Reinventing Transferred Social Technologies for Managing Work and Organizations

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Introduction

Transfer of technology remains to be a major strategy adopted by developed countries to influence the socio-economic life of people in developing countries.

Among the developing countries in ASEAN, the Philippines appear to be the most susceptible to Western technologies. After going around Metro Manila, for instance, international participants at the Development Center for Asia Africa Pacific (DCAAP) can only express their impression about the Philippines.

From what they see, they believe the Philippines is but a copycat of the US. Mass media teems with Western influence, as seen in the songs, dances, behavior and fashion of those who appear in print and broadcast media. These influences are apparently not as visible in other ASEAN countries, many of which were also former colonies.

But when I share with them some of our reinvented technologies in managing works and organizations, they usually wonder if these were also borrowed from the US and Europe. I tell them no. They believe developed countries are historically the producers of technologies while developing countries are just consumers. This belief continues today. One of the most urgent challenges to the Philippines and developing countries is to show concrete evidences that this belief will soon change.

This brief paper presents some reinvented technologies that are starting to be used in work and organizations in the Philippines and other developing countries. Altogether, I call this range of invisible and ignored techniques and tools "social technologies." We found that these undiscovered and

unclassified technologies are useful to organizations in both formal and informal settings.

Need to Reinvent Transferred Technologies

The need to reinvent Western technologies transferred in the developing countries has been long overdue.

- Eminent development researchers and futurists from the 70s to the present have found that many transferred technologies from the developed to the developing countries initially succeeded but subsequently failed in achieving their objectives (Myrdal 1972, Schumacher 1973, Toffler 1980, and Fajardo 1994).
- This trend is observed in both agriculture and industry. Evidence includes the failed "green revolution" in agriculture and "reengineering" in industry.
- The most convincing evidence for the need to reinvent Western transferred technologies is the current global recession which began in the developed countries and continues to creep to the developing countries like a *tsunami*.
- Another hard evidence that suggests the need to reinvent transferred Western technologies is what Milanovic (2005) noted in his book *Worlds Apart*. He found that "Among the 22 nations that... qualified during the 1960 as 'contenders'...to join the club of the rich within a generation, more than 90 percent ended up regressing deeper into poverty."
- Now, of the 183 countries that have sufficient data, 144 or 79% belong to the developing countries. Only 31 or 17% belong to the developed countries and fewer than 8 or 4% are in transition.
- By population, this means that about 5.2 billion or 84% belong to developing countries; 910 million or 15% belong to developed countries and only 55 million or 1% are in transition.
- In spite of these mounting evidence, developing countries continue to use transferred technologies from the developing countries without planned efforts to adapt these technologies to the socio-cultural nuances in developing countries.
- Look at the few countries in East and Southeast Asia like Japan, South Korea, Singapore, and Taiwan that went immediately into technology reinvention. They are now more progressive, economically speaking.

- The Philippines, which was second to Japan economically after World War II to the 60s, was too gullible to follow the short-sighted advice of Western and Western-trained local experts. Our policy makers and decision makers followed blindly their advice that to "reinvent the wheel is very expensive."
- This counterproductive advice has now become part of our "national mindset." Concerned government and business organizations find it so difficult to fund inventions initiated by Filipinos. Some agency officials even advise Filipino inventors to seek Western partners if they want to get the support of local funding agencies.

Need to Know Technologies

There are so many technologies now in the world. Perhaps there are even billions. But most of these technologies remain unused and unclassified. Since these technologies have tremendous impact not just in our work and organizations but in the socio-economic life of the people, it would be worthwhile to understand how they work.

- Technologies are knowledge and products produced by scientists and researchers which are useful in daily life.
- They are the fruits of the physical, biological and social sciences.
- Physical scientists study inanimate matter or energy and non-living things. They belong to any of these disciplines: chemistry, geology, astronomy, engineering, etc.
- Biological scientists study living organisms. They belong to any of these disciplines: botany, zoology, biochemistry, etc.
- Social scientists study human society, particularly social organizations and the relationship and behavior of the individual members.
- Probably because these technologies are not mutually exclusive even scientists are not so concerned about their classification.
- However, since most of these technologies are produced in developed countries and much of the money spent in acquiring these technologies comes from developing countries, it is important to classify these technologies and understand which need to be reinvented.

