Use of Result Based Management (RBM) Framework for Monitoring Projects of Public Sector in Pakistan — A Case Study

Maliha Arif, Muhammad Jubair, and Ali Ahsan

Abstract—The Result Based Monitoring (RBM) and use of KPIs has been the buzzword in Project Management these days. In order to improve governance & management in the development projects of public sector of Pakistan, the contribution of monitoring & evaluation is inevitable because, “What gets measured gets managed, What gets managed can be improved”. The research paper introduces the concept of Quantitative Monitoring in public sector of Pakistan through KPIs and how Result Based Management (RBM) framework can be used for monitoring projects of Community schools. This technique focuses on monitoring the results based on objectives of the project rather than the activities itself. The paper also discusses the traditional monitoring practice followed in public sector and its comparison with RBM framework monitoring. The improvisation that can be made in monitoring practices of the public sector using RBM when compared to traditional monitoring practices is also discussed.

Index Terms—Community schools, KPI, monitoring, Pakistan, public sector, RBM.

I. INTRODUCTION

A. Broad Focus, Setting of Problem

Government of Pakistan conceived the concept of Result Based Monitoring from the Malaysian Government in 2007. In continuation of same, the RBM framework was made part of standard PC-I document and currently lie at serial 12(b) of the PC-I template. The purpose of this framework was to ensure that the executing agencies/implementers provide baseline information of indicators & measurements, which could be later on by the monitoring staff to monitor the progress of project. Since the introduction of RBM framework, none of the executing agency has been able to utilize this framework properly and provide the respective data on RBM framework. Consequently, the incorporation of RBM framework is there in public sector, but with no utilization.

The proposed research is an initiative to make this framework workable for the development projects of public sector of Pakistan and making it effective for the same. The research is of exploratory nature. It takes in to account a single project related to education sector as case study and demonstrates how can actually translating the project’s data on to the framework use the existing RBM framework. Moreover, the use of KPI’s can make the monitoring system more effective and result oriented.

B. Case Study—The Project

The project taken as case study titled “Establishment and Operation of Basic Education Community Schools (BECs) in Country” was approved by the ECNEC (Executive Committee for National Economic Council) in its meeting held on 7.3.07 with implementation period of 4 years. The Capital cost of the project is Rs.7000 Million. The BECS school are non-formal basic education system having a single teacher, single home based room for school (Class KG/Katchi to V) where the premises are provided free of cost to the community. The objectives of the Project include:

1) Introduction of a non-formal approach to supplement and complement the formal primary education for eradication of literacy and to achieve UPE (Universal Primary Education)
2) To provide first & second chance of primary education to out of school children of 4-14 years
3) Literacy and skill training to youth and adults of age 15-35 years
4) To provide free education to the poor and deprived children at their door steps
5) Increased involvement of local community in education for all

In order to achieve these objectives, the project scope includes Establishment of 20,000 BEC schools, 2500 literacy and skill development centres & Conversion of 400 BECS schools in to Primary education schools.

C. Objective

The objective of this work is to demonstrate the utilization of RBM framework for quantitative monitoring in Public sector of Pakistan for Community School projects.

D. Research Questions

1) What are the traditional monitoring practices followed in public sector of Pakistan for BECS projects?
2) How can RBM framework be used for quantitative monitoring in public sector of Pakistan using KPIs for BECS projects?
3) Is the monitoring based on RBM framework and KPIs more effective when compared with traditional monitoring practices for BECS projects in public sector of Pakistan?

E. Scope and Limitations

The research is exploratory. It gives a surface idea of
utility of RBM framework & identification of KPIs for development projects by applying it on BECS project in public sector of Pakistan.

Due to time constraints, the research is only limited to the identification of key performance indicators. The in-depth definition, measurement, baselines of the KPIs is not a part of research. Moreover, the verification/validation of the RBM framework by actually applying it through the monitoring practices of public sector is not part of the research.

II. LITERATURE REVIEW

The concept of RBM is not new, it dated back to 1950s when Peter Drucker introduced the concept of ManagementBy Objectives (MBO), which included cascading of organizational goals and objectives and performance evaluation and feedback along other principles [1].

RBM is focused on the outcome rather than the output. This needs performance management processes. So the project processes needs to be monitored to see if it is implemented as planned and in the long run if the desired outcome can be obtained or not [2]?

Focusing on results can help the governments in better decision making when it comes to resources, monitoring the projects and accountability of the governments and public servants [3]. The monitoring can focus on the outcomes and impacts that can result in better governance of public sector project [4].

