



Available Online at ESci Journals
International Journal of Agricultural Extension

ISSN: 2311-6110 (Online), 2311-8547 (Print)
<http://www.escijournals.net/IJAE>

MONITORING AND EVALUATION

Ahmed J. Essa

Baluchistan Agriculture Project, Food and Agriculture Organization of the United Nations.

ABSTRACT

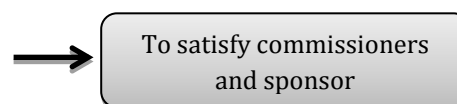
The US-AID funded Baluchistan Agriculture Project has been designed to improving food security and nutrition, and promoting commercialization for overall improvement of socio economic condition of small producers. This is achieved through a staggering range of development interventions involving land and water resources and their efficient use; improving crop and livestock productivity; marketing and post-harvest management; and capacity building. Most of the activities involve attitudinal change towards a host of best practices. Attitudinal changes occur slowly and present challenges of measurement within the time frame of the project. Further, the benefits of the project's interventions accrue to direct and indirect participants. A number of M&E tools are used to monitor the progress and measure project's direct and indirect impacts.

Keywords: Monitoring, Evaluation, BAP

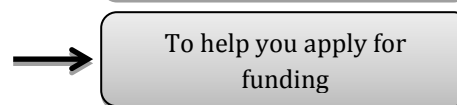
IMPORTANCE OF MONITORING AND EVALUATION

There are a number of reasons why it is important to evaluate a project. Evidence about what project has achieved, what works and what doesn't work is useful for taking the project forward, demonstrating effectiveness and satisfying sponsors, Government and community. Figure 1 expresses these themes.

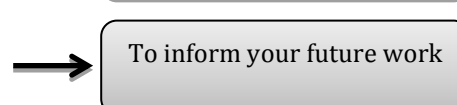
"To demonstrate that their money is being used successfully, to fulfill obligations about evaluation that you may have agreed; to show them that you are worth working with and investing further in".



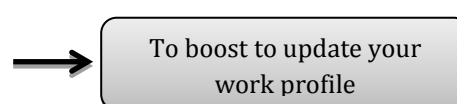
"The more evidence you have about the impact of your project, the easier you may find it when applying for funding. Can you demonstrate that you are worth investing in? Can you demonstrate that your work is effective?"



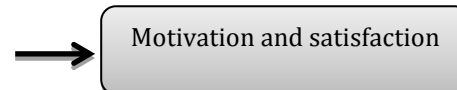
"Evaluation enables you to see what parts of your projects are working, and what parts perhaps aren't so successful. Are you on target to meeting your aims and objectives? Do you need to make any changes to your methods or focus?"



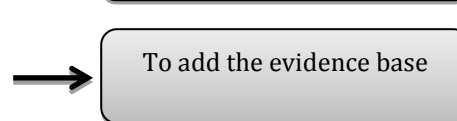
"If you can demonstrate that your work is having a positive impact, it will help you promote your project or group and improve your reputation locally. This can have knock on effects on participation, support and funding."



"Motivate yourself and other personnel working on your project. Demonstrating that your work is having a positive impact can increase your enthusiasm and help maintain your interest and drive".



"Allowing others to see the impact of your work may be very useful to other groups or organizations carrying out similar projects. Knowing what works and what does not work is likely to be of great value to those starting out and planning their work."



WHAT IS MONITORING AND EVALUATION?

Monitoring is a continuing function that uses systematic

collection of data on specific indicators to provide the management and the main stakeholders of an ongoing

* Corresponding Author Email: ahmed.essa@fao.org © 2014 ESci Journals Publishing. All rights reserved.

intervention with indications of the extent of achievement of objectives and progress in the use of allocated funds. An indicator is a quantitative or qualitative variable that allows changes produced by an intervention relative to what was planned to be measured. It provides a reasonably simple and reliable basis for assessing achievement, change or performance. An indicator is preferably numerical and can be measured over time to show changes. Indicators, which are determined during the planning phase of a project, usually have the following components:

- a. What is to be measured? (What is going to change? e.g., increase in area cultivated)
- b. Unit of measurement to be used (to describe the change, e.g., percentage)
- c. Pre-programme status (sometimes called the "baseline", e.g., 40 per cent in 2007)
- d. Size, magnitude or dimension of intended change (e.g., 75 per cent in 2008)

- e. Quality or standard of the change to be achieved (e.g., more area under high value crops)
- f. Target populations(s) (e.g., small farmers vulnerable to food deficit in eastern Baluchistan)
- g. Time frame (e.g., July 2012 to December 2015)

Evaluation is the systematic and objective assessment of ongoing and/or completed projects, programmes or policies, in respect of their:

- Design
- Implementation
- Results

The criteria applied in the evaluation are:

- Objectives
- Efficiency
- Effectiveness
- Impact
- Sustainability

Evaluation emphasizes the assessment of outcomes and impact rather than the delivery of outputs.

