U.P. ASSESSMENTS on the STATE OF THE NATION
A Multi-Disciplinary Research and Outreach Program

Occasional Papers *Series No. 94-001*

Indigenous Coastal Resource Management
The Case of *Mataw* Fishing in Batanes

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Center for Integrative and Development Studies

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TABLE OF CONTENTS

Page

FOREWORD 5

Indigenous Coastal Resource Management: The Case of *Mataw* Fishing in Batanes

Introduction 7
The Batanes Islands 12
Batanes Fisheries 14
Mataw Fishing 17
Fishing for dorado 18
Filleting and preserving the catch 23
Distribution 23
Women's share in production 26
Traditional Fishermen's Associations,
Indigenous Belief System and Laws 28
Taboos or *dagen* 28
Seasonal use rights and regulation of gear entry 30
Individual catch quotas 30
Ritual 30
Vanua government 32
Funds 33
Laws: *abtas ng mataw* 33
Modernization and Traditional Fisheries 36
Disintegration of traditional world view 38
The continuation of *mataw* law and government; overlaps with the Basco Fishermen-Farmers' Association 38
Conclusions and Recommendations 40
Community-based resource management 41
Provincial resource management framework 42
National framework for coastal resource management 43
Raising environmental awareness and concern 43
Areas for further study 44

Endnotes 45
Appendices
A. List of Fish Caught in Batanes 46
B. Manichit Document dated March 14, 1943 47
C. Revised Manichit Document dated March 12, 1960 49
D. Resolution of the Batanes Fisherman-Farmers Association dated March 12, 1989..... 51
References 52

List of Maps and Illustrations

1. Map of Luzon and the Batanes Islands 8
2. Map of Batan Island 10
3. The Mahatao landscape 15
4. Flying fish *(dibang)* and dorado *(arayu)* 19
5. The *yuyus*; gear for catching flying fish 20
6. Fishing gear for catching dorado 20
7. The fishing boat or *tataya* 21
8. The *kapayatay* or division of the catch 25
9. Female *manala'* or fisherman's helper carrying the catch home 27
10. Ritual officiant addressing the sea during the ritual *mayvanuvanua* at the onset of the fishing season 31
11. *Mataws* holding a meeting along the shore during the ritual *mayvanuvanua* 36

FOREWORD

The degradation of marine resources is well documented. The research community and the broadcast media have warned Filipinos that only five percent of the country's coral reefs remain unspoiled. Destructive fishing practices have virtually destroyed these habitats of diverse species.

The sorry state of the marine environment has generated a search for alternative ways to conserve a primary resource endowment of the Philippine archipelago. Enlightened by the wisdom of some indigenous modes of conservation and the merits of participatory approaches, the thrust of many environmental groups is to utilize traditional mechanisms of regulating resource use and promote community-based resource management.

This occasional paper documents the organization of a traditional fishing cooperative in Batanes. It focuses on the regulation of access to fishing grounds, the manner of distributing the catch, and the effects of modernization on the traditional organization and world view of fisherfolk. Because the cooperative is still viable, the paper proposes the formal designation of its members as resource managers and their incorporation into the provincial resource management framework.

The paper sensitizes the reader to one of many possible types of traditional fishing organizations which can be used to meet household needs while fostering ecological sustainability. However, the experience of *mataw* fishermen cannot be generalized. Batanes is a small province with a much lower population density than other parts of the country. Traditional modes of fishing can meet basic household needs in the area without fully resorting to modern methods which may maximize yield but diminish the resource stock. It is, therefore, easier to arrive consensually at an optimum sustainable yield for areas similar to Batanes. While this is the case, creative strategies will have to be developed for other places.

The paper mentions the illegal incursions of Taiwanese fishers into Batanes waters which go as far back as the population could remember. While traditional coastal resource management may be enhanced to conserve

marine life close to the shores of Batanes and similarly situated areas, the nation's patrimony in the high seas cannot be protected by indigenous or new community-based management strategies alone. The Philippine Coast Guard and Navy have to be strengthened to prevent the overexploitation of resources located beyond the reach of ordinary Filipino fisherfolk.

The University of the Philippines-Center for Integrative and Development Studies supported the research on which this paper is based. It acknowledges the invaluable assistance of several people. Dr. Edgardo Gomez, Director of the UP Marine Science Institute reviewed the paper. Prof. Elmer Ferrer of the UP College of Social Work and Community Development and Ms. Minerva Gonzales, Executive Director of the Community Extension and Research Development served as reactors during Ms. Maria Mangahas's presentation. Karen Singson edited the paper while Joy Aparis, Bella Lucas, Ellen Cometa and Stretch Payawal supervised its reproduction.

As in all the UP-CIDS publications, the recommendations are those of the author whose academic freedom is upheld by the University.

