M&E Research Plan

Moving from Design & Monitoring Framework to Research Questions

These notes are based on a discussion I had with two of my students who wanted to become Project Monitoring & Evaluation specialists.

Inevitably, the two buzz-words or phrases that described M&E for them were, "Sampling" and "Questionnaire" (-based data collection).

There is great danger in this understanding, both for the researchers and their client who is expecting a research-based answer to a question or several questions.

1. Introduction

The place to start is the Research Plan which is an overview of the research project.

It must list the important research questions and articulate the results expected from the research.

I have had the good fortune to work with several ADB-financed projects all over India and was introduced to "PAM" or Project Administration Manual, which team members humorously referred to as the "Holy Bible", which had "all the answers".

In addition to what is expected of the project, the PAM also has a section on anti-corruption, giving email id: at integrity@adb.org or anticorruption@adb.org. In addition, there were fax, telephone and snail mail address at 6 ADB Avenue Mandaluyong City; 1550 Metro Manila, Philippines.

If the agency you work for has not given you a ToR with Design and Monitoring Framework[1] (DMF), you should make one after interviewing the Project Team Leader and mail it to the project authority so that there are no false or unreasonable expectations.

A typical PAM might have a Design and Monitoring Framework (DMF) containing:

1.1. Guiding Principles

The ADB adopted Poverty Reduction as its "Overarching Goal" in 1999. The three major Guiding Principles are:

1.1.1. Poverty Reduction

The Poverty Reduction Strategy (PRS), approved in November 1999, provided a strategic framework comprising three pillars—pro-poor sustainable economic growth, social development, and good governance.

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[1] EU Calls it "Results Framework"

1.1.2. Gender

The Project is designed to have a positive impact on women, resulting from better service delivery systems in water supply; sewerage and sanitation facilities; and solid waste management, at the city level and in low income/below poverty line households.

1.1.3. Participation

The consultation program conducted with all Affected Persons (Aps). The NGOs who will assist project implementation will ensure each AP is consulted further to inform about the outcome of the decision-making process, and confirm how their views were incorporated.

Essentially this is the "Stakeholder Analysis" of LFA, which groups stakeholders into:

a) Primary Stakeholders

b) Secondary Stakeholders

c) External Stakeholders

A well conducted Stakeholder Analysis provides tips for relevant Research Questions.

2. The Design & Monitoring Framework

Typically, the ADB Design and Monitoring Framework (DMF) is based on the Logical Framework first devised by USAID and then popularised by GTZ and NORAD to improve the effectiveness of Development Aid.

The typical framework is a 4 x 4 matrix which looks like the table below.

DESIGN SUMMARY	PROJECT TARGETS	PROJECT MONITORING MECHANISMS	RISKS/ASSUMPTIONS

The elements of this matrix are as shown in the table below:

NARRATIVE SUMMARY OF OBJECTIVES AND ACTIVITIES	OBJECTIVELY VERIFIABLE INDICATORS (OVI)	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS AND EXTERNAL FACTORS
1. Impact/Goal			
2. Purpose/Outcome			
3. Project Outputs			
4. Activities	← INPUTS		

The rows list the hierarchy of objectives, from the highest level of "Impact/Goal" to the lowest level of "Activities.

At one of my workshops, the participants from an NGO dealing with Forest Preservation wanted to understand the concept using Indian words. They finally settled on *TARKA KARYA PRANALI*. The idea of "Tarka" reflects the group's understanding of Argumentation Theory in our own "Tarka Shastra".

We also researched the terms used by the major bilateral and multilateral donors of the time (circa 1990's).

CONCEPT	DFID	NORAD	EU	SIDA	CIDA	Other
Lakshya	Goal	Development Objective	Overall Objective	Development Objective	Impact	Accomplishment
Uddheshya	Purpose	Immediate Objective	Project Purpose	Project Objective	Outcome	Achievement
Parinam or Phal	Project Output	Project Output	Results	Results	Output	Aim
Karyakram	Activities	Activities	Activities	Activities	Activities	Activities

With this understanding, we are ready to look at a full-fledged LogFrame created for a large ADB investment for Urban Infrastructure: Water Supply, Sewage & Sanitation Systems, Stormwater Drains, Solid Waste Management, and Roads and Transportation.

