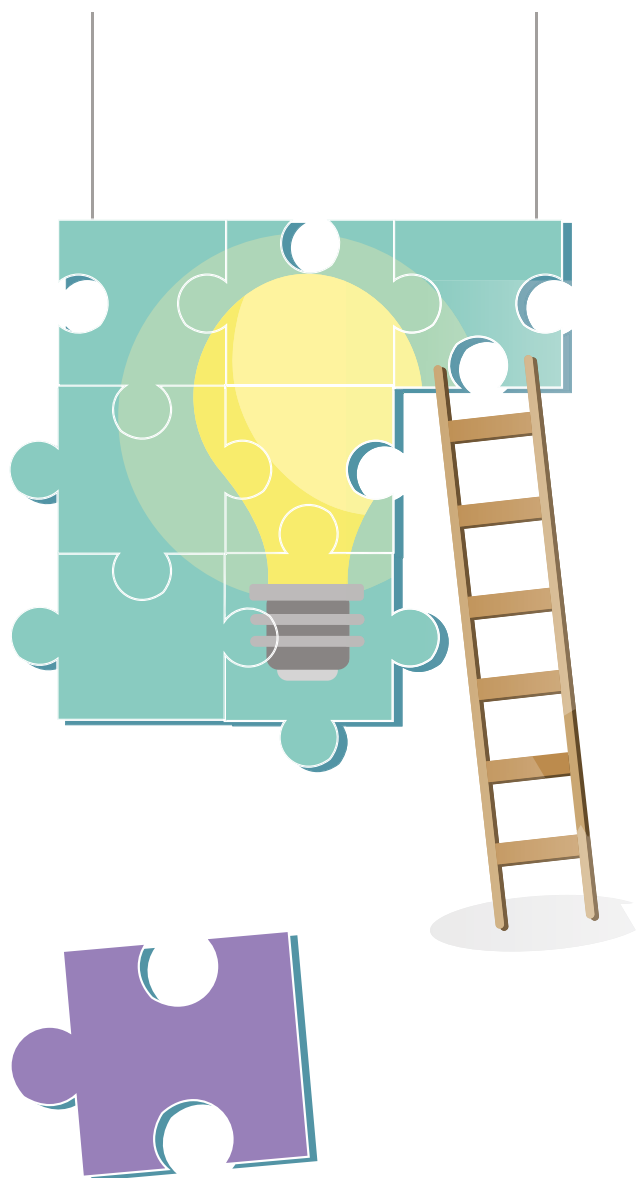


DISCOVERY TO DELIVERY: A PATHWAY TO IMPLEMENTATION AND SCALE-UP



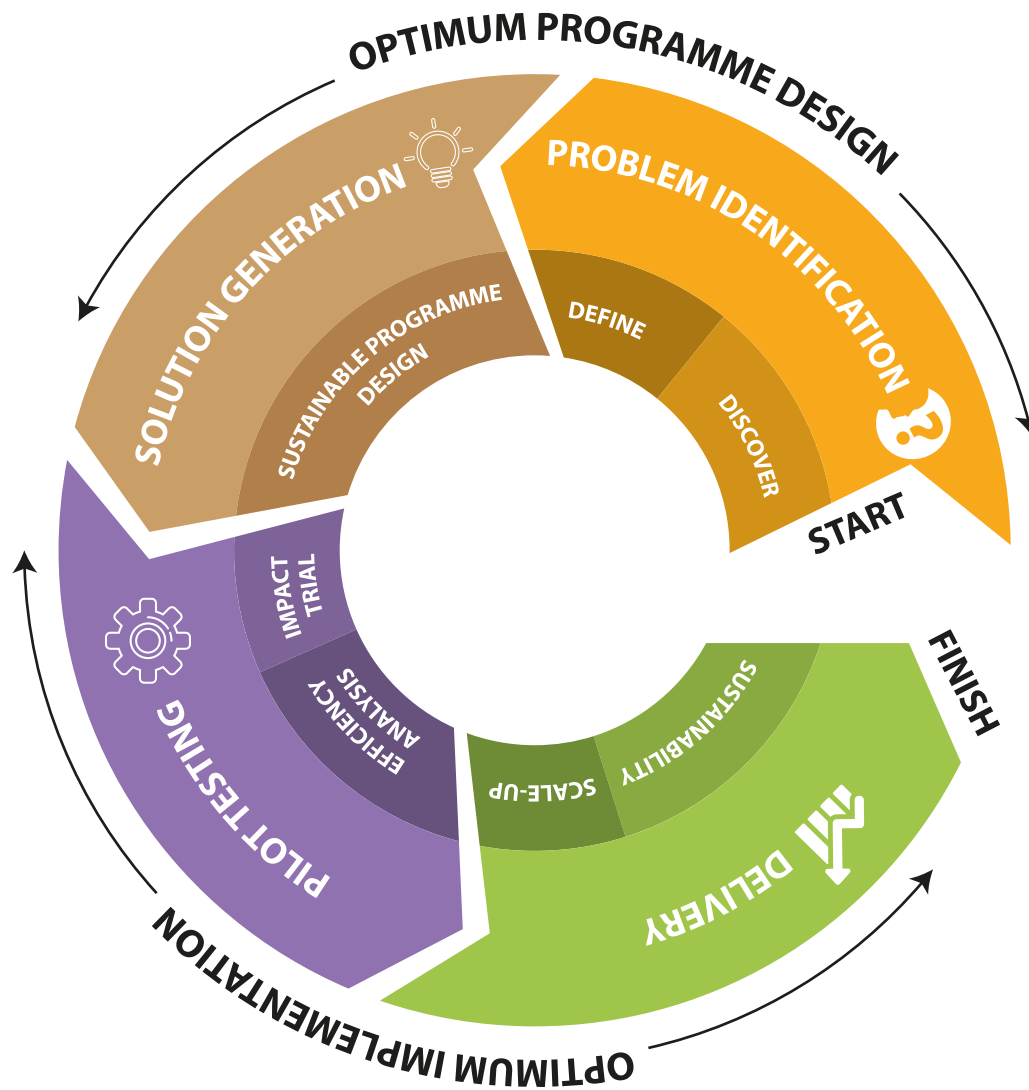
**GUIDELINES ON KEY MOMENTS FOR EVIDENCE GENERATION
FOR PROGRAMME IMPLEMENTATION AND SCALE-UP**



