

# 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

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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 Management By 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. Results 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:

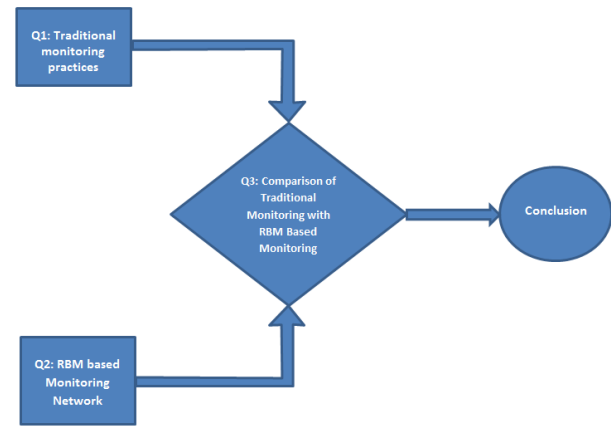


Fig. 1. Research model.

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 frame work 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 SECYOR PROJECTS IN PAKISTAN

S.No	Input	Output	Outcome		Targeted Impact
			Baseline Indicator	Targets after Completion of Project	
1					
2					

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*

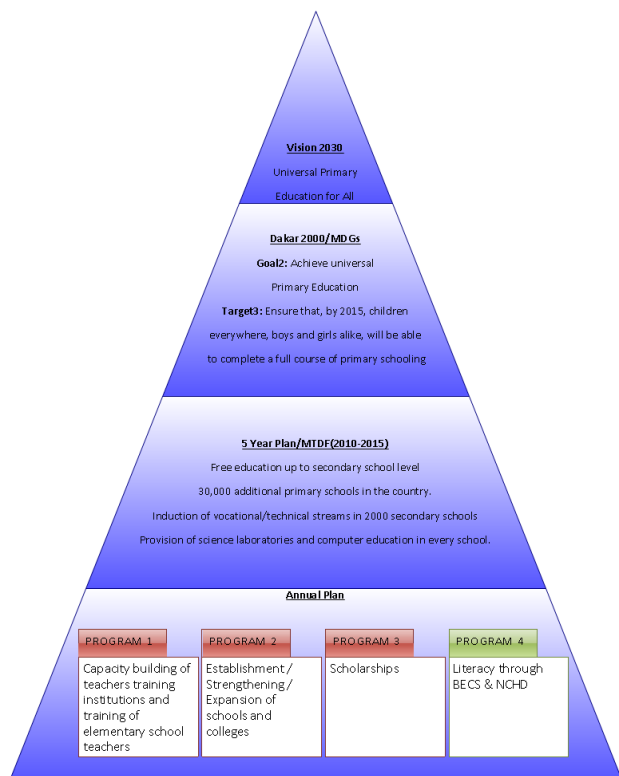


Fig. 2. Relationship of BECS project to the national education goals / targets & vision of Pakistan.

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.



Fig. 3. Description of RBM framework.

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.

TABLE II: MAPPING DATA ON RBM FRAME WORK FOR THE PROJECT

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

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 with baselines & targets, the monitoring techniques of public sector can be shifted towards RBM Framework Monitoring techniques

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:

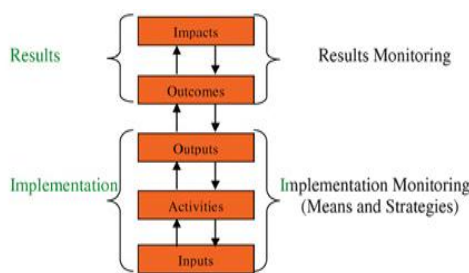


Fig. 4. Traditional monitoring practices vs RBM based monitoring practices.

Summarizing the analysis retrieved from the tradition

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

TABLE IV: COMPARISON OF TRADITIONAL APPROACH & RESULT BASED MONITORING APPROACH

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

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 III: IDENTIFYING KPIS FOR THE PROJECT DATA MAPPED ON RBM FRAME WORK FOR THE PROJECT

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

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 frame work 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

- [1] P. F. Drucker, *The Practice of Management: A Study of the Most Important Function in American Society*, Butterworth-Heinemann, 1954.
- [2] M. A. Sheirer, "Designing and using process evaluation," *Handbook of Practical Program Evaluation*, John Wiley & Sons, 1996, pp. 40-68.
- [3] H. P. Hatry, *Performance Measurement: Getting Results*, Washington, D.C.: The Urban Institute, 1999.
- [4] J. Z. Kusek and R. C. Rist, *Ten Steps to a Results-Based Monitoring and Evaluation system*, Washington, DC: The World Bank, 2004.
- [5] S. P. Sharma, "Nepal: Toward results-based management," *Emerging Good Practices in Managing for Development Results*, 2006.
- [6] *Results-Based Management Handbook*, 2010, UNDG WGPI.
- [7] S. Khawaja, *Good Governance and Result Based Monitoring*, Islamabad, Pakistan: Poorab Academy, 2011.



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