THE PALAWAN FORMATIVE RESEARCH PROJECT: CONTEXT, METHODOLOGY AND GENERAL FINDINGS

Betty C. Abregana

PALAWAN, a frontier island province, is part of the Southern Tagalog Region. The province has 22 municipalities and 420 barangays spread in a land area of 14,896.3 sq km. As of 1990, the population was 528,287. The terrain of the province is rugged, particularly on the western portion where a chain of mountain ranges rises to heights up to 2,086 m. Except for the wide plain in the north and pockets of big valleys and delta lands along the shore down to the south, the west coast is practically devoid of coastal land and consists mainly of craggy foothills and mountains close to the sea. Rivers and streams traverse through the province but the most unusual is the seven kilometer underground river flowing under limestone rocks and emptying into Saint Paul Bay. The principal river in the province is Iwahig River (*National Statistics Office: Provincial Profile* 1990).

The same document indicates that in 1986, 1.1 million ha or 75.1% of the total land area of the province (1.5 million ha) were forested lands, while 24.9% were certified alienable and disposable lands. Of the total forest lands, 64.5% were national parks/game refuge and bird sanctuaries/wilderness areas; 31.9% were established timberlands; and 3.6% were civil reservation.

Palawan's physical configuration, characterized by its narrow contours, steep slopes, and short distance from mountain to shore, makes it vulnerable to the consequences of human disturbances on the natural environment. The strategic importance of Palawan rests on three main factors: (a) its rich natural resources; (b) its geographical proximity to international shipping lanes (i.e., the Palawan Passage and North and South Balabac Straits) which could yield vast economic, sociocultural and military benefits; and (c) its potential as a growth center in the South China Sea region which includes particularly Sabah of Malaysia and North and South Sulawesi of Indonesia. Mainly for these factors, government planners have been spurred "to view development in Palawan from the

framework of the geopolitical and socioeconomic realities existing in the province, the nation, and the South China Sea region" (*The Palawan Framework for Development 1996-2005*: 6-7).

The *Palawan Framework for Development* (*PFD*), a medium-term development plan for 1996-2005, has identified nine sectoral issues related to environment and natural resources. These are: (1) the lack of successful program/project implementation; (2) poor pollution control measures; (3) nonoperationalization of Palawan Council for Sustainable Development (PCSD)-Department of Environment and Natural Resources (DENR) Memorandum of Agreement; (4) the lack of community participation; (5) unsustainable use of natural resources; (6) lack of sufficient and sustained funding; (7) influx of migrants; (8) problematic policies; and (9) limited research and development in environment and natural resources (*PFD*: 6).

To address these concerns, policy-makers of the *Palawan Framework for Development* formulated a number of plans and programs for the sector on environment and natural resources (*PFD*: 31-33). Programs and projects effectively and successfully implemented were those which aimed at (1) minimizing graft and corruption through periodic monitoring; (2) encouraging and promoting responsive bureaucracy; (3) establishing and enhancing the commitment of stakeholders; and (4) conducting social preparation of beneficiary communities. In addition, programs and projects such as forest park development, environmental law enforcement, watershed rehabilitation, and communal farming were introduced and implemented.

To alleviate the pollution problem, a number of pollution control measures were effectively enforced and implemented. These measures included (1) conducting seminars, trainings, orientations on proper waste disposal management system; (2) encouraging local government units to establish waste management system including effective drainage and sewage system; and (3) encouraging and promoting pollution control measures.

These environmental initiatives were given legitimate support by well-defined environmental standards, policies and guidelines such as: (1) enforcement and implementation of the Memorandum of Agreement between the Palawan Council for Sustainable Development (PCSD) and

the Department of Environment and Natural Resources (DENR); (2) enforcement and implementation of the Environmental Statement System (PD 1505); (3) formulation of adequate and well-defined policy on tourism development; (4) adoption, enforcement, and implementation by local government units of policy guidelines and standards for tourism-related establishments; (5) formulation, adoption and implementation of policy standards investments towards sustainable development; (6) establishment of appropriate mechanism to address the problem of migration; (7) creation of policy standards and guidelines for biodiversity conservation; and (8) strict enforcement and implementation of policies, laws, and regulations on mining activities.

Community participation to encourage active involvement among members of the community in environment-related activities was promoted with a number of community-based programs. Some of these programs which have been initiated and successfully carried out included environmental awareness training, seminars, and orientation; effective information and education capability enhancement training for environment extension workers; campaign strategy for environment-related activities; provision of adequate facilities and materials support; and community dialogues and consultations.

Measures for proper and sustainable use of natural resources, such as the Provincial Land Use Plan, have been adopted and implemented. At the same time, local government units have been encouraged to formulate and implement Municipal Land Use Plan consistent with the Provincial Land Use Plan.

To ensure sufficient and sustained financial support for environment-related activities, a set of fiscal policies were initiated which included the (1) establishment of an adequate trust fund for environment; (2) allocation of funds for environmental programs, projects and activities; (3) drafting of environmental project packages for foreign as well as national funding which would provide adequate access to sources of funds; (4) imposition of penalty fees to environmental polluters; and (5) imposition and efficient collection of environmental tax.

Finally, as a vital support system, research on issues related to environment and natural resources has been promoted and established.

Such research projects included first and foremost the establishment of an environmental research and development center; the creation of the Palawan Environment Information and Database System; and a resource inventory of all available data, manuscripts, and research abstracts pertaining to Palawan Environment and Natural Resources. The need to provide adequate financial and other support for the promotion of research and development work in Palawan Environment and Natural Resources has been likewise stressed.

The *Palawan Framework for Development* has also identified existing developmental issues which have not only hampered major developmental efforts in the province but have proved deleterious to the environment. These negative issues included (1) disorganized and unrealistic government policies on land use; (2) deforestation caused by shifting agriculture and improper logging practices; (3) intensified agricultural and fisheries production in the coastal areas; (4) under-utilization of potential agricultural areas; (5) improper pollution control; and (6) encroachment into critical watershed areas.

In light of these environmental concerns, what key communication interventions can be implemented to move people to adopt environmentally positive actions? Presently, provincial government offices and nongovernmental organizations engaged in environmental programs do not have a unified communication plan for the province. An encouraging exception, however, are agencies such as the Palawan Council for Sustainable Development (PCSD) and the Palawan Tropical Forestry Protection Programme (PTFPP) which are in the process of formulating their plans.

The GreenCOM Project

The Environmental Education and Communication Project (GreenCOM) is a United States Agency for International Development (USAID) project implemented by the Academy for Educational Development (AED), a nonprofit, nongovernmental organization based in Washington, D.C., and its subcontractors. GreenCOM builds on two decades of AED experience in the application of development

communication to motivate the voluntary adoption of positive behaviors related to social program goals.

In the Philippines, GreenCOM is collaborating with the government, nongovernmental organizations, people's organizations (POs), local government units (LGUs), and private sector counterparts in the tasks of harnessing and focusing environmental information, education, and communication (IEC), social marketing, and advocacy in order to support sustainable resource use. One of GreenCOM's tasks in the Philippines is to design, implement, and evaluate three pilot communication interventions. The sites for these interventions are San Vicente, Palawan; Metro Cebu (Mactan/Olango Islands); and Malalag in Davao del Sur.