INTRODUCTION

Implementation Research (IR) is a systematic process of problem identification, causal analysis, addressing bottlenecks of implementation and defining optimum strategies in a particular context. It helps to improve long-term sustainable outcomes and successful scale-up of a given programme. IR enables policymakers, implementers and key stakeholders to better understand the integration of evidence-based research into policymaking and helps bridge the critical gap between evidence and programme. The purpose of this infographic is to highlight the essential steps and pathways for effective solution generation with efficient implementation and subsequent scale-up of a programme. It also helps policymakers, implementers and key stakeholders to better understand and engage meaningfully with the process of translating evidence-based research into a real-world context to make lasting and sustainable change in the lives of the beneficiaries. This infographic depicts three case studies as good examples of implementation research and scale-up undertaken in Bangladesh.

PATHWAY OF DISCOVERY TO DELIVERY for evidence-based programming



PROBLEM IDENTIFICATION

DISCOVERING A PROBLEM



A problem is the difference between the actual situation and the desired situation in a community or in an organization. In order to identify a problem, it is important to clearly understand the issue.

KEY QUESTIONS

- Is this a real problem?
- How do you know?

DEFINING A PROBLEM



It is important to clearly describe and document what is considered to be the problem. It is also important to ensure that everyone agrees on the identified problem so that a starting point for the solution is clear.

KEY QUESTIONS

- Can you describe the problem?
- Do you have enough data to describe the problem in a meaningful way?
- Is it severe? Is it important to resolve this problem right now?

EMBEDDED RESEARCH APPROACH (ERA) in programme design - Collaboration among researchers/academia/implementers/programmers to ensure research is integral to system strengthening

FEEDBACK FROM CONTINUOUS MONITORING AND EVALUATION (M&E)

THEORY OF CHANGE

A series of changes that are expected to occur in a given context as the results of specific actions. The structured step-by-step backward mapping process determines the necessary and sufficient conditions required to produce the desired changes and to reach the long-term goals, keeping in mind future scale-up and sustainability.

IMPLEMENTATION CONTEXT

Contexts are dynamic, and contextual factors that may constitute barriers to implementation in one place may facilitate it in others. Understanding this helps us realize both how some interventions fail to comply in everyday practice settings and how some succeed.

UNDERSTANDING OPTIMUM IMPLEMENTATION STRATEGIES

The strategy that can efficiently and systematically identify the most promising components and their contribution to the overall success of the intervention, which is finally tested during the pilot.

FEASIBILITY AND ACCEPTABILITY

Because of resource constraints, not all solutions can be transformed into programmes and pilot tested. Therefore, feasibility and acceptability studies produce a set of findings that help determine whether an intervention should be recommended or not.

THE LONG-TERM GOAL AND FUTURE SUSTAINABILITY

Optimum resource planning and utilization, cultural acceptance, strong supportive policy, effective partnership and a proper M&E framework are the main ingredients for sustaining a programme.

AN ERA HELPS IMPLEMENTERS TO:

- Comprehensively understand the system challenges and the context of programme implementation
- Ensure programme relevance and appropriateness
- Aid identifying practical and feasible solutions
- Incorporate IR findings into programme implementation and system strengthening

PILOT TESTING

IMPACT TRIAL



An impact trial measures the effectiveness of a programme to achieve expected outcomes and impacts and ensures attribution of these impacts to the intervention or programme. These outcomes and impacts can be positive or negative, intended or unintended, direct or indirect.