Distinguishing between monitoring and evaluation.

	Monitoring	Evaluation
Timing	Monitoring is a continuing function that takes place throughout the implementation of a project/programme.	Evaluation assesses the entire project cycle.
Depth and purpose	Monitoring is a regular part of project or programme management. It focuses on the implementation of the project, comparing what is delivered with what was planned.	Evaluation reviews the achievements of the project/programme and considers whether the plan was the best one to achieve the outcomes. Evaluation measures achievements, as well as positive/negative and intended/unintended effects. Evaluation looks for lessons to be learned from both success and lack of success, and also looks for best practices which can be applied elsewhere.
Who conducts it	Monitoring is usually done by people directly involved in implementing the project/programme.	Evaluation is best conducted by an independent outsider who can be impartial in consulting with project/programme staff.
Relationship b/w Monitoring & Evaluation	Data collected and insights gained in the course of monitoring are then fed into and used by the evaluation process.	

BAP MONITORING AND EVALUATION SYSTEM

Project Scope: Baluchistan is the largest but least developed province of Pakistan. Its north-eastern districts predominantly represent small land holdings. Rural livelihoods are largely dependent on crop and livestock production. The problems and issues faced by marginal and smallholder farmers can be summarized as follows:

- Crop and livestock productivity levels are generally low and partial or complete crop failures are common under rainfed conditions.
- Limited access to water supplies, inefficient use of the water that is available, and low levels of on-farm water management – compounded by the ever increasing effects of climate change and variability.

- Poorly managed, over-grazed and degraded rangelands resulting in low levels of livestock production, increasing soil erosion and reduced water storage.
- Weak research and extension systems with very limited outreach capacity mean that farmers have very little, if any, access to knowledge and information on new and improved technologies, practices and opportunities for increasing crop and livestock productivity.
- A significant proportion of high-value horticultural and animal produce never reaches prime markets because of inadequate knowledge of post-harvest requirements and weak and underdeveloped value chains.
- Off-farm employment opportunities in rural areas are often limited and seasonal migration, particularly of male household members, is common.
- Most poor rural households are food deficit, and devote as much as 80 percent of household expenditure on food items, but at the same time, there is considerable scope to increase household incomes by raising agricultural production.
- Continuing increases in food prices to unprecedented levels create both risks and opportunities for resource poor smallholder farmers.

Taking cognizance of the above, the Food and Agriculture Organization of the United Nations (FAO)

implemented the United States Agency for International Development (USAID)-funded “Food Security and Poverty Alleviation in Arid Agriculture Baluchistan (FSPAB) – Pilot Project Phase” in three districts of north-eastern Baluchistan Province (i.e. Killa Saifullah, Loralai and Mastung) between 2004 and 2008. This Pilot Phase was followed by a three-year (extended to four-years) development response of tested and validated approaches in the same three districts, with the addition of the neighboring districts of Quetta and Zhob, under the USAID-funded “United States Assistance to Agricultural Development in Baluchistan Border Areas (USABBA) Project”. The Baluchistan Agriculture Project (BAP represents an extension to the USABBA Project – expanding project activities to three further districts of north-eastern Baluchistan (i.e. Musakhel, Pishin and Sherani) with an additional timeframe of three to four years (i.e. 2012 to 2015). However, BAP places greater emphasis on capacity building, technological innovation and management and value chain development of new and improved production and marketing practices that have been researched and developed under the FSPAB Pilot Project Phase and USABBA Project. The project by design has a Monitoring and Evaluation component with the purpose of supporting smooth implementation and ensuring accomplishment of project goals.

