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Impacts of the Techno Gabay Program in Eastern Visayas, Philippines as revealed by stakeholders' stories of significant change

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ABSTRACT

Monitoring of the impacts of the Techno Gabay Program (TGP) using the most significant change (MSC) technique was done for one year in nine Techno Gabay (TG) centers in Eastern Visayas, Philippines. Field technicians of the TG centers were trained on how to collect and select 'stories of change' from the TGP clients and other stakeholders. The collected stories were analyzed to determine the themes of the reported changes. The levels to which the reported changes correspond were determined using Bennett's hierarchy of program outcomes as a guide.

A total of 80 stories were collected. These were about improvements in the field technicians' extension delivery capability, changes in the program beneficiaries' lives, improvements in stakeholders' knowledge, attitudes and skills and about other changes. Analysis of the MSC stories revealed that the TGP was able to cause changes corresponding to higher levels of Bennett's hierarchy of program outcomes. This suggests that the TGP was already able to have an impact on the knowledge, attitudes, skills, behavior, and the economic and social conditions of the program stakeholders.

Keywords: Monitoring and evaluation, story approach, stories of change, communication for development program

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INTRODUCTION

To help people in developing countries improve their living conditions, many government institutions and non-government organizations implement various development programs. Research and development (R & D) institutions, for instance, continue to generate technologies intended to improve rural people's productivity and income. These technologies have been disseminated to clients using various communication approaches and strategies.

According to FAO (2001), the idea of using communication for rural development projects grew out of research findings that audience-oriented communication strategies could play a catalytic role in accelerating the rate of technology transfer by providing relevant information, changing negative attitudes and improving skills. Singhal and Sthapotanonda (1996) also reported that communication is needed to spread the idea of development beyond its point of origin. Moreover, Besette (2004) pointed out that communication is necessary to facilitate people's participation in the development process.

Recognizing the important role of communication in development undertakings, development communication scholars and practitioners continue to design communication strategies that help improve the efficiency and effectiveness of information dissemination efforts. In the Philippines, one of the agencies that facilitate the development and dissemination of technologies intended to propel rural development is the Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD). One of its banner programs is the Techno Gabay Program (TGP) introduced in year 2000. It was conceived and implemented to (1) provide information and technology services in agriculture, forestry and natural resources (AFNR) via an effective mechanism; (2) strengthen the link among the technology generators, technology servers and technology adopters; and (3) complement efforts of Local Government Units (LGU) and Rural-Based Organizations (RBOs) in delivering information and technology services to farmers and other stakeholders of the AFNR sector (PCARRD 2001).

The Techno Gabay Program has four components, namely, technology packaging, technology management services, technology

support services, and planning, monitoring and evaluation components. The Technology Management Services, which is the core component of the TGP, includes four major information and technology delivery modalities: (1) Farmers' Information and Technology Services (FITS); (2) Farmer Scientist Bureau (FSB); (3) Information, Education and Communication (IEC); and (4) Information and Communication Technology (ICT).

The TGP is implemented in the 13 regions of the Philippines. The Technology Outreach and Promotion Division (TOPD) of PCARRD serves as the national planning and coordinating unit of the program. In Eastern Visayas, the program has been managed by the Visayas Consortium for Agriculture and Resources Program (VICARP) based at the Visayas State University (VSU) in Baybay City, Leyte.

To determine how the program fared in terms of attaining its goal of helping people improve their living conditions by increasing their access to information and technology, the program coordinators saw the need to monitor and evaluate its impacts. To answer this need, this study was conducted to gain understanding on the impacts of the TGP-Eastern Visayas from the perspective of the stakeholders themselves. Instead of examining impacts using surveys based on pre-identified quantitative impact indicators, this study used a new participatory monitoring and evaluation (PM&E) approach known as the Most Significant Change (MSC) Technique or the Story Approach (Davies and Dart 2005). This approach involves the collection of significant change stories from program stakeholders and the systematic selection of most significant stories by panels of designated stakeholders (Davies, 1998; Dart 1999).

According to Davies and Dart (2005), the MSC approach to monitoring and evaluation is appropriate when program implementers are interested on the effects of an intervention on people's lives and wish to include the words of non-professionals. These authors also argued that MSC is particularly useful in identifying unexpected changes or impacts of interventions, in helping stakeholders to pay attention to events considered important by the clientele, and to help realign efforts towards achieving more of the 'wonderful things' and less of the 'terrible things'. Several researchers found the MSC approach as very useful in facilitating

dialogue among program stakeholders and in constructing shared meanings of the impacts of development programs (Davies 1998; Dart 2000; Sigsgaard 2001; Le Cornu *et al*., 2003; Ringsing, 2003; Peterson 2005; Velarde *et al.*, 2007).