Uses of Technologies

In general, the three types of technologies have their own distinct uses.

- Physical technologies are useful in constructing infrastructures like roads, bridges, buildings, trains, cars, airplanes, home appliances and gadgets.
- Biological technologies are useful in strengthening and maintaining the physical health of people, animals, plants, fish and other living things.
- Social technologies are useful in continuously improving the mental, emotional and behavioral development of people, who are supposed to be the steward and users of the earlier types of technology.

Characteristics of Technologies

National and organizational policy and decision makers who decide on the importation of transferrable technologies may know the kind and brand of technologies that they are importing from developed countries. But most of them still do not know the classification and laws governing the performance of these technologies and the significance of importing them.

- We have listened to so many international and local keynote speakers in numerous conferences and seminars on science and technology and technology transfer. All of them sound as if there is only one class of technology.
- In these activities, someone from the social science would feel that their branch of science does not produce technology. Unfortunately, even social scientists just continue conducting research without thinking of transforming knowledge into technologies. (The transformation process is discussed later in this paper).
- They should understand that classifying technologies into three can help make wiser decisions in the import of technologies from developed countries.
  * Physical and biological technologies are governed by natural laws.
  * Social technologies are governed by cultural laws.

Technologies to Reinvent

- Our finding suggests that we need to reinvent transferred technologies from developed countries to developing countries.
- Transferred social technologies broadly include all concepts, paradigms, methods, tools, and processes that we have been sharing with our managers and staff, trainees and students in general management, project management, total quality management, performance management, etc. (Mercado 2009).

Understanding Social Technologies

Social technologies are systematically invented, reinvented, tested and documented research-based concepts, paradigms, strategies, methods, tools, processes and formulas developed by social scientists, researchers and planners designed to improve efficiency, effectiveness, and harmony in organizations.

Social technologies include prototype and perfected planning, management, implementation, monitoring and evaluation techniques and tools that will help projects and activities with limited resources to maximize their personal effects, organizational outcomes, and societal impacts.

Reinvented social technologies are culturally adapted ways of formulating, planning, managing, implementing, monitoring and evaluating organizations and projects designed to improve efficiency, effectiveness and harmony. Examples of reinvented social technologies are Logmap, Action Plan with M/E Components, Development Management, and school of thought in M/E.

Organization refers to a group of people who meet to interact with each other to achieve certain objectives by producing certain outputs, by carrying out certain activities, and by sourcing certain inputs.

Work is a physical or mental effort of a person directed toward the achievement of a certain objective.

Management refers to the process of doing research about the customers, planning, staffing/organizing, directing/coordinating, and monitoring/evaluation.

Reinventing refers to the process of adjusting the technologies to the cultural nuances of their users to improved their efficiency, effectiveness and harmonious relationships.

Efficiency means producing something on time with the least cost.

Effectiveness means producing something according to standards set by producers and consumers.

Principles for Reinventing Social Technologies

Reinventing social technologies will help our social scientists/researchers gain enough confidence to produce Culturally Adapted Social Technologies (CAST). We have already the principles in reinventing social technologies.

The principles for reinventing transferred Western social technologies are shown below.

1. Integration – knowledge that can be pieced together (e.g. Development Management)
2. Organization – concepts organized in logical sequence (e.g. Logmap)

* M/E means monitoring and evaluation

3. Replacement – means to substitute a concept with another concept (e.g., Development management)
4. Operationalization – means explicating concepts to make them more concrete, manageable and measurable (e.g., KFIQ approach)
5. Association – refers to the similarity between one model and the other (e.g. Communication Management paradigm and Development Management paradigm)
6. Modification – formulas to develop and use for practical purposes (e.g. KASB* formulas)
7. Conversion – can we convert this complex conceptual plan into simplified action plan (e.g. Logframe converted into action plan)?
8. Division – can we divide a long instrument into two short instruments to facilitate faster data reporting (e.g., separate monitoring tool and evaluation tool)?