Key Research Questions

- Has the intervention led to the expected outcomes for the beneficiaries when compared to areas without intervention?
- How are the interventions comparable (under which circumstances is one better)?
- Should the intervention be modified, continued, replicated or scaled-up?

Key Design Considerations

- Mapping out the causal chain (programme theory)
- Using a credible counterfactual (ideally through a Randomized Control Trial, if not possible through robust quasi-experimental techniques)
- Ensuring pre-intervention baseline data collection in both programme and comparable non-programme groups or areas
- Understanding the context
- Anticipating and analyzing the heterogeneity
- Using mixed methods

EFFICIENCY ANALYSIS



Efficiency analysis is a measure of how economically the resources/inputs (funds, expertise, time, etc.) are converted to results. It signifies that the use of the least costly resources is possible to achieve the desired results. The aim is to develop a better understanding (and better articulation) of costs and outcomes so that we can make more informed, evidence-based choices.

Key Research Questions

- Were activities cost-efficient?
- Were objectives achieved on time?
- In terms of comparison, which intervention is more cost-effective?
- Is there “value for money” measured as additional benefit per additional unit of cost?

Key Design Considerations

- The impact quantified in the trial needs to be related to the costs incurred by the intervention
- The measurable impact, if necessary, can be transformed into economic terms
- The context needs to be comparable to the real-life setting
- The hidden costs of social and environmental impacts need to factor into the total cost of interventions.

DELIVERY

SCALE-UP



Scale-up is defined as deliberate efforts that include a series of processes to introduce interventions with demonstrated effectiveness through a programme delivery structure and with the aim of improving coverage and equitable access to the innovation.

- The horizontal approach of scale-up refers to the geographical expansion or expansion of population reached.
- The vertical approach involves the introduction of an intervention simultaneously across a whole system and results in institutionalization of a change through linkages among system levels so that a programme with a specific focus can be delivered.

SUSTAINABILITY



Sustainability is defined as a programme, intervention or implementation strategy, which continues to be delivered with a regular flow of resources. It includes positive outcomes related to any behavior change strategy, which continues to produce benefits at an individual, institutional and systems level.

- Adoption in national development plan
- Secure funding
- High level political commitment

IMPLEMENTATION RESEARCH



IMPLEMENTATION RESEARCH refers to the understanding of what, why and how interventions work in “real world” settings and to test approaches to improve them, to introduce potential solutions into a system or to promote their large-scale use and sustainability.

