

Impact Evaluation of Income Support Program for the Poorest Draft Methodology

The objective of this note is to propose a methodology to conduct an assessment of the interventions under the Income Support Program for the Poorest (ISPP). The impact evaluation (IE) study will provide evidence on the operation of the program as well as the impact of cash transfers on (i) the socioeconomic conditions and food security of beneficiary families; (ii) child nutrition; (iii) child cognitive development, and (iv) readiness for school. The assessment will consist of three components: (i) an impact evaluation using baseline and endline information on a sample of beneficiary and control households (household survey, growth monitoring, and cognitive development tests); (ii) qualitative assessments throughout the implementation of the project (community surveys and focus group discussions), and (iii) a mid-term evaluation of children's cognitive performances in beneficiary and control households (Bayley test only) if funding is sufficient. The evaluation will be carried out between June 2017 and June 2020, and the results of the assessment will provide feedback to improve the program design and operation for the next cycle of scale up.

ISPP implementation

The ISPP aims to provide income support to **the poorest mothers in 43 Upazilas¹** of Bangladesh, while (i) increasing the mothers' use of child nutrition and cognitive development services, and (ii) enhancing local level government capacity to deliver safety nets. To achieve its objective, the project will finance quarterly cash transfers to up to 600,000 eligible households conditional on utilizing the following services: (i) up to 4 ante-natal care (ANC) visits by pregnant beneficiaries; (ii) monthly growth monitoring and promotion (GMP) of children from 0-24 months; (iii) quarterly GMP for children from 2 to 5 years of age, and (iv) monthly attendance at child nutrition and cognitive development (CNCD) awareness and counselling sessions by all enrolled mothers.

Table 1: Timeline of ISPP implementation

	Jan 2017/Jun 2020	Jan 2018/June 2020	Jan 2019/Dec Jun 2020	Jun 2020
Phase 1				
Phase 2				
Phase 3				

Selection of treatment areas

¹ Upazila = sub-district. The upazilas were selected on the basis of high poverty and high probability of malnutrition.

Implementation of ISPP will be phased-in, and progressively cover all 43 Upazilas: 15 will start receiving transfers from July 2017 (Phase 1), 14 will start receiving transfers from July 2018 (Phase 2), and 14 will start receiving transfers from July 2019 (Phase 3). All Upazilas will receive the transfers until program closure, i.e. June 2020. Table 1 provides a summary of the phased-in implementation. Upazilas were randomly selected into each of the three phase groups (see Annex 1 for a complete breakdown).²

Applications

A public information campaign (PIC) about the intervention will be put in place in all upazilas, ahead of registration and enrollment (January-June 2017 for Phase 1; January-June 2018 for Phase 2, and January-June 2019 for Phase 3). The PIC will inform potential beneficiaries about the program, eligibility rules, where to enroll, what documentation to bring, etc.

Selection of beneficiaries

Only the poorest households are eligible to participate in the ISPP program. As such, poverty scores of applying households will be the first determinant in eligibility. The PSC, which uses a proxy-means test (PMT)³ score to approximate the household's level of income/poverty, is currently being implemented by the Bangladesh Bureau of Statistics (BSS), and is expected to be available ahead of household enrollment in Phase 1. A unique eligibility threshold is expected to be implemented across all Upazilas, corresponding to the bottom 30 percent of the population (or an income level below BDT 1,533.8 per person per month): households with a PMT score below -60 points (equivalent to an income level below BDT 1,533.8 per person per month) will be eligible to participate in the program, while households with a PMT score above -60 points will not be considered poor enough. Out of the eligible households, only families with at least one pregnant women and/or at least one child below the age of 5 will be enrolled in the program.

The number of potential beneficiaries will then determine the total budget allocation needed for each participating Union, and thereby help predict the budget allocation needed for control unions when they enter the program in Jan/May 2018 (Phase 2) and Jan/May 2019 (Phase 3).⁴

² Simple (non-stratified) random draw.

