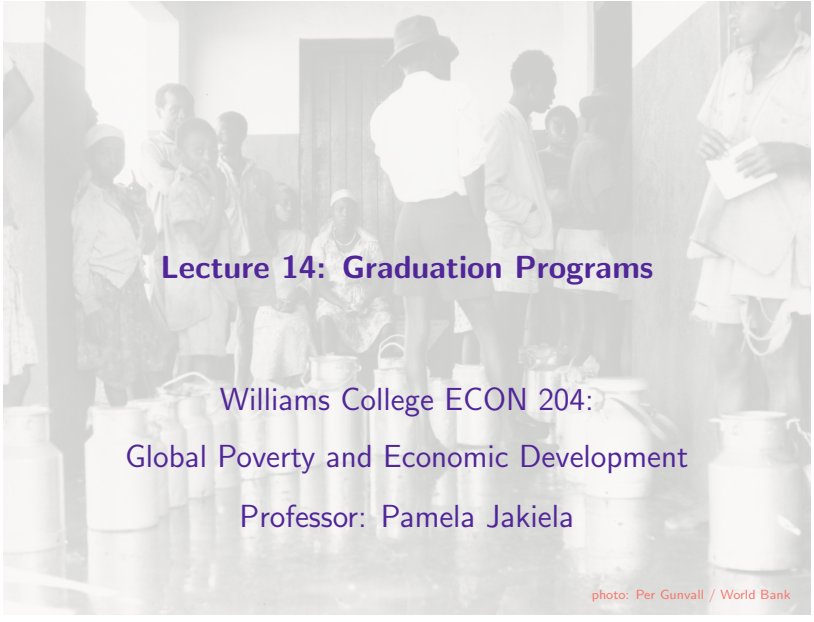


Lecture 14: Graduation Programs

Williams College ECON 204:

Global Poverty and Economic Development

Professor: Pamela Jakiela

photo: Per Gunvall / World Bank

Poverty Traps

A **poverty trap** is a self-reinforcing, low-output equilibrium that occurs in a context where multiple equilibria (including some that involve higher levels of output) are possible

- Individuals whose initial conditions are below the cutoff converge to the low equilibrium
- Individuals who begin above the cutoff converge to the high-output equilibrium

A one-off transfer that shifts a person above the cutoff permanently eliminates poverty

- There is considerable debate about whether poverty traps exist

Do Micro-Level Poverty Traps Exist?

- Subsistence farmers and manual laborers might be in a **nutritional poverty trap** if their wages do not allow them to purchase enough calories to be productive workers
  - Seems unlikely to exist given observed income elasticity of caloric intake among the poor, though preventive health investments may function in a similar way (theoretically)
- A **lumpy investment poverty trap** can exist when opportunities to save and borrow are extremely limited, but productive capital can only be purchased at some minimum scale
  - Motivation for microfinance, cash and in-kind grants to potential entrepreneurs
  - A reasonable description of herd dynamics among Borana pastoralists in Ethiopia
- Impatience and present bias, limited attention, and social norms (e.g. related to gender) may contribute to **behavioral poverty traps** at the individual or community level
  - Helping people out of a poverty trap may be the easiest way to prove it exists

BRAC's Graduation Approach

The Graduation Approach

The Graduation approach consists of six complementary components, each designed to address specific constraints facing ultra-poor households.

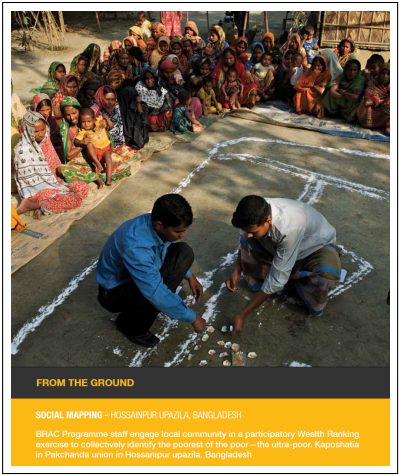
1. **Productive asset transfer:** One-time transfer of productive assets, such as cows, goats, or supplies for petty trade.
2. **Technical skills training:** Training to manage the productive asset.
3. **Consumption support:** Regular cash or food support for a few months to a year.
4. **Savings:** Access to a savings account, or encouragement to save.
5. **Home visits:** Frequent home visits by implementing partner staff to provide accountability, coaching, and encouragement.
6. **Health:** Health education, health care access, and/or life skills training.