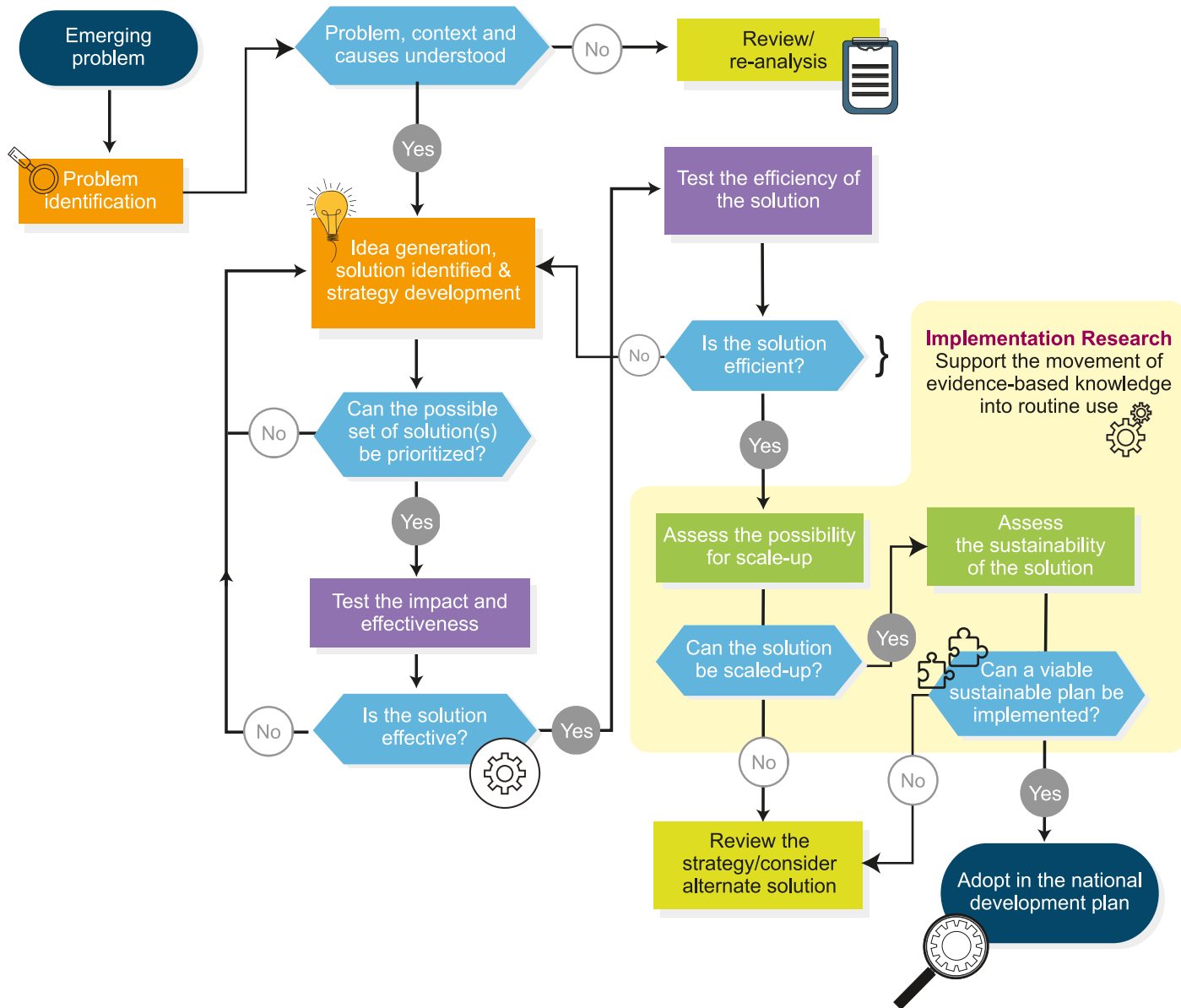
KEY RESEARCH QUESTIONS

- What barriers and facilitators to implementation exist?
- What implementation strategies are indicated?
- What components are adaptable for multiple settings?
- What different staffing models can be used to deliver the intervention?
- What technologies could be used to accelerate uptake and support implementation into new settings?