³ PMT is a targeting method used across many countries. It determines the eligibility of households for social assistance through the calculation of a poverty score based on observable, measurable and verifiable household characteristics such as household demographics, dwelling and durables owned. The selection of observable variables, and associated weights will be done using the latest household income and expenditure survey (HIES 2010).

⁴ Because there is no prior information at the union level regarding the number of potential beneficiaries, applications will happen prior to budget allocation in the first year (2017). In the following years, budget allocation will be based on the initial estimated number of beneficiaries and will hence be done prior to the application process.

Using ISPP design for the identification strategy

The identification of treatment and counterfactual groups for the impact evaluation will use the design of ISPP: (i) the rolling out of the transfers in three phases, and (ii) the eligibility threshold.

The proposed identification strategy will focus on Phase 1 and Phase 3 Upazilas only. 15 upazilas – that is 159 unions – will be covered by ISPP from January/February 2017 to June 2020. In addition, 14 upazilas – that is 135 unions – will be phased into ISPP two years later.⁵

The **treatment group** will consist of eligible households in Phase 1 unions: those who apply to the program and whose poverty score is below the eligibility threshold.

Using the phased-in implementation: Treatment and Control 1 Difference-in-differences and randomized control trial

The **control group (Control)** will consist of **eligible households in Phase 3 unions**, i.e. households whose poverty score is below the eligibility threshold in areas where the program is not available until the last year of implementation.

The proposed identification strategy (**difference-in-differences (DiD) combined with randomized control trial (RCT)**) is based on the assumption that the randomization into phase groups at the Upazila level guarantees that eligible households in Phase 1 and Phase 3 unions are similar before program implementation, and that all changes in the outcomes of interest between the two groups can be attributable to ISPP.

Using this identification strategy will ensure that there are no spillover effects between treatment and control groups.

Data collection and sampling

Main questions to be answered

The proposed IE will collect and analyze **baseline** (July/December 2017) and **endline** (July/December 2019) data at the household level to provide insights on the operation of the CCT program, as well as seek to answer the following questions: does participation in ISPP lead to an increase in household consumption, food and protein intake, and dietary diversification? Does it improve anthropometric outcomes? Does it improve a set of child cognitive and language developmental outcomes (measured by Bayley Scales of Infant and Toddler Development-III, and the Wechsler Preschool and Primary Scale of Intelligence)? Does it lead to increased and early enrollment in primary school? Does it lead to improved women's decision-making ability?

⁵ For the purpose of the IE, a randomization at the union level is preferred over a randomization at the Upazila level, as it gives more power and reliability to the final results of the IE. Unfortunately, from an implementation perspective, that option was not feasible, and randomization could only be implemented at the Upazila level.

The evaluation will also look into the relative cost-effectiveness of each arm of the intervention (ante-natal care, growth monitoring and promotion, cognitive development) with respect to their impact on child development outcomes and readiness for school. This is particularly important given the innovative payments system, which is likely to have significant implications on the efficiency and cost of implementing CCTs.

For both, baseline and endline, data collection will consist of a household roster, full consumption questionnaire, health and nutrition module, anthropometric measurement, and child cognitive developmental outcomes for children aged 0 to 24 months at the time of the baseline.⁶ In addition, focus groups discussions and facility surveys will be conducted to provide complementary information.

Finally, data on cognitive development only may be collected between the full-fledged baseline and endline surveys to monitor the progress of children towards ECDN outcomes. This exercise will depend on securing additional funding.

The timeline of the program is such that the IE team chose not to conduct a midterm household survey as most outcomes of interest are unlikely to change within 1.5 years (evidence from the *Shombhob* pilot). The endline is scheduled for Spring/Summer 2019 just before Phase 3 upazilas start receiving ISPP transfers, to make sure they are not yet affected by the program. In addition, conducting a follow-up survey mid-2019 will enable the team to finalize the IE report a few months before ISPP closes (June 2020), and will inform the implementation team on what works and what does not before any future scale up of the program.

