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Notice to Authors

The Silliman Journal welcomes contributions in all fields from both Philippine and foreign scholars, but papers should preferably have some relevance to the Philippines, Asia, or the Pacific. All submissions are refereed.

Articles should be products of research, taken in its broadest sense; a scientific paper should make an original contribution to its field. Authors are advised to keep in mind that Silliman Journal has a general and international readership, and to structure their papers accordingly.

Silliman Journal also welcomes the submission of "Notes," which generally are briefer and more tentative than full-length articles. Reports on work in progress, queries, updates, reports of impressions rather than research, responses to the works of others, even reminiscences are appropriate here. Book reviews and review articles will also be considered for publication.

Manuscripts should conform to the conventions of format and style exemplified in this issue. Whenever possible, citations should appear in the body of the paper, holding footnotes to a minimum. Documentation of sources should be discipline-based. Pictures or illustrations will be accepted only when absolutely necessary. All articles must be accompanied by an abstract and must use gender fair language. All authors must submit their manuscripts in duplicate, word-processed double-space on good quality paper. A diskette copy of the paper, formatted in MSWord 6.0 should accompany the submitted hard copy.

The Editorial Board will endeavor to acknowledge all submissions, consider them promptly, and notify authors of its decision as soon as possible. Each author of a full-length article is entitled to 25 off-print copies of his/her submitted paper. Additional copies are available by arrangement with the Editor or Circulation Manager before the issue goes to press.

EDITOR'S NOTES

"The person who writes out of an inner need is trying to order his corner of the universe; very often the meaning of an experience or an emotion becomes clear only in this way."

– Maxine Kumin

"Make *the Works*..."

– Walt Whitman

IN THIS ISSUE: The collection in this volume recalls an anecdote about a train station which had two clocks that differed by seven minutes. According to the anecdote, an irritated traveler asked an attendant what was the use of having two clocks that didn't tell the same time to which the attendant replied, "And what would be wanting with two clocks if they told the same time?"[1] The articles in this issue are of course not clocks but they bring to mind the anecdote for the multiple views they espouse, the varied insights about life and society which they bring up, and the spectrum of responses which they inspire in readers. Underlying this governing design is the assumption suggested by both Maxine Kumin and Walt Whitman about the relevance of writing to a humane and politically engaged view of contemporary life and as the link between awareness and action, as well as the value of disseminating work that even widely educated readers might otherwise not find accessible.

The article "Filipino Women in Coastal Resources Management: The Need for Social Recognition" by Enrique G. Oracion opens this

issue of Silliman Journal. Arguing that women have equal rights as their husbands to be considered as stakeholders in the community coastal resource management program, Oracion examines the involvement of women in subsistence fishing households and assesses their specific contributions as managers of scarce resources. In particular, this paper focuses on the community-based coastal resources management program of Apo Island, to date considered one of the most successful marine conservation programs, and the role of women from the initial stage of its implementation to the present.

The next article by Angel C. Alcala on "Blast Fishing in the Philippines, with Notes on two Destructive Fishing Activities" assails the use of destructive fishing methods which damage coral reef habitats, fishery stocks, and other marine organisms. The paper identifies blast fishing, along with spear fishing with scuba or "hookah" compressor and drift gill net fishing, as among the main causes of physical and biological destruction of coral reefs in Southeast Asia.

Betty C. Abregana's "What Women Are Complaining About: Sexism on Campus" presents various forms of sexism on campus based on qualitative research conducted in four universities in central Philippines. As the research revealed, examination of the teaching-learning activities in classroom, behavioral interaction on campus, school policies and programs, co-curricular activities, and student services indicates how widespread the problem is.

In the next article, "The Negros Millenarian Movement", Earl Jude Paul Cleope uses a New Historicist approach to revisit the history of millenarian movements in Negros Island, specifically in the southern part where topographic conditions provided fertile grounds for the emergence of "Revitalization Movements".

Included in *Notes* is an institutional report tracing the remarkable growth of Silliman University's Physics Department by Vicenta C. Maxino, faculty member and former chair of department. The author goes back to the early period when the department was a service unit offering required and elective courses for different degree programs in the university up to the time it started offering a major's program until its designation in 1998 by the Commission on Higher Education as a Center

of Development for Physics. This designation provided the Physics department not only a generous grant for the upgrading of equipment, facilities, and faculty, but also assured it a prominent place in the landscape of physics education in this country.

Acknowledgments

The contributors in this volume hardly need any introduction. Readers of Silliman Journal are by now familiar with their works which have graced our previous issues. Needless to mention, I am, of course, grateful to all of them, some of whom worked to particularly tight deadlines.

Our reviewers helped immeasurably by reading and critiquing the manuscripts at various stages. Thanks are due them for their clear-headedness, critical eye, and patience.

Philip Van Peel, our production editor, kept the issue on track and, keeping a careful eye on the manuscript, skillfully guided the volume through production.

I wish to make special mention of the Department of English and Literature for being the right kind of environment for me to work on Silliman Journal.

Rather late in coming out, this volume had had to overcome various logistical hurdles for which I have many people to thank, but a list of them cannot begin to name all those to whom I owe a debt, nor begin to express my gratitude. Nevertheless, they know who they are—to them sincerest thanks and much more for supporting me in the whole process.

Ceres E. Pioquinto

[1] Barnet, S. et al., "Preface," Literature for Composition: Essays, Fiction, Poetry, and Drama. 4th ed., NY: HarperCollings Publishers.

FILIPINO WOMEN IN COASTAL RESOURCES MANAGEMENT: THE NEED FOR SOCIAL RECOGNITION[1]

Enrique G. Oracion

ABSTRACT

This paper focuses on the involvement in coastal resources management of women in subsistence fishing households and their specific contributions as managers of scarce resources. Recognizing the major involvement of wives in household as well as in the local fishing economy, this paper argues that women have equal right as their husbands to be considered as stakeholders in carrying out the objectives of a community coastal resource management program. Like their husbands, women have equal responsibilities as well as privileges in the program. Their concerns are equally important and must be similarly recognized. In arguing this case for women, this paper will examine the community-based coastal resources management program of Apo Island in the Philippines to demonstrate the extent of women's involvement from the initial stage of its implementation to the present. As such, this paper is intended to be a response to the challenge of feminist environmental groups to recognize the emerging visibility of women, particularly the wives, in all aspects of the local economy.

Introduction

The alarming state of food resources in Filipino coastal communities is an index of the extent of the deterioration of the country's marine environment as a result of destructive fishing practices, overfishing, industrial pollution, and population pressure. This critical situation has spurred the development of various environmental programs designed to curtail the further destruction of this important resource base for protein food for Filipinos. The common theme of these programs is the promotion of proper resource management

through sustainable use of coastal resources. Their objective is to slow down the pace of depletion of these vital resources.

It should be noted that as a concept, coastal resources management is understood either as a program or as the production and utilization of existing resources. As a program, it involves the protection, preservation, and rehabilitation of resources through informal or formal mechanisms like the promulgation of policies and ordinances or laws by the local and the national government units and is realized through the collective participation of non-government and people's organizations (Oracion 1997). As an activity, it includes the wise and sustainable use of scarce resources in coastal communities, both marine and terrestrial. It also involves the introduction of diversified activities, practices, and use of resources by the local people as alternative mechanisms to reduce pressure on dwindling supply.

This paper focuses on coastal resource management, especially on the role of women in the production and utilization of existing resources. In highlighting the vital contributions in this program of women particularly in subsistence fishing households, this paper argues for their recognition as important stakeholders in the management of scarce resources. As such, this paper is a response to the challenge of feminist environmental groups to recognize the emerging visibility of women, particularly the wives, in all aspects of the local economy.

Perceived Problems in the Local Fishing Economy

In a study of a coastal community in Central Visayas, residents have noted the direct link between major changes in the local fishing industry and the deterioration in the quality of life of people (Sobritchea 1994: 296). According to these residents, the major changes in the local fishing industry include the introduction of new fishing techniques and the use of nets of various sizes and motor-

ized boats which intensifies exploitation of marine resources. In addition to these new fishing techniques, residents have also reported the prevalence of illegal fishing activities such as the use of dynamite, poisonous chemicals, electricity, and fine-meshed nets. Consequently, these destructive fishing practices have wreaked havoc on marine resources and in turn have adversely affected the community's food sources.

For residents of this island community already challenged by scant economic resources and unfavorable geographic conditions, the result of these changes can only be calamitous. They have identified at least three major problems which plague their day-to-day existence. Most serious of these problems is the decrease in household income as a direct consequence of the decrease in the volume of catch in fishing. Finding themselves often at the mercy of natural elements, residents have been unanimous in pointing out unpredictable weather conditions as the second most serious problem besetting their island community. Exacerbating these two problems for island residents is the absence of viable alternative sources of income particularly at times when bad weather causes strong sea currents and makes fishing difficult, if not impossible.

It is possible that the lack of capital to engage in non-fishing related economic activities has contributed to the residents' inability to pursue other ways to be productive. Scant financial resources prevent them from purchasing better fishing equipment, while their lack of skills explains why they are unable to repair broken equipment themselves. Meanwhile, the high prices of basic commodities in the market in relation to their low income conspire with other factors to make their already worsening condition a disaster.

Gendered Responses to Resource Scarcity

Residents of subsistence fishing-based communities in the Philippines respond to the scarcity of food resources in different ways. In this Central Visayan coastal community, for instance, household members who no longer feel that the

community has anything to offer to improve their condition often decide to leave the island and find work as factory workers or domestic helpers in urban centers, or as crew in commercial or deep-sea fishing operations based on other islands. During their period of employment which keeps them away from the community for several months, they may send money home or save their earnings which they later bring home when they return for vacation or family visits (Sobritchea 1994: 287, Oracion 1998a: 38). Families of individuals who join deep-sea fishing are usually given advances in cash or in kind to attract them to join the fishing expedition which often lasts for ten months (Abregana 1999a: 53).

Those who remain in the community engage in a variety of income-generating activities such as small-scale fishing with the use of hook and line, nets, and fish traps, blacksmithing, farming, carpentry and wood carving, *tuba* gathering and livestock raising. On the other hand, when they are not performing fishing related activities such as gleaning, women spend their time thatching or trading nipa, weaving mats, raising livestock, raising or selling vegetables and cooked food, or tending a *sari-sari* store. Some provide laundry services for well-off households, or health services such as massage, while others sell souvenir items to tourists. Still others engage in dressmaking and hairdressing (Tanchuling 1993: 12; Sobritchea 1994: 288; Shields, Flora, Thomas-Slayter and Buenavista 1996: 163; Oracion 1998a: 39). On Apo Island the two island-based resort-and-restaurants which cater to tourists provide some of the women the opportunity to work as cook and food server. It is evident from these examples that both men and women resort to a combination of activities to maximize income.

Household data on the production activities of husbands and wives amidst resource scarcity show that a good number of wives are very much involved in fishing aside from other productive activities that they pursue as a source of in-

come (Sobritchea 1994: 288). The same data, however, also reveal that there are women who consider themselves primarily as housewives. As such, they do not report involvement in any productive activities and regard their husbands' work as their family's major source of income. It is interesting to note the data in Table 1 which show that while a number of women in the sample are engaged in a variety of productive endeavors, a majority of husbands (83 percent) perform only a single activity—fishing. This profile, however, is expected given the fact that the community is dependent on the sea rather than on land for subsistence.

Table 1. Production Activities of Adult Filipino Men and Women in a Fishing Community (n= 30 Households)

Men	Percent	Women	Percent
Fishing	83.00	Gleaning	50.0
Blacksmithing	20.00	Fish Trading	37.00
Farming	16.00	Join Husband in Fishing	33.00
Carpentry / Wood Carving	13.00	Nipa Thatching	27.00
Tuba Gathering	3.00	Vending Cooked Food	7.00
Caretaker of Farm Animals	3.00	Laundry Service	7.00
		Hairdressing	3.00
		None	20.00

Source: Sobritchea (1994: 288)

The data also reveal that women perform a greater variety of domestic activities than their husbands whose fishing activity takes them to sea for most of the time. However, the data do not reflect the amount of time spent. This is particularly true during the peak season for fishing or when they fish away from shore which often takes between 2 to 5 days for those who have motorized *banca*. But even when they are not fishing, husbands still do some fishing-related activities like repairing the fishnet or the boat. Moreover, they carry out the more strenuous domestic tasks like gathering and chopping firewood or fetching water from a source usually farther away from the house. Meanwhile, it is the wives' responsibility to prepare the food, wash clothes, clean, and care for the children. Usually, when domestic duties allow them, wives also help their husbands repair the fishnets.

Table 2. Domestic Activities of Adult Filipino Men and Women in aFishing Community (n= 30 Households)

Men	Percent	Women	Percent
Gather and Chop Firewood	47.00	Food Preparation	57.00
Repair Fishnet	33.00	Wash Clothes	40.00
Fetch Water	27.00	Clean House and Yard	33.00
Child Care	10.00	Child Care	27.00
Boat Repair	10.00	Gather and Chop Firewood	27.00
		Repair Fishnet	20.00
		Raising Livestock	10.00

Source: Sobritchea (1994: 290)

Although it is seen as a departure from their traditional task, the involvement of wives in fishing-related activities also suggests how difficult life is at present particularly for those who have never engaged in this activity before. This problem becomes more striking during times when husbands are unable to fish because of bad weather conditions or when they are sick. Meanwhile, wives who pursue a type of work different from their husbands' have shown a greater autonomy and freedom over their earnings (e.g. Illo and Polo 1990: 106). Although this is considered a favorable development in women's role in the economic sphere, the general perception in the community remains that women's involvement in economic activities is only supplementary to their husbands' occupations (Tanchuling 1993: 12). This perception exemplifies the pervasive influence of certain cultural norms on people's beliefs although such norms have ceased to be relevant in the context of the present economic crisis. In a comparative study made on the work of adult men and women, data show that while men do 22 percent more productive work than women, the latter perform 70 percent more of the reproductive tasks, suggesting that women cross task boundaries more often than men (Lachica 1993: 24-25).

Involvement of Women in the Local Fishing Economy

To gauge the extent of women's involvement in the traditionally male domain of fishing, seven women participated in a focus group discussion in a coastal community in southern Philippines. Of this group four were primarily involved in pre-harvest and post-harvest fishing activities and three actually participated in fishing out in the sea (Abregana 1999b: 13). In another report, ten out of the thirty or one out of three wives interviewed have joined their husbands in actual fishing although these were small rather than commercial fishing ventures (Sobritchea 1994: 288).

Slicing and salting the fresh catch

Washing the fish before sun drying

Dried fish vendor from Apo island trading in Malatapay

When domestic duties allow them, wives who are not pregnant or have grown-up children accompany their husbands on fishing trips particularly when the fishing ground is near the shoreline. Their task is to help catch fish by using multiple hook and line or by casting the net while also keeping their husbands' drinking under control (Abregana 1999b: 12). Some women in the community participate in seining and reef fishing with the use of scoop nets and fish traps (Sobritchea 1994: 289). Aside from fishing out in the sea, women, usually with their children, also perform fishing-related activities such as gleaning edible seaweeds, mollusks, eels, sea urchins, and other marine organisms during low tide along the coast and in shallow waters (Tanchuling 1993: 11). They also earn extra income by collecting fish and prawn fries which they sell to fishpond operators or to fry traders. However, this particular activity is seasonal and very much dependent on the spawning period of fish and prawn (Sobritchea 1994: 289).

Wives contribute to the fishing activities of their husbands by preparing the provisions like food, water, gas, extra clothing, rum, and cigarettes for the fishing trips. They also assist in the purchase and preparation of the baits and hooks. On Apo Island, wives also help carry the small *banca* (non-motorized outrigger) to and from the water when their husbands leave for or arrive from fishing. It is also the wives' task to decide what to do with their husbands' catch—to sell the fish fresh or to sun-dry them, what or how much to keep for family consumption, how much to sell and to whom, or which to give away and to whom especially during abundant catch. Wives either sell their husbands' catch to the buyers or peddle them around the community. In turn women fish buyers on the island sell the fish on the mainland almost everyday when supply is plentiful (Oracion 1998a: 40).