Maria Cynthia Rose Banzon Bautista, PhD
General Editor

INDIGENOUS COASTAL RESOURCE MANAGEMENT: THE CASE OF *MATAW* FISHING IN BATANES

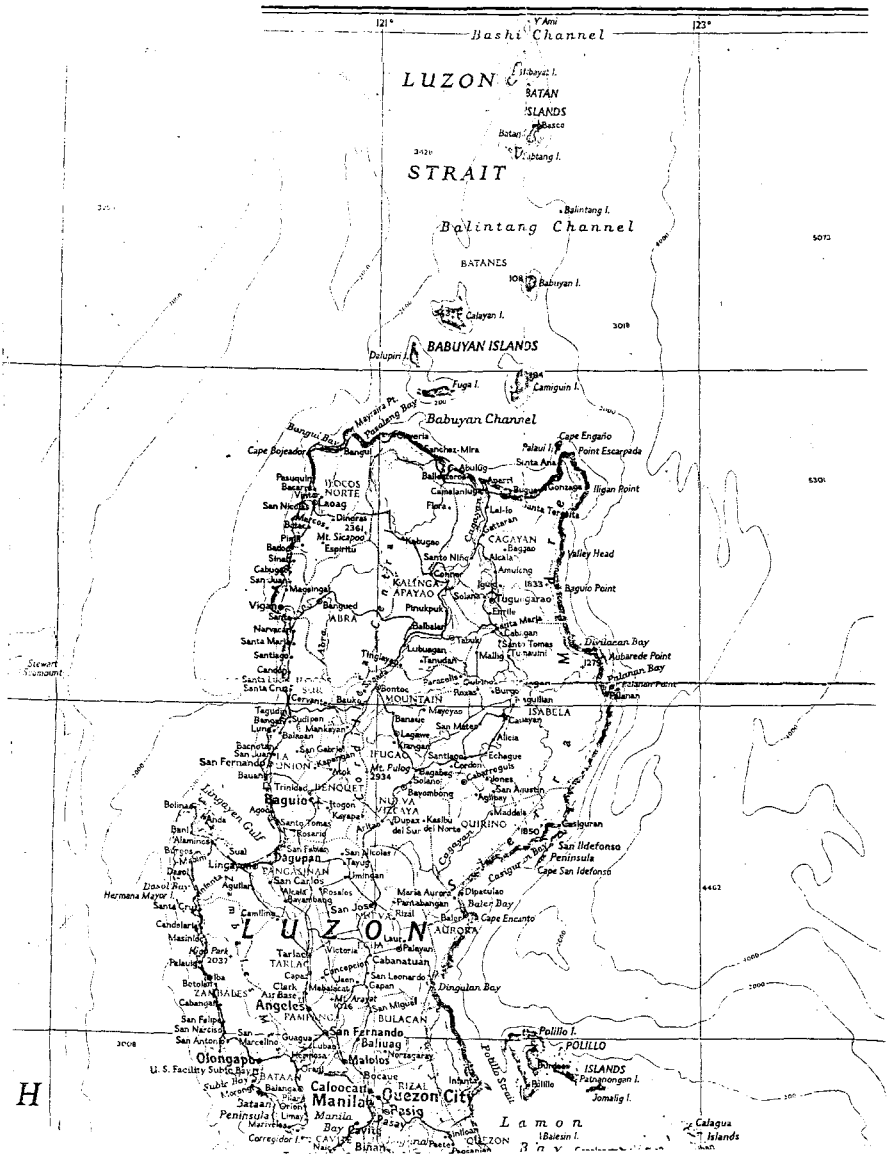
Maria F. Mangahas

Introduction

There has been greater interest in recent years in indigenous traditions of managing communal resources (*e.g.* Ghai and Vivian 1992), which are assumed by the general population to be unrestricted in use and therefore vulnerable to overexploitation. The sea is one such area. Because of the sea's 'open access' nature, it is not necessarily in the interest of fisherfolk to conserve its resources. Why should a fisherman limit his exploitation only to allow someone else to catch the fish he saves today? This point of view reinforces the sea's inherent vulnerability to misuse and overexploitation leading to the vicious cycle of poverty and resource depletion described as the 'tragedy of the commons' (Hardin 1968). Many areas in the country already show alarming levels of damage. Fishing grounds that are underexploited and can still be 'developed' are rare. Inshore areas in the Philippines are overfished (Silvestre, et al. 1991; Acheson 1981:305) and further damaged by destructive fishing methods. Increased overfishing due to new highly efficient technology, along with sea pollution, has brought many coastal environments to the brink of collapse (*e.g.* Hingco 1990, Hingco and Rivera 1990). With super-efficient, large-scale commercial fisheries depleting the seas, the maintenance of fisheries falls primarily on the small-scale fisherfolk and their communities. Small-scale fishers have a vital role to play in protecting marine resources (Sakiyama 1984:190).

Effective management is crucial to the restoration and preservation of marine resources. The goal for management, an "optimum sustainable yield" should take into consideration ecological sustainability, economic yield or incomes and the distribution of benefits to fishers, as well as their motivations, values and perceptions.

If a community had rights to control a particular resource or part of sea, then perhaps there would be greater incentive for them to manage coastal resources.[1] For example, some coastal communities use sea tenure and resource management systems to mediate conflicts regarding resource use.



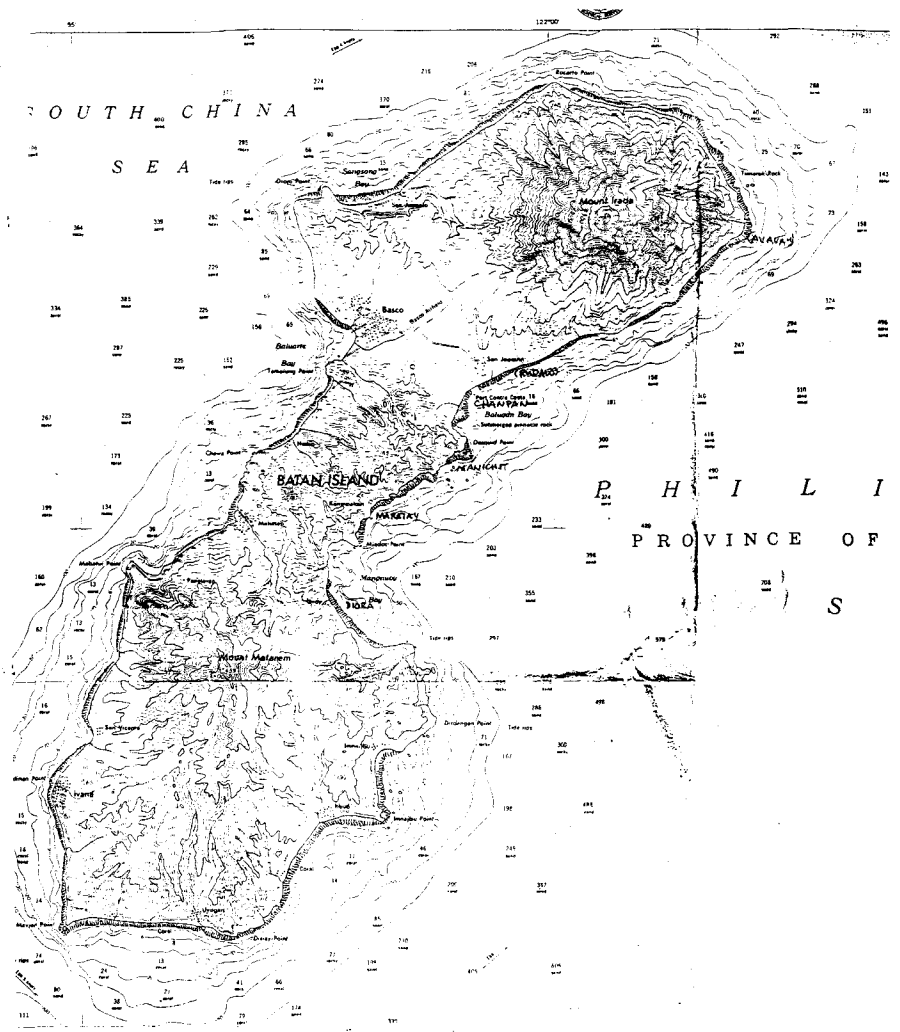
1. Map of Luzon and the Batanes Islands

An expanding literature shows that the sea is not always regarded as common property and that in many societies, fisherfolk do have ownership or use rights to marine resources (Acheson 1981:281, Cordell 1984, Davis 1984, Johannes 1978, Johannes and MacFarlane 1984, Ruddle and Johannes 1983). Traditional management systems in island communities in Asia and Oceania function to limit access and regulate resource use (Ruddle and Akimichi 1984, Ruddle and Johannes 1983). However, under the impact of Western colonization and the capitalist economic order in which fisherfolk are competing for money and must continually strive to fish more and more efficiently, the 'traditional conservation ethic' is eroding (Johannes 1978).

At the time of colonization, historical sources indicate a tradition of sea rights in some coastal areas of the Philippines (Lopez 1985). The seas became common property and traditional laws lost their clout under successive colonial regimes. Today, Philippine laws do not recognize any indigenous sea rights (although bills are pending in Congress for the recognition of ancestral domains including sea and water resources in this definition).

This study explores traditional organization and belief systems in Batanes, the northmost group of small islands in the Philippine archipelago, where *mataw* fishing, or the fishing of migratory pelagic dorado and flying fish is practiced. Of particular interest is the manner in which *mataw* fishers organize production and distribution in a traditional system of reciprocal exchange, regulate access to fishing grounds and resolve gear-use conflicts as members of cooperative groups, and confront the encroaching threat of modernization. The study also examines the implications for coastal resource management of these experiences.

Mataw fisherfolk specialize in catching large dorado, also commonly called dolphinfish, which measure three to four feet in length, with a hook-and-line using live flying fish as bait. *Mataws* fish from the Valugan or east side of Batan Island in the municipalities of Basco, Mahatao, and Uyugan. In Basco and Mahatao there are some 85 *mataw* households. Fishing from the four *vanuas* or landing sites on the east side of Batan Island are some seventeen *mataws* in Diora, sixteen in Maratay, eighteen in Manichit and approximately 34 in Chanpan, representing some 30% of fishers in Basco and Mahatao. Three of the *vanuas* – Diora, Manichit and Maratay – are almost exclusively *mataw* landing sites.