Process in Reinventing Social Technologies

The process for reinventing social technologies is as follows:

1. Determine the needs of the intended users.
2. Identify and collate available homegrown and transferred social science research knowledge, social technologies, best practices, and experiences that are relevant to the needs of intended readers.
3. Review collated documents on social science research knowledge and sample social technologies.
4. Identify and organize relevant scattered knowledge, best practices and experiences into a body of knowledge and transform it into a social technology that matches the needs of target beneficiaries.
5. Identify gaps or mismatches between needs and technology.
6. Turn a body of knowledge into a social technology that meets the needs of target beneficiaries.
7. Develop a visual model of the prototype social technology (see Figures 1-6 as example).
8. Reproduce the prototype for pretesting.
9. Refine the prototype based on the pretest results.
10. Document how to use the refined social technology.

Inventors and Users of Social Technologies

The inventors and users of social technologies are as follows:

- Inventors of social technologies:
  * Social scientists and researchers
  * Planners
  * Consultants

- Users of social technologies:
  - * Project managers
  - * Project staff
  - * Planners
  - * Decision makers
  - * Policy makers

*KASB means knowledge, attitude, skill and behavior.

Outcomes of Reinvented Transferred Social Technologies

Using transferred Western social technologies outright in managing work and organizations in developing countries results to organizational disharmony. But reinventing transferred social technologies often bring about organizational harmony. Let us compare the two approaches:

Utilization Approach	Reinvention Approach
1. Outright use of transferred social technologies	1. Reinvent transferred social technologies
2. Direct use in work and organization in developing countries	2. Adapted and use in work and organizations in developing countries
3. Fast but short-term efficiency and effectiveness	3. Slow but long-term efficiency and effectiveness
4. Organization disharmony	4. Organizational harmony

Sample Reinvented Social Technologies

We have presented below some reinvented, tested, perfected and documented transferred social technologies to convince social scientists that we now have the capacity to take this challenging task.

These technologies have been found to be useful in improving efficiency and effectiveness in formulating, managing, implementing, monitoring and evaluating projects.

To simplify, we will present the flaws of transferred social technologies and the strengths of reinvented social technologies.