All evaluations in this bulletin include these six components; see Table 1 for country-by-country variation in program design.

BRAC

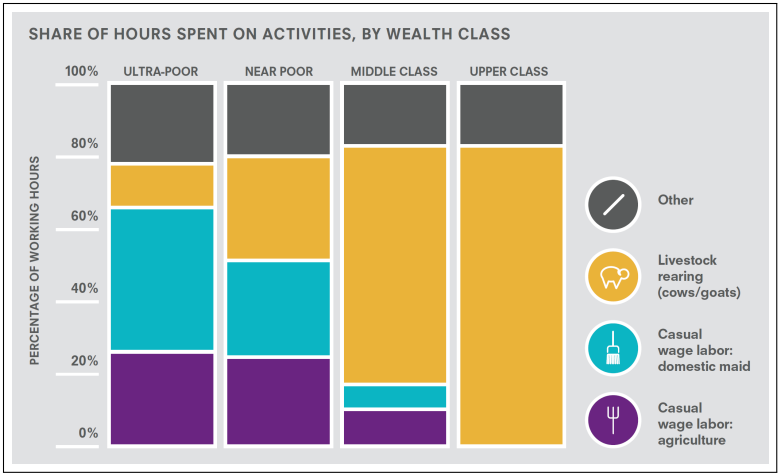
Source: J-PAL and IPA (2015)

Participatory Wealth Ranking



Source: BRAC (2017)

The Economic Lives of Ultra-Poor Women



Source: Balboni et al. (2015)

Implementing the Graduation Approach in Bangladesh

Location	Implementing partner	Program take-up[7]	Value of asset transfer[8]	Assets most commonly chosen
Bangladesh	BRAC	87%	TK 9,500 (US$158)	Cows (50%) Cow-poultry or cow-goat combination (38%)

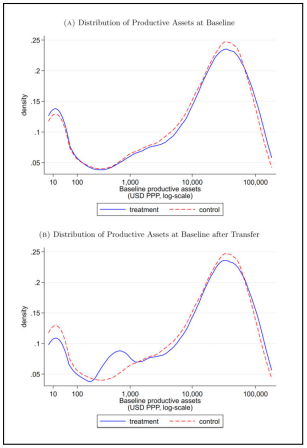
Source: Balboni et al. (2015) and J-PAL and IPA (2015)

Implementing the Graduation Approach in Bangladesh

Value and frequency of consumption support	Savings	Coaching visits	Health component
Weekly transfer of TK 70–105 (US$1–2) for forty weeks (amount adjusted to food price)	BRAC formed microfinance groups with beneficiaries after six months, first offering savings services and later credit	Weekly, over 24 months	Health education sessions led by community health volunteers, and financial provision during two-year intervention for specialized care if needed

Source: Balboni et al. (2015) and J-PAL and IPA (2015)

Implementing the Graduation Approach in Bangladesh



Source: Balboni et al. (2022)

The Impacts of the Graduation Approach in Bangladesh: Labor Supply

OLS ITT Estimates: Individual-Year Level Outcomes
Sample: Ultra Poor Women
Standard Errors in Parentheses, Clustered by BRAC Branch Area

	Livestock		Agriculture		Maid		All Three Activities	
	(1) Hours	(2) Days	(3) Hours	(4) Days	(5) Hours	(6) Days	(7) Hours	(8) Days
Program impact after 2 years	488***	205.5***	-42.3	-3.54	-57.4	-8.45	341***	72.4***
	(30.7)	(11.1)	(53.0)	(7.02)	(42.9)	(5.88)	(67.9)	(10.0)
Program impact after 4 years	415***	171.6***	-46.2	-4.77	-117**	-16.77***	206***	61.1***
	(38.9)	(10.9)	(42.7)	(5.43)	(45.0)	(5.82)	(73.0)	(12.5)
Baseline mean	115	67.3	269	34.9	325	46.5	916	247
Four year impact: % change	361%	255%	-17.1%	-13.7%	-36.1%	-36.1%	22.4%	25.0%
Two year impact = Four year impact [p-value]	.111	.023	.930	.831	.125	.125	.080	.179
Adjusted R-squared	.335	.367	.184	.183	.067	.061	.072	.069
Number of ultra-poor women	6732	6732	6732	6732	6732	6732	6732	6732
Number of observations (clusters)	20196 (40)	20196 (40)	20196 (40)	20196 (40)	20196 (40)	20196 (40)	20196 (40)	20196 (40)