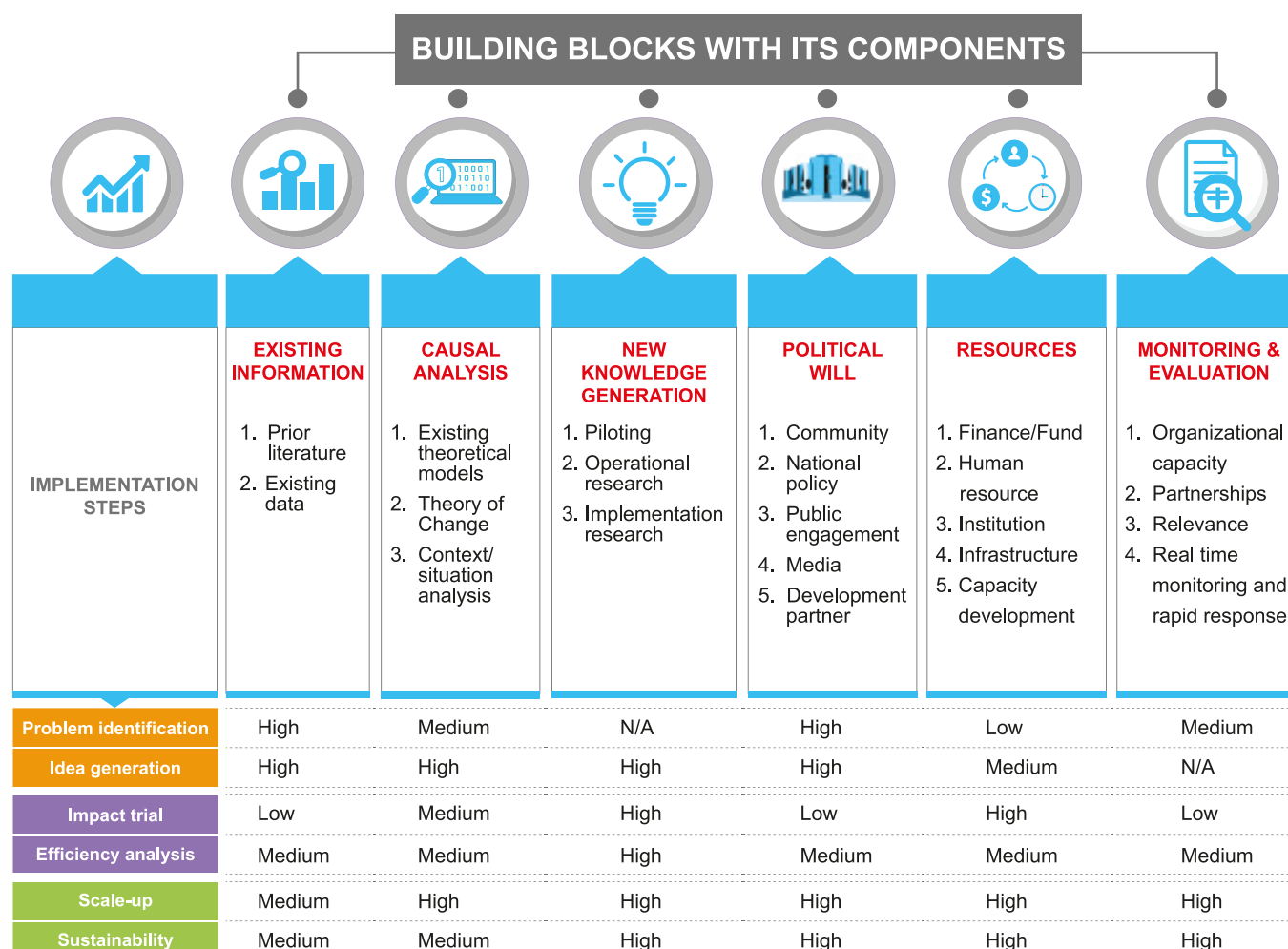
KEY DESIGN QUESTIONS

- Observational “Diagnostic” study of implementation context
- Effectiveness-implementation hybrid design
- Mixed method
- Pilot test of an implementation strategy
- Implementation trial of one or more strategies
- Favor internal or external validity depending on evidence and context

ELABORATED PATHWAY OF IMPLEMENTATION AND SCALE-UP



FRAMEWORK OF BUILDING BLOCKS FOR IMPLEMENTATION AND SCALE-UP



The matrix shows vertically the implementation stages of a programme and horizontally the common building blocks with components of different magnitude to be assessed while implemented.

PURPOSE OF CASE STUDIES

The previous figures show the main building blocks for programme implementation and scale-up within the current framework of IR. In order to show the relationship and linkages between the key building blocks for programme implementation and scale-up, three national programmes in Bangladesh were identified as case studies.

1. Oral Rehydration Solution (ORS)
2. Family Planning (FP)
3. Expanded Programme on Immunization (EPI)

The case studies show that whereas the key stages of programme development, implementation and scale-up were undertaken for the ORS programme, the adoption of the building blocks was selective in the cases of the FP and EPI programmes.

For the FP and EPI programmes, the documentation of problem identification, evidence generation and efficacy trials were adopted for Bangladesh from globally recognized multi-centre studies. The challenges of developing strategies to overcome the barriers of effective programme implementation and scale-up in the specific context of Bangladesh are given due emphasis and elaborated in the two case studies.

The purpose of showing the three case studies against the backdrop of IR is to emphasize the point that while it is ideal to adopt all the key building blocks for programme implementation and scale-up to ensure sustainability, this need not be the emphasis of a national programme. If however, conventional wisdom and global knowledge on steps related to problem identification and efficacy trials are well documented, as in the case of FP and EPI, then the emphasis should be in identifying effective strategies to implement the programme and to take it to scale.

ORS SCALE-UP IN BANGLADESH - A CASE STUDY

01 PROBLEM IDENTIFICATION

Diarrhoea was a major cause of under-five mortality in Bangladesh. The intravenous saline treatment was expensive and difficult to administer in a rural setting.



02 IDEA GENERATION

The solution was to invent a convenient and easy-to-administer oral solution, which would be effective and cheap. In the 1960s, scientists at Cholera Research Laboratory (present day icddr,b) conducted a number of clinical trials to optimize and prepare the oral rehydration solution, popularly known as ORS.



Female **ORWs** played a vital role in teaching mothers to prepare homemade **ORS** and treating diarrhoea.



45% reduction in diarrhoeal death with **ORS**.

03 EFFICACY TRIAL

In 1968, several trials showed that ORS was safe, easy-to-administer, and effective in combating deaths due to diarrhea. ORS was also used in a cholera outbreak in Dhaka, resulting in an impressive decline in case fatality rate from as high as 50% in untreated cases to less than 5%.



04 EFFECTIVENESS TRIAL

Effectiveness trial of ORS was undertaken in Kolkata and in the subsequent cholera outbreak in refugee camps of West Bengal during the 1971 Liberation War of Bangladesh. After independence, two successful field trials were conducted in the BRAC-run Oral Therapy Project. Female Oral Rehydration Workers (ORWs) taught ten women per day how to make home-based ORS consisting of a pinch of salt, fistful of molasses and a half liter of safe drinking water, known locally as Lobon Gur Solution (LGS).



Diarrhoeal death reduced to 2% during 2007-2011 from 20% during 1988-1993 (BDHS).