2. Map of Batan Island

The fieldwork, done for approximately four months in 1991 and 1992, encompassed the entire *rayon* or 'summer' portion of the year – the fishing season – from March to early June in 1992, and part of *amian* or 'winter' in October to November 1991. Traditional qualitative methods of anthropology – participant observation and interview – were used to gather data. The conclusions are based on the cases of four *vanuas* or landing sites and their fishing organizations.[2]

An analysis of *mataw* fishing illustrates the significance of coastal systems in terms of kinship and reciprocal relations, modes of production and distribution, social organization, religion and world view. The cultural, economic, social and political dynamics can be seen from the 'native's' perspective. It has been observed that long-term, in-depth ethnographic research is the best way to gather this kind of data (Ruddle and Akimichi 1984).

Understanding the local context and engaging the community's participation are valuable for development planning. (*e.g.* Ferrer 1992). Too often, planners identify needs and directions and prescribe solutions that are more relevant to their own culture, ignoring local ways or, worse, dismissing them as inferior or backward and in need of 'development.' Undervalued in the dominant society, local methods and cooperative systems for confronting resource use problems already present and viable within a community, go largely unacknowledged (*e.g.* Lewis 1991 demonstrates this with the case of Ilocano irrigation cooperatives or *zanjeras*).

The province of Batanes was recently identified as one of ten priority areas under the Integrated Protected Areas System (IPAS), which establishes protected areas in the Philippines to conserve biodiversity for future generations. IPAS is considered an essential component of the Philippine Strategy for Sustainable Development and functions to conserve biodiversity for study and sustainable development (DENR 1990); to enable local communities, grassroots organizations, women and local government units to better manage and sustainably use biodiversity; and to apply *in situ* tools for biodiversity conservation (DENR-IPAS 1992b:xii). IPAS has underscored the survival of traditional communities and the empowerment of grassroots organizations as parallel objectives in managing ecosystems. The Batanes

Protected Landscapes and Seascapes (BPLS) management plan states:

> Achieving social and cultural sustainability requires (1) increasing people's control over their lives, (2) maintaining and strengthening community identity, and (3) making development compatible with their culture and values. (DENR-IPAS 1992b:140)

The proposed boundaries for this protected area encompass a total area of 213,578 hectares of which only 20,323 is land. The Batanes Protected Landscapes and Seascapes plan unfortunately has no proposals for biodiversity conservation, study or sustainable development of marine areas (DENR-IPAS 1992b:xii). This study addresses some of these neglected issues.

THE BATANES ISLANDS

One of the most salient features of this province is its remoteness and periodic isolation from the rest of the archipelago. On the typhoon route from June to October, and with strong winds and poor visibility prevailing during 'winter' from September to February, Batanes' only regular link with the mainland – airplane flights – are frequently cancelled. Rough seas and lack of a safe port also limit sea transportation to Batanes. Navy land ship tankers (LSTs), bearing vital supplies like rice and gas come two to four times a year and chartered vessels occasionally visit Basco's port.

The province of Batanes consists of the ten northmost islands of the Philippine archipelago. Found between 20°15' to 21°15' north latitude and between 121°45' and 122°15' longtitude, its ten islands cover an area of only 230 square kilometers, making it the country's smallest province. The territorial waters of Batanes however, encompass 4,500 square kilometers.

Mt. Iraya, an active volcano rising 1,009 meters above sea level, dominates the north end of Batan Island. To the south of Mahatao, Mt. Matarem is the highest point of a range named for its sharp ridges. The terrain of Batan Island is generally hilly with few flat areas. For example, in the municipality of Mahatao, almost fifty percent of land surface has a slope of 30 degrees or more. The landscape of green hills and valleys, steep slopes, rocky shorelines, sometimes precipitous cliffs, and stretches of white sand or beaches of boulders was produced by volcanic activity and upliftment (DENR-IPAS 1992a). Coral reef building still contributes to the formation of the islands.

Passageways in the shallow rocks or coral reef flats through which a boat can reach land or reach sea from land are called *vanua* by fisherfolk. In shorelines made up of huge boulders, areas where the stones are finer and it is easier to land are also called *vanuas*. These unique geologic features, which enable passage between land and sea define the different fishing groups. Fisherfolk using the same *vanuas* are not necessarily part of the same residential community, but comprise a corporate group whose primary interest is to regulate use of the *vanua*.

The Batanes Islands are surrounded by deep seas with powerful currents. To the west is the South China Sea and to the east the Philippine Sea and the Pacific Ocean. The two seas merge in the very deep and treacherous Balintang Channel in the south, beyond which are the Babuyan Islands which are part of Cagayan province. To the north, the Bashi Channel separates the northmost islands from small islets within the territory of Taiwan, the Batanes Islands' closest neighbor to the north. The Batanes Islands are actually closer to Taiwan than to Luzon. Basco is 280 kilometers north of Aparri on the tip of Luzon, and only 180 kilometers south of Taipei.

Dominican missionaries from Spain came to Batanes in 1686 to preach Christianity; the efforts of these and subsequent missions were so persistent that the King of Spain annexed Batanes in 1783. It was the last province to be annexed to the Philippines. The Ivatans, living in small communities close to springs and hilltop strongholds called *idiang*, were forcibly resettled in towns along the coastal plains. Following severe epidemics, the pre-Hispanic population estimated at 30,000 had dwindled to 9,372 in 1829 (Hidalgo 1983). Since Spain could not expect much in terms of tribute, there were several attempts to transfer the inhabitants to Calayan Island in the Babuyan group, to Cagayan and to Mindoro. In 1898, the landing of the Katipuneros in Batanes put an end to the Spanish colonial administration (Hornedo 1976:ix).

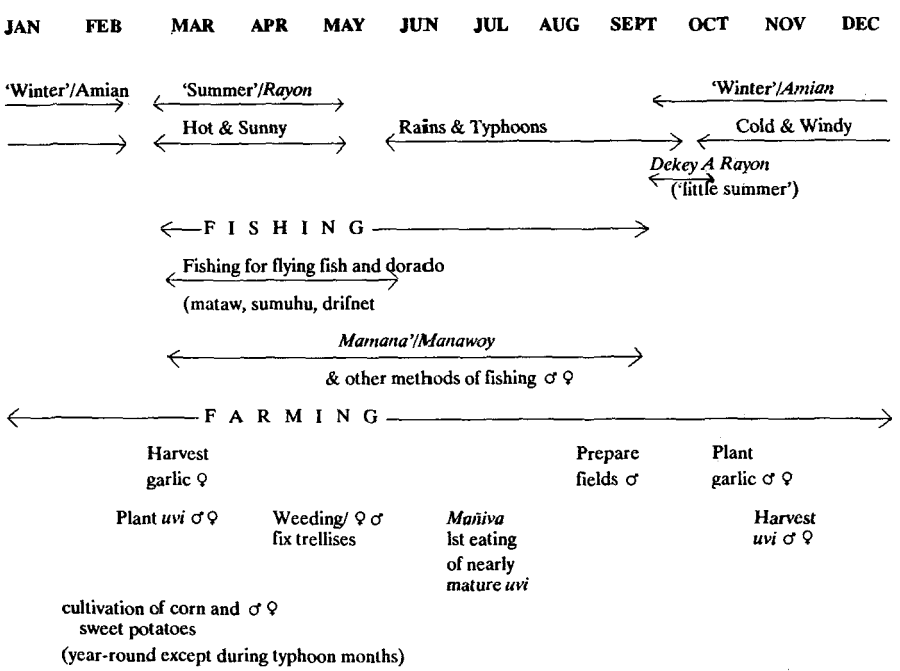
The main legacy of Spanish colonial rule is the dominance of Catholicism. The Dominican order based in Batanes is probably still the most influential institution in the province. The brief period of American administration of Batanes till 1941 introduced public school education and increased regular communication with the mainland. The Japanese succeeded the Americans and ruled over Batanes for a brief but difficult period between 1941 to 1945.

