aid shipments to neighboring Bangladesh began shortly thereafter, following a bloody independence war and the subsequent outbreak of a serious famine in 1974 when as many as a million people died. Emulating the Maharashtra Employment Guarantee Scheme (EGS), the Bangladesh Food for Work (FFW) program paid unskilled rural laborers a daily wage to work on labor-intensive public works programs building rural roads, canals and drainage systems. Unlike the Maharashtra EGS, which paid workers a cash wage, Bangladesh's FFW program used food aid commodities, particularly wheat, to pay workers a daily wage in kilograms of grain. Given the heavy physical labor and low daily wage rate, these FFW schemes proved reliably self-targeting, since only the very poor and physically able proved willing to work in these programs.

Conditional income transfers: cash or in-kind. Following on these early efforts, a series of related programs have emerged to provide income transfers, in cash or in kind, to vulnerable groups provided the recipients modify their behavior in some way. In the mid 1990's, Bangladesh pioneered a large-scale Food for Education (FFE) program using government and donor resources. In return for sending their children to school, eligible low-income families received a monthly food ration of 30 kg of wheat. Similar programs, using cash payments rather than food rations, have emerged during the 2000s. The resulting Cash for Education (CFE) programs operate in a wide range of countries. Many Latin American countries operate similar transfer programs providing cash grants to low income households in return for sending their children to school and pregnant women to maternal and child health clinics and nutritional education programs. In addition to the immediate income boost this supplies to vulnerable households, these programs aim to improve the long-term health and welfare of the recipient women and children through access to general education, maternal and child health monitoring and nutrition education. Unlike the "for-work" programs, these conditional income transfer programs require administrative targeting of target households, often through local community committees composed for this purpose.

Unconditional income transfers. Large-scale safety net schemes in Brazil, South Africa and elsewhere provide regular income transfers to selected vulnerable groups without any work or behavioral requirement. In some places, governments issues food stamps regularly to vulnerable households. Essentially, these are government vouchers redeemable for food at private food shops. By providing a regular boost in purchasing power, these programs enable targeted households to increase both food and non-food consumption. One of the major questions in the evaluation literature on food safety nets has focused on how much these alternative programs cost to administer, how leakage rates differ, and which types of income transfer result in the largest increase in food consumption.

1.1.2. Direct feeding

In the presence of widespread hunger, some communities provide direct feeding programs for vulnerable groups. Many countries, for example, provide school lunches for poor students. These aim to improve physical health, boost students' ability to concentrate in school and

improve neural development and educational outcomes. Soup kitchens and homeless shelters, likewise, provide free prepared food to selected indigent groups.

Refugee camps and post-disaster relief programs also deliver food rations to affected groups. In the case of displaced persons, these programs may operate for long periods of time, particularly in the vicinity of major conflict zones. In contrast, disaster relief programs typically provide clean water and food for short periods following major natural calamities such as droughts, cyclones or floods.

1.1.3. Price subsidies

Price subsidy schemes tackle under-nutrition from a different angle. Instead of boosting incomes directly, they do so indirectly, raising purchasing power by lowering the price of key staple food commodities. Because low-income groups often spend half to two-thirds of their income of food, lowering food price can significantly boost real incomes and food consumption in instances where programs target commodities and recipients carefully.

Administrative systems for delivering targeted food price subsidies include ration shops and food voucher programs. During the mid-1980s, roughly one-fourth of Pakistan's urban households purchased subsidized wheat flour through government ration shops (Alderman et al. 1988).

Some price subsidy programs target non-food commodities. Many African countries have instituted large-scale fertilizer and seed subsidy programs in an effort to boost food production, and therefore, consumption by the poor. These programs have proven controversial – highly touted by their proponents for promoting food independence while simultaneously kick-starting agricultural intensification and highly criticized by others who point to the high cost, poor targeting, heavy leakage to well-off rural households and suppression of private input suppliers if poorly designed (Morris et al. 2007).

General, untargeted food price subsidies have also emerged in some countries. Recently, the government of Thailand has subsidized producer rice prices by paying farmers about 50% above world price. Critics complain about the heavy expense of these programs. Thailand, for example, spent $4.4 billion on rice subsidies in 2011/12. The Indonesian government spent $1.5 billion per year on food subsidies during the early 1990s (Robinson et al. 1997). Egyptians supply subsidized bread at prices so low that many poultry operators feed bread to their chickens. Although often very expensive, these programs prove politically attractive as a means of currying political favor with low-income urban constituencies (Pinstrup-Andersen 1988).

General food price subsidy programs prove expensive because they are not targeted and so taxpayers end up subsidizing the rich as well as the poor. For this reason, the ideal commodities for use in these programs are what economists call "inferior goods" in the sense that consumption falls as income goes up. In rice-eating south Asia, wheat served for many years as a self-targeting inferior good. But in recent decades, as taste patterns have shifted, it has become a normal good, and therefore very expensive to subsidize.

1.1.4. Targeted asset transfers

By increasing the quantity and quality of assets held by poor households, it becomes possible to permanently increase the productivity and per capita income of recipient households. A broad swath of new programs, therefore, aims to improve the welfare of currently poor households by enabling them to invest in productive assets that will result in sustainable income gains over time. Rwanda's "One Cow per Household" program delivers cows or small livestock to vulnerable households along with extension support to help recipients manage their new assets profitably. Project Heifer has operated a similar scheme for decades supplying selected recipient households with a cross-bred calf. After the calf matures, the program requires that the household give away the first offspring to a similarly targeted household. Nicaragua's national Food Productive Voucher (BPA) program provides productive assets (such as cows, pigs, chickens and fruit trees) and technical assistance to poor farmers. In exchange, the recipients commit to send their children to school, regular health check-ups and attend at adult education programs. Poultry, beekeeping and small livestock are commonly included in these types of programs. Food and cash for education programs also technically fall into this category, in the sense that they aim to build up the productive assets (human capital) of the children of today's poor so that the next generation can work its way out of poverty.