- Logmap. This is a reinvention of the Logframe, the framework used

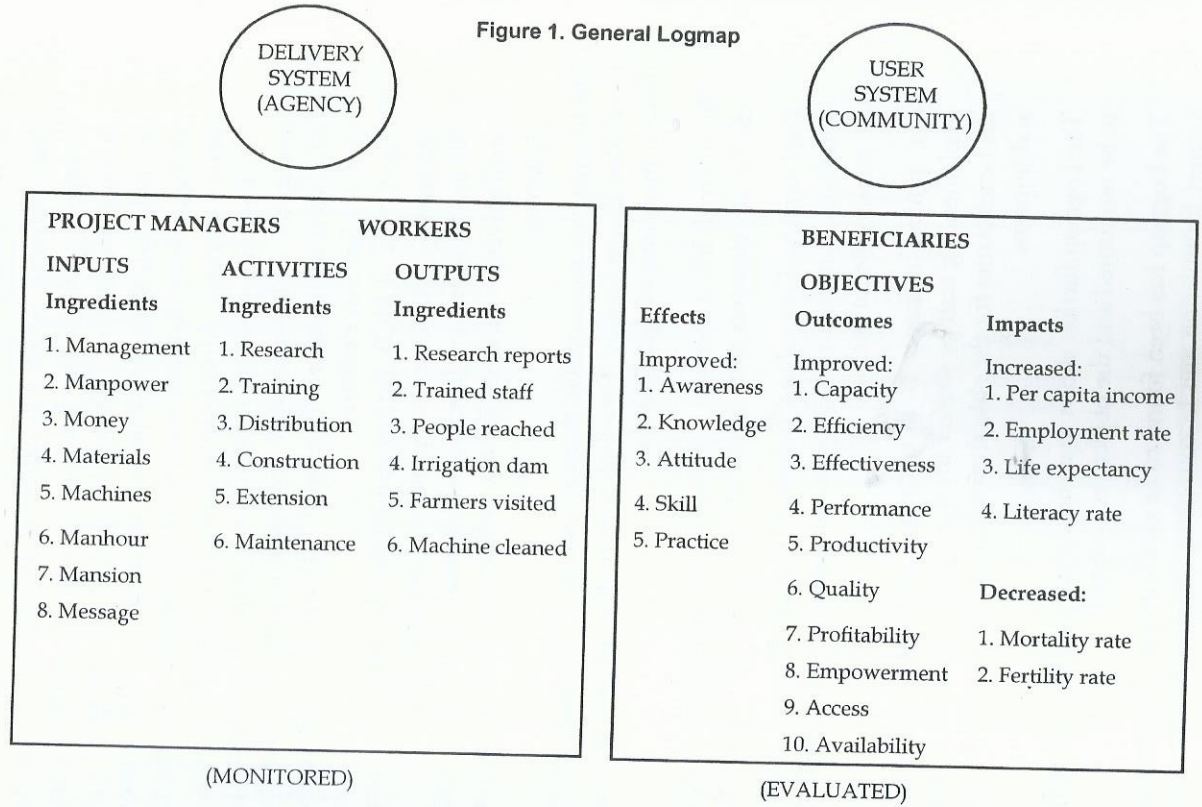


Figure 1. General Logmap

- This model shows the two systems in development and the project elements, ingredients, effects, outcomes and impacts.
- The ingredients are not exhaustive, these are only examples.

by international development organizations like WB, ADB, UN, USAID, AUSAID, etc.

* The Logframe, which was patterned after the systems approach, arranges a project into four basic elements, namely, objectives, outputs, activities and inputs. The traditional concept of a project has only two elements: objectives and activities. The outcome of many projects that followed this classic definition in the last 50 years is obvious. Most failed to produce convincing results.
* The Logframe poses confusion among project formulators, project managers, and project staff because it requires the identification of objectively variable indicators (OVI) and means of verification (MOV) for each element.
* The OVI and MOV further complicate the difference among the statement of objectives, outputs, activities, and inputs.
* To avoid these complications which result to the inefficiency and ineffectiveness of development projects, we have reinvented the Logmap.

The Logmap was reinvented to do away with the OVI and the MOV. We found that this is feasible if we flesh out the four project elements and develop them into a logical matrix.

* The matrix is like a menu in a restaurant which helps project planners choose key elements and ingredients to be included in their plan.

* The Logmaps (General and Training) shown on Figures 1 and 2 clearly differentiate the four elements and show who among the stakeholders are responsible for each.

* The project manager is directly responsible for the inputs; the implementing staff or worker for the activities and the outputs; and the beneficiaries for the objectives which embed the effects, outcomes, and impacts.

* The Logmap further shows that the inputs, activities and outputs are to be monitored and the objectives evaluated.

* The Logmap has been found to be much simpler and more useful in project formulation and in converting all types of conceptual plans into action plans with monitoring and evaluation components.

- Action Plan with Monitoring and Evaluation Component (APMEC). This reinvented social technology shows the operational application of

Figure 2. Training Logmap

DELIVERY SYSTEM (AGENCY)

USER SYSTEM (COMMUNITY)

PROJECT MANAGERS		WORKERS
INPUTS	**ACTIVITIES**	**OUTPUTS**
Ingredients	**Ingredients**	**Ingredients**
1. Management	1. TNA	1. TNA report
2. Manpower	2. Develop training design	2. Developed training design
3. Money	3. Conduct training	3. Trained staff
4. Materials	4. Develop Outputs	4. Outputs developed
5. Machines		
6. Manhour		
7. Mansion		
8. Message		

(MONITORED)

BENEFICIARIES		
	OBJECTIVES	
Effects	**Outcomes**	**Impacts**
(Personal) Improved:	(Organizational) Improved:	(Societal) Increased:
1. Awareness	1. Efficiency	1. GNP/GDP
2. Attitude	2. Effectiveness	2. Employment rate
3. Skill	3. Performance	3. Per capita income
	4. Productivity	4. Life expectancy
	5. Quality	5 Literacy rate
	6. Profitability	**Decreased:**
		1. Mortality rate
		2. Fertility rate

(EVALUATED)

- This model shows the two systems in development and the project elements, ingredients, effects, outcomes and impacts.
- The ingredients are not exhaustive, these are only examples.