Fish drying and trading are considered major activities of women which require them to travel and spend some

time away from home to deliver the fresh and dried fish to their regular customers (*suki*). My study on Apo Island revealed that rough seas or strong winds have never discouraged women fish traders, who have an average age of 40 years old, to cross over to the mainland and pursue their business (Oracion 1998a: 43). The unpredictable sea conditions have always been part of the lives of the island residents.

Fish trading allows women to take advantage and maximize their time on the mainland by doing other chores such as purchasing their family's household needs as well as their husbands' fishing equipment like hook, nylon, and net. During the weekly market day (*tabu*) in a coastal community on the mainland directly facing Apo Island, husbands accompany their wives trading dried fish and mats although most of them spend this time relaxing with acquaintances. Studies of fishing communities in the Philippines show that trading appears to be a task more often delegated to the wives.

Bonding, Networking, and Sharing Among Women

The multiple responsibilities of wives often require them to find support from each other in times of need. Linkages with natal and affinal families are nurtured principally by the female members of households for mutual-support networks. Women in fishing and farming communities in the northern Philippines, for example, share food, work, and resources like fishing and farming tools, as well as assist each other in looking after the children. Mothers and mothers-in-law as well as female siblings usually assist young wives in the first year of their marriage particularly when the latter have recently given birth and are temporarily prevented from engaging in productive work like fish processing, trading and marketing of household needs (Illo and Polo 1990: 86). They look after grandchildren, prepare the meals, wash, and perform other household chores. Other women in the

neighborhood usually volunteer to market her spouse's fish catch or dried fish along with their own as well as do small errands on the mainland. Occasionally, they share special dishes, vegetables, and fresh fish and lend each other rice and other household supplies.

When sun-drying fish, women sometimes borrow salt from each other when the local supply runs out and pay which they pay back as soon as they are able to buy from the mainland market. Another type of mutual support the women have formed is known as *turnohan* or a system of group saving in order to pool their financial resources (Illo and Polo 1990: 87). In this system, a leader collects the amount from individual members and gives it to a member who is scheduled to receive this collection. The same pattern is repeated every month until every member is able to collect a large sum of money during her assigned period. The amount received by a member is equivalent to the sum of money she will accumulate if she saves it herself. The process basically operates within the ethics of mutual trust and cooperation.

In an interview about their trading activities on the mainland, women fish traders reported that in order to maintain a more efficient exchange of resources they establish *suki* relationship with particular buyers on the mainland. A mutually beneficial arrangement, the *suki* relationship assures both the buyers of a stable supply of good quality fish and the traders from the island of a fair price for their fish (Oracion 1998a: 46). In return, mainland *suki* storeowners and fish buyers provide the island fish traders with credit lines to allow them to purchase household items even though they have run out of cash. Furthermore, the island women also engage in direct exchange or barter of products with mainland farming households. When they have enough supply, they bring dried fish to the upland areas of the mainland to exchange with corn from farmers with whom they have established a prior relationship during other harvest seasons (Oracion 1998a: 45).

The wives use these various social networks within and outside the family as mechanisms for accessing resources which

are vital to the survival of their respective families, especially during periods of great need. Through these social networks and resource exchange relationships, they are able to build social capital among themselves which they can activate to gain access to resources not available within their respective domains (Shields, Flora, Thomas-Slayter, Buenavista 1996: 155). As studies reveal, women show willingness to assist each other during critical moments.

To some extent, the ability to accumulate resources to support the family when their husbands fall short of satisfactorily providing these resources empowers women and give them more influence over domestic affairs beyond their traditional domains.

Affinity of Women and the Environment

The foregoing discussion shows that the provision of the material needs of the household is no longer the exclusive domain of husbands particularly with the growing scarcity of food resources brought about by environmental degradation. Evidence shows that majority of women in coastal communities actively participate in ensuring household survival. Earning their personal income empowers them and gives them confidence in dealing with insensitive or irresponsible husbands who show little concern for the quality of life of their respective families (Illo and Polo 1990: 106). Because of their attachment to their children and the home by virtue of their traditional tasks, wives show keener interest in family welfare than their husbands. Their sensitive awareness of resource scarcity is attributed to the multiple roles or tasks they actually handle, both at home and in the local fishing economy (Lachica 1993: 25). As mothers who are responsible in the planning and budgeting of the meager family income, and for preparing family meals and supplying other needs, women are more exposed to various environmental realities including the depletion of marine resources, fuel, wood, or water. As fish traders, they know that their income

depends on fish catch. Finally, as fishers, it is only natural for them to desire to catch more in order to feed the family and save for other household needs. These various responsibilities situate women and wives in particular in a position which impels them to confront the deterioration of resources in the community as well as manage scarce resources available in their household. In contrast, some husbands generally feel only the impact of diminishing fish catch and are not as bothered as their wives by the burdens of household management. That husbands and wives view nature differently is clearly described in this report:

> *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 the tolerable limits. Women readily accepted the care of 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* (Abregana 1997b: 117).

This report suggests that because they directly feel the impact of resource scarcity on the survival of their respective families, wives are more sensitive of their family's welfare than their husbands (Tañada 1993: 193). This also explains the difference in their perception of the environment. For instance, when they go out with their husbands to fish, wives always remind their husbands of the need to have a good catch in order to have cash for basic needs or to pay off debts (Abregana 1999: 14). It is also for this reason that wives usually interfere with their husbands' drinking and smoking habits which they perceive as

draining their already meager resources (Illo and Polo 1990: 102).

The activities of wives in coastal communities in the Philippines exemplify those performed by women who defy cultural boundaries by carrying out the dual tasks of reproduction and production in order to secure the economic welfare of their families. When their husbands are out on the sea fishing, wives involve themselves in community affairs such as environmental programs. Because they have more time and show more sensitive understanding of nature, women are easier to call and mobilize (Tanchuling 1993: 13).

Role of Women for Sustainable Coastal Resources Management

The participation of organized communities is recognized as a viable strategy in responding to the dwindling fishery resources. The success of these communities relies on empowering people or stakeholders as day-to-day managers of resources available in their immediate environment. The core of the community approach in coastal resource management develops among local people the attitude that the protection and use of their resources are their responsibility. Having developed a sense of being proprietors and claimants of the resources around them makes these people proud of whatever good things they have done to the environment. This description finds meaning in the experiences of the residents of Apo Island after almost two decades of strictly protecting the marine reserve and fish sanctuary which they claim to be the product of their combined labor.

In 1982 Silliman University came to Apo Island to introduce a marine conservation and development program in order to put an end to all the destructive fishing practices of the residents which included the use of blast and poison which not only killed fish but also the corals. The positive

response of the residents to the program paid up when they received a national recognition and cash award in 1997 for having the best marine reserve managed by the community people themselves. Together with this recognition is the influx of domestic and foreign tourists to the island which has also contributed to the revenue of the local tourism industry and the island government. However, this has some negative impact on the fragile marine ecosystem of the island in terms of the destruction of coral reefs by reckless tourist divers, particularly the amateurs, and pollution because of the plastic food wrappers and empty bottles of mineral water they leave behind on the island. In order to prevent more serious problems, the Protected Area Management Board (PAMB), an inter-agency group which became operational in 1996 and has a legal-regulatory role on the island, promulgated some guidelines to be followed by tourists as well as residents to maintain the ecological balance of Apo Island.

The women who participated in the focus group discussion were part of the 16 core households which originally responded to the organizing efforts done by the community workers of Silliman University. Together with their husbands, they helped in hauling rocks and sand used in building the community center. This structure overlooks the area designated as the fish sanctuary. The women took turns to guard the fish sanctuary against intruders while their husbands were out fishing. According to the women, a number of island residents were initially critical of the idea of establishing the marine reserve and fish sanctuary and continued to fish in the protected area. According to the *barangay* captain of Apo Island, it took almost five years for Silliman University to convince the residents of the need to take good care of the coral reefs (Lujan 1998: 11). Given the success of this sanctuary now, the efforts of women did not altogether go to waste. In retrospect, they never regretted the efforts they expended on this worthwhile project.

The women further said that the sanctuary allows the fish to breed and mature until the adults move out to the non-reserve areas where they are caught by island fishers. A *barangay* council member of the island who is also a fisherman remarked that they no longer have to travel far out into the dangerous sea because the establishment of a marine reserve and a sanctuary give them bountiful catch without the use of sophisticated fishing gear (Lujan 1998: 12).

In sustaining the excellent state of Apo Island marine ecosystem, wives continue to play a major role in deterring illegal fishing and promoting quality life. Their pro-nature attitude and involvement in community organizations such as the Apo Progressive Community Development Association (APCODA) which looks into ecologically sound development programs of the island, the Marine Management Committee (MMC) which oversees the good condition of the marine reserve and fish sanctuary, and the Development through Active Women Networking (DAWN) which sensitizes and empowers them, give these women the social avenues by which they could implement programs they believe to be consistent with their interests and condition. Like any other successful coastal resource management program, Apo Island will go on telling its success stories as it also continuously recognizes community participation and the substantial contribution of women and their organizations in its marine development program.

Conclusion

The close affinity of women to the environment and their sensitive awareness of the growing scarcity of food make them important stakeholders in coastal resource management programs. They easily understand the need to protect, preserve, and rehabilitate the coastal and marine environment because they are directly affected by it. As the Apo Island fish sanctuary project shows, women play a major role in empowering the community to protect their environment.

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For the opportunity to speak at the School of Marine Affairs at the University of Washington in Seattle, I wish to acknowledge Dr. Marc J. Hershman, Director of SMA, and Dr. Patrick J. Christie, coordinator of the exchange program. Appreciation is also extended to Prof. Roy Olsen de Leon of the Center of Excellence for Coastal Resources Management (COE-CRM) project of Silliman University for facilitating the participation of the author in the UW-SU Exchange Program.

[1] This paper was based on the report originally submitted as a course requirement in "Women and Ecology" class in the Graduate Program on Women's Studies, a consortium of Silliman University and St. Scholastica's College-Manila.

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BLAST FISHING IN THE PHILIPPINES, WITH NOTES ON TWO DESTRUCTIVE FISHING ACTIVITIES

Angel C. Alcala

ABSTRACT

Blast fishing has been considered a destructive method of fishing because it destroys coral reef habitats and fishery stocks as well as other marine organisms. Although a number of studies have documented the extent of its occurrence in some parts of the Philippines where it is causing considerable damage to places such as the Palawan group of islands, the Sulu archipelago, and the western Mindanao, there is also evidence that the incidence of blast fishing has declined or ceased in some areas of the country. This generally decreasing trend in the incidence of blast fishing is attributed mainly to the increased environmental awareness of people as a result of educational campaigns against destructive fishing activities, the vigorous implementation of fishery laws by some local government units and, more importantly, the depletion in coastal areas of schooling fish, which are the primary targets of blast fishermen.

An economic analysis of blast fishing provides evidence that while individual fishers derive substantial financial benefits from blast fishing, the net loss to society after years is substantial, a good reason to eliminate blast fishing on coral reefs.

Two other fishing activities—spear fishing with scuba or "hookah" compressor and drift gill net fishing—also deplete marine resources. Spear fishing with scuba should be banned. Drift gill net fishing should be regulated to minimize its potential negative impact on fish, marine mammals, and other marine species.

The development of alternative fishing activities or sources of income to which spear fishers, drift gill net operators, and blast fishers can shift their fishing operations is highly desirable.

Introduction

Fishing is an important activity in developing countries, being a source of income and livelihood for a large number of the human population. Destructive fishing activities involving the use of explosives and poisons are common

in tropical countries where poverty is prevalent (Pauly and Chua 1988, Pauly et al. 1989). Other activities, such as coral mining, dredging, and boat anchoring on coral reefs, whether associated with fishing or not, destroy fish habitats and are also considered destructive to fisheries. Blast fishing, which is considered a destructive method of fishing because it destroys coral reef habitats and fishery stocks as well as other marine organisms, has been practiced in the Philippines since the 1930's but became rampant during the decades following World War II. Even trawlers used dynamite-blasting in the 1950s (Thomas 1999).

Blast fishing and sedimentation are the two main causes of physical and biological destruction of coral reefs in Southeast Asia (Yap and Gomez 1985). This is true with reference to the early decades, based on our observations in the Philippines. However, fishing with the use of poisons may have equaled or even surpassed blast fishing in some areas as one of the leading causes of reef destruction in the 1990s. According to Barber and Pratt (1997), more than one million kilograms of cyanide have been squirted onto Philippine coral reefs since the 1960s. In addition, our observations in southern Philippines indicate a wide use of locally grown fish poison, *Derris*, in shallow coastal areas. However, the extent of the use of this natural poison needs to be determined. Saila et al. (1993) tend to minimize the effect of blast fishing on hard corals, stating that the primary targets of blast fishers are schooling and pelagic fish and that most explosives are detonated near the surface and probably inflict minimum damage at the bottom. However, our earlier observations indicated that some fishers throw dynamite bombs that sink to the sea bottom before explosion, killing demersal fish and creating craters on coral beds. The present review will deal with blast fishing and two fishing practices that may

also be destructive to fishery species and marine biodiversity.

Sources of Data and Information

The information from published papers, unpublished survey reports and records of local government units was supplemented by our own observations during the past 25 years and by interviews of several fishermen and local government officials. In most cases, information from the interviewees was obtained indirectly by asking general questions on fisheries rather than on blast fishing and other kinds of destructive fishing methods. Indirect questioning was resorted to because of the unwillingness of fishermen to talk about destructive fishing methods used by their friends. Interviewees were assured that their names will not be included in this report.

Blast Fishing

Fishing with explosives as a method and its general and immediate effects on fish and the coral environment have been adequately described in several papers. Blast fishing has been the subject of our earlier reports (Alcala and Gomez 1979, 1987). Recently several reviews and reports with particular reference to the Philippines have appeared. Abregana (1988) discussed the psychological and social determinants influencing the behavior of blast fishermen in Central Visayas and driving them to engage in blast fishing. Galvez et al. (1989) described the social and cultural dynamics of blast fishing and sodium cyanide fishing in two villages in Lingayen Gulf area, Pangasinan. McAllister (1988, 1991) and Ansula and McAllister (1992) discussed the environmental, economic, and social costs of coral reef destruction in the Philippines. Rubec (1988) reiterated the need for conservation and

management of Philippine coral reefs. Pauly et al. (1989) included dynamite blasting in their review of tropical fisheries management. McManus et al. (1997) discussed potential rates of recovery of coral reefs destroyed by bad fishing practices, including dynamite blasting. Saila et al. (1993) modeled the effects of destructive fishing practices on coral reefs. Although Pet-Soede et al. (1999) studied the economics of blast fishing on Indonesian reefs, this paper is relevant to the Philippines. In addition, a number of unpublished reports on incidence of blast fishing in various areas of the country and records of apprehensions of illegal fishers and of legal cases on blast fishers have been made available.

Present Status

It is common knowledge that blast fishing occurs in all parts of the Philippines. About 70,000 fishers, 12% of capture fishers in the country, are engaged in blast fishing according to Sievert (1999). The more important question is whether the use of explosives for fishing has increased, or decreased, or has remained the same in these areas in the 1990s, the time frame for this review.

To date only one study (McManus, Reyes and Nañola 1997) has reported actual counts of reef bombing for fish. They observed an average of 10 blasts per hour in Bolinao, Pangasinan from 1987 to mid-1989. This number was reduced by 90% beginning mid-1989 as a result of strict enforcement of laws (McManus et al. 1992). It is hoped that the situation has further improved since 1992, especially as a result of the efforts of the Lingayen Gulf Commission.

The situation on Luzon (except Bolinao), southern Mindanao and most of Eastern Visayas is not well known. Information indicates that the seas in the Babuyan group of islands off northern Luzon are subjected to blast fishing. Reports

on blast fishing in the vicinity of Dinagat and Siargao Islands have been received. It may be assumed that the area around Guiuan, Samar has been relatively free of this destructive method because of the presence in the area of non-government organizations concerned with marine conservation.