As of today Batanes has a population of 15,026 (NSO 1990). The language spoken is Ivatan, with regional variations. For example 't' becomes 'ch' as one heads south from Basco, and there are some differences in vocabulary as well. The largest island is Itbayat some 20 kilometers northwest of Batan Island. Batan Island includes the capital town of Basco and the outlying municipalities Mahatao, Ivana and Uyugan. The other inhabited island is Sabtang, some seven kilometers southwest of Batan. The population in Batanes rises slowly as there is a high rate of out-migration.

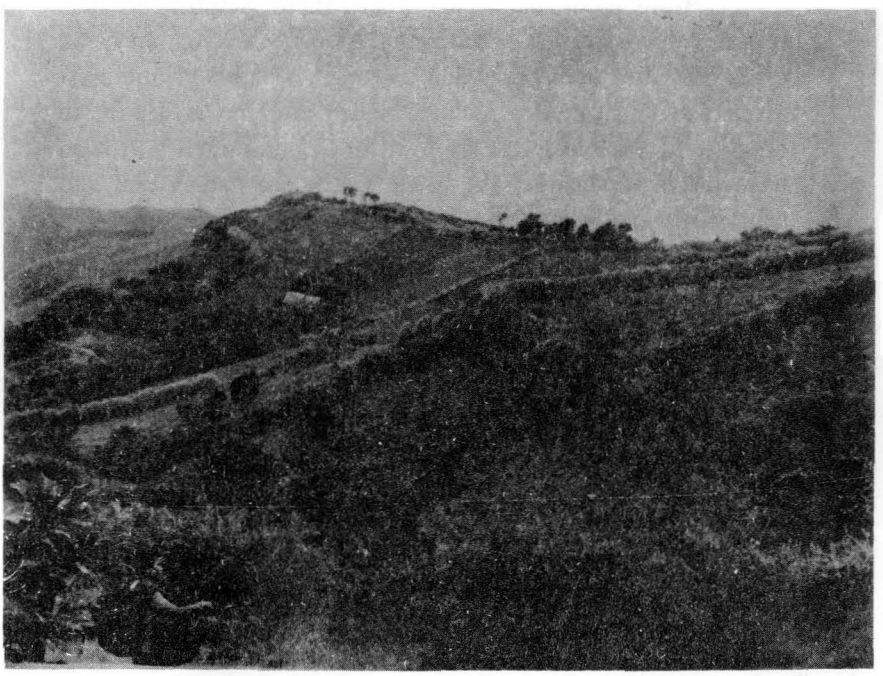
BATANES FISHERIES

Full-time fishing is practiced only during the summer months, beginning in March, and tapering off in September when cold weather arrives. A Batanes fisher depends on both farming and fishing for subsistence. Except for the few mostly non-natives who rely wholly on income from government or entrepreneurial work, almost all Batanes residents engage in some farming of rootcrops (*uvi* [*Dioscorea esculenta*], taro and sweet potatoes), vegetables, and of garlic, a major cash crop. Seventy-nine percent of all families derive their main source of income from farming (BDFI 1989:45).

ANNUAL CYCLE OF ACTIVITIES



Most farms are less than one hectare in size and are typically located in upland non-irrigated areas. Families also raise pigs, chickens, goats or cattle. Most families invest their capital in one or two heads of cattle, which serve as walking savings. Garlic and cattle are the prime export commodities of Batanes.



3. The Mahatao landscape

All fishing in Batanes is 'traditional' (following Smith 1979) rather than 'industrial.' The following description applies to all Batanes fisheries:

> Traditional fisheries are carried out by small-scale fishing units, often consisting of kin groups using small, occasionally powered-boats or none at all. The fishing activity is often part-time, and household income may be supplemented by other non-fishing activities of the fisherman. Payment to fishermen is on a share basis and vessels and gear are usually owner-operated, as distinct from industrial fishing where there is more distance between owners and fishermen. Gear, which may be machine-made such as nylon netting, is usually operator-assembled and requires minimal or no machine assistance to operate. Investment levels are low, with capital often borrowed from those who market the catch. Catch per fishing unit and productivity per fishermen range from medium to very low. Catch most often does not enter large organized markets, but is sold at dispersed points of landing and even at sea. Part or all of the catch is operator- and family-consumed. Traditional fishing communities are frequently isolated, both geographically and socially, and the standard of living of traditional fishing households is low to minimal. (Smith 1979:3)

In most cases, fish are usually bought directly by consumers at the fisherman's home. They are also sold by the fisherman's wife or other relatives. There are no full-time middlemen, nor a market that is open all day. The few stalls in the Basco marketplace sell mainly vegetables in the morning. In many cases, the fisher's catch is primarily for home consumption but it is also distributed as gifts or bartered.

Indigenous fishing methods include: (1) the use of hook and line, (*mangna'/manayrin*). *Mayavavang* is fishing at night with a large hook for big fish, *mataw's* fish in the day for flying fish and dorado, *manayrin* is lighter fishing using small hooks; (2) a cast net supported on long bamboo poles (*manawoy* or 'flying net') used in shallow waters to catch small or big fish depending on the mesh size; (3) dipnet fishing with light for flying fish

(*sumuhu*); and (4) the use of nets to trap fish in shallow areas (*managap/mamuket/manakdit*). Among the more recent innovations is speargun fishing (*mamana'*) and 'trolling' or pulling a hook and line using a motorized boat. Drift net fishing for flying fish was first used about ten years ago and today is fast gaining popularity. The use of compressors within the past five years has enabled divers using spearguns to reach greater depths for longer spans of time.

A large variety of fish are caught (see Appendix A for a list of fish), not to mention shellfish, sea urchins, turtles, lobster (*payi*), and squid (*años*) that cast themselves on the shores of Ivana during certain times of the year. Two of the more valued species are flying fish or *dibang* (family Exocoetidae) and dorado or *arayu* (*Coryphaena hippurus*). Since these pelagic fishes migrate in large numbers into Batanes waters during the summer season, they are called *amung nu rayon* or the 'fish of summer'.

Taiwanese fishers have made illegal incursions into Batanes waters for as long as anyone can remember. In fact, Batanes fisherfolk have adopted many Taiwanese drifted materials called *yavat* (floats, hooks, nets, hard hats) for use in their own fishing. Foreign fishing boats have the technology to exploit offshore and nearshore resources, and are infamous for using destructive methods like dynamite and cyanide. Unfortunately, the Philippine Coastguard and Navy have not successfully monitored the intrusions. In 1991, the Philippine government granted foreign vessels passage via sea lanes around the Batanes islands, as per Executive Order 473 and the earlier Philippine-Taiwan agreement. Batanes residents fear, however, that this Presidential directive will only increase poaching in Batanes waters (Mangahas 1992).

MATAW FISHING

Mataw fishing or hook and line fishing for dorado is one of the oldest methods of fishing in Batanes. Accounts of the Spanish period describe hooks made of goat bone to catch the large *arayu* (Gonzalez 1966:103-4). Today, this tradition is still practiced enthusiastically by serious fisherfolk during the summer season.

Mataw fishers differ from other fisherfolk in Batanes because they specialize in catching *arayu* and because they fish every day of the fishing

season. In Mahatao, small communities on the eastern or Valugan side of Batan Island that are abandoned during the rest of the year come alive as seasonal villages of *mataws* and their households during the summer. *Mataw* fishing flourishes on the east side of Batan Island where prevailing east winds bring the migratory fish.