Figure 2. Comparative matrices used by the Logframe-Workplan and the Logmap-Actplan

LOGFRAME-WORKPLAN (FOR PROJECT FORMULATION)			
ELEMENTS	OVI	MOV	RAS
OBJ			
OUT			
ACT			
INP			
PR			
DATE			

Note: Logframe- workplan require project formulator to think of objectively verifiable indicator (OVI), means of verification (MOV) and risk and assumption (RAS) for each element.

LOGMAP-ACTPLAN (FOR PROJECT PLANNING, MANAGEMENT, IMPLEMENTATION, M/E)						
OBJECTIVES						
STAKEHOLDERS	OBJ	OUT	ACT	INP	PR	DATE

PHYSICAL AND FINANCIAL MONITORING FORM							
OUT/ACT/IMP	PHYSICAL			FINANCIAL			REMARKS
	TAR	ACT	%ACC	TAR	ACT	5ACC	

KFIQ APPROACH TO DEVELOPING EVALUATION TOOL				
STAKEHOLDERS	OBJECTIVE	KF	KI	KQ

Note: Logmap-ACTPLAN does not require OVI,MOV and RAS. Instead it goes direct to the four elements, person responsible and the dates. Then the ACTPLAN includes the monitoring and evaluation tools which are not included in the Logframe in spite of their importance in project management.

the Logmap in action planning at the organizational and community level.

* The Action Plan used with the Logmap is alternative to the workplan used with the Logframe.

* The Action Plan follows strictly the proper sequencing of the four project elements because they can be used to check each other. The workplan does not usually follow this proper sequencing because it uses the OVI and the MOV required by a Logframe.

* The Action Plan is composed of four main forms: 1) Action Planning Form, 2) Physical and Financial Monitoring Form, 3) KFI Approach Form, and 4) Focus Evaluation Tool.

* The inputs of the Action Planning Form should come from any plan like a strategic plan or project document. The form can also be used for formulating a new project proposal.

* Once the Action Plan is completed, most of the information needed in completing the Physical and Financial Monitoring Form can already be found in the Action Plan. Simple transfer of information can help complete the monitoring form.

* Likewise, much of the information needed in completing the KFIQ approach can already be taken from the stated objectives in the Action Plan.

* KFIQ means key factor (KF), key indicator (KI) and key question (KQ). We discovered that a good objective should not only be SMART (Specific, Measurable, Achievable, Realistic and Timebound), but should also state the effect, outcome or impact (EOI), as well as the cause (e.g., training) and effect (e.g., knowledge).

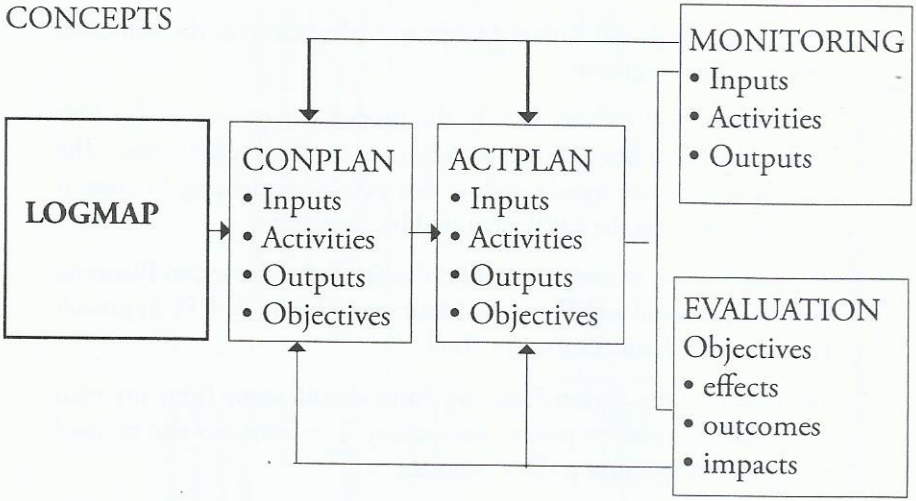
* SMART simply tells us about the form of a good objective; it is EOI that gives it substance. And it is substance that makes it truly useful in evaluating a project or activity.