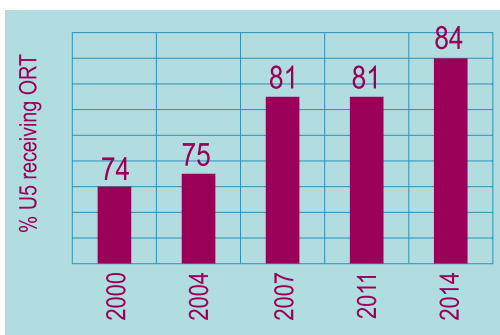
05 PLAN, IMPLEMENTATION AND SCALE-UP

The scaling-up of the ORS programme started in 1979 with parallel efforts from the Government of Bangladesh (GoB) – through the establishment of the National Oral Rehydration Programme (NORP) – BRAC and the Social Marketing Company (SMC). To provide a standardized solution and to ensure quality and safety, the SMC introduced ORS under the brandname ORSaline. Subsequently, Gonoshastho Pharmaceuticals and Essential Drug Company, Limited started production of ORS resulting in nationwide availability and accessibility.



06 SUSTAINABILITY OF ORS

From 1992-1997, the National Control of Diarrhoeal Disease Programme (NCDD) was adopted by the GoB, which developed a 5-year plan to combat diarrhoeal disease in coordination with the SMC, pharmaceutical companies and NGOs like BRAC and icddr,b. This partnership resulted in an exponential increase in the use of ORS. Now, approximately 84% of children under five with diarrhoea receive ORS and 78% of them survive.



% OF CHILDREN UNDER FIVE WITH DIARRHOEA RECEIVING ORAL REHYDRATION THERAPY (ORT)

Source | BDHS [ORT- Homemade and/or packed ORS]

KEY ACHIEVEMENTS



According to DHS, approximately **78%** of children under five with diarrhoea receive ORS and survive.



12 million rural mothers were taught to prepare Lobon Gur Solution (LGS) through BRAC's OTEP programme by female ORWs.

STRATEGIES INVOLVED IN THE SCALE-UP OF ORS

- ORS packet distribution from static health centers called "ORT Corner" through NORP.
- BRAC facilitated preparation of homemade ORS and treatment of diarrhoea by teaching 12 million rural women in 662 villages through OTEP programme.
- Promotion of packet ORS through different social media campaigns.

FAMILY PLANNING CASE STUDY



PROBLEM IDENTIFICATION

In 1972, Bangladesh had one of the highest fertility rates in the world. The total fertility rate was seven births per woman.

01



SOLUTION

Efficacy and effectiveness trials of different family planning methods were established in other settings. The context specific implementation strategies to raise awareness about family planning and to deliver contraceptives to couples were tested here.

02



EFFECTIVENESS OF STRATEGIES

Successful experimental pilot on implementation strategy was introduced in Matlab sub-district in 1977, which proved to be effective.

03

Several episodes of testing and modification of implementation strategies were done throughout 1983-86.



SCALE-UP

The GoB gradually scaled-up the family planning programme with the support of NGOs, civil society and religious leaders. The government female Family Welfare Assistants (FWA) visited and distributed temporary contraceptives in households every three months and referred couples to semi-permanent and permanent methods. There was a service gap for newly-wed women and for those who wanted to switch to another method. Community health workers of BRAC and other NGOs complemented this gap by distributing temporary methods during monthly household visits.

04



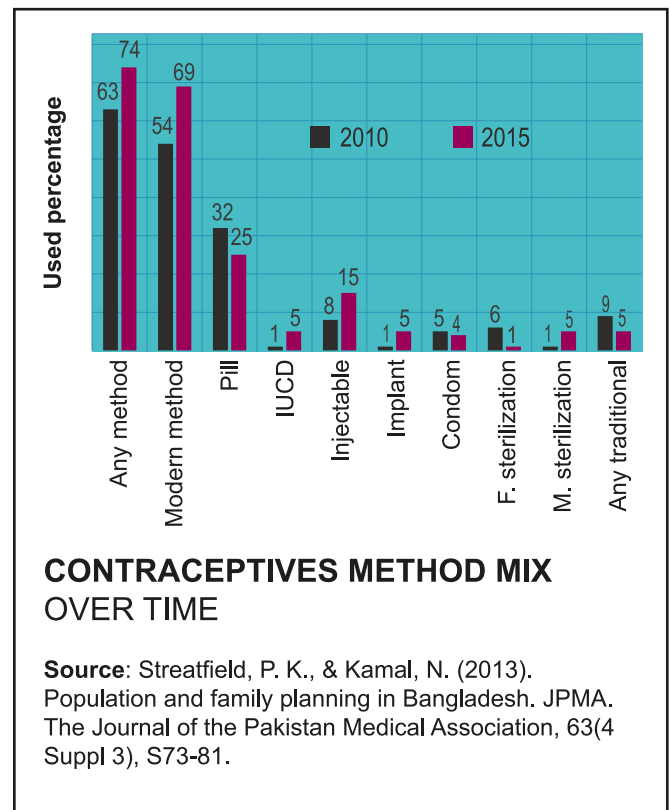
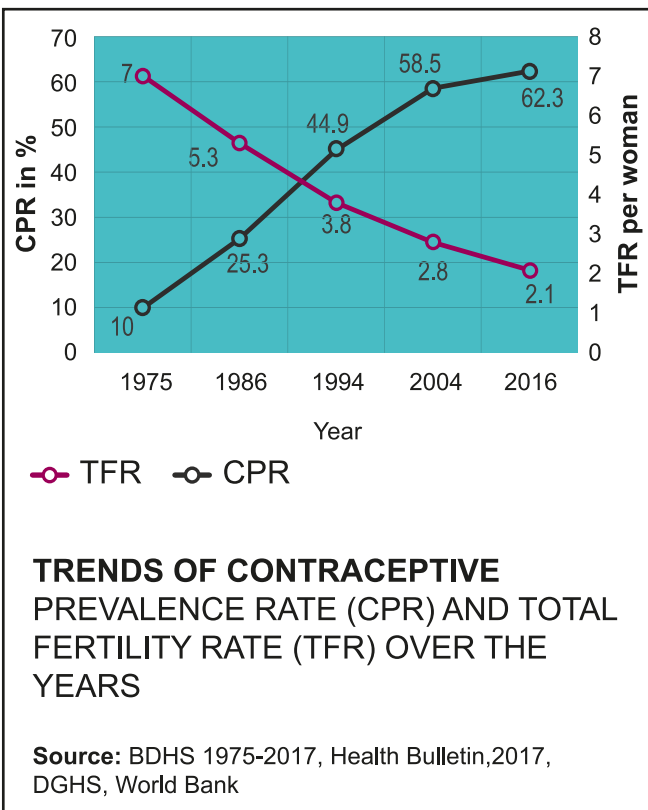
SUSTAINABILITY