Fishing for dorado

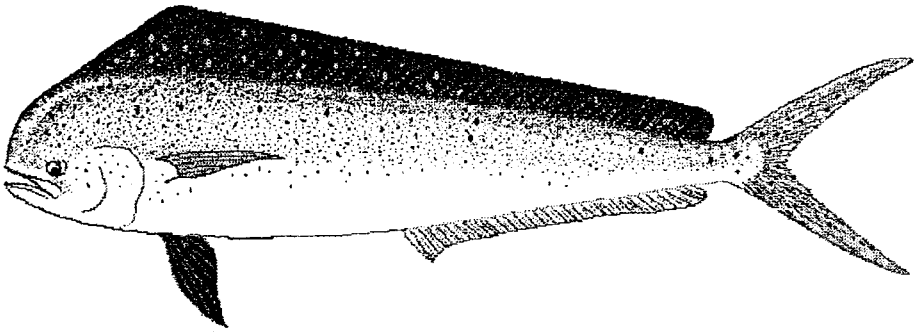
Setting out alone in small, round-keeled boats or *tatayas* – propelled by oars and a sail, *mataws* catch flying fish and use them to lure dorado. There are three steps to fishing for dorado. First, crustaceans are caught to use as bait by the *mamedberen* or bait supplier who fishes the rivers for shrimps or gathers small crabs *(kayang)* by the sea shore. The *tatos* or coconut crab, a large land crab, can also be used. Second, the flesh of these crustaceans is wrapped around a special kind of hook or *yuyus* (see illustration on page 20) which inflicts minimal injury on the flying fish when it is caught. Tied to a large hook, a live flying fish is then released as bait for dorado.

Mataw fishing in Basco and Mahatao is a solitary endeavor, though it requires the assistance of other people on land: the *mamedberen* or bait supplier and the *manala'* or fisher's helper. The *manala'* helps the *mataw* carry the gear, launch and beach the boat, carry the catch, and oversee the preservation (drying) of the catch.

Mataw fishing requires skill and knowledge of the sea and its currents. The pelagic *arayu* and *dibang* are to be found carried by the currents while swimming against the current, or in between opposing currents. The fishing takes place out at sea within the bay. *Mataw* fishing is considered one of the most thrilling ways of fishing and also one of the most difficult.

A *mataw* can catch up to nine fish or more in one day but days without catch are also likely. A *mataw* fishing trip begins at about 3 o'clock in the morning and ends by around midday. When the *mataw* runs out of bait he must head back.

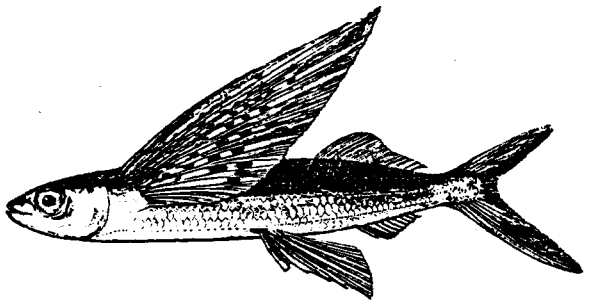
A fisher who catches many fish is *masagal,* while one who catches very few fish in proportion to fishing effort is *masaha.* Each day's fishing is highly uncertain and depends to a great extent on wind, climate and sea conditions. Even when these are favorable, each fisher's catch is highly variable. For example, if one fisher catches six in one day, others may catch twelve or none.



arayu

Coryphaena hippurus

common names: dorado, dolphinfish

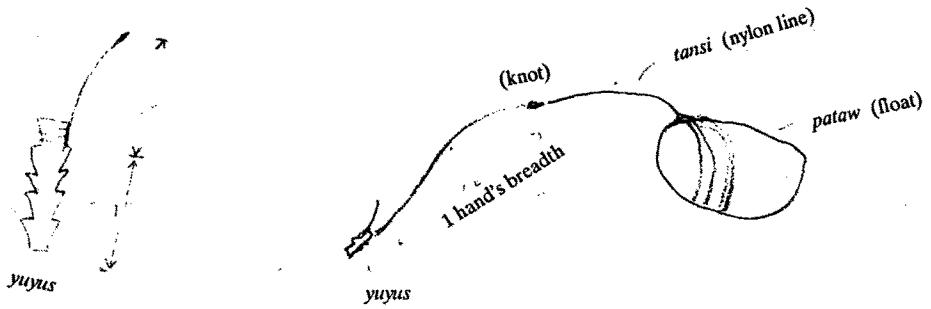


dibang

Family Exocoetidae

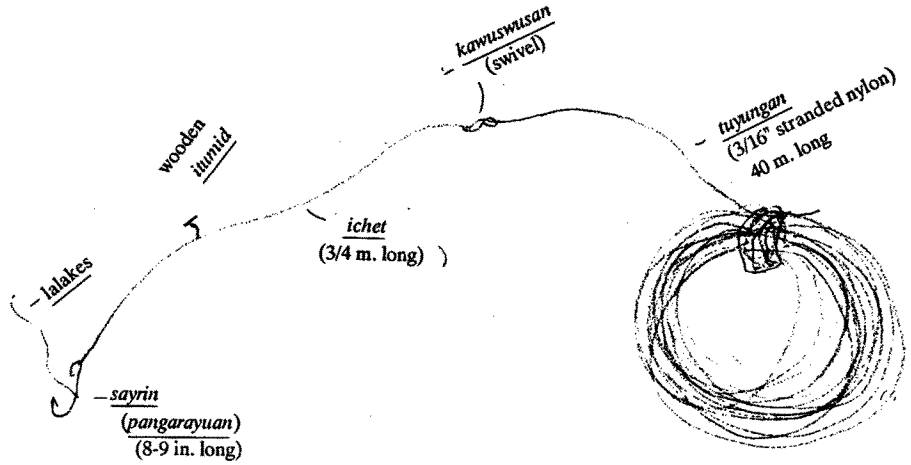
common name: flying fish

4. Flying fish (*dibang*) and dorado (*arayu*)



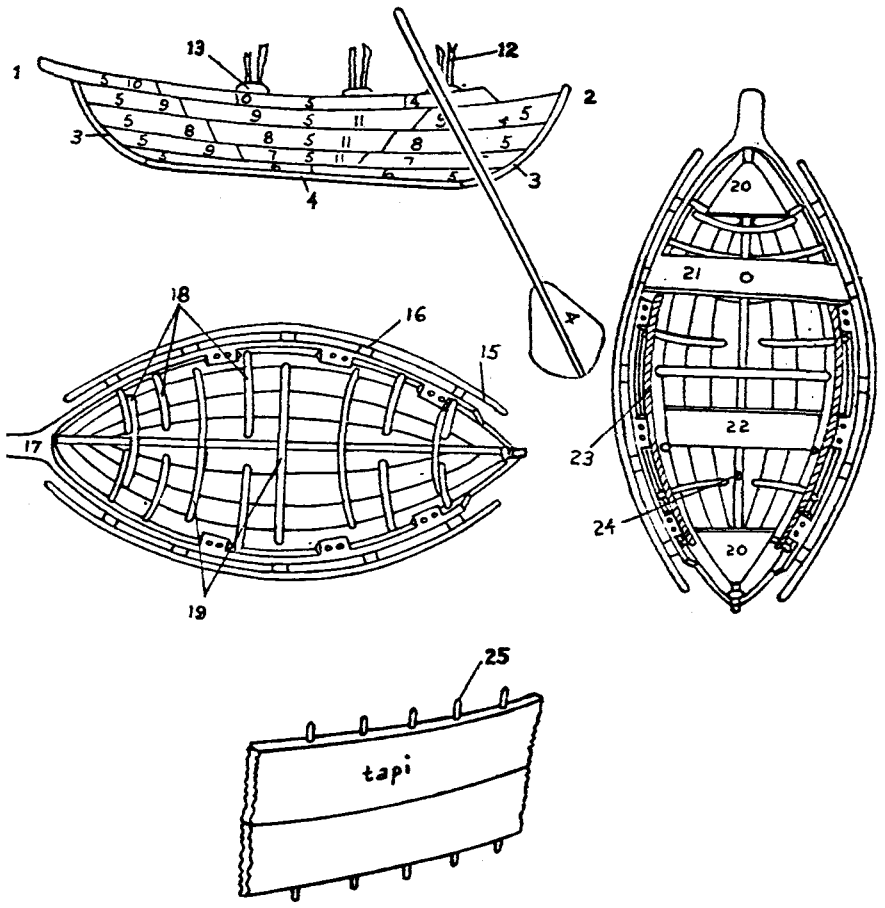
5. The *yuyus*; gear for catching flying fish

The *yuyus* consists of a sharpened piece of stainless steel wire attached to a small serrated piece of wood or bamboo. The line consists of 15 lbs. nylon. The float is usually made out of drifted styrofoam or plastic bottles. In the past, a gourd of a species of squash *(hatawan)* was used and specifically grown just for this purpose.