* The KFIQ is very useful in preparing a short, focused evaluation tool. A short tool shortens data gathering, processing, and reporting.

- Development Management (DM). This is a reinvention of the classical General Management (GM) paradigm or Business Management (BM) paradigm.

* The GM paradigm was developed for profit-oriented organizations.

Figure 4. Transforming Conceptual Plan into Action Plan with monitoring and evaluation tools



* We were told by Western writers and foreign and local consultants that the GM is also useful for non-profit organizations.

* And many of the office and project managers in the Philippines and other developing countries believed in the sweeping generalization.

* The insidious negative impacts of the GM paradigm could be seen in most development projects in the developing countries in the last 50 years.

* The GM paradigm does not emphasize baseline research ad monitoring and evaluation. It emphasizes four functional steps, namely:

- Planning
- Staffing/organizing
- Directing/leading
- Controlling

* This could be one of the reasons why most development projects in the last five decades did not have baseline data and terminal evaluation data. As mentioned earlier, the results of these projects lack convincing evidence.

* Realizing the flaws of the GM paradigm, we have reinvented the DM paradigm. This paradigm includes five functional steps. Two of the steps were designed to fill the gaps of the GM (see Figure 5). The functional steps of OM are:

- Research
- Planning
- Staffing/organizing
- Directing/coordinating
- Monitoring/evaluation

* DM emphasizes research to know the needs and problems of the beneficiaries which are valuable inputs in program/project planning. In GM, the bases for planning are the intuition and common sense of the planner.

* Monitoring and evaluation are given emphasis to collect hard data on the efficiency and effectiveness of a project relative to its promised activities, outputs, and objectives.

* Hopefully, the DM paradigm will help project managers remember that research is the first step and monitoring/evaluation are the last steps in systematic project management.

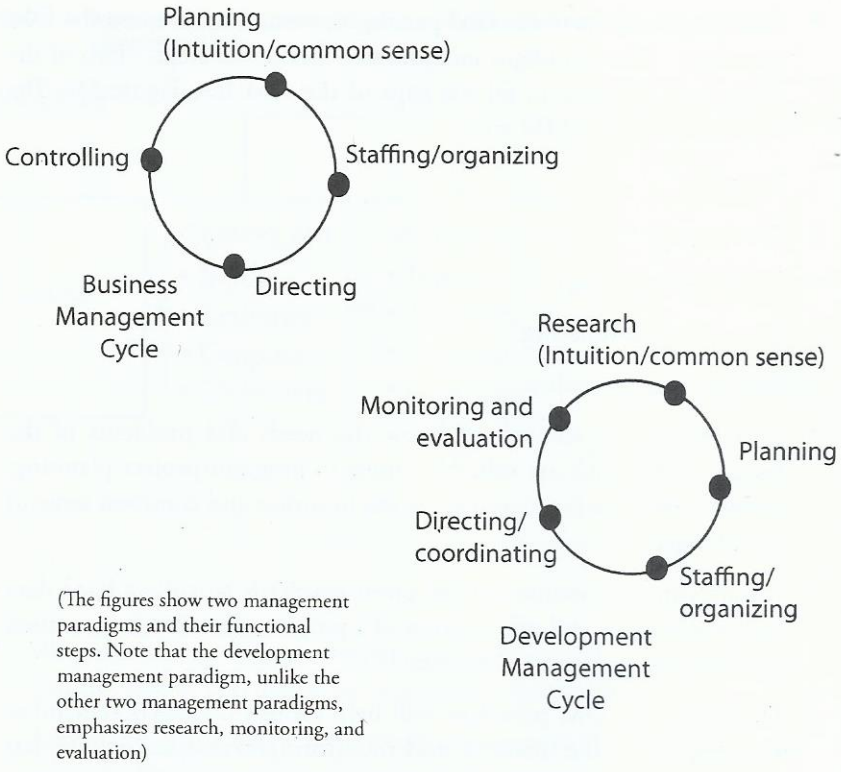
* It is hoped that this fresh perspective will help organizations improve their capacity in research and monitoring/evaluation, the weakest functions in almost all the organizations in the Philippines and other developing countries.