The communication interventions will be linked to the devolution of natural resource management to local government units and communities as mandated by the Local Government Code. The Local Government Code essentially devolves resource management from the national to the local level and provides local government units with the mandate to motivate and assist communities in taking the actions necessary for sustainable resource management within their *puroks*, *barangays*, and municipalities. The overall purpose of the communication interventions is to demystify the Local Government Code and motivate LGUs and community members to take advantage of the rights that the Code provides consequently promoting the adoption of specific actions or behaviors among both LGUs and local residents. The communication interventions will contribute to heating up the process of devolution in the various levels, at the top (provincial and local decision-makers and opinion leaders), as well as at the bottom (people's organizations and individual community members).

Research Objectives and Methodology

In response to GreenCOM's request for a proposal, a formative research in support of the pilot environmental communication campaign in San Vicente, Palawan was conducted. The purpose of the research was to help shape the content of the communication intervention and to

determine which channels will be used to communicate the messages to the target audience. The study aimed to identify (1) current knowledge, beliefs, and practices of "doers" and "nondoers" in relation to the ideal behaviors; (2) the factors that have influenced the adoption of those behaviors; and (3) the most effective (trusted) and efficient (preferred and currently used) channels to communicate information about the environment.

The research approach was exploratory and qualitative. As an exploratory study, the research aimed to get extensive information about behaviors toward the environment, discover new dimensions, and uncover additional aspects of these behaviors. As a qualitative research, it did away with highly numerical survey techniques. Rather, it engaged people in a conversation in their natural settings, and documented how the inhabitants of these settings made sense of their surroundings through social roles, structures, adherence to cultural norms and behavioral routines, the individuals' own perceptions, subjective apprehensions, and so forth.

The study participants included Local Government Unit (LGU) decision-makers, opinion leaders and community residents. In-depth interviews were conducted with LGU officials and opinion leaders. Focus group discussions (FGD) were done with community residents. An interview guide and a separate FGD guide were used to direct the flow of the conversations and to generate data sets that were comparable across research sites.

In Palawan, the site chosen for pilot environmental communication campaigns was San Vicente. In this rural municipality, the participants of the study included 15 LGU decision-makers composed of five females and 10 males who were mostly residents of coastal barangays; 14 opinion leaders composed of seven females and seven males who were mostly residents of coastal barangays; and community members organized into 10 focus groups consisting of five female and five male groups from the coastal barangay of Port Barton and the barangay of New Villafria which has an upland reforestation site.

The focus discussion group (FGD) in Port Barton was made up of four doer groups consisting of two female groups and two male groups and

two nondoer groups composed of one female group and one male group. In New Villafria, the FGD format consisted of two doer groups made up of one female group and one male group and two nondoer groups composed of one female group and one male group.

An adjacent municipality was chosen as point-of-comparison.[1] The participants of the study were limited to the LGU decision-makers. Seven LGU respondents were males and another seven were females. Most were residents of the poblacion.

Data management, analysis and writing of the results of the study were done by the members of the research team who were also directly involved in data collection.

Doer-Nondoer Distinction

The basic methodology used in this research required comparing doers and nondoers among the participants of the study. As generally defined, doers are members of the target audiences--women and men--who are engaged in performing the desired behaviors; nondoers are those who are not. In this study, LGU decision-makers in San Vicente were chosen as representatives of a doer municipality while LGU decision-makers in the adjacent town were selected to represent a nondoer municipality.

A comparison of the track record of environmental activities of the two municipalities at the time of the study showed that San Vicente has an institutional framework for its environmental agenda and has a formal mechanism, initiated by the local government, for the participation of community residents in the management of a local natural resource. In addition, the municipal government allocated a budget for its municipal environmental work plan. On the other hand, the adjacent municipality is still in the process of defining and formulating an institutional environmental plan and sourcing logistics for the implementation of such a plan. Presently, environment-related activities in this comparison municipality are carried out by some line agencies such as the Department

[1] For ethical reasons, the municipality used for comparative purposes in this study will be referred to invariably as the comparison municipality, adjacent municipality/community/town, and adjoining municipality/community/town.

of Environment and Natural Resources (DENR), the Department of Agriculture (DA), and other sectors such as schools, nongovernment organizations, or women's groups, without a cohesive program of action. At the time of the study, the adjoining municipality had no specific item in the budget for environmental programs.

Opinion leaders were classified into doers and nondoers. Opinion leaders, as operationally defined in this study, referred to persons who were considered influential in the community because their ideas or opinions were either sought or listened to by the residents. Doer opinion leaders were those who directly participated in community activities that were considered positive actions toward the environment. By contrast, nondoer opinion leaders were those who did not participate in such activities.

Community members were categorized as doers if they belonged to and actively participated in the activities of a *samahan* (local association) devoted to the protection of a local natural resource, like the forest or the sea. Community members were classified as nondoers if they did not join any local environmental samahan. A good number of the nondoer community members, however, were members of such local groups as pastoral council, mothers' club, and association of parents and teachers.

Study Sites

San Vicente

San Vicente lies approximately at 119 degrees latitude and 10.5 degrees north latitude on the northwestern side of Palawan. It is bounded by the South China Sea on the west, Taytay on the north, Roxas on the east, and Puerto Princesa City on the southwest. Except for some isolated areas, the terrain of San Vicente is generally rugged due to the vast Pagdanan and Central Ranges that traverse the entire municipality. Elevation ranges from zero to 703 m. Around 18 % of its total land area is moderately sloping, undulating and rolling (0 to 18° slope) while 82 % is steeply sloping to hilly and mountainous (18° slope and above). San Vicente has legal jurisdiction over ten barangays located within an area of 82,057 ha (see Figure 1). Twenty-two smaller islands scattered in the South China Sea also form part of the municipality.

The 1993 Census recorded the population of San Vicente at 18,472. The ratio between males and females was placed at 120 males for every 100 females. This population consists of 24 ethnic groups, with new migrants (e.g., Cebuanos/Boholanos, Warays, Ilonggos) settling in the place together with the original migrants such as the Agutaynens, Tagalogs and Cuyonens. Given such an ethnically diverse population, San Vicente is certainly a multilingual community. Roman Catholics make up 76 % of the residents. The major sources of household income are fishing and farming. The major crops produced in the area are rice, coconut, cashew and corn. In 1986, the aggregate household income of the town was PhP87,985,487; the average household income was PhP28,829, while the per capita income was PhP5,252

Socio-Economic Profile: Municipality of San Vicente, 1993

In this study, San Vicente qualified as a doer municipality because of its institutionalized environmental agenda as contained in the Strategic Environmental Plan-San Vicente Project (SEP-SVP) document. The Strategic Environmental Plan of San Vicente was launched on 3 April 1993 by Executive Order No. 1 issued by the Municipal Mayor. On the same date, a Memorandum of Agreement (MOA) was signed between the municipal government and the 10 barangay governments. The MOA provided for the implementation of the SEP-SVP and Bantay San Vicente, outlined the policies, and identified facilitating and implementing bodies with their corresponding roles and responsibilities. The SEP-SVP followed a work program and was allocated a budget for its operation. In addition, San Vicente has instituted a formal mechanism for community participation in the management of natural resources as evidenced by the community organizing work done at the barangay level, the formation of local associations of farmers in upland farming communities, and the local associations of fisherfolk in coastal areas (see Table D).