BAP M & E System: M & E system is an integral component of the project cycle and has to be duly reflected in the Project Cycle as is illustrated through diagram 1:

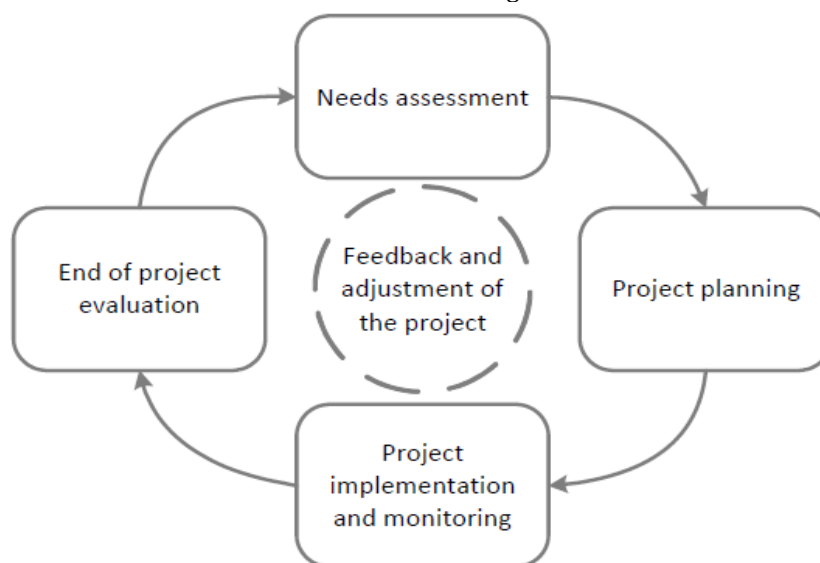


Figure 1. The Project Cycle.

BAP M & E system was part of the project cycle and was duly reflected in the project document. Project monitoring, reporting and evaluation is conducted in accordance with established procedures of FAO, the Federal Government of Pakistan and USAID. A Results Framework Matrix developed at project formulation stage provides performance and impact indicators for project implementation along with their corresponding means of verification. These impact indicators form the basis on which the Project's monitoring, reporting and evaluation system operates.

The Projects' M&E system would be run on a daily basis by the two national M&E Specialists. based in PCU, Quetta and works under the direct supervision of the FAO International Project Manager. An international M&E Specialist provides extensive oversight and technical backstopping. The Implementation Monitoring and Evaluation Division of the FAO Headquarters' Office of Evaluation provide the necessary technical supervision.

BAP's Results Framework Matrix includes a series of indicators against which progress of project interventions is measured. In monitoring and reporting on the project progress to the Ministry of NFS&R, the Provincial Government of Baluchistan, FAO and USAID, the FAO's International Project Manager Value Chain Development and Marketing Adviser and national Assistant Project Manager are assisted by international and national specialists in project operations, M&E and communications throughout the project period. Periodic monitoring of progress and achievements of project implementation at district levels are undertaken against the objectively verifiable indicator defined in the Results Framework Matrix. Monitoring of risks that might affect project delivery would also be undertaken.

The PCU is responsible for tracking, monitoring and evaluating project implementation. In this regard, PCU, with the assistance of the Provincial Government of Baluchistan's DoAC, DoLDD and FWD, prepares and submits annual project implementation plans and budgets. These provide a basis for PCU to carry out monitoring of the Project's implementation performance. FAO's International Project Manager and national Assistant Project Manager, assisted by the Project's M&E Specialist, monitors physical progress of project activities undertaken directly by FAO and indirectly by their respective implementing partners and agricultural support service providers. FAO's

International Project Manager, in turn, keeps the Ministry of NFS&R, the Provincial Government of Baluchistan, and the FAO Representation in Pakistan, FAO/RAP and FAO Headquarters continuously informed about activities and problems and issues encountered during project implementation through the national Programme Co-ordinator and FAO's regular reporting mechanisms.

M&E TOOLS AND OUTCOME

The Project interventions are guided by community needs. The main areas of focus include water resource development and efficient use, improved crop and livestock productivity, and improved marketing and post-harvest management. The impact or output is measured using both quantitative and qualitative research methods like questionnaires & surveys, reflective diaries, interviews, focus group discussions, case studies, visual evidence, etc. The information is reported in the form of bi-weekly reports, quarterly reports, annual reports, periodical technical reports, activity completion reports, special reports, etc. Similarly, a number of indicators are used to quantify financial/economic impact which mainly includes gross value of agricultural product (GVAP) and increased sales. Some of the outputs are discussed below:

Water is a scarce commodity in north-east Baluchistan. Project interventions with respect to water included rain water harvesting, rehabilitation of karezes, reduction in conveyance losses and improved water use efficiency. This resulted in enhanced production through expansion in area and improved yields and in turn incremental Gross Value of Agricultural Products (GVAP) over the pre intervention levels as follows (Table 1).

Increased crop productivity has been achieved through distribution of improved seed & establishment of demonstration orchards. Incremental GVAP associated with crop production interventions is estimated at Rs.1622.72 million excluding orchards (non-bearing), fruit plant nurseries, demonstration plots and equipment (seed drills, seed grading & cleaning machines and household silos). Details are presented in Table 2.