The programme had continuous feedback during the implementation process, and adjustments were made in the National Programme accordingly. Government leadership and commitment, social acceptance and support of the other donor partners, national and international NGOs made the Bangladesh Family Planning Programme one of the most successful and longest continuing health programmes.

05

STRATEGIES INVOLVED IN SCALE-UP OF FP

- The community-based distribution of contraceptives by female workers recruited from the local community.
- Social marketing of different methods.
- Integration of FP services in a broader MNCH programme.
- Centralized procurement of long-term contraceptives (IUDs and implants).
- Promotion of semi-permanent and permanent methods by the public sector.



KEY ACHIEVEMENT



TFR dropped from **6.8** in 1975 to **2.1** in 2016



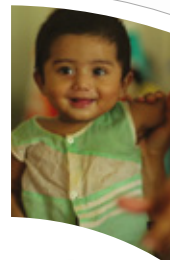
CPR increased from **10%** in 1975 to **62.3%** in 2016

THE EXPANDED PROGRAMME on IMMUNIZATION (EPI)



PROBLEM IDENTIFICATION

In Bangladesh, the under five mortality rate was 220 per 1000 live births in the 1970s. About 0.25 million children died each year, most of them being under five. The five vaccine preventable diseases were the major causes behind this.



SOLUTION

Immunization was seen as a promising way to tackle under five mortality, especially as good results had been obtained from efficacy and effectiveness trials in other countries.



EFFECTIVENESS OF STRATEGIES

The GoB started EPI on 7th April 1979 as a pilot project with services available through the district and sub-district levels, but coverage was only 2 per cent. Several strategies were undertaken to increase the vaccination coverage nationwide, which proved to be effective.



SCALE-UP

A commitment was made with the Global Universal Child Immunization Initiative (UCI) by the GoB in collaboration with BRAC, CARE and Rangpur Dinajpur Rural Service for widespread coverage of EPI. Developing partners, particularly GAVI, WHO and UNICEF provided technical support and adequate resources for the scale-up of EPI in Bangladesh. As a result, the vaccination rate increased to 76% in 1995.



SUSTAINABILITY

Due to the continuous support of the development partners and the stewardship of the GoB, EPI was made available to all target groups by the 1990s, and the immunization coverage reached 94.2% in 2015. This tremendous effort and improvement in EPI coverage contributed substantially to Bangladesh's endeavor to achieving Millennium Development Goal (MDG) 4; Reducing Child Mortality Rates.



In **1979**, EPI included vaccines for tuberculosis, diphtheria, pertussis, tetanus, polio and measles.

Hepatitis B (**HepB**) incorporated in **2003**.

Haemophilus influenza (**Hib**) was included in **2009**.

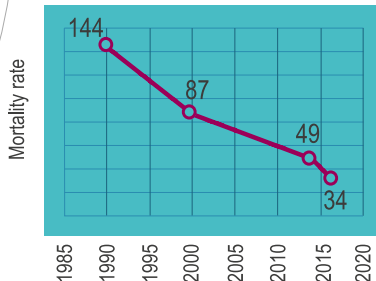
Pentavalent was introduced in **2009**, which included diphtheria, pertussis, tetanus (DPT), HepB and Hib.