This paper describes how the MSC process was adapted and applied to monitor the impacts of the TGP in Eastern Visayas. This also describes the impacts of the Techno Gabay Program as revealed by the stakeholders' stories of change.

RESEARCH METHOD

The research sites

At the time of the study, the Eastern Visayas TGP had 11 TG centers (Fig. 1). However, only nine centers were able to participate in the impact monitoring activities. The staff of TGP-Calbayog were busy attending to the problem on a disease that infested the jackfruit plantations of their farmer-cooperators, while the staff from TGP-San Roque were not able to participate in the MSC training conducted in VSU.

Data collection and analysis

To capture the impacts of the Eastern Visayas TGP using the MSC technique, the following steps adapted from the procedures outlined by Davies and Dart (2005) were followed:

Introducing MSC to the TGP stakeholders

This was done by including the topic on the MSC technique in the VICARP-sponsored training on Process Documentation Research (PDR), which was conducted for the staff of TGP and other development programs integrated with it.

Deciding on the domains of change and the reporting period

During the first phase of the PDR-MSC training, a discussion with the TG field staff-participants and VICARP-TGP staff was held to decide

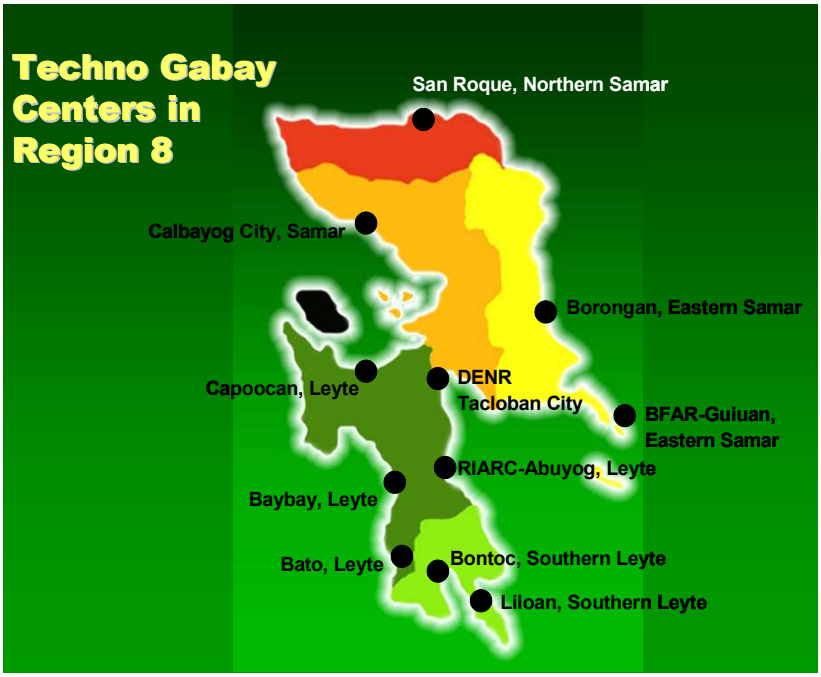

Figure 1. *Techno Gabay* Centers in Eastern Visayas, Philippines as of 2006

on the reporting period and the domains of change to monitor. After a lengthy discussion, the TG field staff and the VICARP-TGP staff agreed to collect stories of change under four domains, namely: (1) change in extension delivery capability; (2) change in clients' lives; (3) change in knowledge, attitude and skills; and (4) other changes taking place or lessons learnt. The TG staff agreed to collect and select stories of significant change quarterly. However, they found out later that it was difficult to collect and submit stories quarterly because they were busy with their other activities. So, after their first story collection experience, they decided to change the reporting period from quarterly to semi-annually.

Collection of significant change stories

Stories were collected from TGP stakeholders, including farmers, field technicians and other program beneficiaries. It was agreed that those who attended the PDR-MSC training would lead in the collection and selection of stories. They were asked to share what they learned during the PDR-MSC training and to encourage other TGP staff and stakeholders to participate in the story collection and selection processes.

To facilitate story collection, a story collection guide was prepared, pretested and given to the story collectors. This guide contained three questions:

1) How did you first become involved with the Techno Gabay Program? What is your current involvement with the program?

2) During the last six months, from your point of view, what was the most significant change that you have experienced because of your involvement with the Techno Gabay Program?

3) Why is this change significant to you?

The questions were intentionally made general and broad to allow the story collectors to capture wide range of changes experienced by the stakeholders as a result of their involvement with the TGP.

Selection of the MSC stories

During the PDR-MSC training, it was agreed that each TG center should select one most significant change story per domain per reporting period. It was emphasized to the TGP staff who committed to collect stories that the selection of MSC stories is important because it is intended to reveal the kinds of changes that are considered by stakeholders as valuable.