Livestock interventions included rural poultry, solar incubators, Sheep fattening, *Eidmandis* and healthcare. Incremental GVAP accruing to these interventions is given in Table 3.

In addition to above Project organized four livestock mandis with an exit strategy to completely handover

operation and management to the communities. As a result one mundi has already been taken over by the community in district KillaSaifullah. Others would

follow. Details of business transacted are presented in Table 4.

Table 1. Gross Value of Agricultural Products of Water Sub-sector.

Sr.	Type of Intervention	Number	Area (ha)	Per Unit GVAP (Rs)	Total GVAP (Rs)
1	Land levelling & dykes construction	208	2,340.08	64,500	150,935,223
2	Karez rehabilitation	23	115	75,400	8,671,000
3	Pipeline (irrigation)	7	140	75,400	10,556,000
4	Water diversion structures	65	130	75,400	9,802,000
5	Water storage reservoirs	17	170	75,400	12,818,000
6	Capital value increase: land levelling & dykes		2,304.08	24,000	55,297,920
7	Capital value increase: lined storage tanks, pipeline, karez rehabilitation etc		555	66,000	36,630,000
Total GVAP water sub-sector					133,774,920

Table 2. Gross Value of Agricultural Products of Crops Sub-sector.

Year	Type of Intervention	Quantity	Area (ha)	GVAP/ha (Rs)	Total GVAP (Rs)
Year 1	Improved seed distribution*	221 MT	2210	87,500	193,375,000
Year 2	Seed reused (90%) productivity efficiency	221 MT	2210	78,750	174,037,500
	New Seed	483 MT	3951	87,500	345,712,500
Year 3	Seed reused (80%) productivity efficiency	221 MT	2210	70,000	154,700,000
	Seed reused (90%) productivity efficiency	483 MT	3951	78,750	311,141,250
	New Seed	74	603	87,500	52,762,500
Year 4	Seed reused (80%) productivity efficiency	483 MT	3951	70,000	276,570,000
	Seed reused (90%) productivity efficiency	74 MT	603	78,750	47,486,250
	New Seed	118	765	87,500	66,937,500
Total GVAP crops sub-sector					1,622,722,500

*Wheat, barley, cumin, alfalfa, lentil & maize.

Table 3: Gross Value of Agricultural Products of Livestock Sub-sector.

Sr.	Type of Intervention	Number	Quantity	GVAP/Unit (Rs)	Total GVAP (Mil. Rs)
1	Rural poultry (birds)	8,846		635 ⁽¹⁾	3,317,250
2	Solar incubators	20		423,000 ⁽²⁾	8,460,000
3	Supplemental animal feed (animals fed)	3,256	4,449 bags (50 kg each)	3,443	11,207,152
4	Animals treated	7,320		2,422	17,729,040
Total GVAP Livestock sub-sector (excluding <i>Eidmandis</i>)					40,713,442

⁽¹⁾Eggs Rs.260 + meat Rs.375 = Rs.635 per bird

⁽²⁾Each batch of 159 eggs generates 75 layers (50%) with a GVAP Rs.635 per bird and 75 roosters (50%) with a GVAP of Rs.70 per bird, thus a total GVAP of Rs.52,875 per batch. Assuming 8 batches per year (six weeks per batch), total potential GVAP per incubator will be Rs.423,000.

Project has organized 32 Farmer Making Collectives to undertake collective marketing by bulking their produce and thus have the benefits of economies of scale both in the form of improved bargaining strength and reduced costs. A comparison of sale proceeds of selected FMCs revealed that FMC farmers made additional sales

ranging from a minimum of 12 % to a maximum 47 % both by improving prices and reducing costs as is evident from the data of Quetta District (Table 5).

Project is designed on participatory development mode. The beneficiary communities are obliged to share cost mostly on 50:50 basis. The monitoring revealed that

beneficiary communities contributed PKR 110 million in various development interventions which shows the greater ownership of the project by the people of Baluchistan while 12,900 rural households and 103,000 people directly benefitted, and helps secure sustainability of project interventions. In addition, Table 4. Business Transacted by Livestock EidMandis.

13,730 farmers (7,052 women) were trained, 47 new/improved crop & livestock technologies & management practices transferred, 38 value chain analyses conducted and 16 partner organizations supported.