1.2. From safety nets to springboards

Safety nets serve to prevent deterioration in welfare among vulnerable groups, particularly during times of stress. They aim to ensure survival in the face of drought, displacement or chronic destitution.

A newer category of programs – often called social protection programs – aims to promote economic growth among vulnerable groups. Most do this by improving the productive asset base of vulnerable households. Education and nutrition programs serve to increase human capital of vulnerable children. Asset transfers of small livestock or other productive assets, coupled with training and business support, serve to boost long-term income-earning power. Micro-credit programs aim to achieve similar ends.

Terminology varies in describing these programs. Some refer to this shifting emphasis as a move from *safety nets* to *social protection* (Adato et al. 2004). Others talk of a shift from *protection* to *promotion* (Devreux et al. 2002, Grosh et al. 2008). Still others, particularly those in traditional emergency relief programs, describe their gradual transition from *relief* to *development*. *Resiliency* has also become a popular label for broad safety net programs that aim to protect short-term consumption levels while at the same time building up assets and productive capacity over time.

In this paper, we use the term "safety nets" broadly to include both short-term protection from severe under-nutrition as well as growth-promoting programs targeted at malnourished vulnerable groups.

Table 1. Alternative Safety Net Programs

	Program Examples	Target Beneficiaries	Goals	Advantages	Disadvantages
1. Targeted Income transfers					
• Public works employment programs	Cash for Work (CFW) Schemes	• Working poor	• Mitigate poverty • Increase food consumption • Manage shocks	• work requirement self-targeting • low cost of cash distribution • creates infrastructure	• low-income elderly and disabled people are more likely to be excluded
	Food for Work (FFW)	• Working poor	• Mitigate poverty • Increase food consumption • Manage shocks	• work requirement self-targeting • higher MPC out of physical food rations • creates infrastructure	• high cost of physical commodity distribution • administrative targeting costly
• Conditional cash or in-kind transfers	Food for Education Cash for Education	• Poor households with school-age children	• Mitigate poverty • Invest in human capital of poor children	• effective promoting girls' education • builds human capital	• increased enrollments may lower educational quality • administrative targeting costly
	Preventative health care	• Pregnant and lactating women • Infants	• Mitigate poverty • Invest in human capital of poor children	• builds human capital	• administrative targeting costly
• Unconditional income transfers	Bons Familiales (Latin America)	• Children, elderly, disabled • Households requiring temporary assistance	• Mitigate poverty • Manage shocks	• beneficiary spends according to his/her preferences	• income may not be spent on food
2. Direct feeding					
	• School feeding	• Poor children	• Improve nutrition • Improve attentiveness and school performance	• builds human capital	
	• Maternal and child health supplemental feeding	• Pregnant and lactating women • Infants	• Improve nutrition and health	• builds human capital	
3. Price subsidies					

• Targeted	• Ration shops • Vouchers	• Poor households • Civil servants	• Lower food prices • Increase food consumption	• Targeting reduces costs	• Administrative targeting costly
• Untargeted	• General price subsidies	• All consumers	• Lower food prices • Increase food consumption	• Quick impact	• Costly because nonpoor households also benefit • Difficult to stop
4. Targeted asset transfers	• Rwanda's One Cow per Household program, • Nicaragua's BPA	• Poor rural households	• Increase productive assets to increase future income flows	• Raises household productivity and welfare sustainably over time	• Requires administrative targeting • Physical delivery costly

Source: Adapted from Gosh et al. (2008).

2. International Experience

2.1. Bangladesh[1]

Twenty-seven different safety net programs currently operate in Bangladesh, offering among the most diverse programmatic experience available in the developing world (Ahmed et al. 2009). The searing experience of two major famines, in 1943 and 1974, drive an intense, longstanding public interest in public food distribution systems. In combination with high levels of landlessness, poverty and malnutrition, these concerns have motivated an exceptional depth and diversity of programming experience with food safety nets. The following discussion outlines the main features of the Bangladesh experience, in roughly chronological order.

2.1.1. The rise and fall of the ration system

As many as two million Bengalis starved to death during the Great Bengal Famine of 1943, as a result of a poor rice harvest, cyclone and war-induced distribution difficulties and consequently severe food prices spikes that priced many poor households out of the market. As a result, the newly independent governments of Pakistan instituted a strong public food distribution system immediately following independence in 1947. The system centered around a dense network of public food ration shops selling heavily subsidized staple foods supplied from large public food stocks. In addition, government introduced strict controls on private traders, whom many blamed for exacerbating the severity of the famine through hoarding and price speculation. Through a series of anti-hoarding, cordoning and milling laws, the government imposed strict limits on private grain movements and stockholding. Highly mistrustful of the private sector, the government established a series of public rationing channels to ensure the availability of moderately priced staple foods to urban consumers beginning with the establishment of Statutory Rationing in 1956. A large rural rationing channel followed much later, in 1989. At its height during the early 1990s, the government rationing system supplied one million tons of rice and one tons of wheat, accounting for roughly 20% of marketed rice and 80% of all marketed wheat.

Given price subsidies of about 50% of market price in the early decades, corruption and pilferage became rampant. By 1990, leakage rates ranged from 70% in the rural rationing system to 95% in the urban focused statutory rationing system to (Ahmed and Haggblade 2000).

