

MIXED-DESIGN APPROACH IN IMPACT EVALUATION:  
PRINCIPALS AND PRACTICE

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# Mixed-Design Approach in Impact Evaluation: Principles and Practice

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## Abstract

There is no single method in impact evaluation that can always address the different aspects better than others. Importance of mixed design approach in impact evaluation studies arises with the need for attribution that cannot always be addressed through quantitative approach. 'Mixed-methods' is the combination of qualitative and quantitative approaches that help in outlining the causal chain and firming up a clear identification strategy in impact evaluation. When used in combination, both quantitative and qualitative data yield a more complete analysis, and they complement each other. Sometimes the evaluation design may emerge in new ways, depending on the conditions and information that is obtained during the study. The present paper discusses the application of mixed design approach in light of evaluation of Title II Safe Motherhood and Child Survival (SMCS) programme of Catholic Relief Services (CRS). The programme employed both the traditional quantitative and the qualitative methods to evaluate the impact of the intervention. Whereas the outcome level indicators were calculated using the quantitative methods, the strengthening of institutional and community level processes and sustainability linkages were derived at through qualitative tools.

**Key words:** Impact evaluation, mixed-methods

## Introduction

The mixed-methods approach, which employs an array of quantitative and qualitative tools to effectively evaluate the impact of the development interventions, has gained significant currency of late (Johnson, 2004; Johnson et al, 2007). The approach tries to leverage the commonalities between both the quantitative and the qualitative methods so that they complement each other in the analysis. Further, adopting a mixed-method approach renders the analysis more complete as well in that that some impacts can lend themselves to evaluation through a certain method only, qualitative or quantitative.

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The use of qualitative data means a wide range of activities, not just using participatory techniques or arranging of focus groups (White, 2009). It includes, for example, reading of anthropological literature and programme documents of the intervention context to inform evaluation design.

Different methodologies have comparative advantages in addressing particular concerns and needs of the study. While one set of methods can be used to assess outcomes or impacts, another set of methods helps to assess the quality and character of program implementation, including program integrity and the experiences of implementation phase.

## **About the Programme**

CRS officially started its food-aid assistance to India with signing of the Indo-US Agreement in 1951. Though initially, the Title II food resources from the US Government were used to support "family feeding program". Over the years this program evolved to encompass direct interventions in mother and child health, education, agriculture and humanitarian assistance.

Since 1997 Title II programs have been planned and implemented in five year cycles known as Development Assistance Programs (DAP). In the current cycle (2007-2011) of Title II programs, by the end of 2009, food-for development program was phased out, and only humanitarian assistance program continued. CRS-India aimed to consolidate food security gains made in the development programs over the last 10 years of DAP I/DAP II programming by adopting a two-pronged strategic approach under the phase-out plan (POP). In the first approach, CRS/India and its partners promoted strategies that increase awareness of and access to public health, education, water, credit, training, subsidies, social safety net programs, and other government schemes. The second aspect of this approach focuses on continuing to provide Title II food resources at incrementally lower levels (humanitarian assistance) in order to fill the gap for those vulnerable communities and partners who are unable to graduate or secure local resources during the course of the POP.

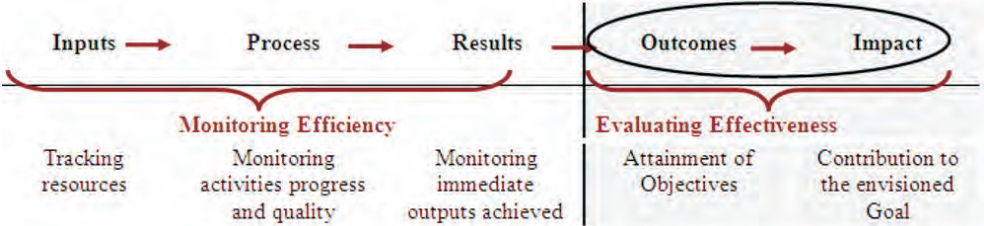
One of the key interventions under Title II programme was to improve maternal and child health through Safe Motherhood and Child Survival (SMCS) programme. The component focuses on strengthening community groups and service delivery in the SMCS villages to meet program exit criteria, and identifying phase-over options, particularly for SMCS communities that may need additional time beyond the POP period to achieve exit criteria. The health sector activities target children less than 3 years of age, along with pregnant and lactating mothers.

The POP final evaluation intended to assess and demonstrate the impact of project strategies and interventions on the achievement of the intended results, as measured through indicators developed for each sector. The data collected during the final evaluation was compared with the baseline estimates collected during DAP II final evaluation in 2006 and the targets set for each of the indicators. In addition, the final evaluation also tried to assess the effectiveness and sustainability of the phase-over.