Notes: *** (**) (*) indicates significance at the 1% (5%) (10%) level. Intent-to-treat estimates are reported based on a difference-in-difference specification estimated using OLS. This regresses the outcome of interest for woman i in village v in survey wave t on a constant, a dummy for whether the woman resides in a treated village, dummies for the two follow-up survey waves (two and four years post-intervention), the interaction between the treatment assignment dummy and each survey wave dummy, and a set of strata (sub-district) fixed effects. The coefficients shown are those on the treatment-survey wave interaction terms. Standard errors are clustered by BRAC branch area. All outcomes are measured at the individual level (for the ultra-poor woman in the household), and defined for the year prior to survey date. We report the mean of each dependent variable as measured at baseline in treated villages. In all Columns we report the p-value on the null hypothesis that the two and four year ITT impacts are equal. The number of ultra-poor is the number of eligible women that are observed at baseline and in both follow-up survey waves. All monetary amounts are PPP-adjusted USD terms, set at 2007 prices and deflated using CPI published by Bangladesh Bank. In 2007, 1USD=18.46TK PPP.

Source: Bandiera et al. (2016)

The Impacts of the Graduation Approach in Bangladesh: Consumption

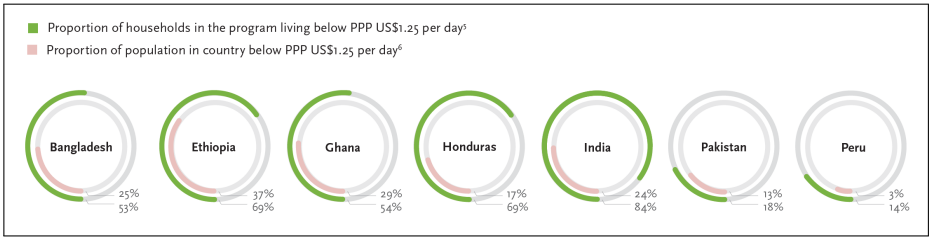
OLS ITT Estimates: Household Level Outcomes
Sample: Ultra Poor Households
Standard Errors in Parentheses, Clustered by BRAC Branch Area

	Poverty and Consumption			Financial Assets		
	(1) Below Poverty Line	(2) Consumption Expenditure (per adult equivalent)	(3) Value of Household Assets	(4) Household Cash Savings	(5) Household Receives Loans	(6) Household Gives Loans
Program impact after 2 years	-.051	30.19	6.86	54.54***	.123***	.042***
	(.046)	(25.34)	(7.26)	(4.60)	(0.03)	(0.01)
Program impact after 4 years	-.084**	62.62***	39.65***	53.22***	.110***	.051***
	(.038)	(20.82)	(9.08)	(4.01)	(0.03)	(0.01)
Baseline mean	.556	628.67	36.14	6.17	.180	.011
Four year impact: % change	-15%	10%	110%	863%	61%	464%
Two year impact = Four year impact [p-value]	.379	.111	.000	.781	.714	.527
Adjusted R-squared	.032	.044	.082	.204	.086	.026
Number of ultra-poor women	6732	6732	6732	6732	6732	6732
Observations (clusters)	18882(40)	18838 (40)	20196 (40)	20179 (40)	20196 (40)	20196 (40)

Notes: *** (**) (*) indicates significance at the 1% (5%) (10%) level. Intent-to-treat (ITT) estimates are reported based on a difference-in-difference specification estimated using OLS. All outcomes are measured at the household level, using data on ultra poor households with an eligible woman resident in them at baseline. This regresses the outcome of interest for household h in village v in survey wave t on a constant, a dummy for whether the household resides in a treated village, dummies for the two follow-up survey waves (two and four years post-intervention), the interaction between the treatment assignment dummy and each survey wave dummy, and a set of strata (sub-district) fixed effects. The coefficients shown are those on the treatment-survey wave interaction terms. Standard errors are clustered by BRAC branch area. In Column 1, the poverty line threshold used is $1.25 per person per day, as measured in 2007 prices. In Column 2, consumption expenditure is defined as total household expenditure over the previous year divided by adult equivalents in the household. The adult equivalence scale gives weight .5 to each child younger than 10. The expenditure items covered are: food (both purchased and produced), fuel, cosmetics, entertainment, transportation, utilities, clothing, footwear, utensils, textiles, dowries, education, charity and legal expenses. In Column 3, household assets include jewelry, sarees, radio, television, mobile phones, furniture, etc. In Column 4, household cash savings refer to value of savings held at home, at any bank, at any MFI and with saving guards. We report the mean of each dependent variable as measured at baseline in treated villages. In all Columns we report the p-value on the null hypothesis that the two and four year ITT impacts are equal. The number of ultra-poor is the number of eligible women that are observed at baseline and in both follow-up survey waves. All monetary amounts are PPP-adjusted USD terms, set at 2007 prices and deflated using CPI published by Bangladesh Bank. In 2007, 1USD=18.46TK PPP.