* Shown in Figure 5 are the GM and DM paradigms.

- Monitoring and Evaluation (M/E). These functional steps are given emphasis in DM to measure the efficiency and effectiveness of a project. The GM subsumes these two concepts under controlling, which focuses on the control of the profit.

* The widely accepted school of thought about M/E in various organizations is that these two concepts (M/E) are the same.

* Many managers think that monitoring covers the process of assessment from data gathering to data analysis, and evaluation includes the process from data interpretation to data reporting.



(The figures show two management paradigms and their functional steps. Note that the development management paradigm, unlike the other two management paradigms, emphasizes research, monitoring, and evaluation)

Figure 5. Business Management v Development Management

* This concept is useful if the project to be monitored and evaluated has very limited coverage like 2-3 villages or factories (see Figure 6).
* But once the project area gets bigger, this idea does not work because so much data are supposed to be gathered each time M/E is to be carried out.
* Data to be gathered from both the implementing staff and the project beneficiaries take so much time.
* The need to gather so much data from so many sources delay data gathering, processing, and reporting.
* Because of delay decision makers feel such data are no longer very useful to make timely decisions. Ultimately, they lose interest in M/E.

* To overcome this persistent problem (delayed reporting), we reinvented the first school of thought by separating monitoring (M) from evaluation (E).

* Monitoring should focus only on gathering data about project inputs, activities and outputs.

* The sources of data should be the project staff tasked to implement the project. After all, they are the group who know the inputs, activities, and outputs.

* The usual reporting schedule is quarterly; monthly if there is enough staff to do the M/E.

* On the other hand, the evaluation should be sample beneficiaries who are affected by the project. They are the ones who know the project effects, outcomes, and impacts.

* The usual reporting schedule for evaluation is mid-term and final evaluation.

* Based on analysis, we need two separate tools for conducting M/E. These tools, as mentioned earlier, are:

- Physical and Financial Monitoring form
- Focus Evaluation Tool

Organizations that Reinvent Social Technologies

There are now organizations in developing countries that reinvent social technologies.

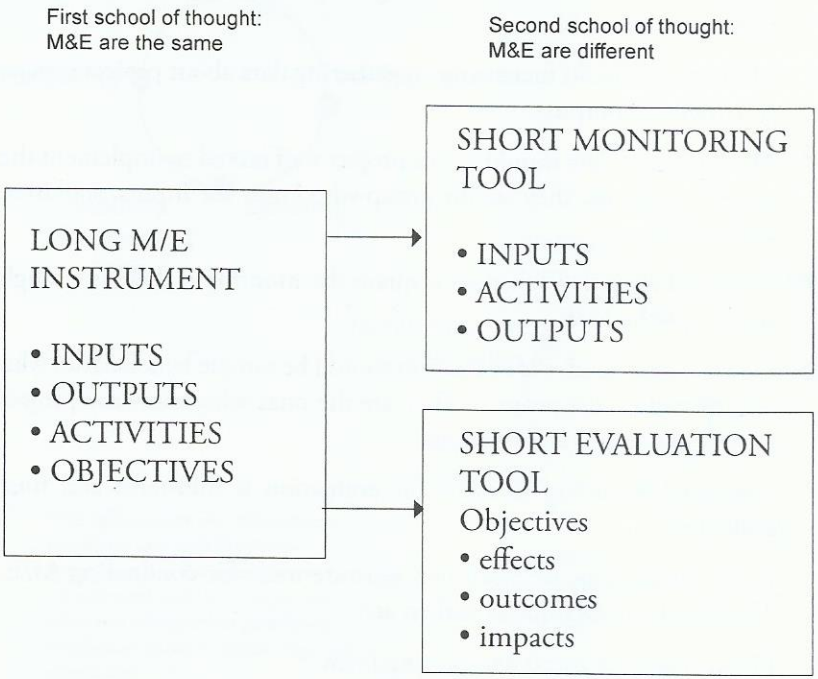
- So far, we know of two organizations in the developing countries that are officially reinventing social technologies. Both of these are found in the Philippines.