The selected stories, as well as the other stories collected from each TG center, were submitted to VICARP, through the TGP Regional Coordinator, for review and selection. Results of the VICARP-level selection process and a compilation of all the stories collected from the various TG sites were forwarded to PCARRD for further review and selection of the most significant story that represented the kind of change it would want to fund. Both VICARP and PCARRD reviewers were requested to document their reasons for choosing stories as the most significant.

Feeding back results of the selection process

The results of the VICARP and PCARRD selection of the most significant change stories were documented and fed back to the staff of the participating TG centers "so that each subsequent round of story collection and selection would be informed by feedback from previous rounds" (Davies and Dart, 2005). The researchers, together with the TGP research assistant, visited the TG sites to present the selection results to the TGP staff and other stakeholders.

Verification of stories

Some of the selected stories were verified by visiting the sites. The researchers, together with the TGP research assistant and some staff of the concerned TG centers visited the storytellers in Baybay, Liloan, Bontoc and Borongan.

Secondary analysis of the MSC stories

To gain a deeper understanding of the kinds of changes reported in the stories, a secondary analysis of the stories was conducted, focusing on the following aspects:

a. Themes of the changes reported in the stories;

b. Levels of the program outcomes to which the significant changes narrated in the stories correspond, which were determined based on an adaptation of Bennett's Hierarchy of Program Evidence (Table 1);

c. Criteria used by the stakeholders to select the most significant change stories; and

d. Other relevant information related to the program's outcomes or impacts (impact indicators and TGP services that contributed to the changes).

Presentation of study results to TGP stakeholders

After analyzing the data, the researchers prepared a report and presented it to the TG coordinators, field staff and the farmer scientists during a VICARP-organized seminar workshop. The presentation was intended to validate with the TGP stakeholders the researchers' interpretations of the data, and to enable the TGP stakeholders to discuss the usefulness of the MSC approach for program monitoring, evaluation and improvement.

RESULTS AND DISCUSSION

Stories collected and story sources

During the two rounds of story collection, a total of 80 stories were collected - 48 during the first collection period and 32 during the second collection period. These included 26 stories about improvements in the field technicians' extension delivery capability, 30 stories about changes in the program beneficiaries' lives; 21 stories about improvements in stakeholders' knowledge, attitudes and skills; and 3 stories about negative changes.

Table 1. Levels of changes adapted from Bennet's Hierarchy of Program Evidence

LEVEL	DESCRIPTION
7	END RESULTS/CHANGES IN CONDITIONS: Changes in economic, civic, social conditions of the target group and other people in the community (i.e., increase in farm production, food availability or income, improved livelihood, improved decision making capability, improved information and technology delivery capabilities, etc.)
6	ACTION: Changes in behavior, practice, decisions, policies, etc. of the target groups (i.e., change in the information and technology delivery strategies used by the TG base agencies, change in farm practices, etc.)
5	KASA CHANGES: Changes in Knowledge, Attitude, Skills, and Aspirations (i.e., increased knowledge about new technologies, change in attitude towards the TGP or towards technologies promoted by the TGC; improved computer skills, etc.)
4	REACTIONS: Changes in the stakeholders' opinion about the program/TGP services)
3	INVOLVEMENT: How many stakeholders participated in the TGP activities, who participated, etc.)
2	ACTIVITIES: What activities were developed or delivered (i.e., trainings, seminars/workshops, educational tours, IEC materials produced, farm inputs distributed to clients, etc.
1	INPUTS: Changes in terms of what is invested (i.e. staff, time, funds, materials, equipment, technology, etc.)

The 48 stories collected during the first round of MSC testing came from 47 people (9 TG field staff and agricultural technicians of the TG base agencies, 2 LGU officials involved with the TGP, 5 farmer scientists, 15 farmers and fisher folks, 4 housewives and 2 students).

During the second round of story collection, the number of story sources decreased to 32. This may be because during the six months period, not many changes happened in relation to the TG staff's information and technology delivery capabilities, so only few TG field staff and agricultural technicians shared stories about significant changes they experienced. However, the number of farmers and processors who served as story sources was high both during the first and second-round story collection. This suggests that there were already a number of farmer-clients who experienced significant changes because of their involvement with the TGP.

TGP activities mentioned in the stories

The TGP in the Eastern Visayas conducted different activities to facilitate provision of information and technology delivery services to different groups of clients. It conducted a number of capability building activities, including trainings, seminars and field tours intended to improve the field technicians' and farmer-scientists' capability to provide extension services. A number of these activities were mentioned by the storytellers to have contributed to the changes they experienced and considered significant. In many stories, the activities mentioned were related to FITS or the TG centers; trainings, seminars and field tours; and disctribution of IEC materials (Table 2).