6. Fishing gear for catching dorado

The *sayrin pangarayuan* is bought commercially or home-made from drifted Taiwanese gear. In the past, the fishing line was made of fibers found in Batanes. The *ichet* was wrapped with a special fiber to prevent the fish from biting through it.



7. The fishing boat or *tataya*

The *kadekeyan* is a small *tataya* or boat good for one person. It is constructed out of hardwood (*palomaria*) boards which are joined together by wooden dowels. The work of boring the holes and inserting these dowels is traditionally compensated by a share of the catch for the duration of the lifespan of the *tataya*. A detachable mast and sail are inserted at the hole in the wood toward the prow of the *tataya*. The oars (*kawod*) used by *mataws* are long with wide blades (*yutap*). (Illustration from Yamada 1967:173)

The following table shows the range of daily catch for three fishermen for the month of May:

Date	Fisherman A	Fisherman B	Fisherman C
May 1	didn't fish	6	2
2	3	4	2
3	9	5	2
4	0	2	4
5	3	2	6
6	0	1	1
7	3	2	6
8	6	5	0
9	3	6	1
10	3	0	2
11	didn't fish	6	5
12	1	2	2
13	8	4	4
14	4	6	2
15	6	5	3
16	3	2	3
17	4	2	0
18		1	0
19		0	0
20		0	0
21		0	1
22		3	1
23			1
24			0
25			2
26			2
27			1
28			0
29			2
30			2
	----	----	----
	215*	247*	155*

*Total for Entire Fishing Season (Mar-May)

By late May, a *mataw* might have accumulated as many as 200 to 400 dorado in all. Each season's catch is different. According to older, experienced *mataws*, when dorado are plentiful, they are smaller in size, when they are large, there are fewer. Both 1991 and 1992 were considered good years. Low catches made in previous years are blamed on a commercial fishing venture that was based in Batanes during those years but no longer operates today.

Average catches in each *vanua* differ because the *mataws* begin fishing much later in some areas. The earliest to perform *mayvanuvanua*, a ceremony that launches the season of fishing at the *vanua,* are the *mataws* of Maratay on March 1. The highest catch totals were recorded there. In Basco, *mayvanuvanua* is usually held on March 15. Except for the *mandinaw nu vanua* or first fisher, not all *mataws* begin fishing immediately after *mayvanuvanua* because they may have other work to finish – farmwork in the fields, repair of equipment and boat, house construction, etc. Older fishers who are not as strong will wait till mid-season when waves are smaller to begin fishing.

Filleting and preserving the catch

The *mataw's* catch is rarely sold fresh; traditionally, it is dried and accumulated till the end of the season when it is shared with the mataw's fishing 'partners' (*kahap*). In Basco however, some fishers, especially those whose *partners* are also members of the immediate family or those without partners **do** sell the parts of it that are removed in preparation for drying (i.e. internal organs, eggs, liver, fins, backbone and tail).

DISTRIBUTION

Mataw fishing economy is fundamentally linked with farming. All *mataws* are also farmers, and to spend the summer fishing, they must make arrangements for the care of their fields and farm animals. These contracts are repaid with a share of fish after the season. They may also exchange shares of the catch for rights to farm or use a piece of land. Depending on how the *mataw* and others judge his *sagal* (ability tc catch many fish), a *mataw* will negotiate contracts with other people for the things he needs to pursue the fishing enterprise. Shares of his entire catch for the season are pledged in exchange. These partners in effect make investments on the

success of the *mataw*. A *mataw* whose chances of a large catch do not appear high will enter into fewer of these agreements. A fisher perceived as *masagal* will attract many prospective partners. Most often, the fisher's partners are kin or close friends. For *masagal mataw* fishers, the rewards of fishing as a livelihood are substantial – food for every meal during the fishing season plus extra to exchange or give away, and a stock of dried fish to consume, sell, give away or exchange later. In monetary terms, not counting the eggs, liver and other edible parts which are not dried, each dorado is worth at least P100: P40: to P50 per fillet, and P75 for larger ones. Multiplying P100 by 200 fish amounts to total catch of at least P20,000. The accumulated catch must still, however, be divided among the 'fishing partners.'

The total catch is usually divided into eight to twelve shares. A *mataw* gets at least two shares – one for his 'body' (*karakohan*) and one for his rowing effort or 'physical exertion' (*chinangalan*). A catch of ten shares may yield a profit worth ₱4,000 for three months of fishing by a moderately successful fisherman. If he also owned his own boat and fishing line, and was assisted by his wife and children rather than contracting with other people, his household's share would be even greater.

The first prerequisite for fishing is a *tataya* (fishing boat). If the *mataw* does not own a boat, he arranges to borrow one. This corresponds to at least two shares of the catch. Finding a *mamedberen* or bait supplier is the second most important agreement the *mataw* makes. He needs at least six shrimps a day for bait. If he must hunt for his own bait, the mataw will have less time at sea. Some *mataws* dispense with the services of a *mamedberen* and buy instead coconut crabs which can be kept alive for a long period. This adds to the overhead expenses of fishing – a small coconut crab good for only three days fishing bait costs ₱100.

The third contract is made with the *manala'* who assists the fisherfolk in setting out and landing, bringing their fishing gear, and carrying the heavy catch home (each fish could weigh up to five kilos or more). Traditionally, the *manala'* also did many household chores for the *mataw*, such as tending the animals, helping the *mataw* construct the *ralawan* or work table for dressing the fish, overseeing the drying of the filleted fish, delivering shares of bones and edible parts of the dorado which are not dried to the *mataw's* other partners.

8. The *kapayatay* or division of the catch

Another contract is for a supply of salt. Another may be for capital. In Mahatao, *mataws* exchange shares of fish for the *piskiria* – a set sum of money, part of which will be used to pay for the municipal licence fee which is due on January 20. Instead of rent or a share of the harvest, Mahatao *mataws* also exchange shares of fish for the use of land to plant rootcrops in. Landowners prefer to lend their land to *mataws* in exchange for a share of dried dorado so it is much easier for a landless *mataw* to acquire fields to farm than ordinary farmers. One *mataw* who owned parcels of land let his children and brothers use his fields and borrowed land for himself to work on since his brothers had difficulty in otherwise obtaining land to farm. In Mahatao, only *mataws* can borrow pasturelands. Since *mataws* in Mahatao move from their houses in town to live nearer the east side of the island, they also make contracts to exchange a share of the catch for use of houses to live in in the hills nearer the *vanua*.

The catch is divided towards the end of May when the rains start to come and drying the catch becomes a problem. A smaller share called the *pinanpuan* may also be given to the people who helped the *mataw* carry his *tataya* to the *vanua* from his house into town. The audience or *manalamad* who come to witness this sharing event and bring something for the *mataw*

like coffee, sugar, clothes or, more commonly, gin, are also given some dried fish in exchange. The occasion is a happy one marked by drinking and festivity, especially if the *mataw* was able to catch many fish.