The framework below with only Impact and Outcome data has been edited to convey its intent without all the details:

Objectives Hierarchy Level Design Summary	Results Expected Performance Targets / Indicators	Means of Verification Data Sources / Reporting Mechanisms
A. Impact (Goal) to Super Goal {By end of Project plus 3 years (2014)}	1) Economic growth rates in secondary and tertiary sectors increased.[2]	• GoX Economic Review
	2) Improved Public Health (especially reduction in highly infectious diseases like *Hantavirus, Leptospirosis[3], and Monkeypox virus, spread through improper drainage and stagnant water.)*	• Census 2011
	3) Urban poverty reduced, using P_0, P_1 and P_2 estimates	• SPEM reports
	i. Urban residents' perceptions on the quality	• Baseline Survey

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[2] For this indicator to be useful it is necessary to study the cause-effect dynamics and filter out for effects of other policies and investments to establish attribution.

[3] *Leptospirosis* is caused by contact with rat urine, notably in godowns and storage facilities for food grains

B. Outcome (Purpose) to Impact (Goal) Level {By end of Project (2011)}		and value of urban services improved	
	ii.	Health conditions of urban residents, including the poor and other disadvantaged people improved	• Public Health Experts in the 5 Project Cities. • Health data Time Series if accessible and available (Unlikely)
	iii.	Reduction in waterborne infectious diseases and viral epidemics	• Public Health Data from Govt. Hospitals
	iv.	Property value in the project areas increased	• Real Estate Agents in the Project Cities
	v.	Incidence of floods and value of damages by floods decreased	• Subject to availability of data
	vi.	Reduction in nocturnal criminal activity due to street lights and police patrolling	• Police Records

If the Questionnaire does not take into account these higher-level objectives (Goals and Outcomes) the BME contribution will be totally inadequate.

2.1. A Toy Problem

I present below a toy problem and its conversion to a Logical Framework. Getting the question right is the main task. It is of interest that this system of opposing problem and truth is the basis of the philosophical method of Dialectics.

"Dialect and dialectic come from dialecktos ("conversation" or "dialect") and ultimately back to the Greek word dialegesthai, meaning 'to converse.'
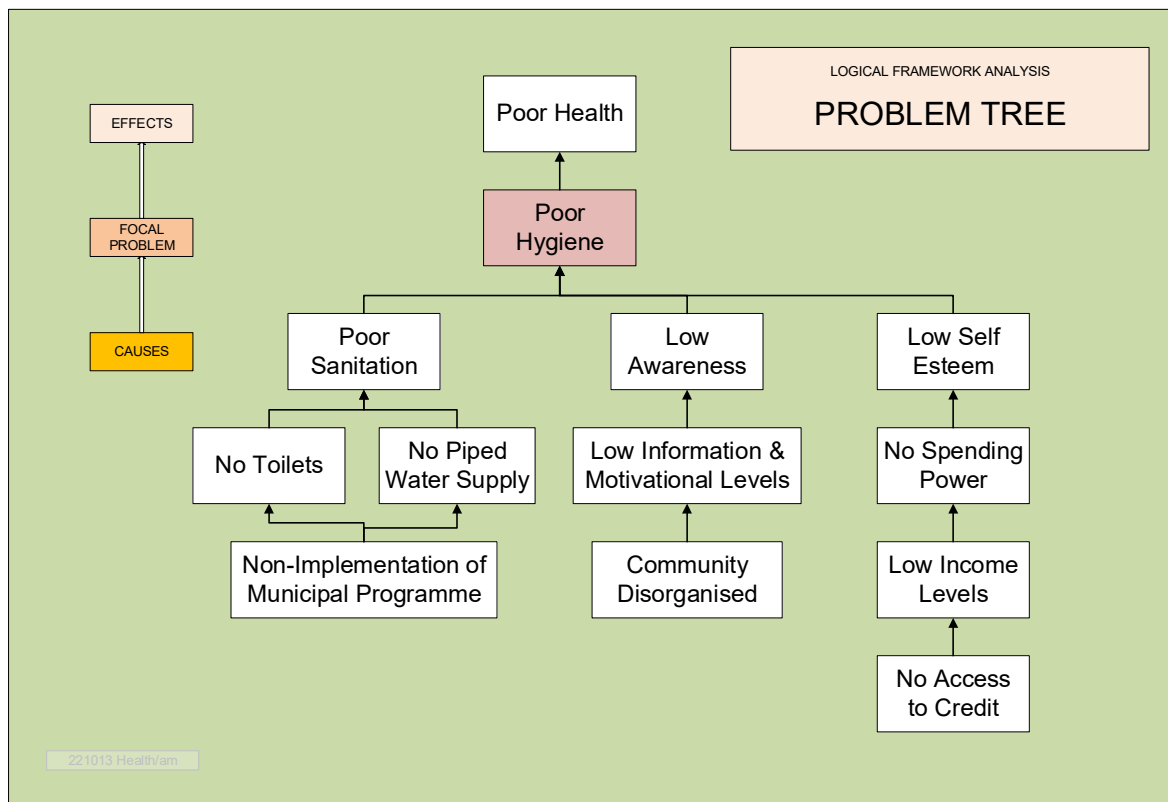
It is a method of examining contradictions with the purpose of stating a problem in negative terms.