Source: Bandiera et al. (2016)

Replicating the Graduation Approach in Other Contexts



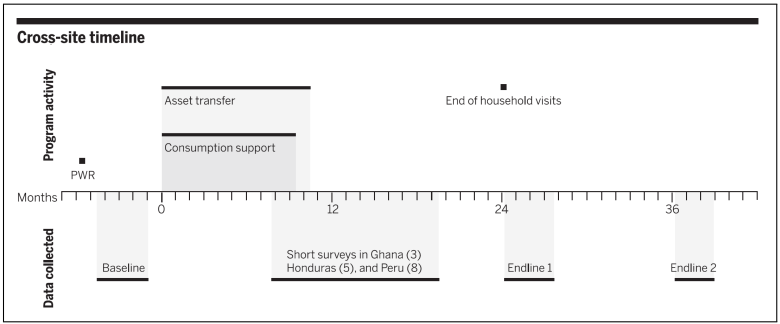
Source: J-PAL and IPA (2015)

Replicating the Graduation Approach in Other Contexts

Location	Implementing partner	Program take-up[1]	Value of asset transfer[2]	Assets most commonly chosen	Value and frequency of consumption support	Savings	Coaching visits	Health component
Bangladesh	BRAC	87%	TK 9,500 (US$158)	Cows (50%) Cow-poultry or cow-goat combination (38%)	Weekly transfer of TK 70–105 (US$1–2) for forty weeks (amount adjusted to food price)	BRAC formed microfinance groups with beneficiaries after six months, first offering savings services and later credit	Weekly, over 24 months	Health education sessions led by community health volunteers, and financial provision during two-year intervention for specialized care if needed
Ethiopia	Relief Society of Tigray	100%	ETB 4,724 (US$360)	Sheep and goats (62%) Oxen (24%)	Treatment and comparison households eligible for support through food-for-work program for duration of the evaluation; five days of work earned food worth ETB 100 (US$8)	Required to save at least ETB 4,724 (US$360) over the two-year program, equal to value of asset transfer	Weekly, over 24 months	None
Ghana	Presbyterian Agricultural Services and Innovations for Poverty Action	100%	GHS 300 (US$206)	Goats and hens (44%) Goats and maize inputs (27%)	GHS 4–6 (US$2–4) given weekly depending on household size	Half of treated households randomly selected to receive savings accounts	Weekly, over 24 months	Enrolled in National Health Insurance, received health and nutrition education
Honduras	Organización de Desarollo Empresarial Feminino Social and Plan International	100%	HNL 4,750 (US$283)	Chickens (83%) Pigs (6%)	Treatment households received one-time food transfer worth HNL 1,920 (US$114) intended to cover six-month lean season	Required to open savings account, savings incentive HNL 320 (US$19), assigned to savings matching or direct savings transfer treatments	Weekly, over 24 months	Health, nutrition, hygiene trainings
India	Bandhan	52%	INR 4,500 (US$124)	Goats (52%) Cows (30%)	INR 90 (US$3) given weekly for 13–40 weeks depending on chosen asset; shorter duration for nonfarm enterprise, longer for livestock	INR 10 (US$0.28) required per week	Weekly, over 18 months	Discussed health during weekly coaching visits
Pakistan	Pakistan Poverty Alleviation Fund, Agha Khan Planning and Building Services, Badin Rural Development Society, Indus Earth Trust, Sindh Agricultural and Forestry Workers' Coordinating Organization	100%	PKR 15,000 (US$235)	Goats (56%) Shops (11%)	PKR 1,000 (US$16) given monthly for first year in the program	Encouraged to save at home or with ROSCAs	Weekly, over 24 months	Female health workers provided basic health services, education, and medicine
Peru	Asociación Arariwa and Plan International	100%	PEN 1,200 (US$464)	Guinea pigs (62%) Hens (24%)	All households in 51 communities with Juntos conditional cash transfer receive PEN 200 (US$78) monthly; treatment households in 35 communities without Juntos receive PEN 100 (US$39) monthly	Encouraged to join community savings groups, open savings account at a bank, or deposit group savings with microfinance organization	Every six weeks over 24 months	Nutrition, healthy practices, prenatal health trainings