Aside from these traditional shares, the *mataw* is free to make other exchange agreements. For example, he may exchange a share of fish for a supply of the diesel used for light at night, or for rights to gather firewood from someone's land, or perhaps for repaying a furniture maker who built him a sala set. Reciprocal gift exchange is very much a part of *mataw* culture and Ivatan economy in general, especially since cash is scarce in Batanes.

The *mataw* usually pays farmhands who weed his fields with one *pinpin* or fillet of *arayu* per day of weeding, instead of the standard rate of 40-50 pesos per person per day.

The economy then, is not primarily cash-oriented except for garlic production, cattle-raising and fishing with the more modern gears and motorized boats, but even these products are frequently exchanged. Only Basco, with its population of *ipulas* or outsiders, and regular wage-earning government workers represents a regular market for fishery and farming commodities. Rarely are non-Ivatans interested in purchasing the large dark dried fillets of dorado. Thus the only potential market for them are visiting Ivatans and relatives from the mainland looking for this traditional Batanes fare. Those who wish to purchase such must approach the *mataws* directly.

Women's share in production

Women's participation in the *mataw* production process tends to be trivialized. When the wife performs the role of the *manala,'* there is no corresponding share. In effect, the work of the *manala,'* that traditionally deserves a corresponding share, becomes unacknowledged and uncompensated when performed by the wife. This is difficult to explain. Perhaps the perspective is that by not hiring an outside *manala,'* the shares would be bigger. But then the household would have profited more with the additional share alloted the wife as *manala'*. Perhaps an evolving standard is that household support of the *mataw* should not be considered in the overall equation. One *mataw*'s wife in Basco said she used to purchase coconut crabs and act as her husband's supplier of bait. However, she stopped performing this role because there was no corresponding share and since her husband habitually gave away fish to all their friends.

9. Female *manala'* or fisherman's helper carrying the catch home

TRADITIONAL FISHERMEN'S ASSOCIATIONS, INDIGENOUS BELIEF SYSTEM, AND LAWS

All *mataws* who use a particular *vanua* belong to a cooperative. Various types of cooperative work groups for tasks like harvesting *cogon* grass for roofing and constructing a roof, working in the fields, building roads, are indigenous to Batanes, highly developed and range in size from small groups to large groups of more than 100 people (Hornedo 1989; Yamada 1989:446-452). They form the social foundation for associations like the *vanua* organization where traditional experience determines leadership roles and work assignments. An example of another type of cooperative is the organization of users of *payaman* or communal pasturelands. Members of this association elect leaders, pay dues according to the number of animals they pasture, and fulfill obligatory work requirements for care of the commons.[3]

Unlike these other cooperative groups, however, the *vanua* fisherfolk's association is based on an indigenous view of the sea and the supernatural: an environment where fish are sensitive to human action and invisible beings (*añitu*) have the power and capricious nature to inflict misfortune on people. This world view underlies the goals of the association, relationships among fishers and, in general, the whole process of *mataw* fishing.

Taboos or dagen

All fishers are concerned about the placing of 'dirt' – symbolically polluting objects – on fishing gear and boat and even on the hands and body of the fisherman, which renders a fisherman unable to catch fish. Beliefs or taboos called *dagen* prescribe etiquette and protocol in fishing – the style or way to *mataw* fish – and reveal an ethic of respect toward one's catch. Some of these function to regulate resource use.

In catching dorado, the fisher must be coaxing and not arrogant. One asks the fish to take pity on the poor fisherman riding his puny, old, rickety boat, striving hard to feed his family. Gloating over one's catch, it is believed, could turn the fish obstinate and so difficult to pull in that the *mataw* is compelled to let go of the fish to avoid capsizing the boat. Big fishes like dorado are strong enough to do this.

Mataws observe *dagen* or taboos regarding the way the catch must be handled such as:

(a) the fisherman must remove the hook from the dorado's mouth while at sea, not at the *vanua* or on land; the gall bladder of the dorado called *riyal* should be removed at the shoreline and not brought home;

(b) the dorado should be faced toward land and their tails toward sea when laying them on the shore;

(c) the fishes should be turned away from each other when arranged on the *pingga* (a strong bamboo carrying rod for transporting the catch home);

(d) only the *pingga* may be used to transport dorado, and even if only one fish is caught it should still be carried on the *pingga*, the catch should never be carried by the tail or in a basket; the catch should not be dragged on the ground;

(e) fresh dorado should not be loaded on vehicles (bicycle, motorcycle, jeep, airplane) until the season is over;

(f) while eating *lataven* (raw fish in vinegar), one must not spit out the bones but take them carefully from one's mouth; raw dorado may not be eaten out at sea; dorado should not be eaten at the *vanua*;

(g) dorado may not be placed inside a bottle;

(h) fresh or dried dorado may not be sold until the season is over, and so on.

Mataws also perform a series of rituals to ensure a successful fishing season: the *mayvanuvanua* or ritual for the *vanua* at the start of the fishing season, *umdinaw du vanua* or first fishing trip, *maynamunamu* or 'cleaning' to remove pollution, and *maychava' du vanua* or ritual 'dismantling' the *vanua* at the end of the fishing season.

Violating *dagen* or not performing an important ritual like *mayvanuvanua*, may bring supernatural consequences – one will not be able to catch fish, or there will be misfortune: sickness, accident, death. The

fisherman who broke a taboo cannot catch dorado the next day until he performs an individual ritual of 'cleaning' his gear and boat. It is believed that breach of *dagen* may also affect the catches of an entire fishing group, in which case it is the *vanua* which must be ritually 'cleaned.'

Dagen that function to conserve or regulate the use of resources can be classified into two main categories:

Seasonal use rights and regulation of gear entry

The *vanua* area is made taboo, or off-limits for all fishing – except for *mataw* fishing of surface-swimming flying fish and dorado, and *sumuhu* or the catching of flying fish with dip nets and light by night – by the ritual *mayvanuvanua.* Until the ban is lifted at the end of the fishing season by the ritual *maychava du vanua* (literally, the 'dismantling of the *vanua*') no one may even swim in the *vanua* or gather shellfish along the shore. In effect, the *vanua* becomes a tiny marine sanctuary for the duration of the fishing season from March to May, then, when the season is over, large octopus and lobsters may be caught there.