The example below is from a large, neglected slum on the outskirts of Bangalore during the KUIDP (1999-2004). It is tempting to say that the problem is, "No Money"… in that case, if money were the answer, would distributing sums of money solve the problem? Obviously not…

Is Poor Health the Problem? It appears to be a RESULT… so what is the Cause? This is how the facilitation proceeds.

Poor Hygiene (open defecation, illnesses due to proliferation of bacteria and viruses in puddles of stagnant water), absence of drinking water close to or in the house.
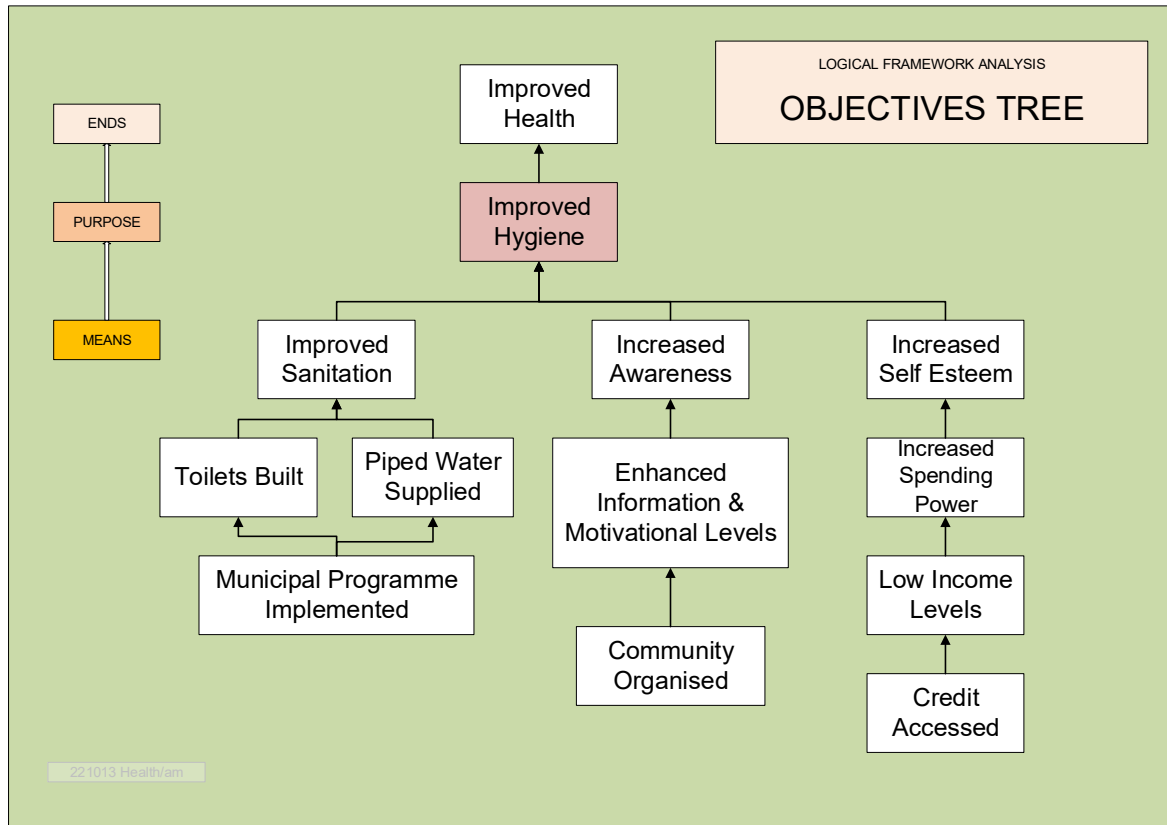
What are the causes of Poor Hygiene? It is poor sanitation, low awareness levels and low self-esteem.