Significant changes experienced by TGP stakeholders

The stories collected from the TGP stakeholders represented four categories of change, including changes in the extension delivery capability of the TG field staff, changes in the lives of the program beneficiaries, changes in the knowledge, attitudes and skills of the program stakeholders and other kinds of changes.

Changes in extension delivery capability

Table 2. TGP services mentioned in the stories to have contributed to the changes experienced by the stakeholders

TGP Components, Services and/or Activities Mentioned in the Stories	Number of Stories	Percent of Total (n= 80)
More than 1 service - IEC materials, ICTs (computers, cell phones), trainings, marketing assistance, farmer-scientists	9	11.25
FITS or TG center	22	27.5
Capability building activities (trainings & seminars-workshops, cross visits, educational tours)	20	25.0
IEC materials (reading materials and techno-videos)	14	17.5
ICT facilities (computers, cell phones, digital camera)	3	3.75
Project of TG base agency	2	2.5
TG and other collaborating agencies	4	5.0
Technical assistance	1	1.25
Vegetable seed dispersal project of the TG center	1	1.25
TGP in general	3	3.75

Of the 80 stories, 26 (32.5%) were about improvements in the extension delivery capability of the TG field staff and some staff of other development agencies. Three of the stories, however, told about changes that were not clearly connected to TGP, so these were not included in the thematic analysis. The remaining 23 stories revealed nine kinds of change experienced and considered significant by the TG field staff and some technicians of other agencies (Table 3).

The first three kinds of change - improvement in office facilities, improved office image and improved information and technology delivery strategies - were categorized as office-level changes. The next five kinds of change were individual-level changes or changes experienced by individual TG staff, while the ninth kind of change was considered as a lesson learned by the storyteller.

The change pertaining to 'improvement in office facilities' was told by the manager of a TG center. According to him, because of their involvement with the TGP, their office gained access to computers, which he said is very useful in delivering extension services.

On the other hand, the story about 'improvement in information and technology delivery strategies' was shared by a staff of one TG center. She said that because of Techno Gabay, they learned other strategies in information dissemination, such as the use of techno-videos and printed materials to supplement training and farmer consultations. She explained that before the TGP, they relied only on training and individual consultations to share new technologies to farmers and other clients.

Change in office image refers to the increased visibility of the TG base agencies as a source of information. This was the dominant theme of two stories collected during the first round of MSC testing. One of the stories narrated how the TGP caused the conversion "of a once unproductive area (a storage room) into a very presentable and useful information center" which is now frequently visited by many people who want information, including students, staff of other offices, and farmers. The other story revealed that because of the TG center, their office "became a very visible repository of technologies, not only on environment and natural resources, but also on agriculture and other information."

'Increased access to information resources' was the dominant theme of the changes described in five stories and experienced by the staff of

Table 3. Themes of the changes perceived by the TGP stakeholders to represent domain 1 (Change in Extension Delivery Capability)

Themes of Change	No. of Stories	% of Total (n=80)
Office-level change		
1. Improvement in office facilities	1	1.25
2. Improved information and technology delivery strategies	1	1.25
3. Improved office image	2	2.5
Individual-level change		
4. Increased access to information resources	5	6.25
5. Increased knowledge and/or skills about new technologies (i.e., agriculture, fishery, computers, etc.)	9	11.25
6. Change in information sharing behavior	1	1.25
7. Improved relationship with farmers	1	1.25
8. Improved capability & confidence to answer farmers' questions	3	3.75
Lesson learned		
9. Use of cellular phone to share information to clients increased TG staff's communication expenses	*	
Change not clearly connected to TGP	3	3.75
TOTAL	26	32.5

* This kind of change was contained in a story which also narrated a positive change.

three TG centers. In one of the stories, the TG field staff narrated that her involvement with TGP gave her the chance to participate in capability building activities, including trainings and field tours, and to have access to more information about agriculture. The other stories narrated that because of the Techno Gabay center, they now have easier access to information resources.

The change about 'increased knowledge of new technologies' was narrated in nine stories and experienced by staff of five TG centers. The storytellers revealed that as a result of their exposure to information resources at the TG center and to their participation in the TGP-organized capability building activities including training and field tours, their knowledge about new technologies in agriculture and fisheries increased. One storyteller also narrated that because of the training in computer operations conducted by the TGP for the TG field staff, his knowledge and skills in operating computers and accessing the internet increased.

The theme about 'change in information sharing behavior' was contained in one story and experienced by a staff member of a TG base agency who was not directly assigned to handle TG-related activities. He said he used the information materials at the TG center as references for his research and extension undertakings. Convinced of the usefulness of the information materials at the center, he said he is now helping the TG staff to share the information with others.

The change pertaining to an 'improved relationship with farmers' was narrated by a staff of the TG base agency. He revealed that facilitating TG activities, including meetings and trainings, enabled him to have frequent and close contact with farmers. This resulted in better response from the farmers.