Of the 10 barangays, the coastal community of Port Barton, and the barangay of New Villafria which has an upland area were selected as sample barangays for the focus group discussions (FGD) with community residents. Port Barton is the barangay with the most number of households, with majority of its residents depending on coastal resources

for their livelihood. Meanwhile, New Villafria (formerly Kemdeng), despite having the lowest number of households, was chosen as a sample site for the FGD for being the Pagdanan reforestation site, part of which has been presently designated as a communal forest. In both barangays, community organizing processes were instituted and local resource management associations were established. Still, there were members of these communities who did not join a samahan.

The Comparison Municipality

The adjacent municipality used for comparative purposes in this study is located in the northern portion of mainland Palawan, lying along latitude 10° 19' 30" north and longitude 119° 21' 30" east. It is bounded by the Ilian River and the municipality of Dumaran to the northeast, San Vicente to the northwest, Puerto Princesa City to the southwest, along Langogan River, and Sulu Sea to the north. The terrain of this municipality is generally plain to gently rolling on some areas along the shorelines facing the Sulu Sea, with gently sloping to steep mountain along the Barbacan Range of San Vicente. Seventy-two % of the total municipal area has slopes of 31° and above, while the rest falls within the 0 to 8° slope (11 %), 9 to 18° slope (10 %), and 19 to 30° slope (7 %). The total land area of 117,347 ha is home to 31 barangays, 29 of which are located in the mainland while two are on separate islands. The town has 14 islands and islets.

Based on the *Municipal Profile* of 1995, the total population of this town was reported at 44,364. The average municipal ratio between the sexes was 108 males for every 100 females. Several ethnic groups reside in the area with the Cuyonens, Agutaynens and Cagayanens composing 47 % of the population; Ilonggos, Cebuanos and other Visayans account for 30 %; the rest are Tagalogs, Bicolanos, Ilocanos and others. Roman Catholics make up 70 % of the population. About 45 % of the total working age population are in farming while 30 % are in fishing. The major farm crops are rice, coconut, cashew and coffee. Other sources of income are business and employment in government and private offices.

The *Palawan Framework for Development* (*PFD*) has identified the areas north to Taytay and San Vicente as suffering from forest denudation

caused primarily by traditional shifting cultivation system, unregulated settlement of pioneering kaingineros and improper logging practices (*PFD*: 1). The same document reported the claims from some concerned sectors of this comparison community that trawlers from other provinces are destroying traditional municipal fishing grounds located in the coastal waters from Puerto Island to South Verde Island (*PFD*: 3). The community feared that trawl fishing would result in declining yields and economic difficulties among subsistence fishing families and might force them to adopt destructive fishing practices, like the use of poisons or explosives (*PFD*: 3). This town also has a silica mine which purportedly empties waste materials directly into rivers (*PFD*: 5).

At present, this town has neither a legislated municipal environmental plan, nor a budget for environmental programs. The municipality relies solely on line agencies of the government such as the Department of Agriculture (DA) and the Department of Environment and Natural Resources (DENR) to initiate environmental activities. The incumbent mayor has taken a step to set up a sea patrol in line with the Bantay Palawan program.

Findings of the Study

This section summarizes the results of the study based on three primary sources of information: LGU decision-makers, opinion leaders, and community members. These results reveal that doer and nondoer respondents differed markedly in their knowledge, beliefs, and practices, regarding the environment and in their attitude towards environmental destruction.

Current knowledge, beliefs and practices of doers and non-doers

As shown in *Chart D*, San Vicente, as a local government unit, has made the decision to commit itself to environmental management. To carry out this commitment, the municipality, along with appropriate local and provincial bodies, has organized the structures and processes for the natural resource management programs and implemented these programs at the community level (Stages 1 to 4). However, the stages on marketing

and monitoring are, at present, still on a limited scale. San Vicente LGU decision-makers realized that the natural resource management program pursued by the municipality ameliorated the state of the environment. They acknowledged that without such intervention, degradation could not have been abated.

For their part, doer community members expressed concern over the deterioration of local natural resources. As shown in *Chart* G, doer community members in San Vicente made the decision to participate in the local association; organized, elected officers, accepted personal responsibility to protect and manage local resources, and invited other residents to join the association; planned a program of action; and implemented planned activities, monitored violations, and actively reported violators to authorities (Stages 1 to 4). At the time of the study, doer community members had limited marketing and monitoring activities of the process and impact of the program.

On the other hand, the comparison municipality is still in the process of defining and formulating a municipal environmental agenda. Although some line agencies and units of the local government engage in environmental activities, they receive no programmed direction from the municipality. Moreover, most of the respondents did not consider the degradation of natural resources as a serious problem, as long as something, like tree planting, is being done. The LGU decision-makers themselves did not perceive as alarming the present state of the environment in their own locality. Some reported that the condition of the environment in Palawan is still all right compared to that of the other places like Cebu. Similarly, non-doer community members generally did not consider the state of local natural resources to be critical. Moreover, they did not join a *samahan* devoted to the protection and management of local resources.

Nevertheless, across groups, the common environmental values held included a sense of personal responsibility for arresting the degraded state of natural resources, the value of working together to solve a shared problem, the belief that nature is God's gift and the way to show gratitude for such gift is to ensure that the future generation will enjoy the same bounty.

Factors which motivate doers most to take positive action

Across sample groups (LGU officials, opinion leaders, community members), a number of factors which motivate doers most to take positive action have been identified (*see Chart A*). These factors are LGU support, understanding of environmental problems, environmental values, beliefs and practices, consistent enforcement of environmental laws/ordinances, and access to technical support services and training. Specifically, LGU decision-makers underscored the existence of clear-cut environmental laws/ordinances, access to appropriate technology, access to credit and financing, willingness to invest personal time, money or materials, maintenance of smooth interpersonal relations, and increased family income from positive environmental action as equally crucial factors in motivating doers to take positive action.

Opinion leaders concurred with the LGU officials on the additional factors which motivate doers most to take positive action, except for factors such as the existence of environmental laws and access to credit and financing. Opinion leaders also considered crucial the approval and support of family members or influential community members in the conduct of environmentally positive actions. Meanwhile, opinion leaders and community members from interior barangays or upland areas considered access to appropriate technology, technical support services and training crucial (*see Chart B*). Among the community members, the primary factors considered to lead toward a positive environmental behavior include awareness of environmental ordinances or policies (*see Chart E*).

Factors which demotivate non-doers most and influence them not only to be passive but also to take negative actions

LGU decision-makers of the non-doer municipality considered political differences and factionalism as two of the most demotivating factors for taking environmental action. LGU decision-makers claimed that the involvement of some local officials in illegal activities has by and large influenced them to take either a passive attitude or negative action in relation to the environment. In other words, the bad example set by some officials demotivate LGU decision-makers to take positive action towards

the environment.

Opinion leaders believe that non-doers take either passive attitude or negative actions because of a number of factors: (1) limited knowledge of the effects of environmental destruction; (2) the perception that local resources are God-given for everyone to avail oneself of; (3) ignorance of environmental laws or ordinances; (4) lack of LGU support; (5) no access to appropriate technology; (6) lack of technical support services and training; (7) unwillingness to invest personal time and money or materials; (8) absence of support from members of the family; (9) fear of social disapproval; and, (10) having no assurance that environmental action will lead to an increase in family income.

An observable tendency among community members is an unwillingness to participate in environmental action when they perceive that the technology introduced is inappropriate to their needs and local conditions; when there is no assured provision for credit or financing of planned projects; when the demand on time, money or materials is beyond tolerable limits; when environmental action does not result in higher income for their family; and when there is no social recognition and approval of the actions they have taken (*see Chart F*).