Sampling

Different options were considered by the evaluation team, preliminary power calculations were conducted using the following assumptions: 28 Upazilas (14 in Phase 1 and 14 in Phase 3), a minimum detected effect (MDE) of 0.13 (based on previous estimates from the literature), a significance level of 0.05, and an intra-cluster correlation (ICC) of 0.02 to 0.15.⁷ Based on power calculations using the **clusersamps** command in Stata, and assuming 6 clusters per upazila the minimum sample size would range from 1,176 to 6,384 households altogether.

The impact evaluation team decided to keep 6 clusters per Upazila – i.e. a total of 168 clusters – each of which would consist of 20 households. The total sample size

⁶ While the program is available to all children up to 60 months of age, the IE team decided to focus on the youngest children for 2 reasons. Firstly, researchers have identified the first 1,000 days of a child's life – from pregnancy through a child's second birthday – as the most critical window of time that sets the stage for a person's intellectual development and lifelong health. Indeed, evidence from the *Shombhob* pilot show that improvements in anthropometric measures can only be seen among the youngest cohorts that benefited from the program (0-12 months at enrollment). Second, children who are older than 24 months when the baseline is conducted will be older than 60 months when the endline survey, and will have already exited the program.

⁷ The data from HIES shows that ICC ranges from 0.015 to 0.17 (per capita consumption, i.e. the variable we use to look into the impact of the program on poverty reduction) in the upazilas that will be covered by ISPP and for which there is information in HIES 2010.

consists of **3,360 households** ($6 \times 20 \times 28$). This size is well above the minimum sample size of 1,176 corresponding to an ICC of 0.02, and corresponds to an ICC of 0.127.

Sampling will be conducted among households with pregnant mothers and/or children less than 24 months of age. While the program is available to all children up to 60 months of age, the IE team decided to focus on the youngest children for 2 reasons. Firstly, researchers have identified the first 1,000 days of a child's life – from pregnancy through a child's second birthday – as the most critical window of time that sets the stage for a person's intellectual development and lifelong health. Indeed, evidence from the *Shombhob* pilot show that improvements in anthropometric measures can only be seen among the youngest cohorts that benefited from the program (0-12 months at enrollment). Second, children who are older than 24 months when the baseline is conducted will be older than 60 months when the endline survey, and will have already exited the program.

Cost estimates (using a 4,000 household sample)

Estimated baseline budget: USD 570,400

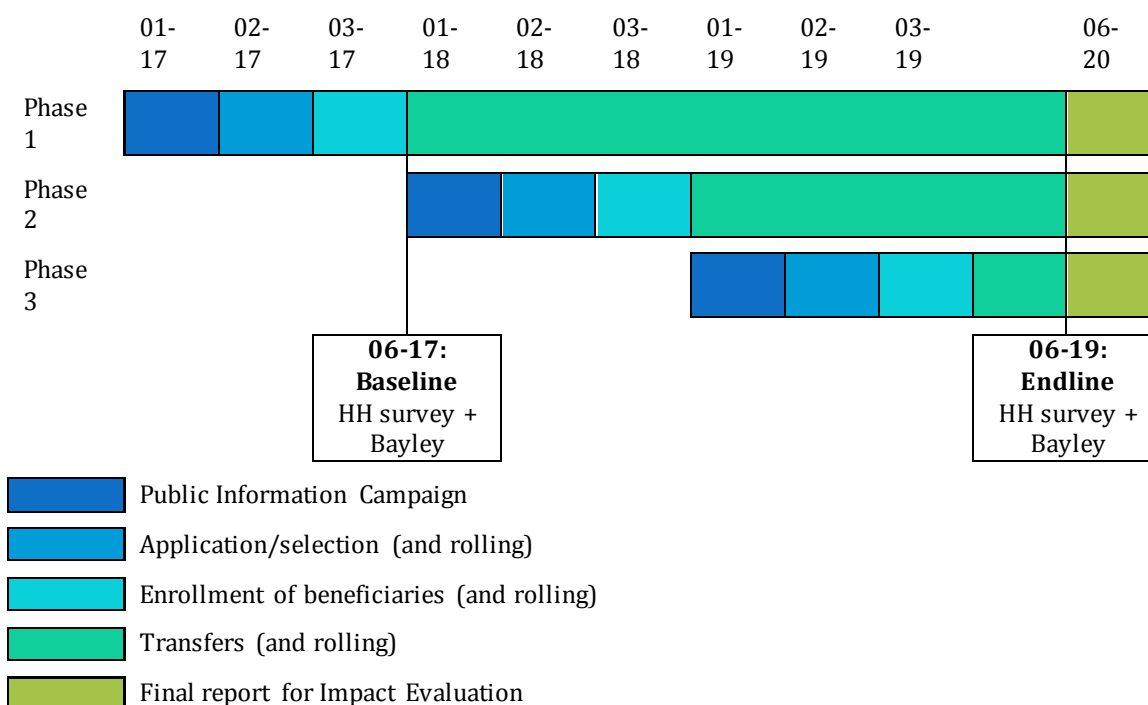
Estimated midline budget: USD 309,400 (if funding becomes available)