There were three stories about 'improvement in the field technicians' capability to serve.' According to the storytellers, the information materials available at the TG center increased their knowledge about new technologies. This increased knowledge gave them the confidence to answer their clients' need for information or technical assistance. Also, the facilities provided by the TG program, such as computers and cell phones, enabled them to provide immediate responses to the farmers' questions. This suggests that the information materials and

communication facilities provided by TGP to the TG base agencies enhanced the extension capabilities of the technicians in the TG base agencies. Such enhancement was not only in terms of improving knowledge and skills, but also in terms of boosting the field technicians' confidence as information and technology service providers. Below is an example of a story telling about a technician's improved capability to serve clients:

A significant change on my part is that there is an easy access to information and a help in dealing with the farmers' needs especially that the program had given us the necessary equipment like cell phones and digital camera for easy documentation especially of problems that arose in the field.

The project was very significant to me because I had already experienced before that I could not fully explain what happened to a certain rice farm that was infested with pests. With the use of the digital camera, I was able to take pictures of the entire farm and the affected plants including the roots, and refer the problem to our municipal agriculturist and…the manuals which we have at the Techno Gabay Center. So, if not for this Techno Gabay Program, it would be hard for us to distinguish what kinds of infection were affecting the plants.

While most of the stories about change in extension delivery capability narrated about positive changes, there was one story that revealed a negative consequence of using cell phone to answer farmers' questions. The change was about increased expenses for cell phone load, which was experienced by the information service specialist of one TG center. He revealed that due to the increasing inquiries coming from farmers and other clients, he had to frequently use the cell phone issued to him by the TGP to answer farmers' questions. The budget for cell phone load, however, was limited to only PhP500/month. But at the end of one month, the bill would reach to as high as PhP3000/month. Since the TG base agency had no budget for this expense, the TG staff ended up paying the extra amount. This problem needs the attention of the TG coordinators. It might also be experienced by the staff of other TG centers, and discourage them from using the cell phones issued to them by TGP, thus defeating the purpose of the equipment, which is to facilitate faster exchange of information among the technology service providers and the clients.

Changes in the program beneficiaries' lives

Of the 80 stories, 30 (37.5%) were classified by the TGP stakeholders to be under Domain 2, Change in People's Lives. One of the stories, however, was telling about a change that was not clearly connected to TGP, so it was not included in the thematic analysis. The remaining 29 stories focused on nine kinds of change (Table 4). Eight of these kinds of change were about positive outcomes of the TGP services; and one was about a negative experience.

The story about 'change in knowledge' narrated how a lady farmer's participation in a training conducted by TG field technicians improved her knowledge about integrated pest management (IPM) and effective use of fertilizer. The two stories about 'increased knowledge and motivation to farm' came from two farmer scientists. One of the stories revealed that because of the assistance of the TGP staff, the storyteller and the group of people she leads gained more confidence and high hopes in upland farming. The other story revealed how the farmer scientist's involvement with TGP increased his knowledge about new technologies and his motivation to go back to yautia (*Xanthosoma sagittifolium*) farming, which he believes is now profitable with the existence of a TG-assisted food processing group that uses the crop as raw material.

Three stories narrated about "change in farm practice.' One of the stories revealed how a lady farmer's mango production practices improved after she learned about mango production from a techno-video she borrowed from the TG center. The other two stories were about the farmers' shift to environment-friendly technologies, including the use of a biological control agent for eggplant disease, and the use of organic fertilizers, which they learned from a TG officer (in the case of the biocontrol agent) and from a training conducted by TG staff (in the case of organic fertilizer).

Of the 30 stories classified under Domain 2 (Change in People's Lives), 20 narrated about 'economic improvements.' Experiences relating to economic improvements included increased availability of food (in the case of farmers who raised tilapia using the fingerlings distributed at the TG center and the information contained in printed materials taken from the TGC; and the farmers who raised vegetables using as guide the

Table 4. Themes of the changes perceived by TGP stakeholders to represent domain 2 (Change in People's Lives)

Themes of Change	No. of Stories	% of Total (n=80)
1. Attendance to training increased their knowledge about new technologies	1	1.25
2. Participation in TG activities led to increased knowledge about new technologies and increased motivation to farm	2	2.5
3. Use of TGP information resources and participation in trainings led to change in farm practice	3	3.75
4. Benefits gained from TGP (i.e., increased access to information resources) encouraged more people to participate in TGP activities	1	2.5
5. Access and use of TG services led to economic improvement (i.e, improved livelihood manisfested by increased market for products, fewer pests, higher crop yields, and increased income)	20	25.0
6. Adoption of environment-friendly technologies promoted by TGC staff led to sustainable farming venture	1*	1.25
7. Empowerment	2	2.5
8. Increased access to information at the TGC erased student's apprehensions about lack of information resources for class requirements	1	1.25
9. Negative experience: use of vegetable raising technologies promoted at TGC increased yield, but this benefit was not sustained because of other farm problems, including lack of water	1	1.25

* This theme of change was contained in a story of a farmer scientist that contained more than one kind of change

information they obtained from training conducted by TG staff); increased market of processed food products; fewer pests and higher yields of crops; and higher income from vegetable farming, swine raising, or fish culture. There was even one story which revealed how other people in the community earned additional income from vegetable farming because the farmer-scientist taught them how to improve vegetable farming using the technologies he learned from training sessions.