2.1.2. "For work" income transfer programs

In response to high poverty rates and large-scale landlessness in Bangladesh (formerly East Pakistan), the government established a rural public works program to employ large numbers of wage laborers moving earth by hand to construct rural roads, canals and drainage systems. From 1961 to 1973, the US-funded Rural Public Works (RPW) program paid out cash wages to roughly 2 million day laborers working on labor-intensive public works projects.

In 1974, major flooding occurred in Bangladesh following on the heels of its highly destructive war of independence from West Pakistan, a devastating situation that resulted in the famine of

[1] This section draws heavily on Ahmed and Haggblade (2000) and Ahmed et al. (2009).

1974. In response to urgent world-wide food appeals, donor countries opened a food aid pipeline to newly independent Bangladesh, supplying as much as one million tons of cereals per year during the 1970s and 1980s. As a way of targeting food aid to malnourished rural landless households, the government administrators deployed the bulk of the food aid commodities through food for work programs, modeled on the Maharashtra Employment Guarantee Scheme (MEGS) but using food rations rather than cash. Akhter Ahmed Kahn, the director of Bangladesh's famous Rural Academy at Comilla described the Rural Public Works (RPW) as follows: "It resolved the tragic paradox of thousands of sturdy men sitting idle. There was on the one hand in our overcrowded villages an army of unemployed and on the other a crying need for earthwork. Here was a program to put them together as a key is put in a lock. It grappled simultaneously with two great problems." (Khan 1983:12). Over many decades, persistent rural poverty and chronic malnutrition, exacerbated by intermittent flooding, laid the foundation for a major international food aid pipeline, making Bangaldesh the world's second largest food aid recipient over its first two decades of independence.

Because large-scale earth moving is only possible during the dry season, FFW programs generally operated seasonally. Yet under-nutrition persists throughout the year for many vulnerable households. Female-headed households are especially vulnerable. In 1983, CARE launched a pilot program to provide year-round cash wages to destitute women who work to maintain rural roads. The Rural Maintenance Program (RMP) expanded slowly over time. By 2006, RMP operated in over 90% of the unions of the country and management of the program shifted from CARE to the Ministry of Local Government, Rural Development and Cooperatives. The RMP defines destitute women as those who are divorced, widowed, separated or abandoned and with little visible means of support. Selected women work for four years in the RMP program. During that time, they receive a cash take-home wage of 41 taka ($0.60) per day. In addition, the program deposits 10 taka in a savings account established in the woman's name. At the end of the four-year employment period, the women are allowed to access to this lump sum. RMP training in business development skills motivate some to establish small business at the end of their RMP cycle.

2.1.3. From relief to development with CCTs

Bangladesh's Vulnerable Group Feeding (VGF) program began in 1975 to provide food relief to households rendered destitute by flooding and other natural disasters. After a decade, the program changed to incorporate a development objective. The resulting Vulnerable Group Development (VGD) program includes training in small business activities such as sericulture, poultry rearing and fisheries. Both programs target ultra-poor women living in food insecure regions of the country. Local selection committees identify eligible women according to a series of criteria: • ownership of less than 0.15 acres of land, • consumption of less than two meals per day, • poor housing, • low income, and • absence of a male income earner. Under the VGD program, recipient women receive a monthly ration of 30 kilograms of rice or wheat over a two-year period which they refer to as the VGD cycle. In addition, the women receive training in nutrition, literacy and income-generating activities such as small livestock rearing, poultry, and fisheries. As in the RMP program, VGD recipients are required to make monthly deposits into a savings account in order to build up an investible lump sum over the two year program period. Several variants of the VGD program have operated over the past two and a half decades, funded

by a variety of donors. At its peak, the program served 750,000 women per year. A consortium of partners implements the VGD program, including the Department of Women's Affairs in the Ministry of Women's and Childrens Affairs, the Directorate of Relief and Rehabilitation in the Ministry of Disaster Management and Relief, and a network of associated NGOs.

Over the past four decades, the Bangladesh government has proven willing to experiment, innovate, rigorously evaluate and adjust programs based on their performance and on shifting conditions. In the early 1990's, detailed evidence documented widespread pilferage in the rural rationing channel. Only about 30% of total food supplies reached their intended beneficiaries; the remaining 70% was diverted by program implementers and ration shop owners (Ahmed 1992). Alarmed at these high levels of leakage, the government of Bangladesh suspended the rural rationing program in 1991, after only 3 years of operation, sounding the death knell for the large-scale public food price subsidies embodied by the ration shop system. Shortly thereafter, the government constituted a Working Group on Targeted Food Interventions (WGTFI) which conducted a performance review of all major targeted food programs (WGFTI 1994).

Out of this review emerged a proposed new program for which Bangladesh ultimately became famous, the Food for Education (FFE) program. Rather than transferring food rations to vulnerable households in exchange for daily wage work, this program required school attendance by the children of poor households. In the short run, the food ration (of 30 kilograms per month) provided a temporary income supplement to vulnerable households while at the same time significantly increasing school enrollment rates for children from low-income households. It proved especially effective at boosting enrollment of girls (Ahmed and del Nino 2002). In the long run, these investments in the human capital of poor children aimed to raise their productivity and earnings power of future generations, offering a pathway out of poverty for the next generation.

In 2002, the government of Bangladesh replaced FFE with a cash for education program called the Primary Education Stipend (PES). In addition, they introduced a school feeding program using fortified biscuits which aim to improve student energy levels, attentiveness and reduce micronutrient deficiencies. Both efforts aim to build up the human capital of children from poor households in order to raise their productivity and earnings trajectory over time.