Estimated endline budget: USD 580,000

Estimated total budget: USD 1,104,000 (if funding becomes available: 1,413,400)

Timeline

Table 2: Timeline of ISPP implementation



Qualitative surveys (FDGs, community and facility surveys): throughout implementation

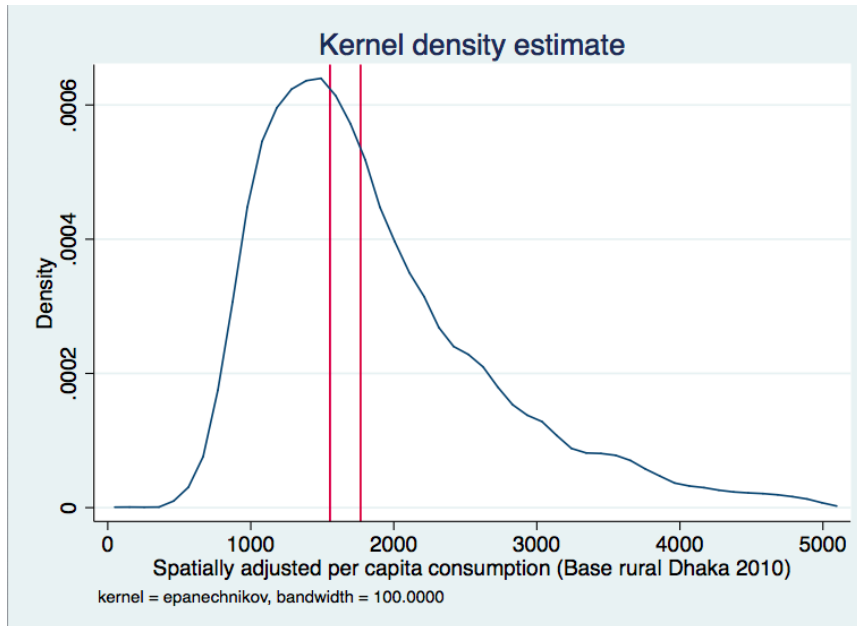
Annex 1: List of Upazilas by phase

Phase	Division	District	Upazila	Unions
PHASE ONE	Mymensingh	Jamalpur	Melandaha	11
	Mymensingh	Jamalpur	Bakshiganj	7
	Mymensingh	Jamalpur	JamalpurSadar	15
	Mymensingh	Mymensingh	Dhobaura	7
	Mymensingh	Mymensingh	Muktagachha	10
	Mymensingh	Mymensingh	Phulpur	10
	Mymensingh	Mymensingh	Tarakanda	10
	Mymensingh	Mymensingh	Haluaghat	12
	Mymensingh	Mymensingh	Nandail	12
	Mymensingh	Sherpur	SherpurSadar	14
	Rangpur	Gaibandha	GaibandhaSadar	13
	Rangpur	Gaibandha	Gobindaganj	17
	Rangpur	Kurigram	Raumari	5
	Rangpur	Kurigram	Chilmari	6
	Rangpur	Kurigram	Bhurungamari	10
		Total	15	159
PHASE TWO	Mymensingh	Jamalpur	Sarishabari Upazila	8
	Mymensingh	Mymensingh	Ishwarganj	11
	Mymensingh	Mymensingh	Fulbaria	13
	Mymensingh	Mymensingh	Trishal	12
	Mymensingh	Sherpur	Nakla	9
	Rangpur	Gaibandha	Saghata	10
	Rangpur	Gaibandha	Sundarganj	15
	Rangpur	Gaibandha	Sadullapur	11
	Rangpur	Gaibandha	Palashbari	9
	Rangpur	Kurigram	Ulipur	13
	Rangpur	Kurigram	Phulbari	6
	Rangpur	Kurigram	Rajarhat	7
	Rangpur	Kurigram	Nageshwari	14
	Rangpur	Nilphamari	Jaldhaka	11
		Total	14	149
P H A S E	Mymensingh	Jamalpur	Madarganj	7