One interesting story, which was collected during the second-round story collection and selected by VICARP-TG staff as the most significant among the stories about change in people's lives, was that of a bus terminal dispatcher who earned additional income from his swine raising project, which was improved after he followed some of the tips contained in a technology video shown in one TG center. As narrated in his story:

...I saw a video show about pig raising at the Techno Gabay (Center) at the (bus) terminal. I requested our barangay captain to allow me to take care of some pigs dispersed by the local government. ...What I learned from the video show about taking care of pigs, treating swine diseases, feeding and taking care of piglets until they grow and become sows, helped me and my family a lot because through raising pigs I was able to send my four (4) children to school: one in college, two in high school (second year and fourth year), and one in Grade VI. Second, (pig raising) provided 80% of my family's source of livelihood....The pigs that I took care of produced offspring four times before they were sold. My income from the sale of the pigs was used to repair our house which amounted to PhpP120,000.00. I was also able to buy CD (player), TV 21" and electric fan. I was also able to send my four children to school. I saved what I earned from working as a dispatcher and used the money to buy feeds for the pigs. I also stopped smoking; instead of using my money to buy cigarettes, I used it to buy feeds for the pigs. I also asked my child who is a college student in (NAME OF A UNIVERSITY) to take up Animal Science.

The relatively large number of stories that tell about clients' experiences related to economic improvements suggests that when talking about impacts of development programs on people, what immediately comes to the minds of many is economic improvement. The fact that many of the collected stories were about this kind of change shows that the TGP had already made some contributions to the economic well-being of its clients.

Aside from stories on economic improvements, there were also two stories about empowerment. One was told by a shy lady farmer who was turned into a community leader because of the guidance of the farmer scientist in their area, and her consequent participation in training activities co-organized by the staff of TGP and a community-based action research project of the TG base agency. As told in the story, due to the persistent invitation of the farmer-scientist, the storyteller was able to attend a series of training activities and seminars about agriculture. Her participation in these activities not only improved her farm practices and income but also increased her confidence in herself and widened her circle of friends. She also learned to share her knowledge to other farmers, and this made her popular enough to be elected later as vice chair of a farmers' cooperative. Aside from telling about empowerment of a client, the story also revealed the role of the farmer scientist as a facilitator of change. If not for the insistent invitation of the farmer scientist, the shy lady would not have participated in the training.

The other story was about empowerment of a farmer scientist. The empowerment in his case was related to improvement in his decision-making skills after he learned how to keep farm records from one of the training activities he attended. His farm records, he said, served as his basis for making important decisions related to his farm activities.

Changes in knowledge, attitudes and skills

Twenty-one of the 80 stories (26.25%) were classified by TGP stakeholders to be under Domain 3, Change in Knowledge, Attitudes and Skills. These stories came from 8 farmers, 2 students, 2 housewives, 6 staff of the TG base agencies, 2 LGU officials, and a technician from another development agency. The stories were relatively shorter than those in other domains, but all of the changes described in the stories were connected to one or a combination of TGP services. Results of the thematic analysis showed that the 21 stories were telling about seven kinds of change (Table 5).

'Increased access to information' was experienced by three storytellers. One narrated that because of the Techno Gabay Center, she was able to photocopy brochures about tilapia (Oreochromis niloticus)

Table 5. Themes of the changes perceived by TGP stakeholders to represent Domain 3 (Changes in Knowledge, Attitude and/or Skills)

Themes of Change	No. of Stories	% of Total (n=80)
1. Increased access to information because of TGCs	3	3.75
2. Increase in knowledge (about agricultural technologies, environmental protection, etc.) due to trainings and info materials at TGCs	7	8.75
3. Improved skills (to use computer) because of the help of TG staff	2	2.5
4. Formation of positive attitude towards TG	4	5.0
5. Increased motivation/ enthusiasm to farm	2	2.5
6. Increased participation in group activities after training conducted by TG staff	1	1.25
7. Improved system/capability to share information	2	2.5

production that she and her husband used for their existing tilapia farm. Another story, told by a farmer, narrated that with the information materials at the TGC, farmers and fishermen can be guided about new technologies. The other story, told by a staff member of a TG base agency, narrated that because of the TGC, more people are now coming to their agency to obtain information about new technologies.