In order to come up with a comprehensive evaluation design, it was imperative to study the implementation paradigm and approach followed by CRS programme. Overall, the CRS/India Title II Phase-Out-Plan was implemented in 23 states including the four North Eastern states and the union territories of Chandigarh and Dadra and Nagar Haveli. However, the number of states covered for individual sectors varied. CRS/India coordinates its program through a country office in Delhi and 8 State Offices located across the country. The State Offices work directly with more than 60 larger NGOs called Coordinating Partners (CP). CP in turn coordinate with around 2000 grass root level NGOs called Operating Partners (OP). SMCS program was implemented in 2,467 villages across states.

**Evaluation Paradigm**

The overall objective of the evaluation framework was to examine the extent to which the programme was able to promote improvements specifically related to coverage of interventions and quality of outcome. Thus, the evaluation essentially emanated from the basic Programme Logic Model (McCawley)



While the focus of the end-line study was on assessing the outcomes and impacts, the evaluation exercise was to necessarily address the question of attribution of the observed outcomes and impacts to the intervention. Thus, the evaluation had to establish a cause-effect relationship between the activities and the observed outcomes and impacts.

## Evaluation Questions

In consonance with the evaluation objective, the specific evaluation questions were:

- ✓ To what extent has the expected change in the indicators been achieved compared to the baseline levels?
- ✓ To what extent have external factors affected the achievement of program impact?
- ✓ To what extent have internal factors (interventions, structures, systems) influenced (both positively and negatively) achievement of program impact?
- ✓ To what extent has CRS' identity as a faith-based organization helped or impeded implementation and achievements of the program?
- ✓ To what extent have the capabilities of CRS and its partners affected the achievement of program impact?
- ✓ To what extent have the planned activities been implemented on time?
- ✓ Which program activities can be sustained by communities without CRS or partner support and why? Which program activities do not appear to be sustainable and why? Are there specific activities that can be phased over to government support?
- ✓ How feasible the strategies under phase out plan have been vis-à-vis their effectiveness and sustainability?
- ✓ In the light of the extended period of phase out plan, which strategies can be adopted in the phase out period to ensure an effective and sustainable phase-over?

The key objective of the study was to measure and compare changes in key project indicators i.e. change in nutrition status i.e. % children under 2 years whose weight-for-age falls below - 2SD (baseline – 37%, end-line – 34%). To measure changes, which occurred due to project interventions, statistically adequate sample size was calculated on the basis of power principle.

## Evaluation Design & Methodology

Impact evaluation is about determining the effect on those that are directly targeted in the intervention. The changes in welfare of the treatment group during and after an intervention can be observed by doing “before and after-studies. Baseline data (before the intervention) and end-line data (after the intervention) give facts about the development over time and describe “the factual” for the treatment group (not the counterfactual).

Evaluations based only on a “before and after”-design should investigate systematically if other interventions, unplanned events and general processes have influenced the observed changes, and assess how much of the changes can be attributed to the intervention of interest or other factors. Use of mixed-method approach is envisaged as the best way to address this because as the intervention becomes complicated, the quantitative methods alone are not sufficient to register the impact and delve into more subtle nuances of the impact attribution, and hence a blend of both quantitative and qualitative methods is called for, a blend mostly unique to the evaluation problem.

In line with the above evaluation theory, the final evaluation adopted a cross-sectional research design. The sampling design for the end-line evaluation was in consonance with the design used during the baseline. A stratified two-stage sampling design was employed with catchment area/coverage of CP as the first geographical strata and area covered by a village as primary sampling units (PSU). All eligible women in selected household were secondary sampling units (SSU). The sample was drawn across the phase-out years (2006 to 2010).

The evaluation design and methodology should follow evaluation questions in a way that offers the best chance to obtain useful answers. Many evaluation questions and combinations of questions are best and most fully answered through mixed research solutions. Given the evaluation priorities and in consonance with the implementation design, it was envisioned that a mix of methods can be used to assess different facets of complex outcomes or impacts, which will yield a broader, richer portrait than one method alone can.

Thus, to add rigour to the assessment the final evaluation adopted a mixed method research design entailing both quantitative and qualitative techniques for data collection. While the quantitative techniques were expected to assess primarily changes in the indicator levels over the program period, the qualitative methods helped exploring processes, linkages and sustainability contours. The primary purpose of the qualitative assessment was to assess the “WHYs” of Programme Efficiency, Effectiveness and Sustainability.

| <b>Mixed-Design Methods</b>                                |  |
|--|--|
| <b>Quantitative</b>  | <b>Qualitative</b>   |
| Structured Interviews with mother of child aged 0-23 month | <ul style="list-style-type: none"> <li>- FGDs with community members</li> <li>- IDIs with key community stakeholders such as VHC member, women group member</li> <li>- IDIs with service providers viz. VHW/ Supervisor/ AWW/ ANM</li> <li>- Activity mapping</li> </ul> |

While quantitative analysis allowed assessing the change in key indicators of

health, the qualitative analysis provided key insights on the programme efficiencies at the level of institutional level processes and community level processes.