2.1.4. From food to cash programming

In-kind food rations dominated programming resources and targeted income transfers in the early decades after independence. Over time, as government food stockpiles and international food aid availability have dwindled, many of these targeted safety net programs have shifted from delivering food (primarily rice and wheat) to delivering cash. The emergence of the RMP program in the mid-1980's reflected this shift, as did the shift from FFE to a cash-based Primary Education Stipend (PES).

2.1.5. Key lessons about impact and cost

Although Bangladesh has adjusted the structure and operation of its targeted safety net programs over time, it continues to operate an unusually rich range of large-scale targeted programs. Out of this broad experience, a number of key lessons have emerged.

First, despite the large scale of these programs, their aggregate impact on total poverty rates has been modest. Recent estimates suggest that the sum total of Bangladesh's targeted safety net programs reach about 6-7% of the nation's poor (World Bank 2006). While important in relieving the privations of millions of households, these transfer programs are not a substitute for broad-based economic growth. In these circumstances, the cost of delivering transfers and targeting effectiveness becomes especially important. Bangladesh's price subsidies administered through the ration shops proved generally high cost and ineffective in targeting the poor. The most egregious of the ration channels, rural rationing, required $6.50 in program resources to deliver $1.0 to an eligible beneficiary (Table 2).

Table 2. Profile of Safety Net Programs in Bangladesh

	Ration Channels			For Work Programs			Conditional Cash Transfers			
	MR	SR	RR	RPW	FFW	RMP	VGF	VGF	FFE	PES
	Modified Rationing	Statutory Rationing	Rural Rationing	Rural Public Works	Food for Work	Rural Maintenance Program	Vulnerable Group Feeding	Vulnerable Group Development	Food for Education	Primary Educaton Stipend
A. Program Overview										
Duration	1949-89	1956-91	1989-91	1961-73	1974 -	1983-	1975 - 84	1984 -	1993-2002	2002 -
Funding source	GOB	GOB	GOB	USAID	donors	CIDA	WFP	multiple	GOB	GOB
Size at peak (3-year average)										
annual subsidy ($ million)	48	5	64	101	134	18	54	??	29	??
beneficiary households (millions)	6.5	0.64	6.1	2.1	4	0.06	0.6	??	0.3	??
B. Design Features										
Commodity distributed	wheat/rice	rice/wheat	rice	cash	wheat	cash	wheat	wheat	wheat	cash
Size of ration										
kg/household/month	33.5	11.2	18.4	--	114.4	--	31.3	31.3	30	
Taka/household/month				--		728				???
Targeting mechanism	admin	admin	admin	work rqt	work rqt	work rqt	admin	admin	admin	admin
C. Performance Indicators										
Beneficiary income gain (percent)	--	--	5	--	20	33	--	14	7	--
Cost of transferring $1	--	--	6.5	--	2.4	1.6	--	1.7	1.6	--

Sources: Dorosh and Haggblade (1995) and Ahmed et al. (2009)

Second, Bangladesh's rich programming variety suggests clear differences in outcomes of food transfers as compared with cash. In general, food transfers tend to increase delivery costs, physical losses and leakage rates when compared with cash (Table 2). For that reason, cash for work programs enable program managers to deliver 16% more income to vulnerable groups than comparable food for work programs. In addition, cash deliveries avoid potential price depressing effect of delivering wheat rations at harvest time (Dorosh and Haggblade 2000).

However, in-kind food transfers have proven more effective in increasing food consumption of vulnerable households. With cash transfers, households determine what they prefer to consume. Although food expenditures account for about 70% of total spending by low-income households, marginal spending also includes purchases of nonfarm goods and services. With in-kind transfers, households tend to consume more of the rations than they would if given an equivalent wage in cash. This effect is especially strong when in-kind rations exceed normal consumption levels for a particular food. Wheat rations under FFW and FFE, for example, exceed normal monthly volumes of wheat consumption by three to twelve times. Rather than incur the expense

of selling the rations, to convert the commodities into cash, households consume more than they otherwise would. As Table 3 shows, marginal propensities to consume wheat are 20 to 25% higher under food for work than under cash for work schemes.

Table 3. Marginal Propensity to Consume (MPC) Food Out of In-Kind and Cash Transfers

In-Kind Transfers			Cash Transfers	
Program	Commodity	MPC(food)	Program	MPC(food)
FFW	wheat	0.61	RMP	0.48
FFW	wheat	0.25	cash income*	0

* MPC(wheat).

Sources: Ahmed and Shams (1994), Del Nino and Dorosh (2003).

Finally, Bangladesh's experience underlines the two predominant tools currently in use for targeting food safety nets. First are the "for work" programs that target the working poor by offering hard work at low wages. Second are the administratively targeted programs, such as most conditional cash transfer, which require detailed local knowledge to implement effectively. As the Bangladesh experience reveals, targeting efficiency has varied across programs (Table 4).

Table 4. Targeting Effectiveness of Selected CCT Programs in Bangladesh

Expenditure decile		Distribution of Program Recipients (%)		
		IGVGD	FSVGD	RMP
lowest	1	43	38	49
	2	11	15	10
	3	13	10	5
	4	7	8	9
	5	7	8	6
	6	7	8	8
	7	3	5	4
	8	3	3	4
	9	2	4	4
highest	10	4	1	1
total		100	100	100

Notes: IGVGD = Income Generating Vulnerable Group Development
FSVGD = Food Security Vulnerable Group Development
RMP = Rural Maintenance Program

Source: Ahmed et al. (2009).