On the other hand, the change pertaining to 'increase in knowledge' was contained in seven stories. These stories came from four farmers, two students and a technician from another development agency. The storytellers narrated that their participation in trainings conducted by some TG staff, or their use of the IEC materials at the TG center, increased their knowledge about a variety of topics, including vegetable farming, swine raising, fish culture, and environmental protection.

There were two stories about 'improved computer skills'. These stories came from two officers of one TG base agency. The storytellers

narrated that because of the help of a TG staff member, their skills in computer operation improved. Both of them acknowledged that their improved skill in computer use was significant because it made their work, including preparing reports, easier.

Aside from improved skills, three stories were about 'change in attitudes and motivations.' These were about formation of a positive attitude towards Techno Gabay, increased motivation to farm, and increased participation in group activities after the training conducted by the TG staff. Moreover, there were two stories about 'improved capability to share information.' One of the stories narrated how the training activities and reading materials at the TG center widened an LGU official's knowledge about sustainable agriculture and environmental protection. The knowledge he gained encouraged him to reactivate the municipal agriculture and fisheries council (MAFC) and to share what he learned (about poultry and swine raising) with other people through lectures and through a radio program on agriculture which he hosted.

Other changes

Two of the stories classified under Domain 4 (Any Other Changes) were collected during the first round of story collection, while the other one was collected during the second round. Themes of the changes narrated in the stories are presented in Table 6.

The story about 'big cell phone bill' was told by a farmer-scientist. He narrated how the cell phone provided to him by the Techno Gabay Program helped him in contacting technicians, other farmers and buyers of his vegetables. However, he decided to return the cell phone to the TG center when, at the end of the month, he received the bill indicating that he had to pay an unexpectedly large amount. When a TG staff told him that he had to pay the amount to be allowed to continue using the cell phone, he decided to return it, otherwise, "my income from vegetables would all be spent to pay the bill". This story reinforces the need for the TG coordinators to pay attention to the problem on big cell phone bills. This problem, which was also experienced by a TG field officer, can limit the utility of the communication equipment to facilitate faster sharing

Table 6. Themes of changes under domain 4 (Any Other Changes)

Themes of Change	No. of Stories (n=80)	% of Total
1. Big cell phone bill - cell phone of MS returned to TG staff due to high expenses incurred for load	1	1.25
2. Felt frustrated - inability to help solve problem affecting livelihood project of the TG base agency made the TG staff's feel frustrated and useless	1	1.25
3. Bothered by TGP - the many responsibilities given to him made the MS decide to stop his involvement with TGP	1	1.25

of information among TGP stakeholders.

On the other hand, the story about a field technician's frustration because of the worsening of a problem that beset the livelihood project implemented by one TG base agency, appeared not to be related to the TG program. However, the story was included in the analysis because it was experienced by a TG field staff and it caused her to feel frustrated and useless for not being able to help the affected people. This has implications on the need to continually update the technicians with information and technology that they can use to help solve their clients' problems.

The story about being bothered by the TGP was told by a farmer scientist. He revealed that he is not used to speaking in front of many people but, being a farmer scientist, he is required to share information to people during conferences. According to him:

In the last six months I have not yet seen any important change because of my involvement with the Techno Gabay Program. Instead, I feel bothered because many would always interview me here, despite the fact that I don't

have enough experience about this program because I'm still newly involved in this; it's less than a year yet. ...My being an MS of Techno Gabay gave me apprehension and hassle because of the activities and responsibilities given to me; one of which is to speak in front of many people. That is very difficult for me, just let me work, don't let me speak in front of many people. I don't have the talent to speak, I am industrious, instead; it shows in my accomplishments.

During the story review and selection process, the VICARP-TG reviewers considered this story as highly important because it gave them some important insights. One of the staff said:

I realized that in implementing the program, we should be sensitive to the feelings of our collaborators, such as the farmer scientists, farmer-cooperators, and other clients. Instead of helping them, we may end up bothering them.

The VICARP coordinator also said:

Given the limitations of some farmer scientists, we should find innovative ways to tap them effectively as information resources. For instance, (NAME OF THE FARMER SCIENTIST) may not be bothered to present reports during conferences; he may just be requested to brief people who visit his farm.

Levels of Changes and Indicators of TGP Impacts

To determine the levels of impacts to which reported changes correspond, the researchers classified the themes of changes based on Bennett's Hierarchy of Program Evidence. Results are summarized in Table 7. In Bennett's Hierarchy, evidence of change caused by a development program is classified into seven levels. According to Sutherland and Leech (2007), evidence of change corresponding to levels 1 to 3 in Bennett's Hierarchy can provide information about the efficiency of a planned activity or how much effort is required, but not about intended results or effectiveness. To measure the impacts of program activities or the changes that occurred as a result of actions, it is important to measure evidence further up the ladder of Bennett's Hierarchy (i.e., levels 4 to 7).