Measles and Rubella (**MR**) vaccine was introduced in **2012**.

STRATEGIES INVOLVED IN SCALE-UP OF EPI

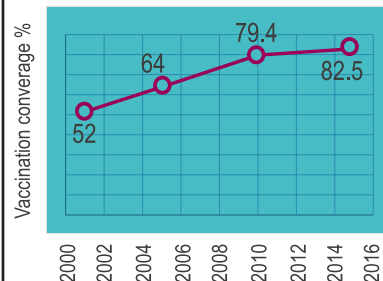
Effective strategies used by the EPI project include the following:

- Decentralization of primary healthcare including EPI in static clinic or outreach-based service in rural areas.
- Vaccination in the urban areas mainly through NGOs, vaccine preventable disease (VPD) surveillance, national immunization days (NIDs), mop-up oral polio vaccine (OPV) campaigns and Behavior Change Communication (BCC).
- Motivated, trained and dedicated locally recruited Health Assistants.
- NGOs and civil society played a significant role in community mobilization.
- Regular periodic review meeting and supportive supervision mechanism.



UNDER FIVE MORTALITY RATE PER 1000 LIVE BIRTHS

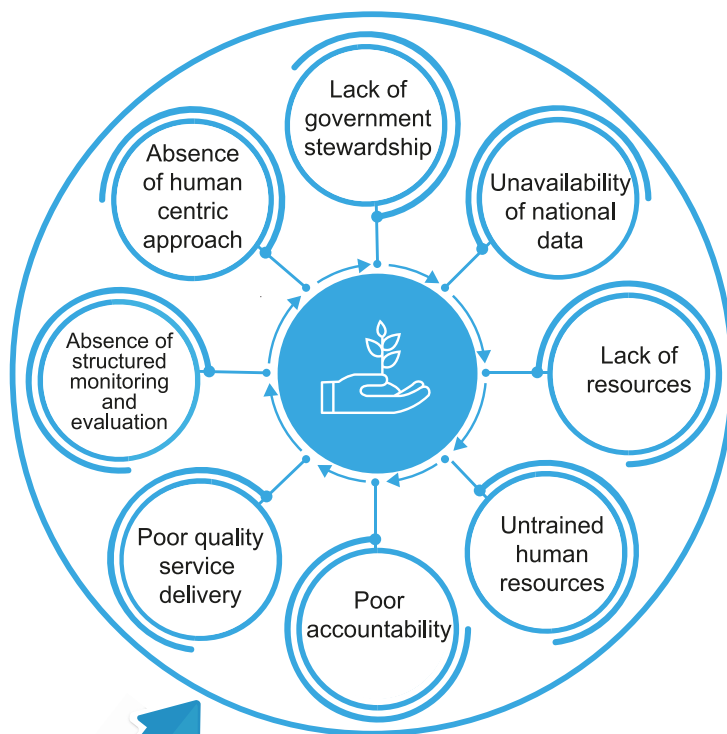
Source:
World Bank, Bangladesh country profile



VALID VACCINATION COVERAGE BY AGE OF 12 MONTHS

Source:
DGHS, Health Bulletin 2017

IMPLEMENTATION CHALLENGES



CONCLUSION

Implementation Research (IR) entails a systematic, step-by-step approach in utilizing real-time data to identify evidence-based implementation strategies in addressing barriers and facilitators for achieving lasting changes in the delivery system. This infographic attempts to highlight the concepts of IR and to present the application of the key steps through the case studies of three national programmes, which have been scaled-up and sustained by the Government of Bangladesh.

The Oral Rehydration Solution (ORS) case study depicts all the major steps for IR and scale-up. The Family Planning (FP) and Expanded Programme on Immunization (EPI) case studies focus on the scale-up of the programmes nationwide. While the three case studies are unique experiences, which have adopted a mix of strategies for achieving the programme outcomes and impacts, they also highlight the criticality of aligning a mixed qualitative-quantitative design for information gathering with pilot testing of the strategies and adoption by the national programme for scale-up and sustainability.

THE CENTRE OF EXCELLENCE FOR SCIENCE OF IMPLEMENTATION AND SCALE-UP

Located in Dhaka, Bangladesh, the Centre of Excellence for Science of Implementation and Scale-Up (SISU) was formed in 2016. It was established in collaboration with UNICEF and BRAC James P Grant School of Public Health, BRAC University, under the patronage of Implementation Monitoring and Evaluation Division (IMED), Government of People's Republic of Bangladesh.

The Centre aims to bridge the knowledge gap and to identify implementation strategies which will help the Government and key stakeholders to address challenging and complex issues in delivering quality health services to the hard-to-reach remote areas and in reaching out to socio-economically deprived communities.

Developed by

Centre of Excellence for Science of Implementation and Scale-Up (CoE-SISU)
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