## **Results and Discussion**

The programme attempted to strengthen systems at various levels in order to influence the outcome at community level. Through mixed design approach, using both quantitative and qualitative techniques, final evaluation tried to assess the strategies/activities CRS implemented in POP. While looking at the activities, within qualitative component, the study tried to assess whether the activities implemented are in line with the activities planned and also assessing their alliance with the activities being done under similar kind of government schemes, if any, to assess the natural alignment of the government's plan of action and the phase-over.

After assessing the activities, the study tried to ascertain the exit/phase-over criteria and also the nature and scope of phase-over across 2007, 2008 and 2009. The assessment also entailed phase-over approaches referring to the transfer of responsibility for program-related activities to Government departments/agencies, organizations or, sometimes, to individuals that will remain in the project area. Study analysed both the scenarios i.e. one wherein community is capable of taking over program activities, either through community groups and organizations or through key individuals, second option wherein other institutions (e.g., local, or national government, indigenous NGOs, or possibly other donors) are well-positioned and willing to take over activities aimed at achieving program goals.

The next level of assessment was the sustenance issues, entailing sustenance of food and sustenance of outcome/impact through the lens of institution and community. Institutional and community assessment were mainly established through qualitative approach. In order to explore the linkages and sustainability further, study conducted the mapping of CRS activities with the existing National Programme such as NRHM and ICDS to explore the linkages and sustainability part. Force-field analysis, during discussions with community members and service providers, highlighted the factors which influenced (positively or adversely) the impact of the programme.

Quantitative assessment of impact indicator reflected a mixed trend on prevalence of malnutrition and severe malnutrition over the programme period. The overall prevalence of malnutrition has remained constant from DAP-II to POP. This mixed trend in the malnutrition is due to the variation in the feeding practices of the children, which perhaps has not undergone much change



especially in the rural areas.

Given the different components within the program viz. issues of community and institutional strengthening, sustainability, and linkages it was important for the program evaluation to adopt a mix of methods. Thus in spirit of the intervention, the final evaluation tried to assess the changes in impact and outcome indicators for health in component areas and project participants, besides identify program strategies, structures, systems and interventions that contributed to or impeded the achievement of intended impact of program interventions. The study also assessed the effectiveness and sustainability of the phase-over in each of the sectors.

The program used food as an incentive to mobilize the community. The program was implemented through the local partners at district level (CP) and at local level (OP). The program managed to register its impact on outcome level indicators. Further the health education imparted within the program activities created a lot of awareness which ultimately had its impact on the outcomes though some of the changes at outcome level can be attributed to NRHM and ICDS, but as one of the key focus of the programme was to link activities with NRHM and ICDS at community level it is difficult to segregate the attributable change.

Although the program target areas were places wherein government maternal and child health services, and specifically the ICDS program, were insufficient or not fully functional, SMCS programme had activities which are in sync with the ICDS and NRHM activities that phase-over options become natural. In other words at present day, when ICDS has its universal coverage and with the inception of NRHM, the program is now being super- imposed as the components are of similar nature. Hence, when it comes to programmatic level linkages it's was a smooth linkage in POP. SMCS linked up health services to many government schemes like ICDS, NRHM, NREGA, RCH and linked the beneficiaries to ASHA. At ground, two NRHM initiatives have worked exceptionally well, i.e. institutional delivery due to Janani Suraksha Yojna and immunisation coverage due to streamlining of Nutrition Health and Education day at grass root level. Though CRS has not planned based on occurrence of these two activities, community has benefited immensely from these activities and it has resulted in better new born care and nutritional indicators.

Besides, Linkages, to ensure sustainability CRS built human capabilities at the community and partner level. In case of CP, who were faith based organization; mandate is to provide social services without any discrimination. Hence, almost all the faith based CPs and OPs are continuing with their services and CPs/OPs which joined new during the title II programme are linked with various government functionaries and schemes, but linkages is feeble and sustainability

of these CP/OPs were found to be very weak.

## **Conclusion**

The complexity and intensiveness of programs like CRS implemented Title II program drives the need to advocate an approach to meet the promise of evaluating impacts. The mixed-method, a combination of quantitative and qualitative approaches in a single evaluation, is instrumental in lending flexibility to the impact analysis. Use of mixed-method allows viewing impacts through the lens of quantitative as well as qualitative components. It is well established in the case of final evaluation that the finer nuances of institutional linkages and sustainability capacities could not have been registered had the evaluation followed merely traditional approaches to impact evaluation.

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