The poor sanitation can be reversed by implementing a Municipal Programme which has been on the cards for a few years. The "Community" in the slum is made up of arrivals from different regions, speaking different dialects of Tamil, Telugu and Kannada. We were able to locate NGOs who were prepared to work to organise the community. ADB usually has "Grant" funds for this type of work. It is just a matter of accessing such funds. Local industries also might be able to support such activity.

2.2. Objectives Tree

The results of the Problem Tree are reversed to give us an Objective Tree in which the negative statements are converted to positive statements as in the chart below:

The results of the Problem Tree and Objectives Tree are now fitted into the 4 x 4 Matrix to give us the "Logical Framework".

This is the project plan of converting negative situations to positive ones. We are now ready to prepare the Project Planning Matrix which gives us a guide of what to do (Hierarch of Objectives), how will we know we have achieved an objective (Objectively Verifiable Indicator) and what are the risks or important assumptions on which we are assuming we can convert a problem statement to a statement of achievement.

2.3. Project Planning Matrix

The Project Planning Matrix for this example is displayed below:

Narrative Summary of Objectives	Objectively Verifiable Indicator	Means of Verification	Important Assumptions & External Factors
GOAL To improve the health of xxx Community	1. Reduced Morbidity 2. Increased Earning	1. Evaluation	1. There is no political interference
PURPOSE To improve the hygiene of the Community	1. Reduced Sick Days 2. Self-Esteem↑	1. Sampling study 2. PRA Process Monitoring	1. There is no backlash from the underworld
OUTPUTS • Municipal Program Implemented	• New iInfrastructure in use: Water Supply, Toilets		1. Municipality does not delay works
• Community Organised	• Registered Sangha • Bank Account Opened		
• Increased Spending	• Loan Programme in operation	• Increased Spending Power	
ACTIVITIES	(List out activities in logical order to achieve each Output)		

3. Community Organisation

Once the community is organised with regular meetings, an attendance register and guided discussions, it is ready to open a bank account. With a bank account, the community starts a Savings Programme on a weekly basis, with group pressure supporting the money flow. Once an agreed target amount has been saved, the group can start lending to members who have business ideas or already run some small business (making flower garlands, making lunchtime snacks for working men and women.) The NGO might also have someone trained to run a nursery school or "*Balvadi*" which provides a safe place for the children while mothers go to work.

The organisation of the community provides opportunities for exposure to news of what is happening in the state, the country and the world. This exposure takes care of the problem of low awareness.

We all know how having money in our pockets or in the bank buoys our mood… this is a logical consequence and was used as part of the plan. This was particularly difficult because we came up against the underworld and political mafia.

M&E relies on counting and measuring to understand whether a situation has changed as a result of organised project activity. So what measure will we use to assess "Self-Esteem"? Thanks to some discussions with an erudite teacher, Prof. Gopal Valecha, we settled on "The Rosenberg Self-Esteem Scale"… We first had to collect community concept of various factors which affect self-esteem.

4. Research Questions

We now ask Research Questions based on the Objective at given level of the hierarchy of objectives. Indicators, which were determined on the LogFrame provide sources for answers to Research Questions.