Understanding of environmental laws and regulations

Except for the non-doer LGU, doers and non-doers across sample groups considered the understanding of environmental laws and regulations as a critical factor in the performance of ideal behaviors. Participants of the study have uniformedly cited the lack of clarity in the provisions of the Local Government Code and how the lack of implementing guidelines has caused confusion and conflicts among parties involved. Consequently, they have raised the urgent need first to define the functions and responsibilities of various environmental bodies such as the DENR and the PCSD, and second, to assess their impact on the local government's environmental initiatives. In particular, some respondents in San Vicente commented that the case on the communal forest need to be resolved. Futhermore, they stressed the importance of unifying the provincial and municipal policies on communal farming with the national policies of the DENR.

Impact of knowledge about a depleted/degraded natural resource on the performance of the ideal behaviors

Doer respondents in general realized that there is a serious degradation of natural resources and this realization motivated them to engage in a positive environmental action. Doers not only accepted personal responsibility for the care of the environment, but also influenced others to be involved in environmental action. They pointed out that part of the reason which motivated them to protect the environment was to ensure a good future for their children and the coming generations.

On the other hand, non-doers, while acknowledging that the environment is not as good as it once was, believed that the state of their immediate environment is not really grave. Consequently, they did not feel the urgency to do something about the environment. It was observed that non-doers were more inclined to adopt a fatalistic view, that is, what will happen will happen. Nonetheless, they were convinced that unless alternative sources of income are provided, people will continue to exploit the resources in the same way they are doing now.

Benefits that motivate the performance of ideal behaviors

LGU decision-makers in both doer and non-doer municipalities and by the doer and non-doer community members recognized a number of benefits that could be derived from the performance of ideal behaviors (*see Chart I*). Among the most important benefits they have identified are the reduction of illegal activities, the efficient and equitable use of local resources, improved socioeconomic and health condition of the community, and increased local government revenues.

Among community members, the sense of satisfaction for having helped is at the top of the list of benefits that could be gained from the performance of ideal behaviors. Also included among these benefits is a happy family due to the promise of abundant harvest and increased income. Similarly, community members found the approval and admiration by others and being recognized (*kilala*) as equally gratifying gains. On the more practical side, community members identified easier access to loans, having access to services from line agencies, acquisition of

knowledge, and improved skills in communication and public relations as gainfully useful proceeds emanating from the performance of ideal behaviors.

Disadvantages that hinder the performance of ideal behaviors

Participants of the study also acknowledged that the performance of ideal behaviors carried with it a considerable amount of risks and disadvantages while it provided them many benefits. Of the undesirable consequences that participants have experienced from doing environmental actions, the most widely recognized included the demand of such undertaking on their time and family resources, the removal of a potentially profitable source of business from logging or illegal methods of fishing, and its potential for creating conflict among community members and making enemies of each other (*marami ang kalaban*).

Characteristics of persons active in environmental affairs

Persons active in environmental affairs have been observed to possess a number of distinguishing traits and characteristics and participants of the study have recognized these qualities (see *Chart H*). To doer opinion leaders, a person who is active in environmental affairs is one who is involved in an environmental project, not engaged in an illegal activity. Such a person obeys environmental policies and ordinances. Moreover, he/she is a member of a *samahan*. Most importantly, he/she exhibits a willingness to put in time for association activities.

Doer community members described a person active in environmental affairs as one possessing a number of the following desirable characteristics. First and foremost, such a person belongs to the community and one everybody can identify with. In the words of the respondents, this person is "small like us," yet one who does not resort to illegal activities. Furthermore, this person exhibits not just a concern for the community and the good of the majority, but of the quality of the environment for the next generation. He/she is law-abiding and obeys rules and ordinances while actively participating in community affairs such as patrolling the area and reporting violations. To the respondents, an equally vital quality of this person is incorruptibility and integrity. In other words,

he/she is not swayed by bribe money (*lagay*) or personal requests (*pakiusap*) especially by influential members of the community (*padrino* system). On the more practical side, this person has the ability to solicit support from the government; and influence others to join a *samahan*. Finally, as an active member of a *samahan*, he/she is involved in an environmental project.

Non-doer opinion leaders characterized a person active in environmental affairs as one who monitors and reports violations, is a member of a *samahan*, and attends seminars on environmental protection and management.

Interestingly, to non-doer community members, the picture of a person active in local resource management is one who is not so poor and deprived, as well as sociable and outgoing rather than shy or withdrawn. To this group of respondents, a person active in local resource management refrains from doing actions that destroy the environment but a doer who always matches his/her plans with actions. He/she attends *samahan* meetings and has knowledge and skills to share. Respondents of this group observed that a person active in environmental affairs often has been a victim of natural-disaster. This person is involved in environmental projects, and, finally, he/she possesses a global outlook.

The role that social pressure/social norms plays in doer and non-doer behavior

Participants of this study viewed invariably the way social pressure/social norms influences doer and nondoer behavior. Doer LGU decision-makers as well as doer and non-doer opinion leaders rated social approval and maintenance of smooth interpersonal relations crucial factors in influencing people's involvement in environmental management.

By contrast, doer and non-doer community members stressed the need for members of the *samahan* to play down the tendency to maintain smooth interpersonal relations and to gain social approval if the rules and guidelines for local environmental protection were to be implemented effectively. To these respondents, monitoring and actual reporting of violations require personal disregard of blood or social relations. Nevertheless, they considered the importance of tactfulness and diplomacy in handling cases of violations and apprehensions.

Perceived barriers/obstacles that hamper active participation in environmental issues/concerns

Participants of this study have pointed out that active participation in environmental issues/concerns has been undermined by a number of negative factors (see *Chart J*). To LGU decision makers, one of the detriments to active participation in environmental concerns is the fear of reprisals when violators are "big people." For the most part, this fear has prevented the effective apprehension of violators and allowed the proliferation of other violations. On the personal side, the lack of understanding of one's role in an association, the perception that the environmental task is not urgent, and the lack of will to bring about changes have proved equally deleterious to the community's environmental undertakings. Added to these problems are the lack of funds and technical support staff. As well, the non-dissemination of information about environmental policies and laws, the inconsistencies in the actions of government units (such as between the DENR and the local government), and the absence of regular follow-up by government representatives on the initiatives taken by the community residents have all conspired to dampen people's enthusiasm to participate actively in environmental affairs.

Opinion leaders for their part considered lack of time, absence of personal commitment, lack of funds and inadequate logistics, and lack of qualified support staff as obstacles to active participation in local resource management.

Among community members, meanwhile, the perception that environment policies apply only to "small people," and that government officials are also engaged in illegal environmental practices have proved to be a deterrent to active participation in environmental concerns. Respondents in this group also pointed to the daily concerns of survival such as the absence of alternative sources of income and the absorption in basic day-to-day affairs as contributing to the people's lack of enthusiasm to spare time, money, or materials for community involvement. To the respondents, aggravating this problem is the ordinary community members' own belief that the environment is for people to exploit. On the one hand,

people lack appreciation for the gravity of the environmental problem which gives them no sense of urgency to engage in a positive behavior toward the environment. On the other hand, their experiences of failure in community projects and the feeling that "there is nothing [I] can do to change the situation," fills them with a sense of overwhelming powerlessness and helplessness which prevents them from fully involving themselves in any environmental undertakings.