The Palawan area contains the largest concentration of coral reefs in the country, and is a favorite area for blast fishers. As expected, information available from the area indicates that blast fishing and other forms of destructive fishing occur throughout the area, with the notable exception of Puerto Princesa City, where the mayor has been successful in stopping these destructive activities (pers. observ.). HARIBON Palawan and the Environmental Legal Assistance Center (ELAC) reported that blast fishing occurs in the towns of Coron, Cuyo, Dumaran, Taytay, and Roxas (all in northern Palawan) and in Balabac, Bataraza, Quezon and Rizal (all in southern Palawan). BANTAY PALAWAN listed 20 localities and towns on the main island and on the many small islands comprising the province of Palawan, giving the impression that blast fishing is rampant in the province. Cases were filed against six persons in the municipalities of Taytay, Agutaya, Linapacan, Magsaysay, Balabac, and San Vicente for blast fishing in violation of the Philippine Fisheries Code of 1998 from January to November, 1998; two persons were convicted and sentenced to five and six years of imprisonment, two cases have been archived, and two cases are active (Sammy Umandap, International Marine Alliance, pers. comm.). It is not known whether cases have been filed in the courts in 1999. However, the January-March 1999 issue of *Likas Palawan* carried a news item about three blast fishermen who were arrested and meted the punishment of hard labor for three days a week for five years by their Tagbanua Barangay Captain of Tara, Coron, in northern Palawan.

The status of blast fishing in the Tubbataha Reefs National Marine Park can be inferred from data on both coral cover and fish abundance. The live coral cover of selected areas in the North and South Islets were assessed by Estacion et al.(1993) in 1991. Four years later, Divinagracia and Reboton (1995, unpubl. Rept.), repeated the measurements using the same transect-quadrat method. They found that the average of live hard coral cover in the shallow reef (less than 30 ft) had slightly improved from 27% to 32% in the North Reef, but that in South Reef had decreased from 44% to 27%. Luchavez and Luchavez (1995 unpubl. rept.) compared the results of target fish species census in 9-10 transect lines laid on the two reefs at two sampling periods (1991 and 1995) and found that the mean densities (+/SE of Mean) were 56.2 +/- 22.1 (1991) and 44.0+/-11.6 (1995), while the biomasses were 34.7+/-23.6 (1991) and 7.9+/-2.0 (1992). In both sampling the mean numbers of species were 6.4+/-.09 (1991) and 6.8+/-1.1 (1995). Both density and biomass were higher in 1991. The coral and fish data suggest that blast fishing could have occurred in Tubbataha during the period 1991-1995. Information furnished me, however, indicates that blast fishing incidence decreased two years ago. The park is now actively protected by the World Wildlife Philippines and fishing with explosives is expected to have been controlled.

My personal assessment is that the coastline of Negros Oriental has been rid of blast fishing as early as the late 1970s in localities near Dumaguete City. Other towns have been free from blast fishing since the 1980s. It is safe to state that blast fishing is now a rare occurrence in Negros Oriental and the adjoining towns of Negros Occidental and probably also in Siquijor. The absence of blast fishing in Negros Oriental is due mainly to the relentless campaign against destructive fishing by various sectors of society, including the academe (Silliman University), local government units, non-government organizations, and the police and other enforcement agencies. One major factor is the governor's program on

coastal resource management which promotes the establishment of no-take marine reserves and enforcement of fishery laws. However, as will be discussed below, unsustainable, if not destructive, fishing method (drift gillnet) is still being used by fishers in the Sulu Sea.

Although no longer rampant as in earlier decades, incidence of blast fishing has been reported in certain areas of Central Visayas. Danajon Reef in northeastern Bohol and even Mactan Island were subjected to blast fishing in 1997. The blast occurred near a police patrol boat (D. Catada, pers. comm.).

In Western Visayas, Macahulum and Carbin coral reefs off Sagay City and a reef off Cadiz City in the Visayan Sea used to be targets of intense blast fishing in the past until the local government of Sagay began protecting them beginning in the mid-1980s. This greatly reduced the incidence of blast fishing. Carbin reef has been integrated into the national protected area system and is now largely free from blast fishing (author's pers. obs.; Mayor Joseph Maranon, pers. comm.). Some mayors of certain towns in northern Negros have just formed a council for marine conservation and management which could eliminate the practice.

On the island of Mindanao, some areas, including Basilan and Zamboanga Peninsula and the eastern part (islands near Surigao), are still subjected to blast fishing according to reports, but it has been difficult to get quantitative data. At one time in 1997, an explosive blast at the large Sta Cruz Island almost killed one member of a group of graduate students diving off the small Sta Cruz Island some 200 meters away (L. Alfeche, pers. comm.). In this area, blast fishing apparently still occurs.

One good news from Mindanao concerns the great reduction of blast fishing along the coastline of Zamboanga del Norte Province from Dipolog City eastward to Misamis Occidental and Misamis Oriental Provinces. Blast fishing still

occurs in and near Ozamis City, Misamis Occidental. On Camiguin Island, blast fishing has been stopped since the mid-1990s, according to my informants. The city of Dapitan, in particular, is almost free of blast fishing. The city filed 43 cases in court (17 of them against blast fishers) from 1989 to 1999 (data provided by Cyril Patangan, Agricultural Technologist, Dapitan City). Only one case (against a purse seiner) was filed in 1999. Out of the 17 cases of blast fishing, 10 were decided on after the accused were found guilty or pleaded guilty; the rest of the cases were either archived, dismissed, or still on trial. Blast fishing on some offshore reefs of Dapitan occurs occasionally, but is in general effectively controlled. Credit is due to the local government units for their effective information campaign against all forms of destructive fishing and for their vigorous implementation of fishery laws. The presence of alternative fishing opportunities (aquaculture) in Dapitan City must have helped in the control of blast fishing. This is confirmed by interviews.

In the Sulu Archipelago, available information (S. Rasul, pers. comm.) indicates that blast fishing is still occurring there. Cabanban (1997 and pers. comm.) reported that blast fishing occurs on Semporna reefs, Sabah, and it is probable that this activity extends to the Sulu Archipelago because of proximity. Information reaching me states that blast fishing occurs in the vicinity of the Turtle Islands and near the small islands close to Sabah.

From the foregoing reports, it appears that blast fishing still occurs in the country although its incidence has decreased. In some areas it has ceased. The reasons for this are, first, the general awareness of our people of the widespread destruction of marine ecosystems and their disapproval of destructive fishing methods; second, the continuing educational campaign directed at all forms of destructive fishing by conservation groups, such as Haribon, Tambuyog, ELAC, Bantay Dagat, NGO's and some educational institutions; third, the establishment of marine reserves and strict implementa-

tion of fishery laws by local government units (e.g., Negros Oriental province, city of Sagay, city of Dapitan, town of Lopez Jaena in Misamis Occidental, town of Masinloc in Zambales, city of Puerto Princesa in Palawan); and fourth, the development of aquaculture opportunities and tourism as alternatives to blast fishing. This seems to be the case for some blast fishers of Dapitan who are now engaged in fish-pen culture in protected waters of the city. The fifth reason (and probably the basic reason) could be that in many coastal areas of the country the target schooling fish species have been depleted, making such areas no longer profitable for blast fishers. This has forced blast fishers to fish in more pristine coral reefs previously considered too remote, but now accessible with the use of motorized boats, as Pet-Soede (1999) has pointed out in Indonesia. In the Philippines, more pristine coral reefs in Tubbataha and in the China Sea are attractive to blast fishers.

Long-Term Effects of Blast Fishing

Recovery of Corals.

Coral reefs and their biodiversity are damaged by a number of causes, which often exert their effects simultaneously, and it is difficult to separate the effects of each of these factors. Nevertheless, McManus and Nañola (1997) attempted to assess the relative importance of blasting, poisoning with sodium cyanide, and anchoring on a reef slope of a heavily exploited fringing reef in Bolinao, Pangasinan using a balance sheet model in which rates of potential coral destruction from blasting, poisoning and anchoring were each assessed against rates of potential regrowth. They concluded that for the period 1987-1990, approximately 1.4% per year of the hermatypic (reef forming) corals may have been lost to blasting, 0.4% per year to cyanide, and 0.03 per year to anchors. The potential coral recovery rate of 3.8% per year in the ab-

sence of disturbance was reduced by about one-third to 2.4% per year. For the study reef, corals recovered slowly, and blasting had more effect than either cyanide or boat anchoring. The authors, however, warn that their findings are subject to uncertainties due to compounded errors in computation. Considering the rampant use of cyanide in the Bolinao area, the small amount of damage inflicted by this poison is surprisingly low relative to that caused by blasting, but this is explained by the authors in terms of need for accurate data on coral mortality due to cyanide fishing.

Saila, Kocic and McManus (1993) modeled the effects of destructive fishing practices (blasting, cyanide and other poisons, and anchoring) on coral reefs based on observed physical and biological data from Santiago Island, Bolinao, Pangasinan. Some relevant data used in this modeling are; area of reef flat (24 km^2); area of reef slope (60km^2); current extent of damaged coral (50%); estimated loss of coral in % per year (moderate case): to blast fishing (0.44), to cyanide and other poisons (2), to anchors (0.4), total (2.84), coral regrowth in % per year (1.0). Note that the coral regrowth figure is lower than the potential recovery rate of McManus and Nañola (1997), which is 2.4% per year. Simulations carried out for a period of 100 years under the assumption that 50% of the coral cover has already been destroyed "... indicated that the sum of all current destructive practices was sufficient to continue loss of diversity and loss of live coral cover for about 25 years before any recovery was expected. On the other hand, a reduction in the rate of destructive fishing to about 30% of the current level would permit continuing slow recovery of both diversity and live coral cover." The authors then suggest that to accomplish this reduction of the rate of destructive fishing, attempts should be made to eliminate the use of poisons in coral reefs and to reduce anchor damage, in addition to reducing blast fishing. There is a need to reconcile the findings of these two studies referred to in this section.

Empirical data on recovery of corals in blasted reefs are not easy to obtain. In general, sections of reef dominated by slower growing massive and encrusting corals will take a longer time to recover, perhaps 25 to 50 years, than areas with fast-growing branching and foliose corals (Wilkinson, et al. 1999). Alcala and Gomez (1979) reported on the slow rate of recovery of corals in a known blasted reef at Bantayan and Escaño, off Dumaguete. Michael Alcala (unpubl. data), surveying the same reef in 1995, 23 years after the cessation of blasting using quadrat and video-quadrat methods and taking large samples (25-250), found that the live hard coral cover ranged from 16 to 25%. It is to be noted that this reef is a fished area for traditional fishers and has not been protected from fishing. Contrast this with the recovery of Pescador Reef, off western Cebu, which developed a live hard coral cover (mostly branching corals) of 45% four years after it was almost completely destroyed by a typhoon (L. Alcala and Gomez 1990). This reef was partially protected for tourism. Recovery of blasted coral reefs is variable, subject to a number of factors, and requires careful studies.

Fish yield in blasted coral reefs.

Little data are available on fish yields from predominantly blasted reefs. McManus et al. (1992) gave 2.7 tons/km^2/yr for a heavily dynamited reef slope in Bolinao. A shallow reef flat in southwestern Negros, which was heavily dynamited from the late 1930s to the 1970s, produced no more than about 5.0 tons/km^2/yr (Alcala and Gomez 1985). In 1996, the same reef including the nearby non-reef area yielded only 2.8 tons/km^2/yr (Luchavez 1996). These yields contrast sharply with those of Sumilon and Apo Islands which ranged from 15 to excess of 30 tons (Alcala and Russ 1990).

Recovery of fish populations in blasted reefs.

McManus et al. (1992) studied the fish communities on the reef slope and reef flat in Bolinao from 1986 to 1992. These reefs were subjected to destructive forms of fishing. Although some

pattern in abundance and diversity in the reef slope has been observed, none was evident in the reef flat. The pattern of abundance on the reef flat resembles the finding of Russ and Alcala (1996) at the Apo non-reserve where abundance did not increase significantly in several years (see below).

The recovery of fish communities in reefs which had been blasted and where fishing with non-destructive gear was allowed has not been studied. It is not possible to find a reef that has been fished by explosives only; practically all coral reefs in the Philippines have been subjected to various destructive methods of fishing at one time or another. The coral reefs in two marine reserves (Sumilon and Apo) in the Central Visayas studied for 25 years by Alcala and Russ (e.g., Alcala and Russ 1990, Russ and Alcala 1996) come close as examples as they were fished with explosives and muro-ami before their protection and now incorporate no-take reserves and adjacent non-reserves (fished areas) serving as controls (Russ and Alcala 1996). Taking only the large predators or target fishes (Serranidae, Lutjanidae, Lethrinidae and Carangidae), there was a significant positive correlation of mean density with years of protection at both Apo and Sumilon reserves; mean density remained low and did not change significantly at the Apo non-reserve (where fishing occurred as in the Bolinao reef slope referred to above). At the Sumilon reserve, density decreased significantly twice when the reserve was open to fishing and increased significantly three times following reserve protection. The pattern of increase of biomass at both islands was more curvilinear, beginning with slow increase followed by an increasing rate of increase. Increase of density and biomass is due to protection (Russ and Alcala 1996). At Sumilon reserve, 2 and 1.5 years of efficient fishing eliminated gains in density and biomass accumulated over 5 and 9 years, respectively, of reserve protection, showing that it is far easier to destroy fisheries than to conserve them.

Fish recruitment on blasted reefs.

This subject has not been studied thus far. The general observation that heavily dynamited reefs are characterized by low fish density leads us to ask why this is so. For one thing, such dynamited reefs lost their structure, becoming monotonous flat areas of coral rubble. Of course reefs lose their structure as a result of several factors, such as sedimentation, poisoning, etc. Does this change in structure affect patterns of recruitment? I believe this is one area for investigation.

Economics of Blast Fishing

A few studies have dealt with economics of degraded reefs. McAllister (1988, 1991) and Ansula and McAllister (1992) discussed the environmental, economic, and social costs of destruction of Philippine coral reefs. The drop in the productivity of Philippine coral reefs due to degradation was estimated at 37%. But the authors think that with just 1% loss of productivity, the value of Philippine coral reefs shall have decreased by more than US$ 27 billion! I am not in a position to critically evaluate this claim, but I agree that the loss could be substantial. The authors also point out the various non-monetary values of coral reefs, such as protection of land from erosion.

Studies on the contribution of good coral reefs to tourism in the Philippines are few. Vogt (1997) estimated the yearly economic benefits of tourism after an initial investment of US$ 32,692 in the marine reserve of Apo Island, off Dauin, Negros Oriental, at US$ 22,910 to the fisher community, US$ 61,770 to resort and dive shop owners, and US$ 42,115 to dive tour operators. The records (DENR, PAMB for Apo) show that about US$ 35,000 in entrance fees were collected in one year. The fish yield from this reef in 1990 was 20 metric tons (unpublished data), representing a size-

able income for the Apo fishers. These financial benefits indicate that a coral reef area of about 106 ha., if protected, can bring in a substantial income to communities.

A recent study in Indonesia may well apply to the Philippines because of the similarity of social and environmental conditions. Pet-Soede, Cesar and Pet (1999) studied the characteristics, impacts, and economic costs and benefits of blast fishing in the Spermonde Archipelago in southwest Sulawesi, Indonesia for a period of almost two years. They reported that the economic benefits from blast fishing address the need for good sources of income for fishers claiming to have no other alternatives. The crew members in small-, medium-, and large-scale blast fishing operations earned US$ 55, 146, and 197, respectively, per month, while boat owners earned US$ 55, 393, and 1100, respectively, in the same operations. These incomes were comparable to the highest incomes in conventional coastal fisheries. The cost-benefit balance at the society level, calculated with an economic model, showed a net loss after 20 years of blast fishing of US$ 306,800 per km^2 of coral reef where there is a high potential value of tourism and coastal protection, US $33,900 per km^2 where there is a low potential value. The authors point out that the economic costs to society are four times the total net private benefits from blast fishing in areas with high potential value for tourism and coastal protection. They hope that the results of their studies will raise the level of political will to ban blast fishing in Indonesian waters.

Indeed, the political will to eliminate blast fishing and other destructive fishing methods and to enforce fishery laws is urgently needed. Abregana (1988) advocated a community-based fishery development scheme to stop the use of this method. Galvez et al. (1989) made a point in stating that the local communities in the Lingayen Gulf have accepted blast fishing and that corruption is a major factor that hinders or prevents the control of blast fishing.

Other Objectionable Fishing Practices

There are other fishing practices that may have negative impacts on either the marine environment or the marine biodiversity, or both. One such method, spear fishing, appears to cause depletion of fishery species in shallow marine areas. The other, drift gillnets, may have serious impact on marine mammals and other marine species (e.g., turtles and non-target fish species).