Nepal started implementing RBM in 2004. They started preparing detailed work plans with performance indicators for their Medium Term Expenditure Framework (MTEF) revised twice annually for 3 years. Their plans included key outcomes, performance measure and targets, timeframes, and evaluation mechanisms. Historically Nepal has been using expenditure as the output side of monitoring and evaluation without evaluating the outcomes [5].

A solid RBM system rests on project ‘life cycle’ where ‘results’ are central to planning, implementation, monitoring and evaluation, reporting and on-going decision-making. Result-based monitoring/reporting also help the stakeholders to understand the impact that a given programme or project is having on the local population [6].

The indicators help in collecting results for a particular goal, which in turn help us in monitoring the outcome of an input or activity. This will lead to better goal based or result based monitoring and evaluation. Service Delivery Management has indicators in advocacy, coverage to the population, service availability in field offices, functioning of field offices, beneficiaries and reporting mechanism [7].

No research material has been found related to the public sector of Pakistan regarding KPIs and their utility through RBM, which indicate a gap to be addressed.

III. RESEARCH METHODOLOGY

Data collection is done by using qualitative techniques of “Content Analysis” & “interview” the output of the same will be qualitative. Model in Fig. 1 represents the research methodology:

Question-wise Data collection & analysis is described below:

A. What Are the Traditional Monitoring Practices Followed in Public Sector of Pakistan for BECS Projects?

The artefacts used for content analysis are retrieved/collected from the Projects Wing, Planning Commission. Projects Wing is the Monitoring & Evaluation section in the Ministry of Planning, Development & reforms, whose mandate is to monitor & evaluate the entire portfolio of Public Sector Development Program (PSDP) of Federal Government. Following artefacts are used for data collection:

1) Approved Project document/Project Plan (PC-I).
2) Monitoring report, October 2013 for the project.
3) PMES(Project Monitoring & evaluation Software) report.

In order to have clear understanding of the data contained in the artefacts in context of monitoring closed ended interview of the concerned monitoring officer and the head of Project Wing (Director General) was also conducted.

The on field monitoring of subject project was carried out by selection of sites from each province. The tools used for monitoring were Project profile pro-forma & monitoring report pro-forma and cash/work plan of that specific financial year. These tools are in use for monitoring of all development projects in the projects Wing. The project based reports are generated from the online web based system PMES. Upon review of the report it has been observed that:

1) The monitoring is “activity based” rather than result oriented which focuses on the monitoring of inputs and outputs and not on Outcomes & impact.
2) The monitoring is not structured or standardized on some pre-determined targets/baselines which could directly measure the contribution of project in achieving the strategic goals. The main reason is that the Project document is deficient of information or baselines on which monitoring could be carried out.
3) The analysis of data collected for monitoring is done by obsolete techniques. The use of Project Management tools such as EVM or Matrices to measure the health of the projects are not in use.
4) The findings of the monitoring do not indicate that whether the project is heading towards attainment of its objectives or not for which the project was designed. The time constraints for the monitoring officer, deficient
data / baselines / targets, in the project document & non-availability of monitoring framework leads to deficiencies in the current monitoring practices applied in public sector.

B. How RBM Framework Be Used for Quantitative Monitoring in Public Sector of Pakistan Using KPIs for BECS Projects?

To address the research question, the qualitative content analysis of artefacts of Vision 2030, Millennium Development Goals (MDGs), Five Years Plan, annual Plan and finally the PC-1 (Project Plan) for the case study project were carried out. The RBM frame work applied for development projects in public sector and used in the research is depicted in Table I:

**TABLE I: CURRENT FORMAT OF RBM IN THE PUBLIC SECTOR PROJECTS IN PAKISTAN**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Input</th>
<th>Output</th>
<th>Baseline Indicator</th>
<th>Targets after Completion of Project</th>
<th>Targeted Impact</th>
</tr>
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<tbody>
<tr>
<td>1</td>
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<td>2</td>
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</table>

The data analysis of the question consists of following three systematic steps:
1) Identifying the relationship between the project and the strategic targets & Goals
2) Mapping the project data on to RBM framework
3) Identifying KPIs for measuring the Outcomes & impact of the project based on RBM framework

1) Identifying the relationship between the project & the strategic targets & goals

The main essence of RBM framework is to assist monitoring of results or objectives for a project. Before starting work on defining data and KPIs based on the goals or objectives of the projects, the placement of the program in terms of contribution to the vision, targeted goals of education needs to be clarified. The linkage between the vision down to the BECS program can be understood by the following diagram. The Pyramid shows the alignment of vision, Goals, long term plans and annual plans for education sector in Pakistan.