Perceptions of self-efficacy in performing ideal behaviors

In assessing their own performance in relation to environmental tasks, non-doer community members reported that without solid support from the local government, they cannot possibly engage in activities that will make a difference to the state of the local environment. They disclosed that they can barely fend for themselves and are no match to people of means and power--those who have motorized boats, four-wheel drive vehicles, arms and bodyguards. Besides, they felt that there were some projects in the past that did not work and were subsequently abandoned. Given these experiences, they would, according to them, much rather give all their time and energy to their own family's subsistence needs.

Doer community members, on the other hand, showed interest and determination when their own immediate neighbors, close friends and relatives got involved in the *samahan*. Convinced of the need to work together to solve a common problem and to do something for the future of their own children, they decided to join the association and somehow found strength in the presence of others.

Skills needed to perform ideal behaviors

In the performance of ideal behaviors, participants of the study realized that a number of skills are needed (see *Chart K*). LGU officials and community members underscored the importance of a set of skills necessary for people to perform ideal environment behaviors. LGU decision makers stressed the need for skills training in a variety of areas such as presiding community consultations and meetings, reading and comprehension, interpersonal relations, technical expertise or know-how in environmental projects, program management, generating revenues for

environmental programs, sensitivity towards local norms and culture, critical thinking and problem-solving, and oral communication.

Similarly, community members emphasized the importance of training for skills in the aspects of community organizing, interpersonal relations, oral communication, conducting meetings, time management, problem-solving, assertiveness, networking, program management and leadership, technical know-how in environmental projects, and in using a two-way radio communication system.

Gender differences in the factors that motivate actions toward the environment

In assessing the factors that influence behavior toward the environment, male and female participants of the study revealed some divergences in their perceptions which appeared attributable to gender differences. These divergences were observable in the responses of the participants using the following criteria for their evaluation: (3 = Crucial, 2 = Important, 1 = Helpful).

In assigning the relative importance of several factors such as (1) the existence of environmental laws, (2) the enforcement of such laws, and (3) the technical support services and training in influencing actions toward the environment, women, in general, rated them as **crucial**. Men, in general, rated these three factors **important**. Women community members rated the maintenance of smooth interpersonal relations **important** while men rated this factor **helpful**. (*See Chart B*).

Women compared the environment to a child who needs special care and attention in order to grow healthy and strong. Men, on the other hand, looked at the environment as a provider and as such deserves care and attention because of the benefits which can be had from nature. Women generally thought that the state of the environment requires immediate attention; men usually viewed the problem of the environment as still within tolerable limits. Women readily accepted the care of the environment as every individual's responsibility; men generally expected that other people and groups work together and do their share in taking care of the environment (*see Chart L*).

Women emphasized the skills of team work and cooperation in groups; men generally were oriented towards technical skills training for

each individual.

In the area of development programs, women generally thought of social services such as health and education for their family and children while men generally thought of infrastructure programs, like roads and bridges. While women generally considered livelihood programs as alternatives to farming or fishing; men had in mind industry programs like silica mine, pearl farm, and ecotourism.

In making any commitment to participate in projects that demand time, money or materials, women considered seriously how time and resources for children and spouse will be affected by the planned participation. By contrast, men readily committed to participate and did not consider time for spouse and children a constraint to involvement in environment conservation projects.

Effective and efficient channels of communication

In *Chart M*, participants of the study listed the trusted sources of information and currently accessed channels of communication. To many of the respondents, information from local government officials, like the barangay captain, council members, municipal mayor, purok president, or the barangay tanod are considered reliable. Information about the environment coming from outside their community is acceptable, but respondents insisted that this has to be given in coordination with barangay or municipal officials. While radio is the most common channel of communication, soap opera is the most popular radio show. News, commentary, public service broadcasts, and basketball are the other favored shows.

In rating media personalities, the people's choice of an announcer or media spokesperson depended on the following criteria: experience in media work, knowledge of current public issues, a good sense of humor, willingness to accommodate public service requests, has a following or solid audience, and leads a "clean life".

Attitudes/opinions about the fish sanctuaries

Men, in general, were more knowledgeable than women about the construction, boundaries and technical details of the sanctuary established

in their locality. Both men and women, however, knew about the purpose for the establishment of a sanctuary. Locally, the sanctuary is referred to as the *paitlogan ng isda* (where fish breeds) or *pinuy-anan sa isda* (where fish takes shelter).

The members of fisherfolk associations themselves petitioned for the creation of a fish sanctuary in their community. The decision came about after several meetings in which they discussed the nature and purpose of a fish sanctuary, the benefits to be gained from it, and the responsibilities members had to take. Members generally abided by the rules or policies on the sanctuary formulated by the association members themselves.

Local association members monitored and reported violations of the fish sanctuary guidelines. Monitoring entailed putting in time to patrol the area regularly. Minor violations were directly dealt with by those who patrol the area. Major violations, however, were reported to the local police through the barangay captain or the Resource Management Center (RMC) staff. The availability of a two-way radio hastens the apprehension process. However, in places where no radio system is available, violators sometimes go scot-free.

The sanctuary also reinforced the territorial behavior of association members. For instance, association members can drive away a *dayuhan* (stranger) from their fishing ground by claiming that the area is still part of their sanctuary (even when it is not). The term *dayuhan* is used by *samahan* members in a limited, exclusivistic sense to refer to anyone who does not belong to the immediate fishing group and is therefore considered a member of an outgroup. In this context, *dayuhan* refers to others who live in an adjacent upland, lowland, or coastal sitio or barangay who are not in the in-group of local fishers.

Attitudes and opinions about development plans

Participants of the study generally viewed development programs as sources of opportunities for employment, economic advancement, and basic infrastructure services such as transportation, roads and bridges. LGUs emphasized that development programs should not be done at the expense of the environment. However, respondents recognized that there

are trade-offs to development, like erosion, siltation, and pollution. Study participants were in accord in stressing that development programs must benefit a greater number of people and should strictly adhere to the environmental impact system.❖

A. Assessment of Factors which Influence People's Involvement in Environmental Management Classified by Doer-Nondoer Category (GreenCOM Study, Palawan Sample, May 1996)

	DOERS			NONDOERS		
FACTORS	LGU	Opinion Leaders	Community Members	LGU	Opinion Leaders	Community Members
1. Values, beliefs and practices	C	C	C	H	C	C
2. Understanding of environmental laws	C	C	C	I	C	C
3. Existence of environmental laws and ordinances	C	I	C	I	C	I
4. Enforcement of environmental laws and ordinances	C	C	C	I	I	C
5. LGU support	C	C	C	I	C	C
6. Access to appropriate technology	C	C	I	I	C	I
7. Access to technical support services and training	C	C	C	I	C	I
8. Access to credit, financing	C	I	I	I	I	I
9. Personal investment of time, money and materials	C	C	I	I	C	I
10. Approval/support of family or influentials	I	C	I	H	C	I
11. Maintenance of smooth interpersonal relations	C	C	H	H	C	I
12. Increased family income	C	C	I	H	C	I
13. Traditional folk beliefs	H	I	H	H	H	H

Legend: C = Crucial, I = Important, H = Helpful

B. Assessment of Factors which Influence People's Involvement in Environmental Management Classified by Gender and Sources of Data (GreenCOM Study, Palawan Sample, May 1996)