Spear fishing

Traditionally, spear fishing was a non-destructive method used by fishermen to catch large, highly valued fish species in coral reefs during the day. The equipment consisted of goggles and spear guns, all home-made. Catching fish with this method was highly dependent on the skills and swimming endurance of fishers. However, when scuba equipment, "hookah" compressors, underwater flashlights, and poisons were available and were used in various combinations with powerful spears, spear fishing became a very efficient fishing method. Without using scuba, a spear fisher can easily catch 20-50 kg of fish from good coral reefs in two hours. In a small island like Selinog (60+ ha), there may be 10-12 spear fishers who fish almost every night. A spear fisher group using compressor was observed to catch 90-135 kg in one night (unpublished data, Silliman Marine Laboratory, 1991). Although data are needed, this level of fishing in coastal areas appears to be not sustainable.

Spear fishing is probably one major cause of depletion of fisheries along the coast of many islands of the country, as indicated by the absence of medium and large fish and of invertebrates like sea cucumbers. At night, many fish species (e.g. parrot fishes, siganids, caesionids) "sleep" on the sea bottom or are inactive, rendering them highly vulnerable to spear guns. Even marine turtles "sleep" on coral reefs and are often victims of spear fishers. The

use of poisons by spear fishers probably also contribute to the death of corals. In the Palaus, spear fishing of the bumphead parrot fish in the mid-1980s has resulted in the depletion of this fish (G. Russ and N. Idechong, pers. comm.). McManus et al. (1992) state that banning this device would arrest the rapid decline in number and diversity of fish in the reef slope of Bolinao, Pangasinan.

The use of "hookah" compressors is hazardous to human health, as pointed out earlier (Alcala and Gomez 1987, McManus et al. 1992). Because air is not filtered, fishers breathe air mixed with oil, slowly impairing their health. Furthermore, they often exceed the limits of no-decompression diving and often suffer (sometimes dying from) the bends. In 1993, according to one report, 30 of the 200 divers in a Philippine community suffered from the bends and 10 died from the disease. One informal survey indicated that in seven out of eight communities, one or more divers had died from the bends within three years (Anon. 1997). The victims generally are not aware that diving using "hookah" compressors without following diving rules is injurious to health. Because of ignorance, one survivor (now a cripple), for example, insists he had a heart attack while diving!

The use of "hookah" compressors in fishing is now recognized as a destructive practice and should be banned (McManus et al. 1992, Pet and Djohane, 1998 as cited in Pet-Soede et al. 1999). Some municipal governments have enacted ordinances banning spear fishing with compressors or with scuba, but they have difficulty enforcing them. In one case, the police did not enforce the regulations because they themselves were involved in this illegal fishing.

Drift Gillnets

Drift gillnets vary from one to three kilometers in length and are 18 meters deep. They drift with the boats they are attached to and are maintained in position by floats above and sinkers below. At present, there are probably more than 200 drift nets operating in the Bohol Sea and East Sulu Sea,

the body of sea water enclosed by the islands of Negros, Siquijor, Bohol, and the provinces of Zamboaga Sur, Zamboanga del Norte, Misamis Occidental, Lanao del Norte, Misamis Oriental, Camiguin, Agusan del Norte, and Surigao del Norte in northern Mindanao. In the Dapitan area alone there are 29 (Cyril Patanga, pers. comm.). Drift gillnets have also been reported in the San Vicente (Palawan) area, operating in the South China Sea. They may also be found in other large bodies of sea water in the country. Dolar (1994) reported 50 drift gillnets based in Malabuhan, southern Negros Oriental, 30 at Pamilacan Island, Bohol, and 40 at Aliguay and Selinog Islands, Dapitan City, a total of 120 units operating in the Bohol Sea and East Sulu Sea. The usual fish catch of drift gillnets in the Dapitan, Zamboanga del Norte area is 150-400 kg/trip in good weather conditions. Drift gillnets operate at least 20 days a month.

Pelagic fish species are caught, mostly tunas and blue marlins, but marine mammals (dolphins) and occasionally turtles are caught as well. According to information some dolphins and turtles if still alive may be released by some fishers but are slaughtered for food or bait if dead. Dolar (1994) reported that the average dolphin bycatch per day was 3.1 based on 16 days of observation in the East Sulu Sea and estimated that 428 dolphins were caught and butchered during the six-month operation (November to May). Dolar (1999, pp. 64-66) reported that 2,259 dolphins (1,556 spinners, 519 Frasers, and 184 spotteds) were killed through directed and incidental fishing in her study area in East Sulu Sea in 1994-1995. The estimated sustainable take would be 171 spinners, 48 Frasers, and 55 spotteds. The kills in 1994-1995 were therefore not sustainable. Drift gillnets appear to have a negative impact on marine biodiversity. Some form of control in the number of areas of operation for this gear may be needed to prevent depletion of some marine species that are useful to humans in ways other than food (e.g., tourism). One way to

effect this control is through establishment of "no-take" marine reserves.

Summary

Although some areas, notably the Palawan group of islands, the Sulu Archipelago and western Mindanao seem to be still subject to considerable blast fishing, there is evidence that the incidence of blast fishing has declined or ceased in some areas of the country. The reasons for the generally decreasing trend in the incidence of blast fishing are the increased environmental awareness of people as a result of educational campaigns against destructive fishing activities, the vigorous implementation of fishery laws by some local government units and, more importantly, the depletion in coastal areas of schooling fish, which are the primary targets of blast fishermen. In some cases, this has resulted in the movement of blast fishers to fish-rich reefs in the Palawan and the South China Sea areas.

Empirical and simulation studies on long term recovery of hard corals indicate slow recovery on blasted reefs that are continually fished. One such simulation study indicated that reduction by 30% of the current level of destructive fishing activities would allow slow recovery of both corals and biodiversity. The density of large predatory fish did not change in one fished reef even in the absence of blast fishing and other destructive fishing practices, but density and biomass in two protected reefs showed increase with years of protection over the period of study (9-11 yrs). The patterns of coral and fish recovery on blasted reefs which are later fished with traditional non-destructive gear or which are converted to marine reserves need more studies. Fish larval recruitment in such blasted reefs should be part of these studies.

An economic analysis of blast fishing indicates that while individual fishers derive substantial financial benefits from blast fishing, the net loss to society after 20 years was substantial, a good reason to eliminate blast fishing on coral reefs.

Two other fishing activities—spear fishing with scuba or "hookah" compressor and drift gill net fishing—also deplete marine resources. Spear fishing with scuba should be banned. Drift gill net fishing should be regulated to minimize its potential negative impact on fish, marine mammals and other marine species. The development of alternative fishing activities or sources of income (e.g. mariculture, tourism) to which spear fishers, drift gillnet operators and blast fishers can shift their fishing operations is highly desirable.

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WHAT WOMEN ARE COMPLAINING ABOUT: SEXISM ON CAMPUS

Betty C. Abregana

ABSTRACT

This article presents the various forms of sexism on campus based on a qualitative research done in four universities in central Philippines. As the research revealed, sexism is apparent in the teaching-learning activities in the classroom, behavioral interaction on campus, school policies and programs, co-curricular activities, and student services. The challenges for women's studies are outlined and some initiatives to curb campus sexism are identified.

Introduction

Consider these forms of behavior on campus: taunting or whistling at women, following women around, ogling at women's body parts, using instructional materials depicting women in a degrading manner, using male pronoun to refer to both women and men, or cracking jokes at the expense of women.

Sexism on campus has various shades. From the subtle to explicit forms, sexism in an academic environment erodes the capacity of learners to appreciate human beings based on individual qualifications rather than on sex. As a form of discrimination, sexism is the treatment or consideration of, or making a distinction in favor of or against, a person based on sex rather than on merit. Sexism entails unwelcome conduct that unreasonably interferes with work or learning performance, or creates an intimidating, hostile, or offensive academic setting.

An academic environment has to promote standards of equality and improve chances of inspiring the full and equitable participation of women in our classes. Studies on campus sexism not only expose old prejudices but also substantiate

efforts to correct forms of discrimination based on sex (Wartman, 1999).

Applying a qualitative research approach, focus discussions were conducted with groups of faculty members engaged in the practice and/or teaching of women's studies in selected campuses in Negros and Panay islands. One university in Negros Oriental, two in Negros Occidental, and one in Iloilo participated in the study. Two universities are Roman Catholic in orientation while two are Protestant in origin.

Profile of Sample Academic Institutions

All four universities are institutions open to women and men that offer primary, secondary, tertiary, and graduate programs. All four are private institutions that primarily depend on tuition revenues. The four, however, vary as to the nature of involvement in women's studies as perceived by the focus group discussion participants (see Table 1, below).

Table 1. Profile of sample academic institutions, November 2000.

Categories	Uni 1	Uni 2	Uni 3	Uni 4
Location	Dumaguete City, Negros Oriental	Bacolod, Negros Occ.	Bacolod, Negros Occ.	Iloilo, Iloilo
Religious Affiliation	Protestant	Roman Catholic	Roman Catholic	Protestant
Status of Women's Studies center	Has a center for women's studies	A women's studies group is in place	Structure not in place	Formed a group before; presently not in place
Budget source	External assistance	Internal assistance	No provision	From unit initiating activity
Nature of major activities	Teaching; Outreach	Outreach	Participates in activity when invited	Outreach
Source of Initiative	Faculty initiated, university-recognized	University-initiated, faculty encouraged	Responds to invitations from outside institutions	Individual interest, reported as needed
Number of discussants	9	8	3	6

Dumaguete, Bacolod, and Iloilo are cities in the central part of the Philippines, belonging to the Visayas group of islands. As is true in other islands and the entire country, most colleges and universities are privately owned. Government-financed colleges and universities account for only 20 percent of the total tertiary institutions in the country. Given the limited resources of these institutions, inclusion of new programs entails a fair level of pressure from interest groups, either from among the faculty or from the administrators. Funding allocation for women's studies concerns in a Bacolod university is made possible through the representation of a female top administrator. Grant for the women's studies center in the Dumaguete university initially came from a funded proposal penned by a group of academe-based, mission-oriented women with a community outlook. The initial funding of women-focused activities in the Iloilo university came from its mission board. The absence of an allocation in the other Bacolod university could be due to the absence of a women's studies program both at the levels of the faculty and the administration. This supports the contention that the strength (or weakness) of a women's studies initiative is determined by the level of interest and commitment of individual faculty or administrator (Abregana 1995).

Sex distribution.

There is a predominance of women in coeducational colleges and universities in the Philippines, a fact substantiated in this Visayas study. At the administrative level, there are slightly more females than males in these private institutions. However, in state colleges and universities, presidential and top administrative posts are mostly held by men (Siason 1999).

Females outnumber males in the faculty and student population. At first glance, this phenomenon may be viewed as favorable to the women sector, especially the ratio between male and female members of the faculty. A closer examination, however, will reveal that the education sector is one of the low-paying sec-

tors of the country's labor market and the Filipino woman's trait of being matiisin (long-suffering) plays well in this work area. In the three sample universities, female full-time faculty members outnumber males while males outnumber female part-time college teachers. This suggests that males take college teaching as a secondary occupation while females are into college teaching as a primary job.

In the same sample, the proportion of male students in the elementary school is higher than females (see Table 2). In the secondary level, the female students begin to outnumber males and the proportion decreases for males as the educational level increases. Could this mean that there are likely to be more females among the educated unemployed, given the fact that there are more males employed than females?

Table 2. Sex distribution in three universities* (as of 1st semester, 2000-2001)

Categories	Male		Female		N
	f	%	f	%	
Administrators	55	47.41	61	**52.89**	116
Total College faculty (FT/PT)	429	43.38	560	**56.62**	989
College Part-time	200	**52.77**	179	47.23	379
College Full-time:	229	37.54	381	**62.46**	610
Professors	8	33.33	16	**66.67**	24
Associate Professors	24	40.00	36	**60.00**	60
Assistant Professors	64	31.68	138	**68.32**	202
Instructors	133	41.05	191	**58.95**	324
Total student population					
Elementary	1932	**55.87**	1526	44.13	3458
High School	1339	48.69	1411	**51.31**	2750
College	8357	38.22	13507	**61.78**	21864
Graduate studies:					
Master's level	235	32.19	495	**67.81**	730
Doctorate level	31	28.44	78	**71.56**	109

*One university in Bacolod was still in the process of ranking its faculty. Since data set for full-time college faculty was not disaggregated by rank, this university was not included in this summary.

However, one has to admit that, based on figures, campuses are definitely women's world. Yet, despite their number, women continue to be pestered with behaviors that demean their status, classroom instruction that trivializes the role of women, curricula that either make women invisible in the training of life skills or propagate exclusion of women in decision-making. If education is life itself, and if women are not fully and fairly depicted in educational content and strategies, then education at best can only be half of life. In this state, education promotes a segmented view of the world and can only claim to laying the groundwork for the attainment of half-truths.

Sexism in Visayan Campuses

Campus sexism, as operationally defined by the four groups, refers to forms of behavior that demean the status of women students in particular. Sexism, the group acknowledged, may also apply to men but the group felt that this phenomenon is most pervasively experienced by female students by virtue of their sex.

The use of non-inclusive language in the statement of university's mission and vision, in the classroom, in instructional materials, and in the day-to-day conversations on campus is identified as a dominant form of sexism in an educational setting. In an environment that rests heavily on written and oral communication, the use of sexist language certainly alienates more than half of the campus population.

Gender tracking in the advising of courses to take or to shift to is another. Some teachers have observed that female students are usually discouraged from taking male-dominated courses like Electrical Engineering. When females insist on being there, they usually have no available support system as they generally receive comments like "I told you so."

The group also observed that while most of the staff of counseling services and the student personnel division are females, many of them need training on feminist or inclusive approaches to ensure that the student programs and services are sensitive to women's concerns.

On campus, female students experience being whistled at, blocked at doorways or passageways by males who force their attention on them, stared at when walking down corridors, or become victims of voyeuristic activities when using toilets. These behaviors make campuses less women-friendly for the female population.

Inside the classroom, teachers often refer to female anatomy in commenting on or illustrating concepts. Theories and concepts presented usually are from the male perspective. In most cases, women's perspective is deemed invisible in classroom instruction. Dirty jokes at the expense of women abound.

Specific examples.

Forms of sexism in classroom setting were identified. The sections that follow outline the groups' observations.

Content of lesson or topic is itself sexist and is left unbalanced. For instance, in the presentation of Freud's theory on psychosexual development, the professor does not devote equal time to a feminist critique of Freud and explain his failings. Sexist theories in an introductory class need to be balanced because for many students this may be their first exposure to learning about issues of gender in society and they are not getting a fair portrayal of what human development really is.

Learning strategies are not suited to differences in learning styles of men and women. Studies have shown that women tend to take awhile to think and require longer reaction time before replying to questions.

Non-adoption of inclusive language is reported.

Course material is not balanced in its use of masculine and feminine pronouns.

Examples or illustrations in class put women at a disadvantage as evidenced in the use of sexually aggressive humor or jokes; commentary about a female student's body or appearance; or, reference to female anatomy in making explanations or comments.

Co-curricular activities can also be sexist. The objectification of women in campus beauty contests is reported. With the drive for equality between sexes, some campuses sugarcoat their beauty pageants with programs that supposedly extol women as epitome not only of beauty but also of intelligence. Yet, the very fact that the pageant zeroes in on female students does not seem to strike the organizers that the activity is by its very nature sexist.

Then there is the matter of campus policies. Some campuses deal with students who get pregnant out of wedlock by advising them to take a leave from school supposedly to "rest and take care of the baby inside". This practice seems to suggest that pregnancy is a sign of physical weakening or even sickness and therefore the female student has to stop schooling. Meanwhile, the male responsible for the pregnancy usually escapes sanction and if he also happens to be a student, he is allowed to continue with his studies. Some campuses that tend to see a connection between pregnancy and evening activities address the issue by imposing curfew on female students. In one campus, for instance, the student organization bars female students from the place of activity by midnight.

Male teachers inviting female students to dinner before release of grades, giving women bonus points for donning swimwear in beach excursions, or asking women to make individual poses for a photograph collection are some off-campus activities labeled as forms of sexism.