	Mymensingh	Jamalpur	Dewanganj	8
	Mymensingh	Jamalpur	Islampur	12
	Mymensingh	Mymensingh	Gaffargaon	15
	Mymensingh	Mymensingh	Gauripur	10
	Mymensingh	Mymensingh	Mymensingh Sadar	13
	Mymensingh	Mymensingh	Bhaluka	11
	Mymensingh	Sherpur	Sreebardi	10
	Mymensingh	Sherpur	Nalitabari	12
	Mymensingh	Sherpur	Jhenaigati	7
	Rangpur	Gaibandha	Fulchhari	7
	Rangpur	Kurigram	KurigramSadar	8
	Rangpur	Kurigram	Char Rajibpur	3
	Rangpur	Lalmonirhat	Hatibandha	12
		Total	14	135
		Grand Total	43	443

Annex 2: Distribution of households' consumption

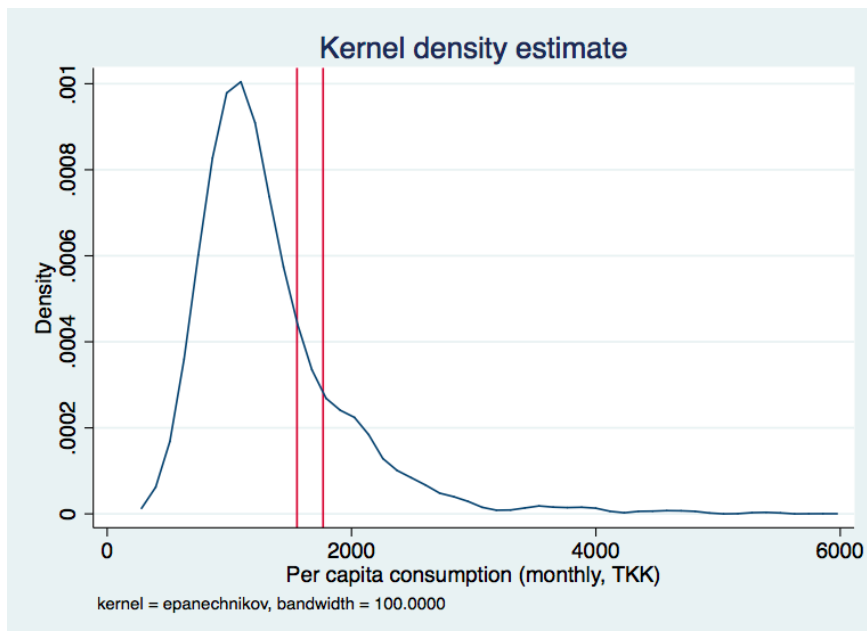
Table 2.1: Rural Dhaka and rural Rajshahi



Note: the vertical lines represent the 30th and 40th percentile cutoffs (respectively BDT1,553.8 and BDT1,767.5 per person per month).

Source: HIES 2010.

Table 2.2: Households form the pilot program - Jaldhaka



Note: the vertical lines represent the 30th and 40th percentile cutoffs (respectively BDT1,553.8 and BDT1,767.5 per person per month).

Source: *Shombhob* impact evaluation baseline.