APPENDIX-B

RESEARCH PLAN – BME for UWSEIP, 2006-2009

The table below indicates how information will be collected to make assessments of achievement of the objectives of the UWSEIP at various levels.

S.No.	Ref.	Objective	Research Question	Indicator	Methodology
IMPACT LEVEL					
1	3	Better quality of life.	AS A RESULT OF PROJECT INTERVENTIONS: a) Is there greater satisfaction with city life among citizens?	• Increased Average Satisfaction score value in Final Household Survey over Baseline, testing for Sampling Error.	1) Self Report, Household Questionnaire, Before During and After sampling
				• Public Opinion Assessment	2) Depth Interviews with MIG & HIG Senior Citizens 3) Group Discussions with Resident Welfare Associations (RWAs) 4) Participatory Research with Urban Poor Groups 5) Media (Opinion Leaders) Reports (Newspaper Clips)
			b) Is there an increase in citizen wealth through increased property value?	• Increased Real Estate and Rental Values, particularly in low income areas (Special attention to be paid to negative impacts such as Land Mafia activities)	6) Tracking Real Estate and Rental Values in selected areas, with leading Real Estate Agencies in each city
			c) Is there reduced conflict on account of City Water Supply?	• Reduced Average score value in Final Household Survey over Baseline, among Standpost users.	7) Self Report, Household Questionnaire, Before During and After sampling
				• Reduced instances of conflict in other areas	8) Self Report, Household Questionnaire, Before During and After sampling 9) Interviews with CDEs in each project city in each project city 10) Group Discussions with RWAs

S.No.	Ref.	Objective	Research Question	Indicator	Methodology
			d) Are citizens, especially Urban Poor and women in particular able to save time spent on arduous labour because of improved access to basic amenities?	• Reduced Average score value of time taken to collect water in Final Household Survey over Baseline, among Standpost users.	11) Self Report, Household Questionnaire, Before During and After sampling
				• Qualitative Assessment	12) Participatory Research with Urban Poor Groups
					13) Interviews with CDEs in each project city in each project city
					14) Interviews with DFID Project Staff in each project city in each project city
			e) Is there a significant improvement in the physical and environmental condition of citizen habitat (especially of Urban Poor?)	• Visual Assessment	15) Before During and After Before, During and After Photo Documentation in each project city in each project city
OUTCOME LEVEL					
2.1.	4	Poverty alleviation	a) Is there a reduction in households experiencing hunger on a regular basis?	• Reduced score of sample proportion reporting hunger in Final Household Survey over Baseline	16) Self-Report, Household Questionnaire, Before During and After sampling
					17) Participatory Research with Urban Poor Groups
					18) Interviews with CDEs in each project city in each project city
					19) Interviews with DFID Project Staff in each project city in each project city
			b) Do more urban poor have access to shelter with legal tenure?	• Increased score of sample proportion reporting legal tenure in Final Household Survey over Baseline	20) Self-Report, Household Questionnaire, Before During and After sampling
					21) Participatory Research with Urban Poor Groups
					22) Interviews with CDEs in each project city in each project city
					23) Interviews with DFID Project Staff in each project city in each project city

S.No.	Ref.	Objective	Research Question	Indicator	Methodology
			c) Is there reduction in Child Labour?	• Reduced score of sample proportion reporting working children in Final Household Survey over Baseline	24) Self-Report, Household Questionnaire, Before During and After sampling
					25) Participatory Research with Urban Poor Groups
					26) Interviews with CDEs in each project city in each project city
					27) Interviews with DFID Project Staff in each project city in each project city
			d) Is there an increase in School Enrolment?	• Increased score of sample proportion reporting schoolgoing children in Final Household Survey over Baseline	28) Self-Report, Household Questionnaire, Before During and After sampling
					29) Participatory Research with Urban Poor Groups
					30) Interviews with CDEs in each project city in each project city
					31) Interviews with DFID Project Staff in each project city in each project city
			e) Are poor neighbourhoods safer for women and children?	• Increased score of sample proportion reporting safe neighbourhoods in Final Household Survey over Baseline	32) Self-Report, Household Questionnaire, Before During and After sampling
					33) Participatory Research with Urban Poor Groups
					34) Interviews with CDEs in each project city in each project city
					35) Interviews with DFID Project Staff in each project city in each project city
			f) Do more households have access to toilets	• Increased score of sample proportion reporting access to toilets in Final Household Survey over Baseline	36) Self-Report, Household Questionnaire, Before During and After sampling
					37) Participatory Research with Urban Poor Groups
					38) Interviews with CDEs in each project city in each project city