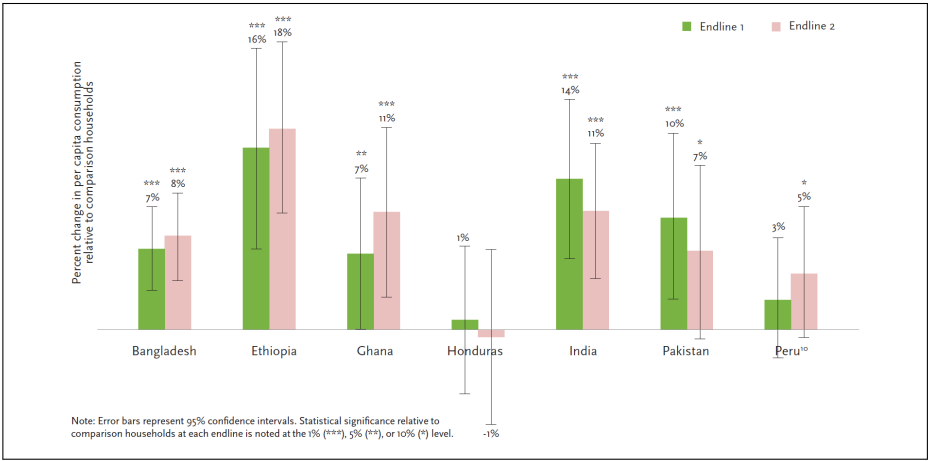
Source: J-PAL and IPA (2015)

Replicating the Graduation Approach in Other Contexts



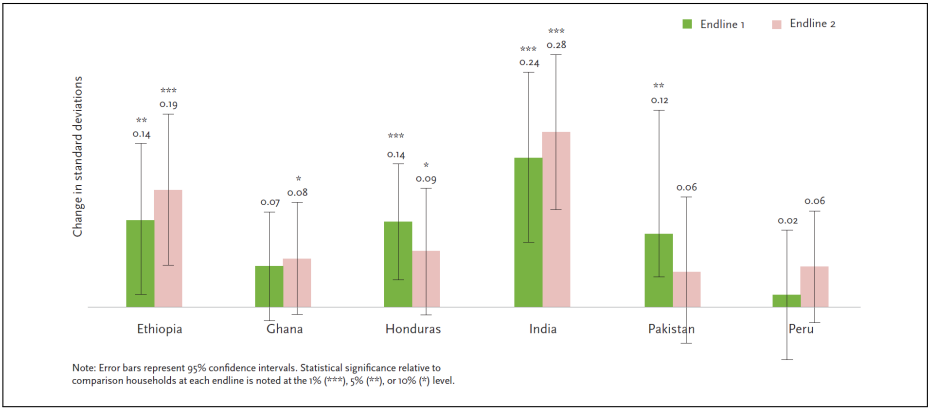
Source: Banerjee et al. (2015)

The Impacts of Graduation Programs: Consumption



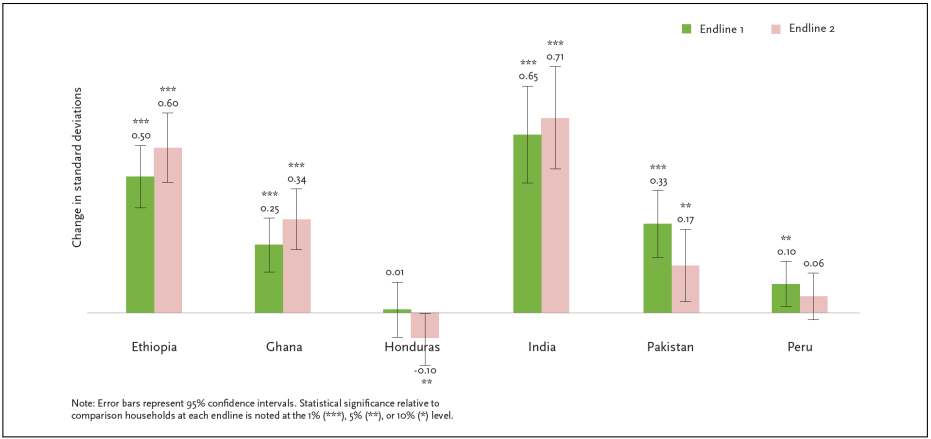
Source: J-PAL and IPA (2015)