Participants in the focus group discussion also made

a note on the matter of subtle sexism. Subtle sexism is pervasive and oftentimes goes unchecked. It gets tolerated and accepted. However, it erodes ability to seek balance and equality in gender relations. This failure to seek balance in "small things" can lead to the same stance in "big things."

Challenges for Women's Studies

In an earlier dialogue, women's studies practitioners and academicians presented their views on the status of education and training in the Visayas region, actions taken, and suggestions for improvement.

The status.

In upland and other marginalized communities, retention of girls and women in schools is threatened by economic difficulties. Those in Grades 5 and 6 and those in high school are prime targets for domestic work in households other than their own. Negros Oriental is identified as one of the four leading provinces that send girls and young women to big cities to work in homes or in factories.

The groups observed that textbooks and teaching materials generally remain insensitive to the particular needs and holistic educational development of girl pupils. Males continue to be depicted in a number of instructional materials as occupying choice job positions that demand higher pay for services rendered. Females, on the other hand, are generally portrayed as performing domestic and maintenance roles.

The stereotype that females do poorly than males in mathematics while females perform better than males in languages such as Filipino and English persists.

Classroom activities and students' participation in school organizations generally follow gender tracking that do not promote achievement of women's full potential or eliminate inequalities between sexes.

Teachers, by and large, have no systematic gender awareness programs and consequently have no notion about developing gender-fair curricula, teaching styles, and learning assessment and evaluation.

At the tertiary level, women can enter coeducational institutions and may also opt to go to an all-women institution. However, forms of discrimination are evident in the following manner:

Instructional materials continue to be presented from the male perspective. There are few textbooks that depict the contributions of women in science and technology, history, psychology, philosophy, and other fields of study.

In cases of pregnancy out of wedlock, a female student is generally advised by school authorities to take a leave from school even before she is due to deliver the baby, while the male who partnered the pregnancy is free of any sanction from the college or university.

The search for a Miss University is an annual activity in some schools. Women candidates are packaged as the "quintessential women" or as individuals with exemplary personalities in addition to their physical attributes. Nevertheless, these contests sell women, or to put it more bluntly, coopt women in a complicit process of "selling the self" in the guise of presenting women as paragons of beauty and intelligence, but really a form of commodification.

While most school counselors in the region are females, there is no systematic gender-sensitive professional school counseling and career education programs to respond to the distinct needs of women on- and off-campus and to prepare them for a life in the larger community. To address this concern, we have right now a simultaneous activity on the retraining of guidance counselors toward gender-fair counseling services. Most schools still have to finalize the code against sexual harassment on campus. At Silliman University, the policy against sexual harassment is about to be

signed by the administration, faculty union, and staff union.

In campuses where women's studies units are established, these do not enjoy institutional budget allocation. Their programs and activities are generally running on voluntary services, support from external funding agencies, or alliance with groups in other academic institutions or non-government organizations.

In effect, there is no institutionalized gender sensitivity program for faculty, staff and administrators in most colleges and universities in the region.

Some initiatives or actions taken.

Presently, actions are taken mostly by female faculty members. In some institutions, faculty members associated with women's studies movement are themselves running gender sensitivity training sessions for interested groups on-campus and off-campus.

Some faculty members have put in voluntary service in such advocacy programs in the community as prevention of violence against women, health and reproductive rights, appeal for basic services, or clamor for good governance.

Some institutions have faculty and administrators who have networked with national women's associations such as the Women's Studies Association of the Philippines (WSAP) or international alliances such as the Women's Initiative on International Affairs in Asia (WIIAA).

Some institutions have undertaken curricular development project with other schools to espouse the elimination of some gender-based issues such as family/domestic violence.

Some members of the faculty have conducted gender-oriented research topics such as the extent of gender bias in textbooks and school curricula, participation of women in community-based resource management, and economic participation of women in fishing communities.

In some campuses, students are organized to help address issues in the family and community such as wife battering, sexual harassment on campus or in the workplace, adolescent sexuality, rights of the elderly, etc.

Sobritchea (1999) reported that several organizations have expanded their educational assistance or adopted admissions criteria that have helped address gender imbalance in certain educational fields. There are some gains identified but more need to be done.

Concluding Statements

In the Educational Resources Information Center (ERIC) Digest, a statement has been made regarding the role of educational institutions in the elimination of sexist behaviors on campus: "The nation's colleges and universities occupy roles in our culture that impose unique expectations and opportunities. They are obligated to serve as moral exemplars by embracing diversity and inclusiveness while providing an environment free of debilitating harassment. They must lead by example in eliminating gender inequities among all segments of the academic community. They have also the important opportunity to shape the future by forging an ethos of enfranchisement, equity, and care. "

It further states: "Colleges and universities are expected to provide learning and working environments wherein all members of academic communities may pursue their studies, scholarship and work without bias or intimidation." Definitely, sexism on campus is inimical to this end. Campuses need to develop policies, procedures, extensive training programs, and materials that will identify and prevent sexism in educational institutions. Conferences and symposia, like what WSAP has now done, should be promoted.

In spite of some initiatives to curb this problem, and

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THE NEGROS MILLENARIAN MOVEMENTS

Earl Jude Paul L. Cleope

ABSTRACT

This paper presents the millenarian movements of Negros Island specifically in the southern part where topographic conditions significantly influenced the emergence and subsequent reappearance of what is sometimes labeled as "revitalization movements." Further this paper aims to present the various peasant movements with their religious undertones which appeared in Negros as influenced by babaylanism from nearby Panay Island. Negros Island saw the proliferation of religio-political protest movements that attracted many rural adherents. Classified as messianic, nativistic, or millenarian, these movements combine folk, Catholic, political, and nationalistic ingredients in their ritual beliefs and practices.

Using a New Historicist approach and ethnography, this paper tries argues that poverty, social inequities, social disorder, and anxieties have provided the backdrop for the emergence of these movements. Thus, such movements must be understood in the context of the social, economic, and political conditions that gave rise to them. Following this view, this paper attempts to elucidate the connection between the movement spearheaded by Dios Buhawi in 1888; Papa Isio in the 1890s; the Salvatori in the 1980s; and the contemporary Dios Amahan movements which has found fertile breeding ground in the same areas.

Introduction

Independent "religious" movements embodying elements derived from Catholicism and indigenous Pre-Hispanic culture have been part of the Philippine scene since at least the early 19th century. Springing from various provinces, these movements have been broadly classified as "Revitalization Movements".[1] Described by anthropologists as "deliberate, organized, conscious efforts by members of a society to construct a more satisfying culture,"[2] these movements were of-

ten politico–religious in character and germinated from agrarian unrest. Depending on the motifs underlying their philosophy and practice, these movements were either nativistic or "prophet" centered, the latter making claims to private revelations from reincarnations of Filipino martyrs of the Revolution.

Since the 1960s, scholars have been challenged to reexamine their perception of these movements as mainly rooted in fanaticism, insanity, and folk culture. As a result, modest attempts to examine unpopular and marginal events or movements have been undertaken. To date this area continues to offer fresh avenue for the study of Philippine culture and historiography. The renewed enthusiasm of scholars for this subject is expected to add to a comprehensive and deeper understanding of current Philippine rural social issues and dynamics.

This paper attempts to do two things. First, it aims to provide a historical survey of the millenarian movements that developed in Negros Island especially in the southern part where topographic conditions provided fertile breeding ground for the germination of these movements. Second, this paper will investigate the influences of the early movements i.e. Dios Buhawi in 1888; Papa Isio in the 1890s; the Salvatori in the 1980s on the present movement (Dios Amahan) which continues to thrive in the traditional lair of the earlier movements (and which coincidentally is the current hotbed of insurgency in the island).

Economic Progress vs. Dislocation

The establishment and growth of the Iloilo port in 1850 hastened trade and commerce in the Visayas and led to the development of the Islands of Panay and neighboring Negros. However, the prosperity of Negros attracted the influx of thousands of workers to the island. Predictably, this phenomenon led to the adverse dislocation of small farmers who, having

no titles of ownership to their lands, were easily dispossessed by the expanding agricultural enterprise. Thus in the 1870s, the growing social unrest due to countless injustices eventually led to a number of clashes against the authority and the populace. Considered by authorities as lawless elements, these groups were variously known as *tulisanes, kawatan, bandido, monteses, ladrones, remontados, civil-civil*, and *babailanes*, among others. According to a primary Spanish text, these groups operated in the mountains. Their manner of staging uprisings was simple; they always pursued the same cause, and shared similar objectives.[3] As a consequence of the growing social unrest and lawlessness, the Guardia Civil was established in Negros in 1879.[4]

The American anthropologist Donn Hart classified them into three groups. The first group was composed of the *tulisanes, cawatan, ladrones*, and *bandidos* and literally included plain thieves, bandits, and robbers. The second group included bandits posing as patriots and revolutionists who claimed that their unlawful activities were in line with the revolutionary struggle. Thus, collectively they were sometimes referred to as the *monteses* and *remontados*.[5] In the last, largest, and most organized group were the *babaylanes* (*babailanes*) also known as *civil-civil*.[6] This group was often likened to the Pulahanes of Samar, the Colorum of Batangas and Tayabas (Quezon) provinces, and the Guardia de Honor of Pangasinan and Ilokos provinces because of their shared similarities such as the observance of religious ritual revolving around crusading popes and self-appointed "Messiahs". The members wore distinctive costumes and carried with them bottles of holy oil, prayer books, and various amulets to protect them from harm.[7] In Hart's study the Buhawi rebellion belonged to this category.[8] To this day the *Babaylan* (the term also refers to the traditional shaman or religious functionary in the Visayas) tradition remains intact especially in the mountainous areas in the Visayas.

"Dios Buhawi" and Haring Kanoy

As mentioned earlier, dislocation and injustices brought about by economic prosperity ushered in the proliferation of lawless elements in the island of Negros. In 1887, the southern tip or toe[9] of Negros Island was rocked by an uprising headed by Buhawi (Buhaui)[10], also known as Haring (King) Kanoy. According to an ethnohistorical study conducted by Donn Hart from 1951 to 1965, Buhawi was born Ponciano Elopre in 1850 in Sitio Kaladias, Barangay Nahandig of the town of Zamboanguita. He was married to Flaviana Tubigan but they were childless. He seemed to have been a person of some means and importance because he became the cabeza of the said barangay. Owing to the distance of his place from the poblacion, Buhawi initiated the holding of religious ceremonies in his own barangay which later attracted people from nearby villages. As these ceremonies grew into more elaborate assemblies, dancing, cockfighting, and even trading became a regular feature of the Saturday gathering. Meanwhile, Buhawi established himself not only as a politico-religious leader in his village, but also as a religious healer or *mananambal*, a reputation that attracted more and more people into his neighborhood and earned him the nickname "Buhawi".[11] Thereafter, people visited Nahandig in increasing number as news about Buhawi's exploits, as well as his teachings and prophecies spread to other towns. Now called the "*manluluwas*"[12], he thereafter claimed himself to be 'Living God'. That he also issued a warning to punish those who would not give tribute[13] to him seems to suggest a darker side to his religious enterprise.

During that troubled period, the growing popularity of Buhawi's movement expectedly alarmed the authorities who considered it a threat to the established order. According to oral accounts from informants, Buhawi questioned the corrupt practices of the Spanish tax collector, Manuel Bugarin[14] and urged his followers not to pay their taxes.

Employing pseudo-religious doctrines and prophecies, he successfully won people over to his side to join his crusade against forced payment of taxes.[15] The towns that refused to submit to his movement were raided either by himself or his trusted deputy Camartin (Kamalting).[16] Consequently, alarmed by his growing influence over the masses, both Spanish authorities and the local Zamboanguita officials outlawed Buhawi's religious movement.

As his movement developed into a rebellion, Buhawi's hatred against the authorities became even more intense when they subjected his friends and relatives to brutalities.[17] After frequent patrols were sent to arrest him, Buhawi and his brother-in-law Valentin Tubigan, together with their loyal followers, were forced to move their headquarters to the remote mountains in the neighboring town of Siaton. His ability to elude arrest added to his mystic aura
and won him a number of followers who strongly believed that it was his supernatural powers that prevented him from being captured. Predictably, his successful exploits against the establishment effectively undermined the authority of Spain. Among the masses, these created a feeling that he was indeed their liberator from Spanish oppression. Various sources corroborate the claim that his movement attracted a great multitude from all the coastal towns from Tanjay to Tolong.[18]

Buhawi's end finally came when he raided the town of Siaton in 1888.[19] While the authorities believed that the movement would die with him, most of his followers, on the other hand, refused to accept his death. Convinced of Buhawi's supernatural powers, they stubbornly clung to the belief that he was alive. According to accounts, his loyal followers believed that the body that was brought to Zamboanguita was just a banana stalk but they dared not tell the officials for fear that the Spaniards would continue to hound them.[20]

Buhawi's Legacy

After his death, the Spaniards forbade the repetition of any stories about this 'living god.' But what Buhawi started did not end with his death. His wife Flaviana Tubigan and brothers-in-law Valentin and Higinio continued the movement. Flaviana became the "Reyna" (queen), Valentin became the successor of Buhawi, and Higinio became known as "Dios Talisic".[21] However, Valentin and Higinio were killed in ambush. Meanwhile, a certain Juana Gaitera also claimed to be another successor to the movement but she was later captured and exiled to Jolo. Likewise, a certain Francisco Malga of Bonawon, in the town of Siaton also claimed that he was Buhawi.[22]

Buhawi's wife Flaviana joined forces with Camartin de la Cruz (Kamalting) and while waging a reign of terror in the area, they continued to preach Buhawi's doctrines. As Camartin continued to raid the southern towns, other reports of disturbances were common.[23] The American anthropologist, Dean C. Worcester, who was visiting Dumaguete and the neighboring towns in 1888 wrote:[24]

We found that the guardia civil had been having a hard time trying to run down a famous tulisan leader, one Ca Martin...The officer who was after him in Negros had a hard problem to solve. The bandit was believed to have anting-anting, having earned the reputation by escaping the fire of six native soldiers, at a range of a dozen yards. They reported that their bullets had only grazed his body, and their tale was believed. The story lost nothing in the telling, and at the time I mention the hero of it was believed to have a new charm by virtue of which he could step from one mountain peak to another, or precipitate a rushing stream of ice-cold water on any one hardy enough to pursue him. ***These child's tales were implicitly believed, not only by the natives but even by intel-***

ligent mestizos. I heard them from the gobernadorcillo of Bais, who vouched for their truth.[25] *...It is to be hoped that he has long since been captured, and that the officer who took him had executive ability; but when we left Negros Camartin was still at large and his name was one to conjure by. (Emphasis mine)*

Camartin was himself killed in a trap laid by his mistress, Alfonsa Alaidan, on September 11, 1893.[26] Similarly, his death failed to put an end to the Buhawi movement. Although by now the movement's followers were outlawed as bandits, they continued preaching Buhawi's teachings and announcing his imminent return. Various sources consulted by Angel Cuesta regarding the reports in the southern towns during this period were unanimous in stating that the "remnants continued to sow terror." In almost all areas, various personalities such as Lorenzo and his lieutenants, Pastor and Manuel, all of them Buhawi's followers, continued their activities and told the people to leave the town.[27] One account said that, "things became so serious that the townspeople did not dare to go three hundred meters beyond the border of the town (sic)".[28]

Such was the situation in the southern towns of Negros when the Philippine Revolution broke out in 1896.