In this study, TGP impacts were not measured using pre-identified

indicators. Rather, the stories generated by the program stakeholders through the MSC process revealed the kinds of changes experienced and considered significant by the various stakeholders. As shown in Table 7, the changes described in most of the TGP stakeholders' stories correspond to the higher levels of Bennett's Hierarchy of program outcomes (levels 4-7). This is an indication that the TGP had already made an impact on its intended target groups, which include the extension service providers in the localities where the TG centers are based, and the clients (farmers, fisherfolks, housewives and students). In fact, the highest percentage of stories collected (40%) revealed changes that correspond to the highest level of Bennett's Hierarchy (level 7). This suggests that the TGP had already contributed to the improvement in the economic and social conditions of the target groups.

For the TG base agencies, the TGP had already contributed to the improvement of office facilities and the consequent improvement of office image of some agencies (i.e. increasing their visibility as information and technology sources). When agencies are recognized as reliable sources of information, more clients can be expected to visit and seek assistance, and be served.

For the TG field staff and the technicians of other agencies, the TGP had made contributions in terms of increasing their access to information resources, improving their knowledge, attitudes and skills related to the use of new technologies, and consequently improving their capabilities and confidence to answer their clients' needs.

For the clients, the TGP had already made contributions not only in terms of economic improvement, but also in terms of promoting sustainable farming and empowerment of some. Indications of empowerment as revealed in the stories include improvement in decision-making capability, increased self-confidence, learning to share knowledge with other farmers, and development of leadership skills.

IMPLICATIONS

The stories revealed that the TGP has already caused a number of changes that are in line with the TGP objectives. These changes included

Table 7. Levels of program outcomes to which the changes experienced by TGP stakeholders correspond

Level of Outcomes	Themes of Change	No. of Stories	% of Total (n=80)
4 (Reactions to TGP)	TGP enabled office to have access to computers; availability of IEC materials & TGP's capability building activities increased TG staff and clients' access to information	9	11.25
5 (KASA Changes)	Improvement in knowledge about technologies;formation of positive attitude towards TGP; increased motivation to farm; improved skill in computer use, food processing, etc.	27	33.75
6 (Behavioral Changes)	Improvement in information and technology delivery strategies; change in information sharing behavior; changes in farm practices	6	7.5
7 End Results, or Changes in the Conditions of	Improved office image; more people becoming involved with TGP; improved capability & confidence to perform extension functions; improved relationship with farmers; economic improvement; sustainable farming; empowerment	32	40
Lessons Learned	Use of cell phone to share information increased communication expenses; TG staff felt frustrated for not being able to help solve problems of clients; MS decided to stop involvement with TGP	4	5.0

improvements in knowledge, attitudes, skills and the economic and social conditions of some stakeholders. This implies that the TGP has already achieved some successes in terms of attaining its goal of helping people improve their living conditions through the provision of information and technology delivery services.

Results of this study also proved that the MSC technique can indeed help program stakeholders not only in knowing and understanding the outcomes of their efforts, but also in identifying which aspects of the program need to be improved. What made the MSC stories special was that they revealed evidences of impacts or changes considered significant by the program stakeholders themselves. However, it was observed that when asked about significant changes experienced, most of the program stakeholders would immediately share about positive changes. If the project implementers want to use the MSC process as a tool to help improve program implementation, they should also find better ways to capture negative changes that program stakeholders experience as a result of their involvement with the program.

On the other hand, results of this study reinforced what the other researchers (Davies, 1998; Dart, 2000; Ringsing 2003; Davies and Dart, 2005) discovered that the MSC technique should not be used as a stand-alone M & E tool. In this study, analysis of the reported changes using Bennett's Hierarchy of Program Outcomes as guide showed that while the stories generated through the MSC process gave information about program effectiveness (as indicated by changes corresponding to levels 4-7 in Bennett's Hierarchy), it did not give information about program efficiency (i.e., changes corresponding to levels 1-3 of Bennett's Hierarchy). Thus, if the purpose is to make an overall assessment of the program's performance in terms of efficiency and effectiveness in attaining the desired outcomes, the MSC technique has to be supplemented with other M & E methods (maybe quantitative methods) that can measure program performance, especially in terms of inputs invested, activities conducted and clients served.

For TGP-EV, the stakeholders may continue using the monitoring forms that they have been using to track accomplishments in terms of funds, manpower and other inputs invested, activities conducted, and

number of clients served. They may also continue using the process documentation research (PDR) to monitor changes in the process of program implementation. The MSC technique will be useful in tracking and valuing changes experienced by the stakeholders as a result of their involvement with the TGP.

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