* Development Center for Asia Africa Pacific (DCAAP) which started reinventing social technologies sometime in 1996.

* Social Technology Bureau of the Department of Social Welfare and Development (STB-DSWD) which was organized in 2005.

- DCAAP has just come out with a new book, *Reinventing Social Technologies for Developing Countries: Behavioral Approach to Fighting Poverty in the 21st Century,* which is probably the first of its kind in the developing countries.

Figure 6. Schools of thought in monitoring and evaluation



Organizations that give training on the use of reinvented social technologies

DCAAP has already trained executives and staff from government organizations (GOs), local government units (LGUs), and academic institutions in the Philippines and other developing countries on the use of reinvented social technologies. In the Philippines, we have so far trained:

- Executives of the province of La Union
- Provincial officers of the province of Bulacan
- Executives of the Department of Social Services and Development at the national and regional levels
- Executives of the University of Mindanao

DCAAP has also trained nearly 1000 international participants on the use of reinvented social technologies. The trainees were composed of:

- Project managers and project staff of foreign assisted projects from some 200 organizations spread in nearly 40 countries in Asia, Africa, and the Pacific.

Evaluation of Training Courses Using Social Technologies

Results of training evaluation on the use of reinvented social technologies show very encouraging results.

- Written reaction-learning evaluation on the courses consistently shows either a "very good" or "excellent" rating in a scale of 5.
- Most international participants had wished their project managers were with them during the training.

Summary

The transfer of technologies from developed to developing countries will continue and even increase under globalization. This will prevent developing countries from becoming competitive. Unless developing countries like the Philippines counteract the persistent imbalance in the flow of technologies the problem will continue up to the end of the 21st century. This traditional mode of technology transfer will continue to damper the creativity and innovativeness of scientists, researchers, and inventors in developing countries.

The on-going recession further strengthens the need to heed the recommendations of development researchers and futurists like Myrdal, Schumacker, Toffler, Fajardo, and Milanovic. The competitive growth of the few East Asian countries that went boldly into technology reinvention such as Japan, South Korea, and Taiwan further justifies the need to reinvent transferred technologies.

Among the most challenging range of technologies that need to be reinvented are the social technologies. These technologies could be the key to mitigate the negative impacts of physical and biological technologies on the social life of people in developing countries. Social technologies are systematically invented, tested, and documented research-based concepts, paradigms, strategies, methods, tools, processes, and formulas developed by social scientists, researchers, and planners.

Reinvented social technologies are culturally-adapted means of formulating project proposals, action planning, managing, implementing, monitoring, and evaluating organization programs and projects designed to improve efficiency, effectiveness, and harmony.

This brief article calls on social scientists and researchers in the Philippines and other developing countries to lead the reinvention of social technologies. It also calls upon project managers to be at the forefront in the use of these reinvented social technologies in their projects.

The article also presents the principles and processes in reinventing social technologies. We also presented paradigms in reinvented social technologies and the reasons for the reinvention. The sample social technologies include the Logmap, Action Plan with Monitoring and Evaluation Components, Development Management, and the separated Monitoring and Evaluation tools and their application.

Notes

* Founding President and Chief Executive Officer, Development Center for Asia, Africa and the Pacific.

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