2.2. Ethiopia

Ethiopia has historically operated the largest food-based safety net programs in Sub-Saharan Africa. Only South Africa's cash-based public transfer program is larger (Berhane et al. 2011). As in Bangladesh, a series of searing famines led, first, to an explosion of donor food aid and, subsequently, to several decades of experimentation with food aid programming that resulted in a range of alternative delivery and targeting systems. The drought-induced famine of 1973 proved a watershed event in Ethiopia. Prior to 1973, Ethiopia imported minimal quantities of food. After the famine, the country became a chronic large-scale food importer, with food aid commodities accounting for about two thirds of food imports during the 1980's (Holt 1983). Then, between 1983 and 1985, a second, more serious drought occurred leading to widespread famine and a death toll estimated at between 500,000 and 1 million. Food aid imports expanded rapidly in the face of series of nearly annual food aid calls. In addition to large-scale loss of human life, heavy livestock losses during the 1980's led to measurably slower agricultural growth in the following decades (Alderman and Hoddinott 2010). Given heavy dependence on animal traction for plowing, large losses of this primary agricultural asset gave rise to widespread concern that while short-term famine relief could prevent starvations, the restoration and acceleration of agricultural growth trajectories would require a recapitalization of rural households.

Food for Work (FFW) programs have dominated food safety nets in Ethiopia over the past three decades. Today they account for approximately 80% of food-based safety net programs. FFW programs began on a small scale after 1973, driven by donor deliveries of food aid in response to the drought. The programs expanded rapidly in early 1980s as a succession of droughts hit different parts of Ethiopia. During the early 1980s, Ethiopia received about 200,000 tons of food aid commodities annually, fueling the largest food for work programs in Sub-Saharan Africa (Holt 1983). The largest of Ethiopia's food for work programs, the World Food Programme's (WFP's) Project 2488, began in 1980 and evolved through three expansion phases over 17 years (Humphrey 2001). Work activities include rural road construction and a wide array of soil and water conservation activities -- the construction of stone-lined hillside terraces, hand built check dams, soil bunds, small ponds and dams -- all aimed at reducing runoff and improving water infiltration. In addition , many FFW programs include large-scale reforestation efforts in which participants planted seedlings on terraced and protected hillsides to stabilize slopes, prevent erosion and improve water retentions.

A coalition of government, donor and NGO partners implement Ethiopia's FFW programs. From the government side, the Ministry of Agriculture serves as the key implementing agency. They organize work crews and manage schemes through local Peasant Associations established in 1975 by the government as instrument for implementing land reform (Holt 1983). Participation in the early FFW schemes was limited to 3 months per year. Wage rates have generally proven attractive. In the early 1980s, the value of FFW daily rations were valued at about 2.7 Birr per day, compared with a daily agricultural wage that ranged between 1.00 in the slack season and 2.5 at harvest time (Holt 1983:197). As a result, FFW program managers faced few problems in attracting workers. The three month time limit and focus on the lean agricultural season lead most reviewers to conclude that they produce little disincentive toon-

farm work and only a very small price effect. In most locations, recipients consume their food rations. Less than 10% of recipients sold over half of their rations, mostly in Bilate district where the market well developed. The high cost of commodity handling, however, has raised concerns. In 1980, internal transport and delivery of food aid commodities amounted to $120/ton compared to the commodity import cost of $190 per ton (Holt 1983:193).

In 1990, Maxwell and Belashaw (1990) conducted a major review of Ethiopia's food aid programs on behalf of WFP. The report recommended widespread expansion of employment-based safety nets. Shortly thereafter, the Government of Ethiopia announced a National Disaster Prevention and Preparedness Strategy, in October 1993, requiring able-bodied people to work for food aid and announcing a formal goal that 80% of food relief should be allocated through FFW programs with the remaining 20% for gratuitous relief targeted at nonworking poor, including the aged, disabled and pregnant women.

By the early 2000s, two decades of experience with food aid programming gave rise to a major rethinking of social safety net programs in Ethiopia. Another sharp drought in 2002 punctuated these reflections, helping to motivate a major redesign of safety net programs going forward. During the two decades following the famine of 1983, government and donors responded to food emergencies through a series of ad hoc but nearly annual requests for food relief. One recent review summarizes the situation as follows:

> "While these measures succeeded in averting mass starvation, especially among those with no assets, they did not banish the threat of further famine, nor did they prevent asset depletion by marginally poor households affected by adverse rainfall shocks. As a result, the number of individuals in need of emergency food assistance rose from approximately 2.1 million people in 1996 to 13.2 million in 2003 before falling back to 7.1 million in 2004 (World Bank, 2004). Further, the ad hoc nature of these responses meant that the provision of emergency assistance—often in the form of food-for-work programs—was not integrated into ongoing economic development activities (Subbarao and Smith, 2003)." (Gilligan et al 2008).

Beginning in 2005, the Government of Ethiopia (GOE) and its major food aid donors initiated a three-year Productive Safety Nets Program (PSNP) which aimed to overcome the unpredictability and instability of the prior decades of ad hoc food aid appeals. In the words of the Ethiopian government planners, the PSNP aimed "… to provide transfers to the food insecure population in chronically food insecure *woredas* (districts) in a way that prevents asset depletion at the household level and creates assets at the community level" as well as bridging the food gap that arises when, for these households, food production and other sources of income are insufficient given food needs" (Government of Ethiopia, 2004). A recent review described the program as follows:

> "The program operates as a safety net, targeting transfers to poor households in two ways—through public works (PW) and direct support (DS). Public works, the larger of the two programs, pays selected beneficiaries 6 Ethiopian birr per day (equivalent to approximately US$0.75) for their labor on labor-intensive projects designed to build community assets. These activities are intended to occur between the months of January and June so as not to interfere with farming activities that in most regions occur in the second half of the year. Direct support, in the form of cash or food transfers, is provided

to labor-scarce households, including those whose primary income earners are elderly or disabled, in order to maintain the safety net for the poorest households that cannot participate in public works. Depending on where they live, beneficiaries either receive cash or an equivalent payment in food, primarily wheat, maize and cooking oil. Beneficiaries are expected to remain in the PSNP for three years." (Gilligan et al. 2008, p.1).