From the diagram, it can be seen that in order to measure the achievement of Quantified Goals and targets identified at higher levels i.e. MDGs and Education for all goals. It is necessary to measure the performance of the each of program at lowest level in Quantified terms in a way that is measuring the results of these programs. The sum of measurement of the actual results against the desired result will tell about the achievement of long term goals. The subject program is one of the four major investment done by Government to achieve the vision of "Universal Primary education".

2) Mapping the project data on to RBM framework

To apply RBM framework on the project, the main objectives of the program are identified as RBM framework is goal oriented. For each goal / objective, the basic inputs, outputs required to meet these objectives are extracted from the PC-I document & mapped on RBM frame work. The following Fig. 3 describes the Input, output, outcome & impact.

Upon data review, Table II is generated by mapping data on RBM format for the project under study.

The framework filters out the data of the project which actually needs to be monitored, to show whether the project is heading towards achieving its pre-determined goals or not. The data mapped on RBM framework can also assist the Qualitative side of monitoring.

3) Identifying KPIs for measuring the outcomes & impact of the project based on RBM framework

Now comes the role of identifying the KPIs for each set of outputs, outcomes Mapped on RBM framework. For each KPI there have to be two predetermined values i.e. baseline (the Value at the initiation of the project) & desired target (the value that you desire to achieve at project completion). During monitoring the actual value of KPI will be measured and matched with the Planned value to see if project heading towards objective or not. The following Table III identifies some of the KPIs for Output and matrices (for input/outputs) for the programme under study that could be used for monitoring based on RBM framework.
By following the above mentioned steps, the RBM framework can be implemented on all development projects. If the data is available in the PC-I based on RBM framework can be implemented on all development projects.

The identification of indicators & their measurement is the core of RBM monitoring, the main issue lies with the ‘base line’ i.e. the initial value of the indicator, which is to be determined by the Project authorities before initiation of the project. The preparation of indicators along with its baseline data and the targeted output is a lengthy and time consuming process and involves finances.

C. Is the Monitoring Based on RBM Framework and KPIs More effective as Compared with Traditional Monitoring Practices for BECS Projects in Public Sector of Pakistan?

The data collection will be done by use of “Comparative analysis” of data retrieved from findings of Research Question 1&2. The ‘interpretive content analysis’ is used to draw conclusions.

The traditional monitoring practices revolve around activities or implementations i.e. were the activities carried out and were the outputs achieved. Result Based Monitoring on the other hand focuses on achievement of goals, or outcomes and impact. The following model describes the difference between the two types of monitoring practices:

![Fig. 4. Traditional monitoring practices vs RBM based monitoring practices.](image)

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Input Activities</th>
<th>Output Activities</th>
<th>Outcome</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>To Provide first &amp; second chance of primary education to out of school children of 4-14 years</td>
<td>1. Selection of areas with No. Primary schools</td>
<td>1. Establishment of BECS schools (4-9 years)</td>
<td>Increased Enrollment rate</td>
<td>Improved Literacy rate</td>
</tr>
<tr>
<td></td>
<td>2. Selection of teachers</td>
<td>2. Establishment of BECS schools (10-14 years)</td>
<td>Free education</td>
<td>Eradication of rural urban imbalances</td>
</tr>
<tr>
<td></td>
<td>3. Trained/ Refresher in Unit (PMU) employees</td>
<td>3. Establishment of Formal School Converted from BECS</td>
<td>Teachers Capacity building</td>
<td>Balancing of Gender Parity index</td>
</tr>
<tr>
<td></td>
<td>4. Hiring of M&amp;E staff &amp; Procurement of teaching material &amp; Aids</td>
<td></td>
<td>Improved Quality of education</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Distribution of teaching aids &amp; material</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>8. Construction of school buildings</td>
<td></td>
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</tr>
<tr>
<td>Literacy and skill training to youth and adults of Age 15-35 years</td>
<td>1. Selection of teachers</td>
<td>Establishment of Skill Development centres</td>
<td>Increased enrollment rate</td>
<td>Improved Literacy rate</td>
</tr>
<tr>
<td></td>
<td>2. Training/ Refreshers courses</td>
<td></td>
<td>Employment generation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Hiring of PMU</td>
<td></td>
<td>Teachers Capacity Building</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Hiring of M&amp;E staff</td>
<td></td>
<td>Encouraged participation of civil society</td>
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<td></td>
<td>5. Procurement of teaching material</td>
<td></td>
<td>Improved skill sets</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Distribution of teaching aids &amp; material</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Establishment of Workshops</td>
<td></td>
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</tbody>
</table>