Papa Isio and Babaylanism

The climate of anarchy and uncertainty ushered in by the outbreak of the Philippine Revolution in 1896 provided the backdrop for the emergence of another cultic movement this time in the southern tip of Negros Island.[29] A religious leader by the name of Papa Isio emerged in the Occidental side of Negros Island. According to accounts, Papa Isio was among those who took refuge in one of Buhawi's camps in the mountains when the authorities waged war against the

movement. By the time he surfaced on the Occidental side of the Negros, he already had a following who accompanied him in his forays of the southern towns. It is said that their raids were particularly dreaded by the haciendas and the Chinese stores in the southern towns.[30]

According to Evelyn Cullamar's exhaustive study[31], Papa Isio's origin is so sketchy that even his exact name remains the subject of many speculations. These obscure origins notwithstanding, Papa Isio soon endeared himself to the masses who, in awe of his exploits, proclaimed him as the new *maayong laki*[32], the new "pope" who will liberate his people from the invaders and restore their former way of life. That Papa Isio's movement bore a number of resemblance to Buhawi's own movement only bolsters the speculation of his close link with the Dios Buhawi movement in whose mountain camp he was believed to have taken refuge after it was outlawed. Judging by the characteristics of this movement and the nature of its activities, it is clear that Papa Isio's movement, like the Dios Buhawi movement, also belonged to the Babaylan tradition. Among others, both Buhawi and Papa Isio posed as religious heads of their respective movement and claimed to possess supernatural powers. Both seemed to have been charismatic leaders who attracted a large number of loyal following. As religious heads, they recruited proselytes, wore uniforms, observed similar rites, recited similar incantations and oraciones, and taught about the coming of an ominous transformation engineered by the supernatural—all of these being features of millenarian movements.[33]

Because his leadership coincided with the period of the Philippine Revolution, Papa Isio convinced all his remaining loyal followers to join him in his fight this time against the Americans. Eventually, Papa Isio's raids made Negros a sore spot to the Americans. As a result, they waged incessant campaigns against him. For a while he succeeded in eluding arrest and continued to roam the mountains. Subsequently,

when his trusted generals surrendered in 1907, Papa Isio allowed himself to be persuaded by his friends and by the false promises of Capt. George Bowers to turn himself in as well. Contrary to his expectations, the famous outlaw found himself being tried and sentenced to death although this sentence was later commuted to life imprisonment. In 1911, Papa Isio died in the Bilibid prison virtually an unknown man.[34]

Buhawi to Kilat

When the revolution broke out in Luzon in 1896, Buhawi's followers in Negros continued to spread his teachings and political beliefs. Following in Buhawi's footsteps, Papa Isio and his band raided the towns in southern Negros Occidental. About this time, a native of Bacong—one of the towns of southern Negros Oriental—emerged as one of the prominent leaders of the K.K.K. in the island of Cebu. He was Pantaleon Villegas more popularly known as Leon Kilat (lightning).

According to records of his early years in Negros Oriental, his family went to Tolong where Buhawi and Camartin operated.[35] His biography, however, does not contain accounts of his life when he reached his teens.[36] This missing episode of his life raises speculation that he might have spent this period as a member of the Buhawi movement.[37] This speculation appears logical since Leon Kilat was living in the area where the Buhawi movement was popular. Furthermore, stories about his supernatural powers, chiefly his possession of an amulet (*anting-anting*) and a magic handkerchief which transported him from island to island, were rife in Cebu.[38] Later, he went to Manila and then to Cebu where he established the KKK[39] and spearheaded the revolution there on April 3, 1898. Unfortunately, Pantaleon Villegas's life ended tragically when his fellow revolutionists murdered him on April 8, 1898.[40]

A close examination of Leon Kilat's exploits will

reveal that the Cebuanos really saw him as a maayong laki. The legend surrounding his alleged ability to travel from one island to the other with lightning speed fascinated the imagination of many Cebuanos. Thus they turned to him as the new liberator and leader who would establish a new order and a better life, which is what millenarianism, is all about. Why he did not lead the revolution in Negros he was a Negrense might have been due to the fact that Buhawi's movement had by then already so many leaders. Similarly, he must have known that Papa Isio's babaylanes was also very strong in other areas. This raises speculation that he might have considered it strategically appropriate to expand the movement in the nearby island of Cebu where there was an absence of a messianic leader. It is also possible to speculate that Leon Kilat maintained contacts with Papa Isio and other leaders just as he established links with the KKK revolutionaries in Luzon. In the final analysis, although Kilat's exploits where in Cebu, there is enough evidence to claim that the 'millenarian aspects' of his movement had their roots in Negros, specifically in the traditional lair of the earlier movements where his family had taken up residence.

The Salvatori Movement[41]

For many years, the babaylan tradition remained forgotten although remnants of the practices were always part of the indigenous religious movements that sprung up in the hinterlands. Sometime in 1979, a group known as the Salvatori emerged in the traditional headquarters of the earlier movements in the mountains of Jimalalud, Tayasan, Ayungon, Bayawan, Sta. Catalina and Siaton, all in Negros Oriental. The group, which is also known in the vernacular as *pakubol* share similarities with the Ilaga Gang movement in Northern and Central Mindanao. Up to the present, the origins of the Salvatori movement remain

shrouded in mystery and little is known about them. However, according to reports, the group dwelt in caves scattered in the hinterlands of Negros. The members of this group were known to go out of their cave dwelling during the night to conduct a house to house recruitment campaign. Allegedly, one of the rituals of its members observed was the *pakubol,* (lit. to stiffen), a practice involving ceremonies believed to strengthen and harden their bodies in order to protect themselves from their adversaries. This ritual was supposed to have been performed every six o'clock in the evening. Another ritual practice reportedly followed by members was the oiling of their bodies when they were about to face their enemies in an encounter. Accounts have it that 'Salvatori' members lubricated their bodies with oil in which human ears had been soaked, allegedly to make them invincible to bullets and bladed objects.

It remains unclear whether the Salvatori was a group of religious fanatics, a politically motivated movement seeking political reforms, or just plain bandits who chose to be a secret movement up to this time.[42] Nevertheless, at the height of its activities, the group also sought political reforms. Disgruntled with the way the government was being run, the movement called for their members to fight to put an end to injustice and the violation of their basic human rights. Their aim, according to the Salvatori members, was to protect themselves from the arbitrariness of an abusive government. To further this goal, the movement began waging armed conflicts in remote barangay, sowing terror in the outlying mountain communities, and forcing the suspension of classes in many of these places especially in Jimalalud. The Salvatori's war of terror reached its height in 1979 with the infamous murder by hacking of the Jimalalud town mayor, Ben Dionaldo, and two police officers in Barangay Aglahug, Jimalalud. This tragic event led to a massive military operations by the then Philippine Constabulary (PC) in which a number of Salvatori members lost their lives.[43] Subsequently,

the movement slowly phased out. In its place, the New People's Army (NPA) surfaced into predominance in the same area where they are believed to have established camps in the hinterlands.

The "Dios Amahan" Movement.

From a cursory glance, the Dios Amahan movement appears to be a purely religious movement related to the mainstream Roman Catholic Church. However, fieldwork notes and interviews in the hinterlands of southern Negros[44] revealed the extensive following of the movement, especially in the traditional lairs of previous millenarian movements. What is interesting is the fact that although all of the respondents claimed that they were Dios Amahan members, yet their knowledge of their movement as well as their respective practices and beliefs differed from one area to the other.[45]

Originally, the Dios Amahan was classified under "Miscellaneous Indigenous Organization" in a phenomenological research conducted by Dr. Douglas J. Elwood from 1964 to 1966. It is listed in the directory as *Pagtulun-an sa Diyos nga Amahan* (Iglesia ni Tinago), (Teachings of God the Father) with its main Office in San Carlos, Negros Occidental along with its founding date indicated as 1953. Interestingly, the same directory also listed another entry called *Pagtulun-an sa Dios nga Amahan nga Guidala Og Guipatun-an ni Senor Jesucristo sa mga Katawhan* (The Teaching of God the Father which was brought and taught by His Son Jesus Christ to the People). However, although its founding year is also 1953, the address of this new entry was indicated as Barrio Bagumbayan, Cebu City. In the study the estimated number of followers was 10,000.[46]

The interviews revealed that most of the respondents did not know their founder although the name of Zacarias

Zalazar had been mentioned. Most of them claimed that their sect was founded in the 1950s. Information gathered also indicated that each area appeared to be autonomous. According to information, the sect allows visit from outsiders only once a year; sometimes, not at all. This seemingly self-imposed isolation might explain why elements of folk practices and traditions have become incorporated in their beliefs and remain dominant in their rituals.[47]

Central to the sect's creed and shared by the various groups is the belief that the national hero Dr. Jose Rizal is their Lord, that he is alive and will soon set them free from bondage. Because Rizal was a physician, healing is at the core of the sect's beliefs and practices. Consequently, most of the leaders in the Dios Amahan congregation are *mananambal* (traditional healers) who claim that they were given the gift of healing (*tuga*) by God the Father through the intercession of Rizal. In some areas, they practice meditation and say oraciones believed to make them invincible. Most of the members believe in the power of dreams. Moreover, when they go to their place of worship which they call *tribo*, members observe a certain dress code which consists of a white robe that resembles the vestments of Catholic priests. In addition, women wear white socks and gloves while the men wear capes. [48]

During worship, members place their left hand on their breast, their right hand making the victory sign, while the right leg is in kneeling position. After the meditation, they make the sign of the cross across the whole body, and the sign of the heart. When asked, the respondents could not explain the meaning of these symbols and gestures. According to them, they performed these actions because they were told to do so.[49] Interestingly, the *pakubol* practice associated with the Salvatori is also observed in some Dios Amahan groups with members using *sagradong tubig* or holy water.

As yet, not even a rough estimate of their numbers is available although the movement is found all over the

hinterlands of Southern Negros. According to an interview with the Parish Priest of Siaton, members of this movement are numerous in the mountains. The former moderator of the Negros District Conference of the United Church of Christ in the Philippines also reported that he used to encounter members of the movement during his rural visitations.[50] Their places of worship can be found in the remote sitios where other religious sects have not established their own places of worship or chapels.

That the Dios Amahan may have been an outgrowth of the Dios Buhawi and Papa Isio's movements is suggested by some of the vestiges of the earlier movements such as the oraciones now being recited by some members of the present movement, the most noteworthy being the following:

> Animatiste sintepicano Corpus Cristi salva mi
> Entre tua Santos Dios Santos Dios
> Eche laurente eche colas eche colorum amen.[51]

These oraciones are reportedly the same ones used by the earlier movements and must have been passed on from one member to the next over the generations. Similarly, the mystic cult of Rizal central to the Dios Amahan faith is also believed to have been part of the tenets of the preceding movements. That the present-day Dios Amahan movement seems to flourish may be attributed to the same factors that have given rise to other movements in the country.[52]

Concluding Notes

The foregoing discussion presents the development of the revitalization movements and their part in the ongoing historical development of the island. As in other areas, Negros Island saw the proliferation of religio-political protest movements

that attracted many rural adherents. Classified as messianic, nativistic, or millenarian, these movements combine folk, Catholic, political, and nationalistic ingredients in their ritual beliefs and practices. It is evident that poverty, social inequities, social disorder, and anxieties have provided the backdrop for the emergence of these movements. Thus, such movements must be understood in the context of the social, economic, and political conditions that gave rise to them. That most of these movements promise other–wordly escape or psychological relief to the ignorant, the poor, and the hopeless may explain their strong appeal among the masses.[53]

As the extensive following of these movements suggests, the peculiar geographic conditions of the southern part of Negros have played a role in their proliferation. From the slopes of Mt. Canlaon down to the Cuernos de Negros in the southeast, a chain of highlands serves as the backbone of the province. Owing to the ruggedness of the terrain and the absence of roads; these areas have remained in relative isolation, providing fertile ground for the rise of these religious movements and the evolvement of their distinctive practices and beliefs. Since the beginning of these so-called millenarian movements in the 1880s, the same areas continue to offer safe haven for all subsequent movements, including rebel groups. Presently, outlying communities belonging to different municipalities and cities straddling the slopes of these mountains have to contend with insurgency problems waged by anti-government groups who have encamped in these areas.

Notes

[1] Anthony F. C. Wallace, "Revitalization Movements," American anthropologist (Apr., 1956), p. 267.

[2] Douglas J. Elwood. Churches and Sects in the Philippines. Dumaguete City: Silliman University, 1968, p. 59.

[3] Robustiano Echauz. Apuntes de la Isla de Negros. Manila: Tipo - Litogrfia de Chofre' y Comp. Escolta num.33, 1894, p. 137. Trans.

[4] Jose Y Marco. Reseña Historica de la Isla de Negros. Manila: La Vanguardia, 1912.

[5] This term is derived from the word 'remount' or to take to the hills. See James L. Leroy. Philippine Life in the Town and Country. New York: G.P. Putnam's Sons, 1905, p. 29 - 30. This is especially the term used to refer to the bandits in the American occupation.

[6] Because they wore uniforms similar to that of the Guardia Civil.

[7] See Vic Hurley. Jungle Patrol: The Story of the Philippine Constabulary. New York: E.P. Dutton and Co., 1938, p. 130 - 132 and Donn V. Hart. "Buhawi of the Visayas: The Revitalization Process and Legend Making in the Philippines" in Studies in Philippine Anthropology. Mario Zamora ed. Quezon City: Alemar Phoenix, 1967, p. 370.

[8] However, Angel Cuesta O.A.R. argues that Hart's classification is overly subtle and that all these groups actually often co-existed. See Angel Martinez Cuesta. History of Negros. trans by. Alfonso Felix Jr. and Sor Caritas Sevilla. Manila: C.P. Garcia Publishing Co., 1980, p. 430 - 431.

[9] Negros Island appears like a sock (foot), hence the southeastern tip looks like a toe. See Map of Negros.

[10] Donn Hart translates the word Buhawi as "waterspout" because of Elopre's alleged ability to make rain at will. In Hart., 371 -378. Modesto Sa-onoy translates Buhawi as "whirlwind" and hence the God of the Four Winds in Modesto Sa-onoy. A History of Negros Occidental. Bacolod: Today Printers and Publishers, 1992, p. 111. The above translations are correct but I would rather translate the term in context as "tornado or twister" which is actually a combination of the above translations.

[11] Hart, 374.

[12] Cebuano word for Redeemer (Liberator?)

[13] They were told to bring a candle, 5 cents, a chicken, and anegg. See Licinio Ruiz. Sinopsis Historica de la Provincia de San Nicolas de Tolentino de las Islas Filipinas de la Orden de Agustinos Des Calzos. Manila: Tip. Pont. De la Univ. de Sto. Tomas, 1925, p. 148 - 152. Trans by Juan Mesquida (unathorized).

[14] Juan Gadiane. Halandumong Kaagi sa Lungsod sa Siaton. (Unpublished manuscript in Cebuano, 1951), p. 25.

[15] Sa-onoy, 109.

[16] However, all sources do not mention in detail how these raids were done. See Cuesta,s endnotes 30 - 38. Cuesta got all the information from these raids from the *Libro Cosas Notables* of Siaton, Tolong, and Pamplona.

[17] Like Jose and his wife Braulia, who had just then delivered a baby, and Belto were imprisoned. Also his brother Sebastian was arrested and later disappeared mysteriously.

[18] Cuesta, 433, as cited from Libro Cosas Notables Siaton. The priest of Tolong puts it at 2,000 and Juan Gadiane (primary source in Cebuano) said that his followers at around 15,000. As he puts it: "the poblaciones of Negros Oriental were almost deserted since young and old, father and son were joining him." See Gadiane, 27.

[19] Various dates are given. Gadiane and Hart pegged it on 1889; Licinio Ruiz puts it in 1887, same with Lorenzo Cordon. But Sa-onoy and Cuesta agree on 1888. This seems to be logically correct since Buhawi only started to be an outlaw in the Holy Week of 1887.

[20] Hart, 388...Obviously the Spaniards had difficulty in identifying him because they displayed the body in the tribunal for the people of Siaton to confirm that the cadaver was indeed Buhawi's. Moreover, rumors ran wild that the body did not decompose and he would soon return.

[21] There is no known 'talisic'in the Cebuano dialect in this part of the province. Hart even invents "God Talistic." Apparently, the most appropriate word is "Taligsik" which connotes drizzle.

[22] Gadiane, 21.

[23] A report of March 15, 1889 stated that seven patrols were sent from Tolong to pursue him. See Guardia Civil Reports 1880 - 1897. Expediente 60 ff. 391 - 392 N.A. as cited in Evelyn Cullamar, Babaylanism in Negros, 1896-1907. Manila: New Day Publishers,1986, p.30.

[24] Dean C. Worcester. The Philippine Islands and Their People. New York: The MacMillan Co., 1899, pp. 269 - 273.

[25] Emphasis mine. The photograph in his book identified as the gobernadorcillo of Bais was Serio Guzman Singco who eventually became a member of Diego de la Viña's party when they liberated Negros Oriental and one of those who initially resisted the American occupation of Bais.

[26] Gadiane has a vivid account of the incident in page 21 - 23.

[27] Cuesta, 435.

[28] Perhaps poblacion. See Libro Cosas Notables de Tanjay as cited in Cuesta, 466.