Planners complement the PSNP safety net program with a series of other, smaller programs designed to improve household productivity through access to credit, agricultural inputs and technical assistance.

Recent evaluations of the PSNP and its associated programs have drawn on a series of three major household surveys conducted in the program areas in 2006, 2008 and 2010. These assessments conclude that the largest of the PNSP program components, the public works program, produces the following results:

• increased food security of participant households, as measured by a one-month increases in the number of months of household food security and a 0.15 increase in children's meals consumed during the lean leason;

• increase in livestock holdings of 0.4 tropical livestock units (TLUs)[2]

• no crowding out of private transfers

• no reduction in the likelihood of starting a nonfarm business (Berhane et al. 2012).

Direct support payments, the smaller portion of PNSP resources which provides direct payments to nonworking vulnerable groups, produce similar outcomes:

• increased food security as measured by a measurable increases in the number of months recipient households achieve food security (the number of months varies according to the volume of the transfer)

• no crowding out of private transfers (Berhane et al. 2012).

2.3. Mexico

Trends in food safety nets have evolved differently in Latin America than they have in Asia and Africa. In Asia, food safety net systems have moved generally away from their historic focus on food price subsidies to programs of targeted income transfers, often with labor-intensive public works requirements. In Africa, with the exception of South Africa, food safety net systems have relied largely on financing by food aid donors. As a result, the African safety nets emphasize in-kind food distribution and food for work targeting.

Latin American countries, in contrast, have led the move towards conditional cash transfers (CCTs). Typically, these programs target cash transfers to low-income households in return for school enrollment or participation in health and nutrition programs. Rather than food aid financing, Latin American countries have mobilized domestic resources or borrowed at concessional rates to finance these safety net programs. While recurring famine and drought motivated the launch of many safety nets in Asia and Africa, Latin American programs instead arise in response to historic inequality and chronic poverty, compounded by the asymmetric economic pressures imposed by structural adjustment programs.

[2] In converting to tropical livestock units, cattle and horses equal one TLU, smallstock equal 0.15 TLU, poultry equal 0.005 and camels 1.45.

Mexico's PROGRESA program provides one of the earliest and most rigorously evaluated of the new-generation of Latin American CCT programs. Launched in 1997, the Programa de Educación, Salud y Alimentación (PROGRESA) aimed to break the intergenerational transmission of poverty by improving the education, health, and nutrition of poor families. The program focused particularly on mothers and children from vulnerable households in disadvantaged communities. In return for regular cash transfers amounting to about 20% of monthly pre-program household expenditures, recipient mothers are required to send their children to school regularly and to participate in various health and nutrition programs. Rather than targeting household heads, PROGRESA transfers income directly to mothers. In addition to regular cash transfers, the program provides in-kind health benefits and nutritional supplements for children under five and for pregnant and lactating women.

PROGRESA and its successor program, Opportunidades, operate at scale. In 1999, PROGRESA covered over 2.5 million families, or about 11% of all households in Mexico. Its budget of nearly US$800 million amounted to 0.2 percent of Mexico's gross domestic product (GDP).

From the beginning, PROGRESA's management team emphasized the need for rigorous monitoring and impact evaluation. They adopted an experimental design in which program managers allocated income transfers randomly among qualified households. They collected baseline information from both the treatment and comparison groups before and after the implementation of the program. These design features enabled detailed impact assessments of the PROGRESA program (IFPRI 2002, Skoufias 2005, Adelman and Hoddinott 2010), documenting the following outcomes:

- increased school enrollment. Entry into secondary school increased 20% for girls and 10% for boys.
- improved child health. Improved nutrition and preventative health care resulted in a 12% reduction in childhood illnesses.
- improved adult health. Adult recipients reduced days spent ill and in bed by 22%.
- increased food expenditures. Total food expenditures increased by 13%, largely as a result of increased spending on vegetables, fruits, meat and dairy products.
- increased calorie consumption. Caloric intake increased by 11% among recipient households
- reduced stunting. Children in the 24-36 month age group increased growth rates by 16%.
- poverty reduction. The PROGRESA program reduced the number of people below the poverty line by 10% and the depth of poverty by 30%.
- improved lifetime earnings. Nutritional supplements alone increased adult earnings by 2.9% annually. Moreover, participants invested 10% of their transfer, contributing to increased earnings and consumption gains over the following five years.

Similar conditional cash transfer programs operate throughout Latin America. Nicaragua's Red de Proteccion Social provided cash transfers to poor women in exchange for school enrollment of their children and participation in preventative health care services. Operating from 2000 to 2005, the program increased school enrollments by 22% and reduced the proportion of households in extreme poverty by 16 percentage points (Hoddinott 2010, Moore 2009). Brazil's

CCT program, the Bolsa Familia, provides cash transfers to the bottom quintile of the population in return for school attendance and preventative health care such as vaccinations. Currently the largest CCT program in the world, the Bolsa Familia reaches 46 million people at a costs of 0.4 percent of gross domestic product (GDP) (Alderman and Hoddinott 2010, Hoddinott 2010).

Table 5. Latin American Safety Net Programs

		Coverage		Cost
		% nation	% ultra-poor	% GDP
Brazil	2006	23	100	0.40
Mexico	2006	24	100	0.40
Guatemala	2008	14	47	0.06
Honduras	2006	7	15	0.02
Nicaragua	2006	2.5	8	0.01

Source: Ruel (2010).