S.No.	Ref.	Objective	Research Question	Indicator	Methodology
					39) Interviews with DFID Project Staff in each project city in each project city
			g) Is there a growth in the number of Community-based institutions?	• Increased score of sample proportion reporting membership of Community-based institutions in Final Household Survey over Baseline	40) Self-Report, Household Questionnaire, Before During and After sampling
					41) Participatory Research with Urban Poor Groups
					42) Interviews with CDEs in each project city in each project city
					43) Interviews with DFID Project Staff in each project city in each project city
			h) Do more households report satisfaction with Municipal Schemes for Urban Poverty Reduction?	• Increased score of sample proportion reporting satisfaction with Municipal Schemes in Final Household Survey over Baseline	44) Self-Report, Household Questionnaire, Before During and After sampling
					45) Participatory Research with Urban Poor Groups
					46) Interviews with CDEs in each project city in each project city
					47) Interviews with DFID Project Staff in each project city in each project city
2.2.	2	Urban environmental improvement, leading to (Better Quality of Life)	a) Is there a significant improvement in the aesthetics of residential environment?	• Participatory Research with RWAs	48) Participatory Research with Urban Poor Groups
					49) Interviews with CDEs in each project city in each project city
					50) Interviews with DFID Project Staff in each project city in each project city
				• Before and After Visual Assessment	51) Before, During and After Photo Documentation in each project city
			b) Is there a reduction in pollution of Nallahs and Water-bodies due to improved sewerage management?	• Before and After Visual Assessment	52) Before, During and After Photo Documentation in each project city
					53) Interviews with PHED Engineers

5. Qualitative Research

Those issues which are best explored through qualitative research can be identified at this stage and assembled into a separate schedule.

Qualitative Research methods include "Expert Interview", "Community Interview" and Psychophysical estimation, in which even illiterate subjects can participate.

5.1. Expert Interview

This is a very important method of understanding community behaviour, although there is the risk of agenda driven responses. For this reason it is important to get three or four "expert" views.

At any rate, the Expert Interview can be the beginning of a Qualitative Research Programme where we can determine and plan ahead for areas require further information.

5.2. Community Interview

This is what usually passes off as "Focus Group Discussions (FGDs)". Some of the risks in a community interview in India are, in a mixed men and women group, men dominate the discussions. In an all-women group, the younger women remain silent while the older women talk. Such group discussions require careful planning so that the group feel free to discuss a topic. In a FGD conducted by a trained expert, the community members are encouraged to talk while the expert only guides the discussion. It goes without saying that knowledge of local languages and dialects are very helpful in comprehending group and individual responses.

The Facilitator of the FGD has a pre-planned agenda and concentrates on encouraging discussions and intervening only when the topic goes off tracks. Since the FGD was pre-planned it would be easy for a helper to make notes against each discussion topic.

We have developed an approach using EXCEL to collect descriptive data (name, village, gender for example) and key statements reflecting individual views, preserving key expressions and words.

A large amount of data can be stored in an EXCEL database, sorted according to requirements to extract meaning.

5.3. Psychophysical Estimation

"Psychophysics[4] is a scientific approach to the measurement of mental processes". We need to experiment with techniques used to quantify the relation between stimulus properties and their perceived magnitude.

All researchers would be familiar with scales to indicate respondent preferences. Instead of just 5 choices as in the Likert Scale, what happens when you ask a respondent to indicate a number between 0 and 10 (both extreme numbers are not used).
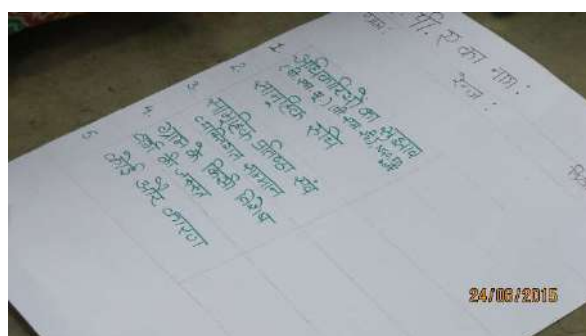
In a rural Indian setting, asking illiterate women to award marks out of 100 to indicate their preference in a ranking problem seems to work because of their familiarity with primary school examination marks.