Monitoring in public sector as compared to Result based monitoring approach, Table IV shows the comparison:

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Traditional approach</th>
<th>Result based approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Its Qualitative</td>
<td>It is qualitative and quantitative both</td>
</tr>
<tr>
<td>2</td>
<td>It is activity oriented</td>
<td>It is goal oriented</td>
</tr>
<tr>
<td>3</td>
<td>Focuses on monitoring of input activities &amp; outputs</td>
<td>Focuses on results, Outcome &amp; impact</td>
</tr>
<tr>
<td>4</td>
<td>Non standardized (person dependent)</td>
<td>Standardized using RBM framework</td>
</tr>
<tr>
<td>5</td>
<td>Confines to monitoring of activities of the project only without taking national organizational/strategic objectives</td>
<td>Aims at monitoring/ measurement of project level objectives/goal in alignment with strategic/National objectives</td>
</tr>
</tbody>
</table>

IV. CONCLUSION

Monitoring conducted using RBM framework and KPIs can produce better results & findings as compared to current practices of monitoring undertaken in the public sector. As the RBM framework actually monitors the Project objectives in such a manner, which directly aligns to the measurement of the long term goals and subsequently the vision.

Shifting of Public sector from tradition approach on to RBM can only be done, if the capacity building of line ministries / project authorities is done sufficiently on RBM, so they are able to incorporate data on RBM framework in the project document of each Development project with realistic baselines & desired targets. The research paper takes in to account a single development project as a pilot study and gives guidelines as how to provide data on the framework.

V. RECOMMENDATIONS

The development projects of social sector wherein the
Geographic spread of the project is all over Pakistan such as projects implemented by Ministry of Health & Education, there has to be a built-in Monitoring & Evaluation Unit. As in case of this project, an amount of Rs. 222.3 Million is allocated to M&E activity only for the project. The Unit should be responsible for periodic qualitative as well as quantitative monitoring based on RBM framework.

<table>
<thead>
<tr>
<th>Input</th>
<th>Activities</th>
<th>Output</th>
<th>Planned (No.)</th>
<th>Achieved</th>
<th>Outcome</th>
<th>Base-line</th>
<th>Targets at completion</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Finances (CI, EVM)</td>
<td>1. Selection of areas with No. Primary schools (% sites coverage)</td>
<td>1. Establishment of BECS schools(4-9 years)</td>
<td>10733(new)</td>
<td>9267(Existing)</td>
<td>1. Increased Enrollment</td>
<td>9267 (Existing)</td>
<td>1. Increased Enrollment</td>
<td>Eradication of rural urban imbalances (literacy rate difference between rural and urban areas)</td>
</tr>
<tr>
<td>2. Human Resource Teachers (% Hiring, % dropout, % turnover)</td>
<td>2. Selection of teachers</td>
<td>2. Establishment of BECS schools(10-14 years)</td>
<td>400 (%)</td>
<td>(%) operational</td>
<td>1. (% Enrolment)</td>
<td>400 (%)</td>
<td>(%) operational</td>
<td>Balancing of Gender Parity index (female to male students ratio)</td>
</tr>
<tr>
<td>-Project management Unit (% Hiring)</td>
<td>3. Establishment of Formal School Converted from BECS</td>
<td></td>
<td></td>
<td></td>
<td>-Gross Enrollment Rate (GER)</td>
<td></td>
<td></td>
<td>Improved Literacy rate (%)</td>
</tr>
<tr>
<td>3. Study Material</td>
<td>5. Hiring of M&amp;E staff (% HIRING)</td>
<td>3. Study Material</td>
<td></td>
<td></td>
<td>-Net Enrollment Ratio (NER)</td>
<td></td>
<td></td>
<td>Improvement in literacy rate)</td>
</tr>
<tr>
<td></td>
<td>6. Procurement of teaching material</td>
<td>2. Free education (% Enrollment)</td>
<td></td>
<td></td>
<td>-Proportion of people starting G-1 to reach grade 5 % dropout, % pass out, No of students shifted to formal schools)</td>
<td></td>
<td></td>
<td>Improved quality of education</td>
</tr>
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<td></td>
<td>7. Distribution of teaching aids &amp; material</td>
<td>3. Employment generation (No. of teachers employed, No. of supporting staff employed)</td>
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<tr>
<td></td>
<td>8. Construction</td>
<td>4. Teachers Capacity building (No. of teachers trained)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Finances (CI, EVM)</td>
<td>1. Selection of teachers (No of teachers selected)</td>
<td>1. Skill Development centres</td>
<td>2500 (%)</td>
<td>(%) operational</td>
<td>1. Increased enrollment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Human Resource Teachers (% Hiring, % dropout, % turnover)</td>
<td>2. Trainings/Refreshers (% training, trainings/annum)</td>
<td></td>
<td></td>
<td></td>
<td>2. Employment generation</td>
<td></td>
<td></td>
<td>Eradication of rural urban imbalances (literacy rate difference between rural and urban areas)</td>
</tr>
<tr>
<td>-Project management Unit (% Hiring)</td>
<td>3. Hiring of PMU/Ratio of PMUs to other staff</td>
<td></td>
<td></td>
<td></td>
<td>(% self-employed per annum, No. of students employed)</td>
<td></td>
<td></td>
<td>Balancing of Gender Parity index (increase in female to male students ratio)</td>
</tr>
<tr>
<td>3. Study Material</td>
<td>4. Hiring of M&amp;E staff</td>
<td>3. Teachers Capacity Building (No of teachers trained)</td>
<td></td>
<td></td>
<td>3. Teachers Capacity Building</td>
<td></td>
<td></td>
<td>Improved Literacy rate (%)</td>
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<td></td>
<td>5. Procurement of teaching material</td>
<td>4. Encouraged participation of civil society (No of Teachers from local society)</td>
<td></td>
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<tr>
<td></td>
<td>6. Distribution of teaching aids &amp; material</td>
<td>5. Improved skill sets (Range of skills covered, No of skills improved per student)</td>
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<table>
<thead>
<tr>
<th>Instruction</th>
<th>Management</th>
<th>Technology</th>
<th>Vol. 6, No. 2, April 2015</th>
</tr>
</thead>
</table>