2.4. General lessons emerging from international experience

2.4.1. Food price subsidies

Empirical evidence suggests that universal food price subsidies rarely prove cost-effective as a means of increasing purchasing power of the poor. High leakages to the non-poor result in high costs. A recent review of food safety net programs in 47 countries indicates that because of these leakages to the non-poor, on average, it costs governments $3.3 to transfer $1 to the poor through universal food subsidies. Targeted food subsidies -- through ration shops, vouchers or food stamps – reduce leakage to the nonpoor, thereby lowering costs of transferring $1 to the poor to $2.6 (Table 6). Because high leakage rates translate into high rents for certain groups, political leaders have experience repeated difficulties in reforming food subsidy systems (Pinstrup-Andersen 1988, Haggblade 2000). Over time, the high cost of food price subsidy schemes has propelled a general movement away from price subsidies and towards targeted income transfers as a more cost-effective alternative for improving food security of vulnerable groups.

2.4.2. Targeted income transfers

Income transfers targeted through labor-intensive public works employment programs cost, on average, $1.60 to transfer $1 to the poor when considering only the cost of leakages to the nonpoor. Program management and commodity handling costs raise total costs to $3.00 (Table 6). Cost-effectiveness, of course, varies widely across settings, with costs ranging from 1.3 to 4.0 for the leakage costs alone. Among the labor-intensive public works programs, food for work schemes typically cost more to administer than cash for work schemes, given the high costs of physical handling of food commodities (see Table 2). Consequently, conditional cash transfer programs often cost less because they avoid the physical cost of delivering in-kind food rations. On average, CCTs transfer $1 to the poor at a cost of $1.40 in leakage costs and $1.7 in total costs (Table 6).

Table 6. Efficiency of Alternative Safety Net Programs in Transferring Purchasing Power to the Poor

Program type	Cost to Transfer $1 to the Poor: Leakage to nonpoor	Cost to Transfer $1 to the Poor: Leakage plus other costs
Price subsidies		
universal	3.3	--
targeted (ration shops, food stamps)	2.6	--
Targeted income transfers		
labor-intensive public works		
average	1.6	3
(range)	(1.3 - 4.0)	(2.4 - 7.6)
conditional cash transfers (average)		
average	1.4	1.7
(range)	(1.25 - 2.3)	(1.6 - 2.9)

Source: Coady (2003).

2.4.3. Impact of successful programs

In the short run, successful safety nets prevent hunger. In extreme circumstances, they prevent widespread starvation.

Looking towards the medium run, safety nets protect assets during crises by enabling households to survive without selling off livestock, jewelry and other household wealth. Conditional income transfer programs also help to maintain household investments in human capital. Recipients of Mexico's PROGRESA program were more likely than non-participants to keep their children in school even after experiencing climatic shocks such as droughts and floods (Hoddinott 2010).

Finally, looking towards the long run, safety nets can create assets. Conditional cash transfer programs in a wide range of countries have increased school attendance of children from vulnerable households. In Mexico's Oportunidades CCT program (the successor to PROGRESA), beneficiaries invested approximately 12 percent of their transfers in agricultural and non-agricultural enterprises (Hoddinott 2010). At a community level, public works programs such as those found in Bangladesh and Ethiopia create public assets such as rural roads, irrigation and drainage systems and erosion control structures that raise productivity of farmers and businesses throughout the region.

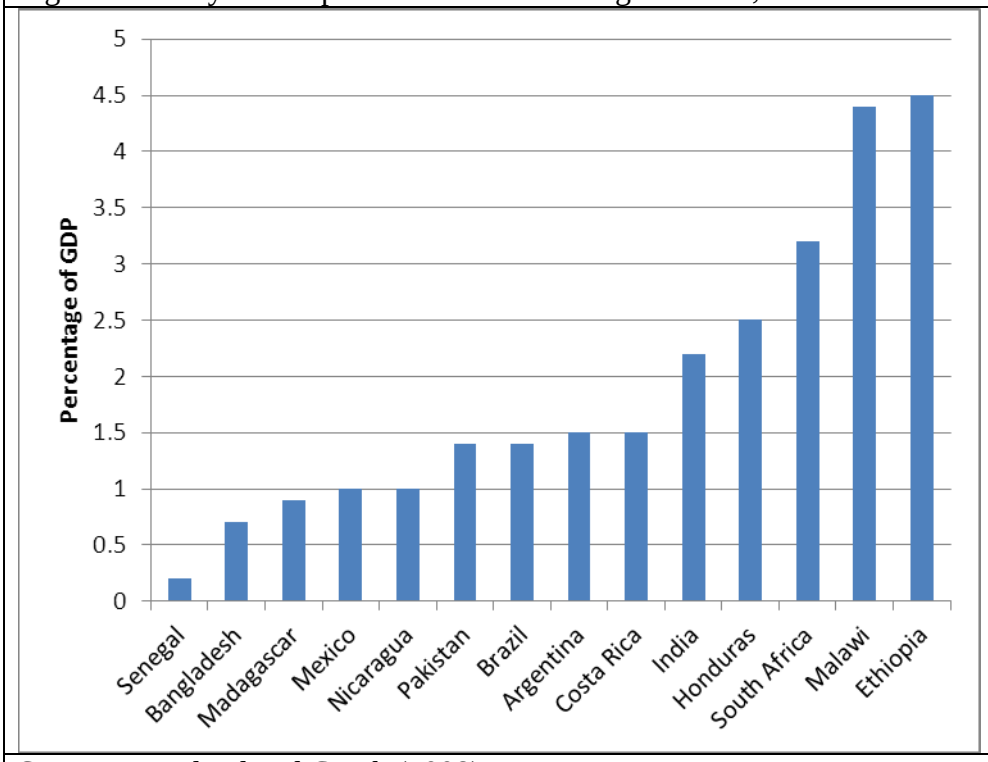
2.4.4. Designing effective programs

A recent review of safety net programs has summarized lessons of the past four decades as follows: "All effective social safety nets have five key characteristics: (1) a clear objective; (2) a feasible means of identifying intended beneficiaries; (3) a means of transferring resources on a reliable basis; (4) ongoing monitoring of operations and rigorous evaluation of effectiveness; and (5) transparency in operation to encourage learning, minimize corruption, and ensure that

beneficiaries and the wider population understand how the program functions." (Alderman and Hoddinott 2010:3)