5.3.1. Preference Ranking

Another method we have experimented with for preference ranking used One Rupee coins. If we wish to find their preference among FOUR choices, and give the group forty One Rupee coins and ask them to place coins on four columns on a chart paper with a symbol for each item, it is possible to get a reasoned weighting of the choices based on GROUP decisions on which item is more important, better, preferred etc. What we get is a democratic and highly visible decision. Poor they may be, but the group knows the value of money and how to make a reasoned choice.

5.3.2. Using Mohua Seeds

A variation of this approach was used with illiterate women to understand their valuation of certain project arrangements.

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[4] Gustav Theodor Fechner in Leipzig published Elemente der Psychophysik (Elements of Psychophysics).

Basuhari Joint Forest Management Committee (JFMC), Taria Range, Uttar Pradesh, 2015

5.3.3. Cantril's Ladder

The Cantril Self-Anchoring Scale[5], developed by pioneering social researcher Dr. Hadley Cantril, was introduced to us by Dr. Deepa Narayan, (Senior Adviser, Poverty Reduction Group, PREM, World Bank in Washington D.C. from 2003 to 2008).

Gallup has been using Cantril's Scale for "Well-Being" studies for many years. How can the well-being of a person be given a weight?

It is thought that the Cantril Scale helps respondents to "self-anchor" themselves based on their perspective. "While every respondent will have his or her own unique perspective, the patterns in the data suggest the scale can be meaningfully grouped into at least three distinct categories."

"This measurement technique asks people to rate their present, past, and anticipated future satisfaction with life on a scale anchored by their own identified values. The ladder has steps numbered 0 to 10, with 0 or (1) representing the worst possible life quality imaginable and (9) or 10 representing the best possible life quality s/he can imagine for herself or himself.

"Cantril originally conceived the scale to measure people's perceptions of their current lives against their own definitions of the best possible life. The instrument is calibrated on a picture of a ladder with 9, 10 or 11 numbered rungs. The top represents the best possible life, the bottom the worst, and the respondent points to the rung that corresponds to his or her current situation .

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[5]Cantril Self-Anchoring Striving Scale : Cantril, H. (1965). The pattern of human concerns. New Brunswick, NJ: Rutgers University Press

In making the scale, a zero is placed below the first rung and a 10 above the top rung inside the ladder. A problem encountered by the researcher is that such a scale contains 10 rungs but 11 points (0-10). A possible way around this conceptual difficulty is to avoid using a zero, as the Cantril's Ladder Scale is an ordinal scale and not a ratio scale.

"Ratio scales (and only ratio scales) have a true zero. A weighing scale is a ratio scale with a true zero where we can assert that a person weighing 100 kgs is twice as heavy as a person weighing 50 kgs. The Cantril's Ladder is an ordinal scale, which merely arranges or orders categories by rank, with a "rudimentary arithmetic meaning such as 'more' or 'less'". It would be fallacious to assert that a person who positions himself on the 8th rung is twice as happy with his life as a person who is on the 4th rung.

" 'It is difficult to imagine any social construct such as happiness, social status, or power for which there is a true zero because it is always possible to imagine a case with a little less of the construct .' "

"While Cantril's Ladder is an instrument designed for individuals, each of whom can be expected to define points at the extremes of the ladder in terms of her or his own perceptions and life's experiences, it presents several hurdles for group work. Our present understanding is that when used with individuals, the Cantril's Ladder explores the phenomena as experienced by those individuals (in our case, the phenomenon of poverty)[6]."

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[6] Mani, Ajit, "Moving Out of Poverty, A World Bank Study for PREM, WB – 1994" See article published on LinkedIn, 220810 PREM Cantril