The Impacts of Graduation Programs: Food Security



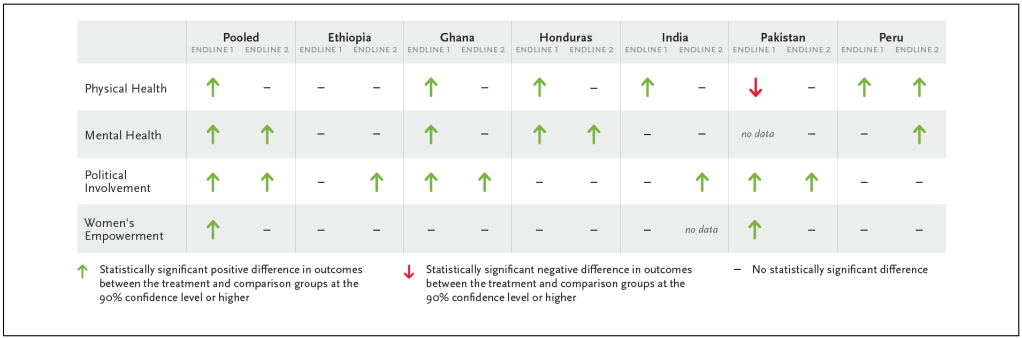
Source: J-PAL and IPA (2015)

The Impacts of Graduation Programs: Household Assets



Source: J-PAL and IPA (2015)

The Impacts of Graduation Programs: Other Outcomes



	Pooled		Ethiopia		Ghana		Honduras		India		Pakistan		Peru	
	ENDLINE 1	ENDLINE 2	ENDLINE 1	ENDLINE 2	ENDLINE 1	ENDLINE 2	ENDLINE 1	ENDLINE 2	ENDLINE 1	ENDLINE 2	ENDLINE 1	ENDLINE 2	ENDLINE 1	ENDLINE 2
Physical Health	↑	–	–	–	↑	–	↑	–	↑	–	↓	–	↑	↑
Mental Health	↑	↑	–	–	↑	–	↑	↑	–	–	*no data*	–	–	↑
Political Involvement	↑	↑	–	↑	↑	↑	–	–	–	↑	↑	↑	–	–
Women's Empowerment	↑	–	–	–	–	–	–	–	–	*no data*	↑	–	–	–

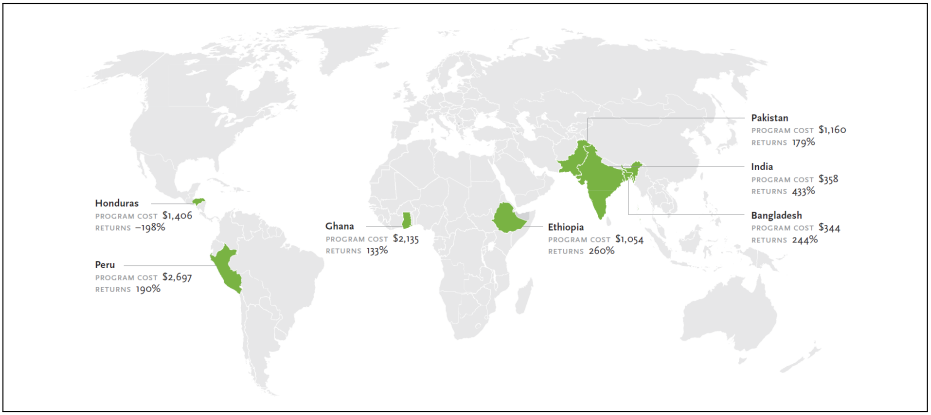
↑ Statistically significant positive difference in outcomes between the treatment and comparison groups at the 90% confidence level or higher

↓ Statistically significant negative difference in outcomes between the treatment and comparison groups at the 90% confidence level or higher

– No statistically significant difference

Source: J-PAL and IPA (2015)

Costs and Benefits of the Graduation Approach



Source: J-PAL and IPA (2015)