	Women			Men		
FACTORS	LGU	Opinion Leaders	Community Members	LGU	Opinion Leaders	Community Members
1. Values, beliefs and practices	I	C	C	I	C	C
2. Understanding of environmental laws	I	C	C	C	C	I
3. Existence of environmental laws and ordinances	I	C	C	I	I	C
4. Enforcement of environmental laws and ordinances	I	C	C	I	I	C
5. LGU support	C	C	C	C	I	C
6. Access to appropriate technology	I	C	I	I	C	I
7. Access to technical support services and training	I	C	C	I	C	I
8. Access to credit, financing	I	I	I	C	I	I
9. Personal investment of time, money and materials	I	C	I	I	C	I
10. Approval/support of family or influentials	I	C	I	I	C	I
11. Maintenance of smooth interpersonal relations	I	C	I	I	C	H
12. Increased family income	I	C	I	I	C	I
13. Traditional folk beliefs	H	I	H	H	H	H

Legend: C = Crucial, I = Important, H = Helpful

C. Assessment of Factors which Influence People's Involvement in Environmental Management Classified by Location and Sources of Data (GreenCOM Study, Palawan Sample, May 1996)

	Barangay/Upland			Poblacion/Coastal		
FACTORS	LGU	Opinion Leaders	Community Members	LGU	Opinion Leaders	Community Members
1. Values, beliefs and practices	I	C	C	I	C	C
2. Understanding of environmental laws	I	C	C	C	C	C
3. Existence of environmental laws and ordinances	I	C	C	C	C	C
4. Enforcement of environmental laws and ordinances	C	C	I	I	C	C
5. LGU support	C	C	C	C	C	C
6. Access to appropriate technology	I	C	C	I	C	I
7. Access to technical support services and training	I	C	C	I	I	C
8. Access to credit, financing	I	C	H	C	C	I
9. Personal investment of time, money and materials	I	C	I	C	C	C
10. Approval/support of family or influentials	I	C	I	I	C	I
11. Maintenance of smooth interpersonal relations	I	C	I	I	C	H
12. Increased family income	I	C	I	I	I	I
13. Traditional folk beliefs	H	I	H	H	H	H

Legend: C = Crucial, I = Important, H = Helpful

D. Actual Behaviors of a Doer LGU: San Vicente, Palawan (GreenCOM Study, Palawan Sample, May 1996)

STAGE 1: DECIDE TO PARTICIPATE/COMMIT

- Concern over deterioration of natural environment
- Sangguniang Bayan passes resolution for creation of Technical Assistance Office under the Office of the Mayor
- Commit resources/funds for proenvironment projects and activities
- Hire consultants and specialists
- Establish Resource Management Center
- Develop Strategic Environment Plan for San Vicente (SEP-SVP)

STAGE 2: ORGANIZE

- Municipal Mayor issues executive order for implementation of SEP-SVP
- Municipal Mayor enters into agreement with all barangays (10) of San Vicente
- Multidisciplinary teams conduct rapid rural appraisal (RRA) in all 10 barangays
- Present RRA output before barangay constituents for validation
- Conduct public hearings on environmental issues and concerns

STAGE 3: PLAN

- Conduct participatory planning workshop with representatives from national government agencies, provincial offices, Pos and municipal officers
- Formulate comprehensive framework plan for San Vicente
- Develop work program and budget of all municipal departments and special projects such as SEP-SVP
- Prepare work program and budget based on RRA results for all 10 barangays
- SB enacts resolutions requesting Pagdanan Multipurpose Cooperative, Inc. (PMCI) to waive the rights over a 5,000-ha forest within PMCI's

former concession area to the municipality of San Vicente for the purpose of a communal forest
- SB endorses Revised Comprehensive Zoning Ordinance (Land and Water Use Regulations) of San Vicente for reference and approval of Palawan Council for Sustainable Development

STAGE 4: IMPLEMENT

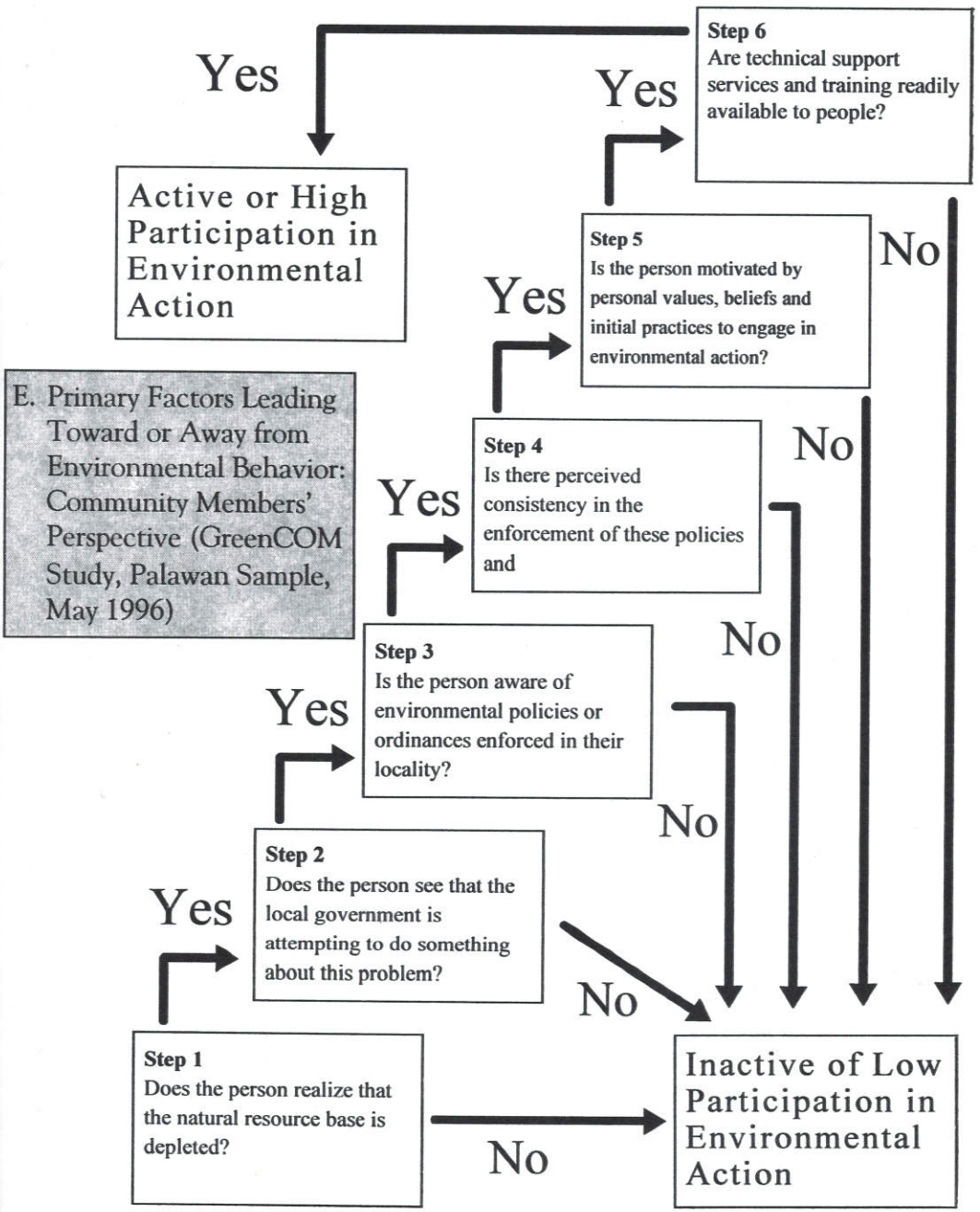
- Field community organizing specialists to five barangays (Caruray, Port Barton, Sto Niño, New Canipo and Binga)
- Expand program coverage to rest of barangays (New Villafria, Poblacion, New Agutaya, San Isidro and Alimanguan) as radiation areas
- Organization of 92 small working groups, 15 purok working groups, 34 sition associations and three federations
- Enable people's organizations to engage in activities for the protection and management of resources (e.g., reforestation, fish sanctuaries, artificial reefs, agroforestry, FADs)
- Operate logging activities in communal forest (Operation presently suspended pending resolution of illegal logging case filed by provincial DENR against coordinator/operator)
- Delegate coastal and forest resource protection to designated Bantay Dagat and Bantay Gubat at the community level
- Penalize people engaged in illegal coastal and forest activities
- Resolve conflicts related to resource use and environmental issues