Although well-designed public works programs offer good targeting of vulnerable groups, they fail to address needs of the nonworking poor and they likewise impose large non-wage costs in the design and supervision of effective public works programs. As a result, they need to produce outputs that raise the productivity of poor households. Targeted human capital subsidies offer strong potential for addressing extreme poverty and improving long-term trajectories for children of today's poor. But, to be effective, their design needs to reflect the human capital profile of countries and the administrative capability of the government (Coady 2003). Yet resource availability and political will varies considerably across settings (Figure 1). In the end, designers need to draw on lessons from outside as well as a deep understanding of local conditions in order to design cost-effective food safety nets in any specific setting.

Figure 1. Safety Net Expenditures as Percentage of GDP, Selected Countries and Years



Source: Weigland and Grosh (2008).

3. Implications for Mali

Poverty levels in Mali remain high, despite recent progress. In 2010, 44% of all Malians fell below the $1.25 per day poverty line. Incidence in rural areas stood at 51% compared with 19% among urban residents. Levels of stunting among under-five children, at 38%, suggest chronic widespread malnutrition (UN 2013). Climatic shocks pose intermittent risks to the rural poor, who work primarily in farming, while food price shocks pose the most serious threat to the urban poor.

In the face of this high level of need, Mali devotes roughly 0.5% of GDP to food safety net programs (Table 7). This falls well below the developing country norm of 1-2% (Grosh et al. 2008, Figure 1). Indeed, the tension between high levels of need and low levels of government resources places a low-income country like Mali at a severe disadvantage in confronting problems of under-nutrition. A middle-income country such as Brazil spends 0.4% of GDP on its largest social safety net program, the Bolsa Familia, which reaches 46 million people, accounting for the bottom 20% of the population. In contrast, Mali's public transfer system reaches only a small fraction of the country's poor, raising income of the poor by only 0.7% while increasing income of the non-poor by 2.6% (World Bank 2011).

Table 7. Spending on Social Safety Nets in Mali

	2006	2007	2008	2009
1. Targeted income transfer				
targeted food distribution	4,795	8,141	5,495	5,701
nutrition	1,985	3,063	7,790	7,536
labor-intensive public works	2,174	2,555	3,738	1,650
2. Direct feeding				
school feeding	1,964	1,284	4,623	4,232
3. General food price subsidies	0	685	7,822	0
4. Asset transfer	0	0	0	0
Total				
CFAF million	10,918	15,728	29,468	19,118
percent of GDP	0.3	0.5	0.8	0.5

Source: World Bank (2011), p.48.

Given modest resources and high need, Mali's safety net programs need to be well-targeted and highly effective. Unfortunately, one of its most costly programs, the generalized price subsidies, does not target the poor very well. In response to the world food price spikes of 2008, Mali introduced a system of general food price subsidies that accounted for roughly half of spending on social safety nets (Table 8). Yet these general price subsidies subsidize the rich as well as the poor. As a result, general price subsidies typically prove very costly as tools for reaching the

poor. Worldwide, evidence suggests that general food price subsidies of the kind implemented in Mali cost $3.30 for every dollar of income transferred to the poor (Table 6). A recent World Bank review has concluded that priority actions for reforming safety nets in Mali will require, "improving the effectiveness of the safety net system by reforming existing programs and designing new ones." (World Bank 2011, p.viii).

Table 8. Sources of Spending on Social Safety Nets in Mali, 2008

	External	Domestic
1. Targeted income transfer		
targeted food distribution	0	34
nutrition	54	4
labor-intensive public works	24	3
2. Direct feeding		
school feeding	21	11
3. General food price subsidies	0	48
4. Asset transfer	0	0
Total	100	100

Source: World Bank (2011), p.50

In order to improve the effectiveness of existing programs, lessons from outside suggest that rigorous monitoring and regular, ongoing evaluation are critical components necessary building a system of effective local safety nets. The case study countries reviewed in this paper – Bangladesh, Mexico and Ethiopia – have all established rigorous systems for evaluating impact. They couple this scrutiny with a willingness to terminate poorly performing programs, experiment over long periods with new designs and modify programs in response to observed deficiencies in order to improve impact. Mali has begun several pilot conditional cash transfer under UNICEF and Oxfam as well as free food distribution through the national security stock (SNS). These and other ongoing safety net programs will benefit from careful monitoring and evaluation.

Finally, safety nets do not offer a substitute for broad-based, pro-poor economic growth. Well-designed and targeted programs can help to mitigate shocks and improve welfare in the short run, assist poor households in building up assets in the medium run and lay the foundation for broader participation in economic growth over the long run. The effectiveness of these long-term poverty reduction trajectories, however, depend on complementary broad-based investments in agricultural research, extension and rural infrastructure, which help to raise productivity of the majority of poor households in Mali who work primarily in agriculture. Spending on safety nets proves highly complementary to these broader public investments in productivity, particularly when focused on building nutritional and educational capital of poor children

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