134
The research explores the current monitoring practices in public sector, proposed monitoring based on RBM framework & KPIs. There is ample room to extend the research by actually finding the measurement of the identified indicators in terms of baselines & desired targets for community school projects of public sector. The validation of RBM framework can also be done by applying the framework for monitoring of the project and then determining the results.

ABBREVIATIONS
BECS: Basic Education Community Schools
ECNEC: Executive Committee for National Economic Council
EVM: Earned Value Management
JICA: Japan International Cooperation Agency
KPI: Key Performance Indicators
MDGs: Millennium Development Goals
MTEF: Medium Term Expenditure Framework
PC-1: Planning Commission Performae-1
PMES: Project Monitoring & Evaluation Software
PSDP: Public Sector Development Program
RBM: Result Based Management
UPE: Universal Primary Education

REFERENCES

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Ali Ahsan specializes in field of management of ICT based organizations in Pakistan. Essentially a core software engineer, Dr. Ahsan earned his master’s and doctorate degrees in the field of engineering management with focus on software engineering and related fields, technology management, TQM, productivity enhancement, strategic management, project/product management, industrial psychology, HRM, OD and management and all in relation to ICT industry. Dr. Ahsan has extensive managerial and technical experience. Over the years; Dr. Ahsan had the opportunity of working for both the academia and the industry. He had the opportunity of enjoying core strategic positions within ICT sector of Pakistan. He is one of the few researchers who are continually working for the betterment of ICT sector of Pakistan, with specific focus on soft issues. Dr. Ahsan is a consultant to many ICT based organizations within and outside Pakistan. He has research publication in various national and international conferences and journals. He is member of IEEE (USA), SEI (USA) and IIBS (USA). Dr. Ahsan has implemented and completed major ICT based projects in Pakistan. His major contributions include his Doctorate thesis that focuses on revitalization of ICT sector of Pakistan using OD as an improvement technique, PTCL Billing and Customer Care project, CMMI certification of various ICT based organizations, human resource development for ICT sector of Pakistan, completion of some critical ICT based projects and various research outputs addressing applied issues concerning ICT. Dr. Ahsan is a gold medalist and has represented Pakistan and many ICT organizations at many national and international forums. Other than his consultancy work with various government and private institutions, Dr. Ahsan is currently the CEO of The WISSEN GROUP (www.wissengroup.com), an associate professor and the chairman at CASE (www.case.edu.pk). Dr. Ahsan is also an HEC approved PHD supervisor.