[29] Negros Oriental was proclaimed a separate province on January 1, 1890.

[30] Modesto Sa-onoy in his paper entitled "The Re-examination of the Negros Revolution" during the 12th Regional Seminar Workshop on Oral and Local History held at Buenos Aires Resort in Bago City last August 20-21,1993, stressed that Papa Isio or Dionisio Seguela became involved with Buhawi and his followers notably Camartin when he hid in the mountains prior to his leading this babaylan movement. In fact communications that were recovered showed that Papa Isio recruited the remnants of Buhawi's following. See Sa-onoy, 112 and Cullamar, 30 -37. For brevity's sake, Papa Isio's exploit will not be throughly discussed in this paper.

[31] Evelyn T. Cullamar. " The Movement During the Last years of Spanish Rule". A typewritten manuscript that is undated. Eventually, this manuscript was incorporated in her book Babaylanism in Negros: 1896-1907. Quezon City: New Day Publishers, 1986. For another thorough discussion on Papa Isio's exploits, See Romero's *Negros Between Two Foreign Powers*. pp. 168 - 187.

[32] In both the Cebuano and Ilonggo context, this means a person endowed with extraordinary skills and abilities.

[33] Cullamar, p. 1.

[34] Cullamar, 65 and from the paper of Modesto Saonoy mentioned earlier.

[35] In 1884, the family decided to transfer to Tolong and Pantaleon was employed as a servant of Friar Angel Maestro. See Jose R. Quisumbing and Caridad Rodriguez. Leon Kilat (1878 - 1898) and the Cebu Revolution of 1898. Cebu City: S & G Printers, 1991, 1.

[36] When he was twelve years old he suddenly disappeared only to reappear briefly in Bacong in 1892 then to disappear again. He later resurfaced in 1895. See Mañuel Enriquez de la Calzada. *Ang Kagubot sa Sugbo*. Sugbo: Rotary Press, 1951, 52.

[37] Hart wrote that Buhawi gave his magical silk handkerchief to Leon Kilat. In Hart, 380. But Cuesta disagreed stating that the "Kilat" was Miguel Paero who was a good friend of Juana Gaitera.

[38] Quisumbing, 14 as cited in de la Calzada, 52.

[39] One reason why he didn't establish the KKK in his home province was the fact that there was no army there to speak of. See T. Valentin Sitoy

"The Making of Negros: A Brief History." Kabilin: Legacies of a Hundred Years of Negros Oriental. p. 12.

[40] Dionisio Sy. A Short History of Cebu 1500 - 1890's and The Anti-Spanish Revolution in Cebu. Cebu City: Bathalad Inc., 1996, p.104-107.

[41] The following information is a gist from Clementino Balasabas Jr. The Catholic Church in the History of Jimalalud, Negros Oriental 1946 - 1992. MA Thesis. Silliman University Graduate School, 1999 and from the interview of Vidalynn Fabillar.

[42] Most of the remaining members eventually became members of the NPA so interviews with them are difficult to conduct. Moreover, rumor spread that those who ask about their movement are immediately considered as spies.

[43] Popular folk stories maintain that the reason why the Salvatori's supposedly invincible bodies were penetrated by bullets was because of the use of a "sumpa" or antidote. This sumpa or antidote is done by putting a piece of underwear or boiled corngrit in the barrel of their guns. The logic being that surely the Salvatoris were using these things Another popular account states that they used the wrong oracion which goes "ice kream po sale hire" which apparently reads as "ice cream for sale here".

[44] This was made possible through a research grant that enabled me to conduct a baseline survey for the International Labor Organization on Muro-ami and Paaling fishing which are recruiting children from the uplands from June to December 2000.

[45] Another reason why the Dios Amahan became the focus of attention was the rape case filed by a student accusing a leader of the movement for raping her. According to her claim, she was the 210th victim. This case is closely monitored by the Center for Women's Studies in Silliman University. See transcripts of Case no. 2000 - 374 and 2000 - 375 ...Names are withheld pending result of the case.

[46] Elwood, p. 108-109.

[47] Interview with Lauro Olpos and Nick Bellarta in Dawis, Bayawan, Neg. Or. Sept. 15, 2000.

[48] Interview with Teodocia Alampay and other members of Dios Amahan, Magay, Dauin, Negros Oriental, Sept. 2, 2000. This interview was made possible thru the efforts of Jan Credo and Nilo Montemayor who served as Graduate Teaching Fellow of the Department of History

and Political Science.

[49] Interview with Gemma Aguilar in Calikanan, Pamplona, Neg. Oriental, Aug. 30, 2000.

[50] Interview with Rev. Elicito Dumalagan, retired pastor UCCP, Talay, Dumaguete City, Sept. 25, 2000.

[51] Cullamar took this from a member of Isio's group in 1975; my source was a sixteen year old girl who recited it to me in Pamplona, Negros Oriental on August 30, 2000.

[52] See the Millennial Tradition and the concluding notes of David R. Sturtevant. Agrarian Unrest in the Philippines. Ohio University: Center for International Studies, 1969, pp. 23 - 30. And in Cullamar, 77.

[53] Elwood, p. 47 as quoted in Anton Boisen, "Religion and Hard Times: A Study of the Holy Rollers," Social Action. (Mar. 15, 1939) pp. 8 - 35.

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NOTES

THE GROWTH OF THE SILLIMAN PHYSICS DEPARTMENT: A STRUGGLE AGAINST THE ODDS

Vicenta C. Maxino

The Physics Department is one of the thirteen departments under the College of Arts and Sciences of Silliman University. Until 1976, the Physics Department had been a service unit offering required and elective courses for the different degree programs of the university. Today, the Physics Department, as Figure 1 shows, has teaching laboratories and research laboratories in several fields of Physics. It is one of the designated Centers of Development in Physics by the Commission on Higher Education (CHED) of the Philippines, one of only 5 centers throughout the country. This article identifies the factors that contributed to its growth from a service department in the 1960s to a Development Center in Physics at the close of the century.

Figure 1
BS Physics students performing experiments in the Electricity and Magnetism Teaching Laboratory of the SU Physics Dept.

The BS (Physics) Program

As a service unit in the 1960s, the Silliman Physics Department was run by faculty members who were holders of BSE Major in Physics degrees or BS Engineering degrees. No one had a BS Physics degree then. This was a typical situation in most universities in the Philippines at this time. Thus, the first major boost to the life of the department came in 1972 when an MS Physics degree holder joined the faculty. When a second faculty with a BS Physics degree came in 1974, a proposal for a new program, Bachelor of Science (major in Physics) was presented to the Academic Council. Although this program was approved the following year, it opened officially only in 1976 when a second faculty member with an MS Physics degree joined the department. The enrolment into the program of two students at the junior level called for the immediate offering of major subjects. No course outlines, textbooks, nor advanced laboratories were ready. Lectures and laboratories were constructed and built from scratch from the fragmented pieces of equipment previously acquired from the Science Building. Despite these initial difficulties, the program successfully produced two graduates in 1978. One of them now works with the Flood Control Program of the government, while the other is a Physics faculty member of one of the local universities in the south.

For an academic department in a university, offering a major's program is a vital task necessary for its life and vigor. For the faculty, this means taking the challenge of teaching the major courses. For the department, it means creating laboratories and course outlines, ordering books and journals, as well as sending faculty out for higher degrees, and enabling them to do research, and to publish. Only in this way a department can grow and its service function greatly enhanced in the process.

A fundamental science basic to all the other sciences, Physics is a challenging, demanding, and rigorous discipline. For the gifted few inclined to it, it is an all-consuming interest. All the appliances that make modern life enjoyable and comfortable stem from the application of Physics principles. But in a developing country like the Philippines, job opportunities for Physics graduates in the 1970s and 1980s were practically non-existent. Consequently, students during this time were hesitant to enroll in the program. Since practically the only possible career for BS (Physics) degree holders at this time was teaching, not too many parents were willing to encourage their children to pursue a profession that may not assure them of lucrative jobs after graduation. Table I presents the enrollment of the BS (Physics) program from its start in 1976 until1989.

Table I.

SILLIMAN B.S. (PHYSICS) ENROLLMENT (1974-1989)

	76-77	77-78	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90
1		8	5	6	6	3	8	4	4	3	3	2		
2			6	3	5	4	2	5	4	3	2	1		
3	2			5	3	5	1		2	3	3	2		
4		2			4	1	4		1	1	4	1	1	1
Sum	2	10	11	14	18	13	15	9	11	10	12	6	1	1
Grad		2			3	1	4							

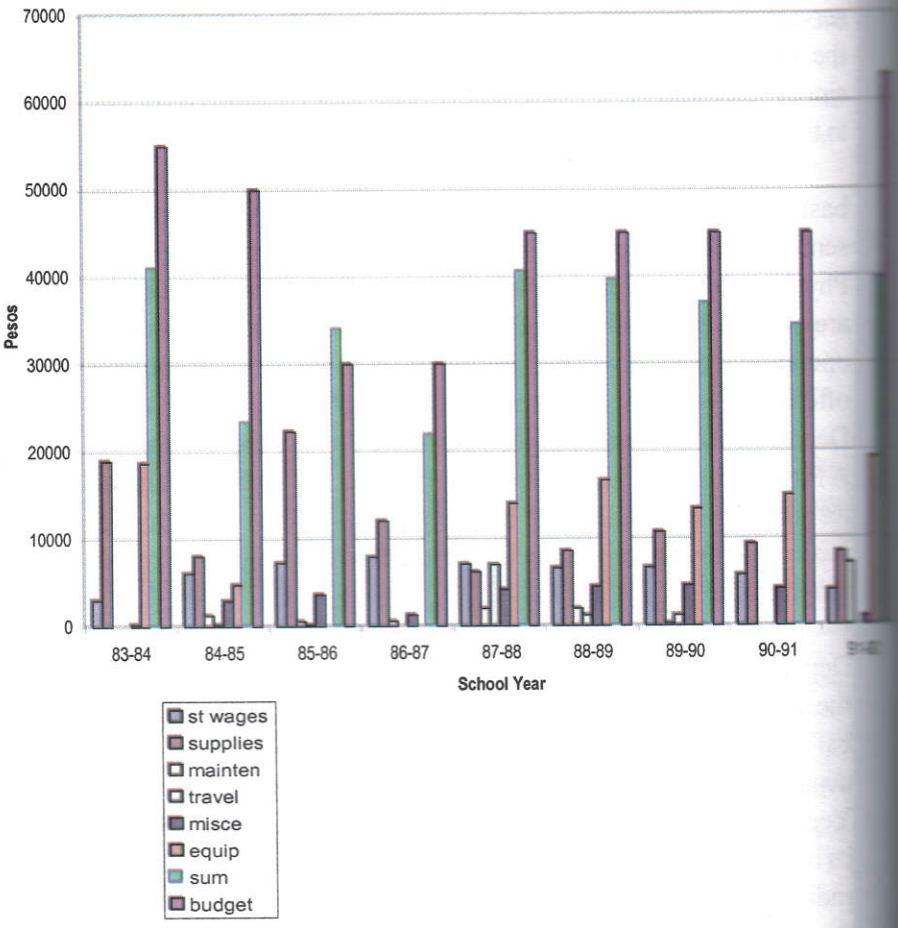
In 1988 the program stopped accepting new students due to a change in administrative priorities. The department made use of this lull to assess its strengths and weaknesses, to think of ways to attract more students into the Physics program, and to improve the quality of its offering. It was convinced that although a BS (Physics) program cannot be expected to be a profit center for the university, its presence can bring prestige to the university and improve the quality of teaching of basic Physics subjects for the benefit of the other students being served by the department who help to support its operation. A symbiotic relationship between service courses and major subjects thus exists. Needless to stress, the training of the physicist must be supported by the community since the benefits from the results of his/her studies will redound to the good of the community.

As a service unit, the Physics Department teaches the basic Physics subject requirements for about 900 students per semester. This number of students can easily support the major Physics subjects offered per semester since Physics major subjects are offered every other year in junior and senior years to cut the operational costs down by limiting the number of major subjects offered per year. The large service function of the Silliman Physics Department subsidizes the offering of the Physics major subjects. A Physics faculty teaching one major subject and three basic Physics subjects is actually paid by the students in the basic Physics subjects. Thus, the university is able to afford offering a BS Physics program.

Figure 2 presents the operational budget of the Physics Department from 1983-1992. The green bar indicates the sum of the department's expenses for each school year while the pink bar refers to the appropriated budget. As Figure 1 indicates, the department is provided with a budget for its needs. Only in School Year 1985-86 did the sum of the department's expenses exceed its budget. Yet, the appropriated budget was difficult to spend, as indicated by zero expenses for many necessary items like equipment (orange bar), for example, because of the difficult

process involved in ordering and buying equipment. Often, a badly-needed equipment could not be purchased in spite of the available budget because of the complicated fiscal procedure. For the same reason, Physics faculty members are often forced to attend conferences and lectures on their own expense to avoid going through the hassle of requesting for travel money. Mainly by sheer determination, the faculty pushed the department forward.

Figure 2
Physics Dept. Operational Budget for 1983-1992



The BS Physics With Emphasis in Computer Applications Program

The Silliman Physics Department envisions itself in the forefront of Physics education in Southern Philippines. Its mission is to promote Physics literacy in the Philippines, especially in the Visayas and Mindanao; to offer quality Physics instruction that is relevant to the present; and to train graduate Physics professionals who can interface local conditions and needs with scientific progress in advanced countries. Yet, as the department has also realized, a sense of mission, faculty dedication, and commitment, although necessary, are not sufficient conditions to propel an academic department forward. Material and financial resources must also be available.

The advent of computers made the progress of science even more rapid. After research studies showed that many students were fascinated by computers, the BS (Physics) program was reopened as BS Physics with Emphasis in Computer Applications in 1992. This new program was designed for students interested not only in why and how computers work but also in understanding and mastering physical phenomena. The new curriculum is a mix of Physics and computer subjects but it is not one for those who are purely computer enthusiasts. Its main emphases are programming and interfacing side by side with the rigors of experimental Physics and theoretical Physics so that the computer would become a tool at the hands of a physicist. The curriculum prepares graduates to work with computers in the academe, industry, business and other varying fields of interests as well as to pursue a graduate degree in Physics.

A third faculty member with an MS Physics degree joined the Physics Department in 1992. Now the department had enough highly qualified faculty to embark on new programs. In 1993, BS Physics With

Emphasis in Medical Applications was offered for students interested in medical careers in modern hospitals where Physics has made significant inroads with such tools as ultrasonic imaging, nuclear magnetic resonance, or laser surgery. This program may eventually lead into a Medical Physics degree if and when Silliman University decides to offer a degree in Medicine. A proposal to offer the MS Physics degree was also submitted to the Academic Council in the same year and was subsequently approved in the following year. In the second semester of 1994-95, eight students enrolled in the MS Physics program. A year later the Master of Arts in Science Teaching (Physics) was started. The first MS Physics graduate obtained his degree in 1998 and the first MAST (Physics) graduate completed her requirements in 2000.

Table II, on the following page, presents the enrollment in the BS Physics program from its start in 1992 to 2000, indicating some improvement in the number of students entering the program yearly. The total number of students in the program, however, still suggests the need for the service component of the department to continue in order to keep the program viable. Since more and more jobs are available in industry for the present crop of Physics graduates, more students opt to take Computer Applications rather than Medical Applications. Of the 27 graduates of the program so far, five have been chosen as Bank of the Philippine Islands Science awardees and invited to work with the bank. Majority of the graduates of this program are working with banks and industries and only a few are teaching Physics.