Year	Districts	Sale in PKR					
		Sheep Nos.	Sheep PKR	Goat Nos.	Goat PKR	Large Animal Nos.	Large Animals PKR
2012	KillaSaifullah, Mastung, Loralai, Zhob	15,394	183,092,388	10,263	90,891,694	1,867	49,312,138
2011	KillaSaifullah, Mastung, Loralai, Zhob	32,800	381,710,000	20,566	189,721,350	1,317	53,914,688
2010	KillaSaifullah, Mastung, Loralai, Zhob	26,928	269,280,000	7,837	62,696,000	1,053	12,150,000
2009	KillaSaifullah, Mastung, Loralai	6,315	86,279,375	2,706	24,651,250	451	12,325,625
Total Sale		81,437	920,361,763	41,372	367,960,294	4,688	127,702,450
Increase in Income		162,873,400		62,058,450		46,880,500	
Cumulative Increase in Income		271,812,350 ⁽¹⁾					

⁽¹⁾Average income per Sheep @ Rs.2000, Goat @ Rs.1500, Large Animal @ Rs.10,000; Livestock EidMandis Survey Report, Livestock and Dairy Development Department, Government of Baluchistan.

Table 5: Financial Gains of FMC Farmers over Non FMC Farmers

Commodity	FMC/Non FMC	Net Sales per Unit	FMC Financial Gains
Quetta District			
Apple	FMC	360	+ 34.3%
	Non FMC	268	
Apricot	FMC	425	+ 11.8%
	Non FMC	380	
Grapes	FMC	540	+ 35.0%
	Non FMC	400	
Tomato	FMC	486	+47.3%
	Non FMC	330	
Onion	FMC	845	+ 26.1%
	Non FMC	670	

Source: Project Computations.

CONCLUSION

Monitoring and evaluation is an integral part of a Project design. It is imperative to ensure smooth implementation as well as accomplishment of project objectives. Therefore, an effective M & E system has been designed and duly reflected in the Project Document of Balochistan Agriculture Project which aims at improving socio-economic conditions of the rural poor, small farmers in particular, by improving crop and livestock

productivity and sales. The most significant outcome was project extension over two successive phases with continued funding from USAID, which attributed to M & E outcome clearly demonstrating that FAO was an organization worth working with and BAP a project worth investing further in. GVAP on account of project interventions in water development and its efficient use, a critical element for sustainable agriculture in Balochistan, amounted to Rs.133.775 million, crop

productivity improvement Rs.1.623 billion, livestock productivity improvement Rs.40.713 million and organization of livestock *Eid Mandis* Rs. 271.812 million. Similarly, improved marketing and post-harvest management through small farmer groups resulted into additional sales ranging from 12 to 47 per cent. Participation in the form of cost sharing by beneficiary community secured ownership and sustainability of development interventions. M & E results further revealed that 12,900 rural households and 103,000 people directly benefitted while 13,730 farmers, including 7,052 women, were trained; 47 new/improved crop & livestock technologies & management practices transferred, 38 value chain analyses conducted and 16 partner organizations supported.

The critical lesson that we need to learn is that, with the change in the paradigm the farm activities have changed, improved seed varieties are being introduced, modern agriculture practices e.g. High Efficiency Irrigation Systems Introduced and we expect farmers to change their agriculture practices by adopting modern technology, nevertheless, the Monitoring & Evaluation mechanism are still focusing on short-sited results. As the farmers are expected to change, likewise, the Monitoring & Evaluation has to evolve itself to cater to the people side of the story rather than looking for the indicators and results only. What does this actually mean for a poor farming family to have had double yield out of the crop sown? How did this have an impact on the daily lives of the female and children? Did it result not only in

the food security but also the cash from surplus produce induce the family to put their children through the formal schooling system? Has the farm engagement resulted in saving the young chaps from an unwanted activity across the border? These are the major questions that are to be looked upon to be able to measure the real success of a field project such as USAID BAP.

LITERATURE CITED

- FAO (2013): Performance Evaluation of Farmers Marketing Collectives, Report submitted to Balochistan Agriculture Project (FAO/USAID), Chip Training & Consulting Pvt. Ltd, Islamabad, November 2013.
- FAO (2013), Balochistan Agriculture Project, Reports on Gross Value of Agricultural Products, Quetta, Pakistan.
- Jeoff Bates, Lisa Jones (2012), Monitoring and evaluation guide for community projects, Centre for Public Health, Faculty of Health and Applied Social Sciences, Liverpool John Moores University, Liverpool, United Kingdom, November 2012.
- Douglas Krieger (2010), Mission Report, Mission 20 October to 28 November 2010, Monitoring and Evaluation Consultant, Balochistan Agriculture Project, Quetta – Pakistan, November 2010.
- FAO, USAID (2009), Project Document, Balochistan Agriculture Project, GCP/PAK/113/USA (B), Quetta, Pakistan, January 2009.