STAGE 5: MARKET

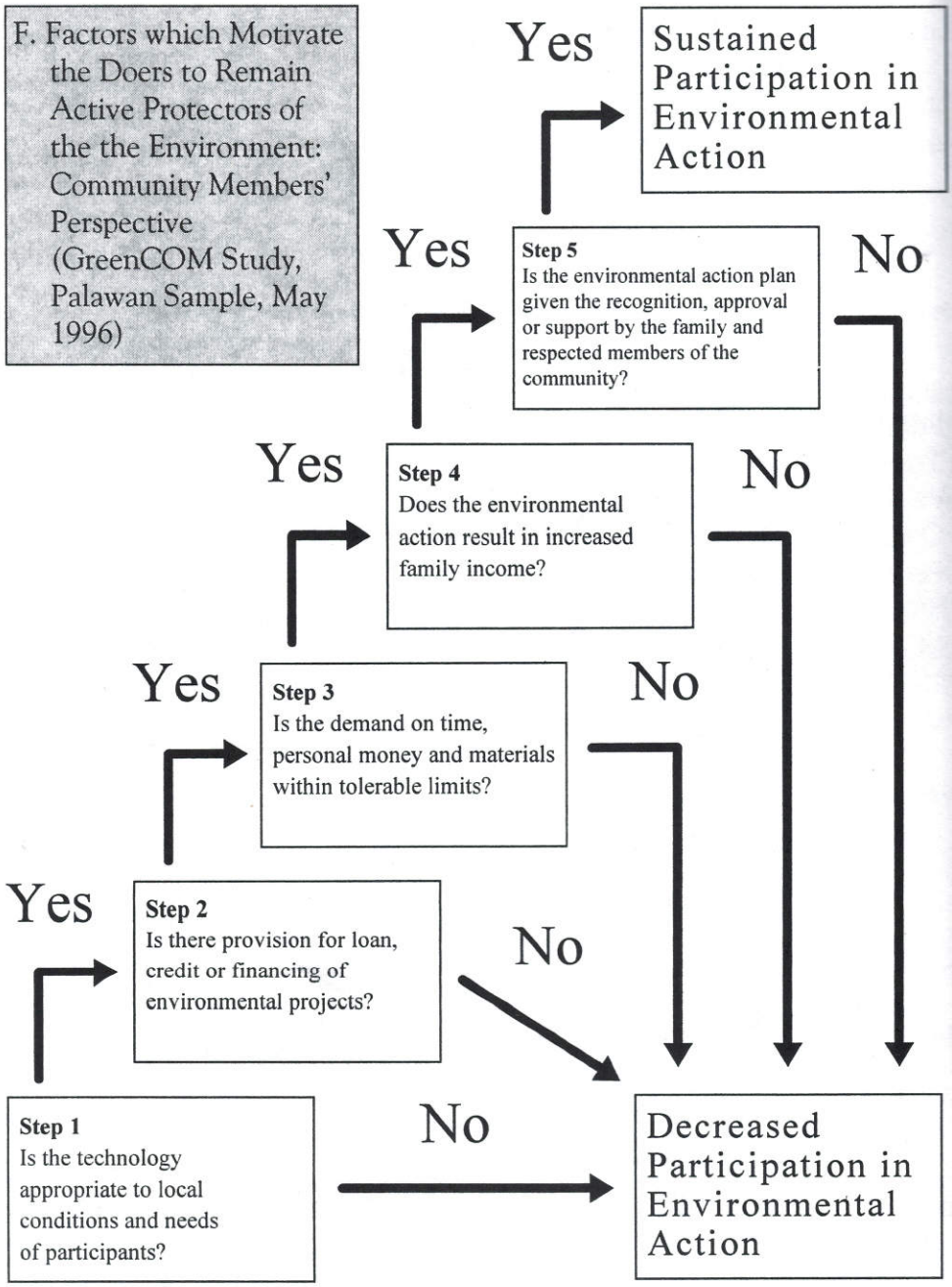
- Municipality collects income from logging operations in communal forest (Presently on hold due to case in court)

STAGE 6: MONITOR PROCESS AND IMPACT

- Limited follow-up and monitoring activities by RMC personnel due to lack of material and human resources


E. Primary Factors Leading Toward or Away from Environmental Behavior: Community Members' Perspective (GreenCOM Study, Palawan Sample, May 1996)
Step 1
Does the person realize that the natural resource base is depleted?
Yes
No
Step 2
Does the person see that the local government is attempting to do something about this problem?
Yes
No
Step 3
Is the person aware of environmental policies or ordinances enforced in their locality?
Yes
No
Step 4
Is there perceived consistency in the enforcement of these policies and
Yes
No
Step 5
Is the person motivated by personal values, beliefs and initial practices to engage in environmental action?
Yes
No
Step 6
Are technical support services and training readily available to people?
Yes
Active or High Participation in Environmental Action
Inactive of Low Participation in Environmental Action

F. Factors which Motivate the Doers to Remain Active Protectors of the the Environment: Community Members' Perspective (GreenCOM Study, Palawan Sample, May 1996)



G. Actual Behaviors of Community Members Involved in Resource Management: San Vicente, Palawan (GreenCOM Study, Palawan Sample, May 1996)

STAGE 1: DECIDE TO PARTICIPATE/COMMIT

- Express concern over destructive methods of fishing
- Inquire from RMC personnel and/or active members of the community what can be done to protect and manage local resources
- Convince other fisherfolk to attend barangay meetings on environmental issues

STAGE 2: ORGANIZE

- Constitute organization
- Elect officers
- Accept responsibility to protect and manage local resources (e.g., conduct sea patrols, report violators)
- Organize work groups within association
- Invite others to become members
- Coordinate with LGU representatives designated to carry out environmental programs and policies

STAGE 3: PLAN

- Pass resolution submitting work plan and budget to municipality
- Ask Municipal Mayor to officially designate members as Bantay Dagat
- Consider income-generating activities to minimize pressure on sea
- Obtain LGU support

STAGE 4: IMPLEMENT

- Assign members to monitor specific areas of the bay
- Coordinate with barangay and municipal officials on program activities
- Carry out activities based on work plan (e.g., construct Ars, establish fish sanctuary)
- Report violators)
- Hold continuing education meetings

STAGE 5: MARKET

- Contribute a portion of income from fish catch to association's environmental activities (e.g., purchase of bouys, construction of Ars)