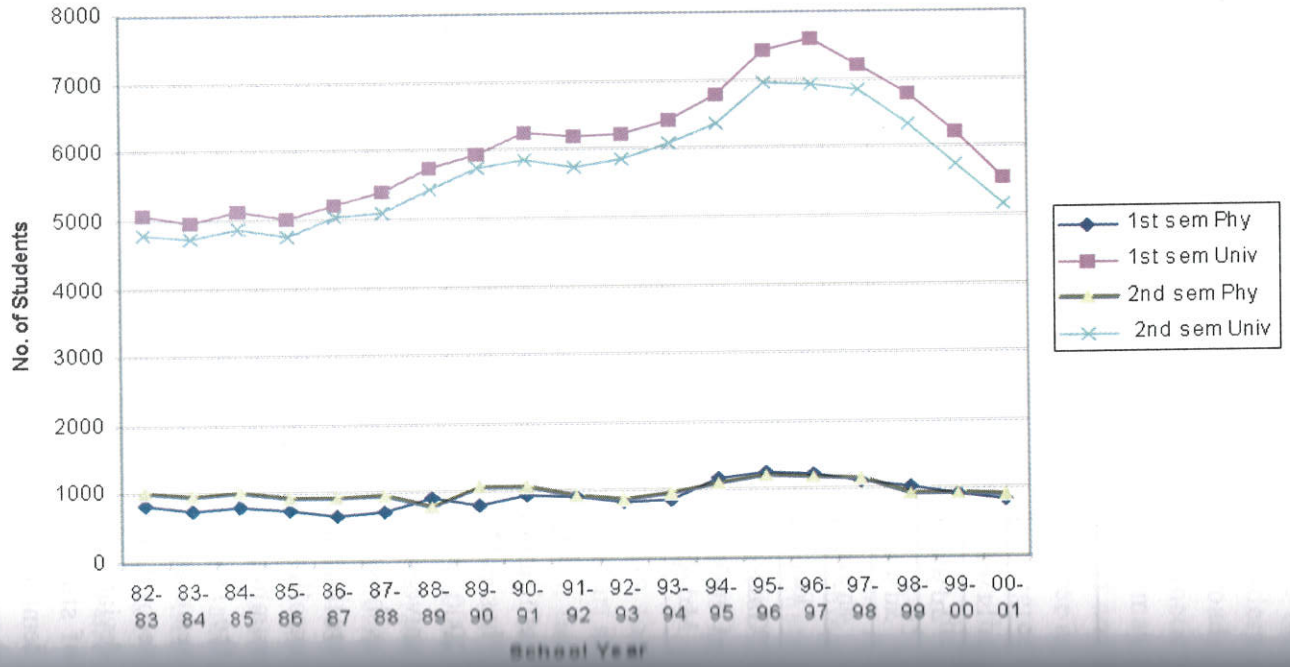
Table II.

B.S. Physics Enrollment (1992 –1999)

	1992-1993	1993-1994	1994-1995	1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001
1st year	26	13	10	10	6	7	13	13	8
2nd year		20	9	12	5	6	5	8	7
3rd year			15	9	4	1	6	4	6
4th year				15	3	3	1	6	3
Total	26	33	34	46	18	17	25	31	24
Graduates: CompApp Med App				14	2 1	2 1	1	2 4	

Figure 3 compares the first and second semester enrollment profile of the whole university and that of the Physics Department from School Years 1983-1984 to 1999-2000. While the second semester enrollment of the whole university is slightly less than the first semester enrollment as shown by the upper curves, the shapes of the two curves are the same. It is should be noted that the total university enrollment has been decreasing in the last 5 years. The number of students served by the Physics Department in the 19-year period averages 924 students in the first semester with a 14 % average deviation, while that of the second semester averages 994 students with an average deviation of 9%. The two bottom curves indicate the number of students entering the university who take courses demanding highly technical training which would require them to enroll in a Physics subject.

Figure 3
University and Physics Enrollment



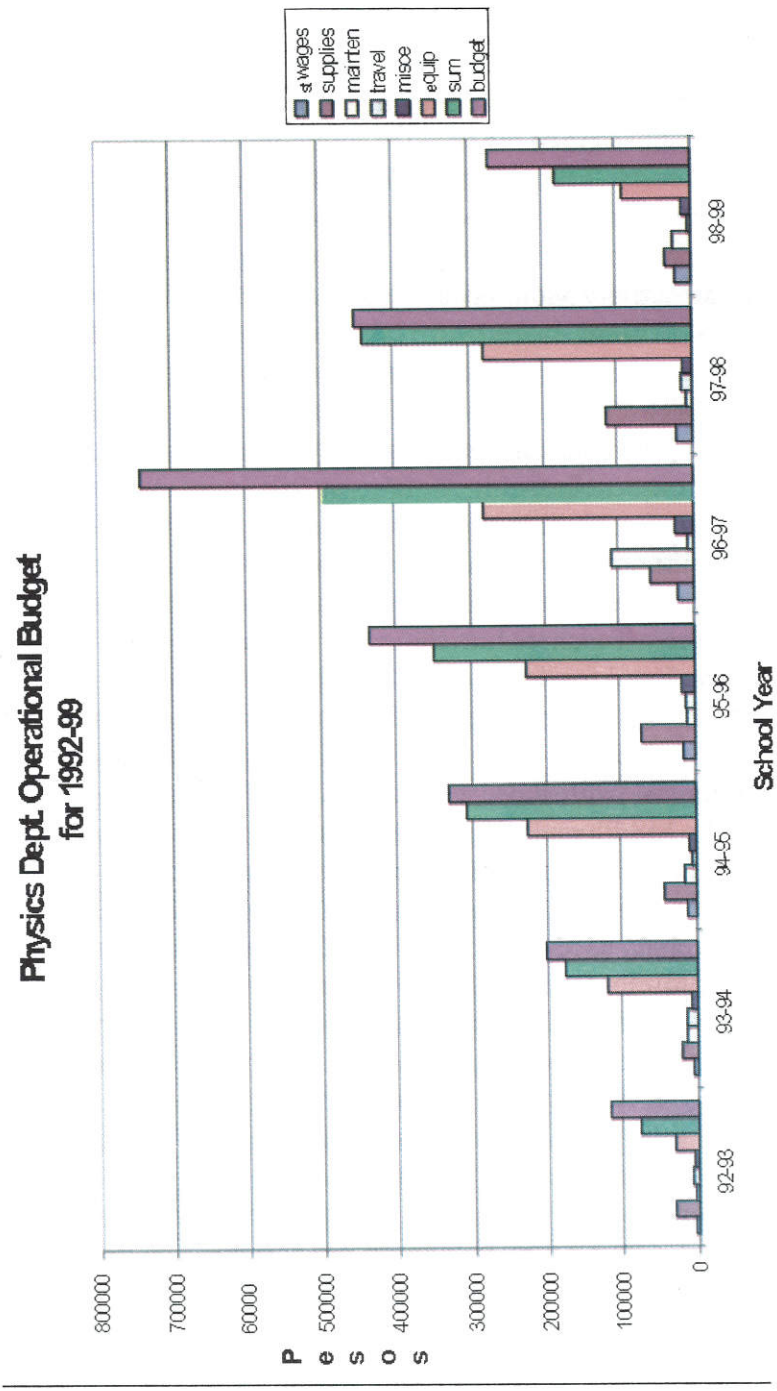
In November 1996 Dr. Christian Karl Schales, a computer specialist, joined the Physics Department as a Visiting Professor in Information Technology under the sponsorship of the German government. Among the first projects he established was the Local Area Network (LAN) Laboratory, shown in Figure 4, which was a great boost to the Computer Applications Program. At the same time, he updated and enhanced the computer subjects taught under the program, greatly enhancing the employment prospects of the BS Physics students. With his help, the department acquired additional computer units which enabled the holding of seminars in Information Technology in the Network Laboratory for members of the Silliman community. During his three-year stint at Silliman, Dr. Schales trained both faculty and students in Information Technology, updating their computer skills to make them more relevant to present day technology

Figure 4
Physics Computer Network Laboratory

The budget of the Physics Department rose from less than 100,000 pesos in the 1980s (See next page) to more than 300,000 pesos in the 1990s as Figure 5 shows. Although from 1992-1999, the sum of expenses (green bar) was always less than the appropriated budget (pink bar), the department's ability to spend the appropriated amounts had greatly improved in this period as shown by the almost equal heights of the green and pink bars except in 1996-1997 when the expenses were very much lower than the budget. Equipment purchases indicated by the orange bar had begun to grow as the laboratories were starting to acquire much needed equipment.

The Philippine Physics Society

Together with other Physics graduates from the University of San Carlos, Dr. Gerardo Maxino founded the Philippine Physics Society (PPS) in 1974. In 1979 the Philippine Physics Society organized the First Southern Philippines Meeting on PhysicsResearch and Teaching in Dumaguete City under the sponsorship of Silliman University and Foundation University. The meeting gathered for the first time nearly all Ph.D. Physics holders and all active physics professionals in the country. Although a single united grouping of Filipino physicists did not emerge from this meeting, it inaugurated the strong involvement of the Silliman Physics Department in the PPS. The PPS, which meets yearly in a different school in the Visayas and Mindanao each time and has at present about 6000 members, has become for the Physics faculty the motivation to prepare lectures, build equipment, and write papers. PPS publishes the Philippine Physics Journal, now in its 23rd volume, where articles on Physics research and teaching may be published. Needless to mention, PPS has been an active catalyst in the growth of the Silliman Physics Department.


Physics Dept. Operational Budget
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School Year

As a result of the gathering of physicists at Silliman University in 1979, national science agencies became aware of the existence of the Silliman Physics Department in the bare landscape of the Physics community. In the same year, a research grant from the Philippine Atomic Energy Commission which included equipment as well as salaries for research personnel started an Environmental Radioactivity Monitoring Center at the Physics Department. This project lasted until 1986 and kept the Physics Department quite active in environmental radioactivity research and publications. In the summer of 1994, the Philippine Nuclear Research Institute held its Radioisotope Techniques Training Course at Silliman. A number of participants in this course were enrolled in the MS/MAST Physics program of the department.

The Philippine Physics Society proposed the Southern Teachers Enrichment Program (STEP) in Physics to the Fund for Assistance to Private Education (FAPE) in 1980. Under this program, Physics teachers who were non-majors in Physics took up Physics major subjects in three summers, while those who had a BS Physics degree enrolled in the MS Physics degree. A consortium was formed made up of faculty from Silliman University, University of San Carlos, MSU-Iligan Institute of Technology, and De La Salle University as teachers. FAPE funded the project completely for summer terms 1981, 1982, and 1983 including travel allowance, tuition, and books for participants, and travel and honoraria for the faculty. The summer classes were held at the University of San Carlos.

In 1982 the Philippine National Oil Company Energy Research Development Center (PNOC-ERDC) commissioned a research project on non-conventional energy coming from windmills, sea currents, and geothermal energy. Unfortunately, Silliman University and PNOC-ERDC could not agree on the terms for the research

agreement and the project was canceled. In its place, a faculty consultantship was established.

From 1986-1988, Silliman Physics Department handled for the Department of Science and Technology Science Education Institute the Certificate Program for Physics Teachers in Secondary Schools. The teachers who finished the program acquired the equivalent training of a major in Physics degree. While the program was running, the Physics major subjects had 30 students per class, the biggest in the history of teaching Physics major subjects.

Through the Philippine Physics Society, the Silliman Physics Department carried out a tremendous amount of extension work in helping upgrade the qualifications of Physics teachers especially in the Visayas and Mindanao and in improving the Physics laboratories of many schools. PPS organized the Laboratory Extension Assistance Project (LEAP) in Physics from where Physics teachers who did not know how to set up their laboratories could seek assistance. Most of the time, the Physics faculty of Silliman provided the assistance.

In 1990 UNESCO invited Dr. Gerardo Maxino to participate in its University Physics Project. The project provided him funds to design, construct, and reproduce instructional materials and equipment useful for Physics education. Many of the equipment produced from this project have been introduced in barangay and diocesan high schools by Physics teachers after they were taught the principles of Physics behind them and were shown how to construct them. The most popular outcome of the project, and one which continues to be used widely by many teachers to the present, is the inexpensive and easy to operate slide projector.

The idea of an Instructional Physics Toys Research Laboratory emerged from these simple inexpensive equipment for Physics laboratories. The growth of this

project is being encouraged in both the undergraduate and graduate degree programs. For example, an MAST Physics student may choose to study the Physics principles behind a toy or classify toys according to the Physics principles operating in them. Senior BS Physics students may also opt to work on a Physics toy for their undergraduate thesis instead of research work in radioactivity or other experimental fields in Physics. Figure 6 shows BS Physics students studying liquid resistance with the use of toy boats at the Instructional Physics Toys Research Laboratory.

Figure 6
BS Physics students studying liquid resistance with the use of toy boats.

CHED Center of Development (COD) in Physics

After the Department of Science and Technology (DOST) Science Education Institute accredited the BS Physics program of Silliman University in 1994, DOST scholars in Physics have been taking their BS Physics

degree at Silliman University. More than half of the students taking the BS Physics program at present are recipients of DOST scholarships.

To hasten the development of quality education in the country, CHED designated Centers of Development and Centers of Excellence in different fields throughout the Philippines. The bases for selection included the academic degrees of the faculty, their research, publication, and extension work, and the laboratory and library facilities of the school. After three years, the CHED Technical Panel for Physics may renew the designation if the COD meets its standards for renewal.

The Silliman Physics Department has been designated a COD in Physics since 1998. This designation affirms the correctness of the direction taken by the department and vindicates the labor of its faculty. At the same time, it has been a great boost to the confidence and well-being of the Silliman Physics faculty. AS COD in Physics, the department was entitled to receive one million pesos yearly for three years to upgrade its laboratory and library facilities, to send its faculty for higher degrees or to attend conferences, to grant scholarships to its Physics majors, and to improve instruction through linkages. From the initial COD grant of one million pesos, the Silliman Physics Department purchased equipment to upgrade its radiation laboratory into the Environmental Radioactivity Research Laboratory shown in Figure 7. With the GDM gamma spectrometer, processing of radioactive samples can be done quickly and the energy spectrum of the radiation produced can be viewed on the computer monitor immediately.

Figure 7
BS Physics students working with GDM Gamma Spectrometer

A new research laboratory started with the first year COD Physics grant is the Acoustics and Materials Research Laboratory, shown in Figure 8, located at the second

Figure 8
BS physics students analyzing the sound of a pipe with a sound sensor and the SR 760 Frequency analyzer.

floor of the Science Building. With the support of the administration, one lecture classroom was converted into a lecture/research room for Physics majors. Figure 8 shows the FFT Spectrum Analyzer which is able to analyze the frequency spectra of noise and is one of the new equipment acquired by the department through the COD grant. Together with Science Workshop sensors, the laboratory will be able to do research on material properties as well as on sound.

Conclusion

Starting out with nothing but the most basic Physics laboratories, the present Silliman University Physics Department now boasts of teaching laboratories in Optics, Modern Physics, Electricity and Magnetism, Electronics, and Heat, and research laboratories in Environmental Radioactivity, Acoustics and Material Properties, as well as the Instructional Physics Toys, and the Local Area Network (LAN) Laboratory. For a department with modest beginnings, these accomplishments are an unmistakable evidence of its remarkable growth in 30 years.

To make an academic department grow, it is necessary that a number of its faculty have graduate degrees and, moreover, that they must evince the productive scholarship that goes with their respective degree so that they enjoy the respect of their peers. At the same time, the faculty must not only have the vision to know which path to take in the face of meager resources, but must also have a sense of mission to push through against all odds. The faculty of the Silliman University Physics Department knows this only too well.

NOTES ON CONTRIBUTORS

Betty C. Abregana, Ph.D. is Silliman University's Vice President for Academic Affairs. Previous to that, she served as Dean of the College of Arts and Sciences and at one time even sat as Acting President of Silliman University. Her greatest interest, however, is research and when she finds the time, she spends it doing just that at the Interdisciplinary Research Group (IRG) of the College of Arts and Sciences which she established.

Angel C. Alcala, Ph.D. returns to Silliman to head the Silliman University Angelo King Center for Research after a distinguished career in government service first as Secretary of the Department of Environment and Natural Resources and later as Chair of the Commission on Higher Education.

Earl Jude Paul R. Cleope, Ph.D. is Associate Professor in History and Head of the History and Political Science Department at Silliman University. A practictioner of the New Historicist approach, Dr. Cleope has done much to rekindle interest in the study of marginalized groups and events to reexamine their role in the history of this province and present them in a new light.

Vicenta C. Maxino, Ed. D. is a Full Professor in Physics and former head of Department, Silliman University, Dumaguete City. It was during her term as chair when the Physics Department was chosen as the Center of Development by the Commission on Higher Education.

Enrique G. Oracion is concurrently an Associate Professor of Sociology of the Department of Sociology and Anthropology and a Research Associate of the Interdisciplinary Research Group (IRG) of the College of Arts and Sciences, Silliman University.