STAGE 6: MONITOR PROCESS AND IMPACT

- Meeting among members to discuss progress on ongoing projects and outcome of monitoring activities

H. Characteristics of Persons Active in Environmental Affairs as Described by Doers and Nondoers (GreenCOM Study, Palawan Sample, May 1996)

DESCRIPTIONS GIVEN BY	
DOERS	**NONDOERS**
OPINION LEADERS	
• involved in environmental projects like tree planting, fish sanctuary	• monitors and reports violations
• not engaged in illegal activities	• member of a local proenvironment association
• obeys policies and ordinances	• attends seminars on environmental protection
• member of people's organization	
• willing to put in time	
COMMUNITY MEMBERS	
• is small like us but does not engage in illegal activities	• is not so poor or deprived
• thinks of common good, not just personal interests	• is not shy and withdrawn
• is concerned about the quality of environment for the next generation	• avoids activities that destroy the environment
• obeys rules, ordinances	• matches plans with actions
• patrols the area and reports violations	• attends association meetings
• is not swayed by *lagay, pakiusap, padrino* system	• has knowledge and skills to share
• receives logistical support from the local government	• has prior experience of disaster like flood
• does environmental activities like tree-planting, constructing ARs	• plants trees, constucts ARs and other environmental activities
• seeks membership in environment-oriented local association	• has a global outlook (*pangkalahatan na pananaw, hindi pansariling kapakanan*)
• persuades others to be involved in environmental activities	

I. Perceived Benefits from Being Active (GreenCOM Study, Palawan Sample, May 1996)

AS MENTIONED BY	
DOERS	**NONDOERS**
L G U	
• reduction of illegal activities	• people participation means savings in local government's personnel costs
• equity of benefits from resource use between big and small fisherfolk	• well-cared environment attracts more tourists
• communal forestry provided lumber for domesic use	• improved health conditions
• coordination between Pos and LGUs in environmental management leads to efficient use of human and material resources	• more projects will be developed
• more job opportunities	• increase in local government revenue
• improved socioeconomic condition in locality	• more job opportunities
	• improved socioeconomic condition in community
COMMUNITY MEMBERS	
• able to assist in minimizing illegal activities	• approval and admiration of local residents
• help others in attaining renewability and sustainability of resources	• feeling of satisfaction for having helped
• make family and others happy due to promise of abundant harvest and increased income	• better access to services from line agencies (DOH, DENR, DSWD)
• *kilala* (being recognized)	• can easily secure loan
	• added knowledge, learnings
	• improved skills in communication, public relations

J. Perceived Barriers to Participation in Environmental Protection and Management (GreenCOM Study, Palawan Sample, May 1996)

INTERNAL FACTORS	EXTERNAL FACTORS
L G U	
• fear of reprisals when violators are big people	• lack of funds
• lack of understanding about the process towards being active in environmental management	• lack of qualified technical staff
• degree of deterioration of natural environment is perceived not to merit urgent response	• no dissemination of information about environmental policies and laws
• frame of reference is a highly degraded environment (like Cebu) and not a best possible scenario which results in a reactive rather than proactive environment behavior	• inconsistency in the actions of government units (e.g., local government and DENR)
• lack of will to effect changes	• no regular follow-up by government representatives on initiatives taken by community
OPINION LEADERS	
• lack of time	• lack of funds, inadequate logistics
• no personal commitment	• lack of qualified staff
COMMUNITY MEMBERS	
• utilitarian view of the environment ("the resources are ours for the taking")	• in-migration; increase in population
• farming/fishing is the only means of livelihood for the the family	• lack of coordination between LGU and line agencies
• belief that: environmental policies are for "small" people to obey, "big" people can go around these; government officials are themselves engaged in illegal activities	• cultural practices/values: *lagay, palakasan, pakikisama, utang na loob*
• no clear understanding of the complexity of the environmental problem	• no access to social, technical and support services
• absorbed in day-to-day basic concerns	• no logistics for basic facilities/equipment to protect the environment
• no time, money and resources for community involvement	• experiences of failure in community projects
• sense of powerlessness/helplessness ("there is nothing I can do to change the situation")	
• no sense of urgency to engage in environmental behavior	

K. Skills Needed to Be Active in Environmental Management (GreenCOM Study, Palawan Sample, May 1996)

LGU OFFICIALS SHOULD HAVE:

- Skills in the conduct of consultations with local people, other government officials, agency representatives
- Reading and comprehension skills to understand provisions related to the environment
- Interpersonal skills--diplomacy, smooth interpersonal relations (SIR)
- Technical know-how of any of the strategies or activities related to environmental protection and management
- Program management skills--planning, organizing, staffing, leading, controlling
- Skill at generating revenues for environmental programs
- Sensitivity towards the role of sociocultural factors in environmental management
- Critical thinking and problem-solving skills
- Oral communication skills--how best to impart knowledge about the environment

COMMUNITY MEMBERS SHOULD HAVE:

- Community organizing skills
- Interpersonal relations--tactfulness, diplomacy SIR
- Oral communication skills
- Skills to conduct community meetings
- Time management
- Problem-solving skills
- Assertiveness training
- Ability to coordinate with members of the association, local government officials and provincial/national agencies tasked to handle the environmental agenda
- Program management and leadership skills
- Technical skills on any of the programs, strategies, and activitieds related to environmental protection and management
- Training on the use of two-way radio communication system

L. Gender Differences (GreenCOM Study, Palawan Sample, May 1996)

Women and men do not differ widely in their assessment of various factors that influence environmental behavior. However:	
WOMEN	**MEN**
INFLUENCING FACTORS	
• women in general rated Crucial the factos: existence of environmental laws; enforcement of laws; technical support services and training	• men in general rated these three factors Important
• women community members rated smooth interpersonal relations (SIR) Important	• men community members rated SIR Helpful
CONCEPT OF ENVIRONMENT	
• women generally think that the state of the environment require immediate attention	• men usually view the problem of the environment as still within control
• women readily accept the care of the environment as one's own responsibility	• men generally demand that other people and groups work together
• women liken the environment to a child that needs special care and attention in order to grow healthy and strong	• men look at the environment as a provider and that it deserves care and attention because of the benefit enjoyed at present and in the past
SKILLS NEEDED	
• women emphasize the skills of team work and cooperation	• men generally are oriented towards individual skills training (technical)
DEVELOPMENT PROGRAMS	
• women generally think of social services for their children (e.g., health, education services)	• men generally favor infrastructure development programs (e.g., roads, bridges)
• women generally think of livelihood programs as alternatives to farming or fishing	• men usually think of industry programs (e.g., silica mine, pearl farm or ecotourism
• women's participation in projects that demand time, money and materials is generally worked out with spouse and children	• men readily commit participation in programs that demand time, money and materials and not consider time for spouse and children a hindrance

M. Preferred Channels of Communication (GreenCOM Study, Palawan Sample, May 1996)

1. Mass Media

Radio	DZRH (Manila) DWRM (Manila) DZMM (Manila) DWBL (Manila) DYPR (Palawan)
Preferred Programs	Drama News Commentary Public Service Basketball
Reading Materials	*Liwayway* *Komiks*
Video	Beta or VHS films shown in local video houses
2. Local government units	DENR RMC Municipal Mayor's Office Barangay Council
3. Individuals	Municipal Mayor Sangguniang Bayan member identified with environmental programs Barangay Captain Purok President Leaders of samahan RMC field personnel Priest Teacher