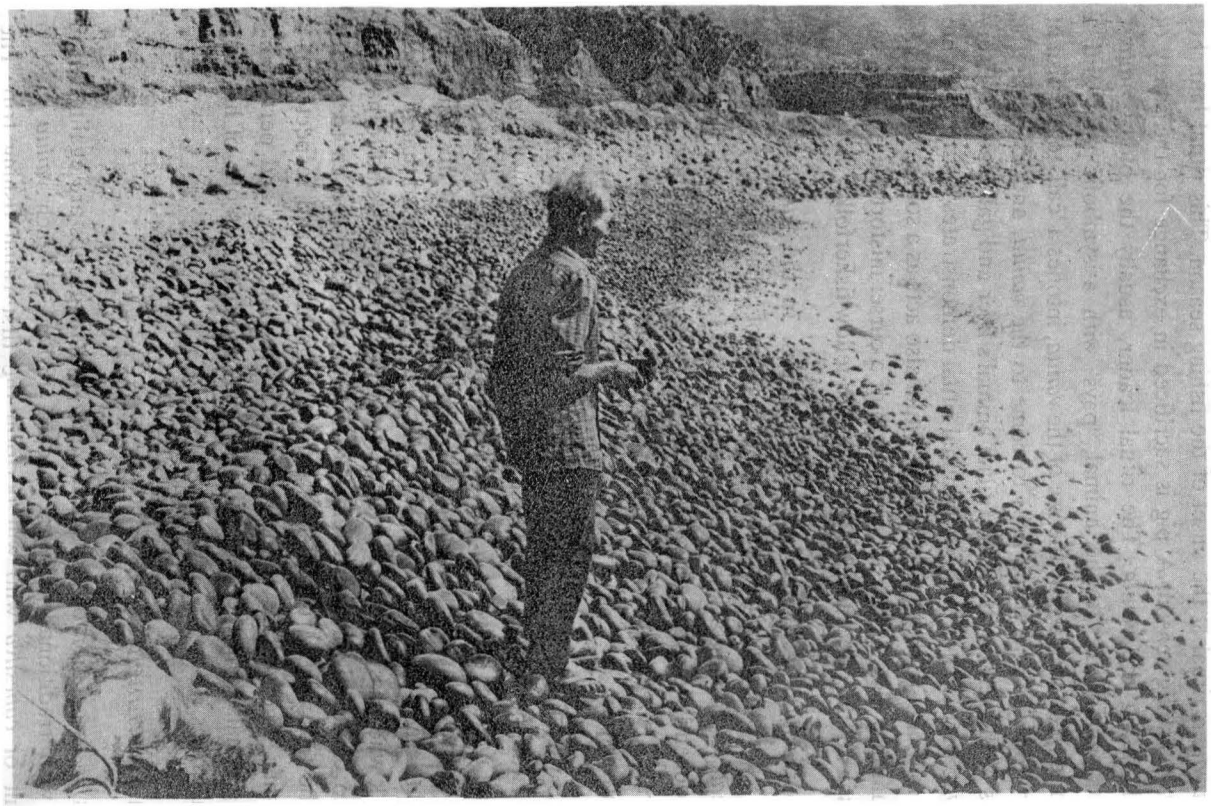
Fishing with nets can be prohibited by *mataw* laws or *abtas* over a much wider area than the *vanua* during the *mataw* fishing season. This spans a large part of the bay, demarcated by rocky promontories.

Individual catch quotas

It is also taboo for a *mataw* to catch more than nine dorados in one fishing trip. If a fisherman has already caught nine and he wants to continue fishing, he must return to shore first and unload his catch before setting out again. Panayotou (1982:43) notes that a policy of individual catch quotas is an ideal way to regulate coastal resource exploitation. Today, however, not all *mataws* observe this taboo or even know it.

Ritual

The main objective of the *vanua* association is to care for the well-being or 'health' of the *vanua* to which the 'fish of summer' are sensitive. Ironically, though the *vanua* permits passage between land and sea, boats frequently capsize here. *Mataw* fishing is less predictable than other kinds of fishing; the *vanua*, then, must be kept ritually 'cleansed' to ensure successful and safe fishing.



10. Ritual officiant addressing the sea during the ritual *mayvanuvanua* at the onset of the fishing season

Perhaps the main function of the *mataw* association is to perform the *mayvanuvanua* ritual at the onset of the fishing season. This ritual launches the *mataw* fishing season. A pig is sacrificed in exchange for the safety of fisherfolk using the *vanua*. The ritual leader, usually the oldest *mataw*, 'redirects' misfortune to the animal, 'pays' with a symbolic coin and a prehistoric (*motin*) bead for the use of the *vanua*, intones a 'call' to the 'fish of summer' (dorado and flying fish) to come to the *vanua*, and examines the portents of the season in the sacrificial animal's liver and gall bladder. Every fisher who participates in this communal ritual demonstrates his membership and commitment to the group, thus the ritual also acts as a source of bonding. The ritual may also include the invocation of a curse: misfortune on whoever behaves in an 'uncooperative' manner toward fellow fisherfolk.

Cooperation is highly valued in Batanes. In the *vanua* association, members are obliged to help one another in case of capsizing; they must assist other *mataws* coming ashore, return gear found lost at sea and, in general, behave decently toward each other so as not to transmit bad luck. Jinxes are often traced to envious fellow fisherfolk and this is the opposite of the cooperative spirit.

The very first fishing trip for the season, called *umdinaẁ du vanua,* is another ritual performed by the first fisherman, called *mandinaw nu vanua*, to benefit all users of the *vanua*. The *vanua* is once more 'paid' for, and the fish are enticed to come to the *vanua*. The words and actions of this fisher are believed to affect the season's fishing, not just his own but also that of all the fisherfolk who pass through the *vanua* after him. Since he is said to have the power to cause misfortune to all who follow, the fisher chosen to be first should be trustworthy, unselfish, a person of good will and respected as a good fisher. The welfare of the *vanua* is his responsiblity, and performing purifying rituals to attract the fish when they are scarce is one of his most important roles.

Vanua *government*

As an association of users of a *vanua*, *mataw* groups are egalitarian in nature with traditionally elected leaders. Fishers of each *vanua* elect a president or *cabesilya* who will perform the first ritual fishing trip. The president indicates when fishing may commence after his first fishing trip and

when the sharing of the catch can begin at the end of the season. He also resolves fishing disputes; his relationship with the other members of the group is seen as paternal; as a father to his children.

Besides the president, there are two other important officers elected from among the group: the secretary-treasurer who records membership, finances, new rulings and policies, and collects the contributions for the group's expenses; and the sergeant at arms or runner/information officer/promoter who keeps the members informed of the developments in the association. The ritual leader who performed *mayvanuvanua* at the onset of the season acts as an adviser.

Funds

All members intending to fish during the season contribute an agreed upon amount for the purchase of the pig before the ritual *mayvanuvanua* is held. In 1991, this contribution ranged from P50 to P100 in the different *vanuas*. Any remaining funds are used for other purposes, such as loans to members during off-season which must be repaid with interest to increase the ongoing fund.

In the case of one *vanua*, the revolving fund had become large enough to forego collections before the season begins. Instead contributions were then collected at the end of June. The Manichit association has a socialized system in which contributions are based on the size of a fisher's catch for the season. The minimum collection for a *mataw* is P5 if he caught less than 20 dorado. For every 20 dorado caught, a corresponding P10 contribution is collected. *Mataws* who engaged in *sumuhu* (dip-net fishing for flying fish by night) have to contribute P10 for every 100 flying fish caught.

Laws: abtas ng mataw

In Batanes, fishing communities have observed unwritten laws governing resource use. For example, in Sumnanga and Chavayan, Sabtang, during the fishing season, no one was allowed to catch more than a specified number of crabs (*kayang*) for bait. In Sumnanga river, river shrimps could be used only as bait and not for consumption as food. Those who went against these rules were punished by community censure. In some severe cases, the offender's boat might even be burned (Personal communication, Orlando Hontomin, Principal of Batanes National High School).

This indicates that, contrary to lay perception, fisherfolk do understand that resources are finite and that fishing can all too easily over-exploit a resource.[4] In fact, the competition for scarce resources like baitshrimps has probably existed since pre-Hispanic times when the population of Batanes was much larger than it is at present. This resulted in regulation of resource use and access in order to assure equitable and sustainable use; in effect, the community practiced coastal resource management.

Following the ritual of the *vanua*, *mataws* traditionally hold a meeting to discuss or revise policies and regulations concerning fishing for the season. These formal fishing laws known as *abtas* reiterate the expected behavior of *mataws* and prescribe punishments or fines for violations.

The *mataws* at Manichit have preserved a 1943 *abtas* document (see Appendix B) and a revised version of this dated 1960 (see Appendix C). Written in Ivatan, the documents emphasize the responsibilities of *mataws* as members of the association, and within the framework of the indigenous belief system, prescribe punishments for placing 'dirt' on a fisherman's boat. The date for the ritual of symbolic dismantling of the *vanua* after the season is over is also set. The following translation of the 1943 document shows this traditional formalization of *mataw* beliefs into law or *abtas* being presented in a modern written legal mode.

Manichit, Batanes

14 March 1943

To whom it may concern:

We who affix our signatures here, members of the association of fishermen of this vanua, Manichit, in our hope for good fishing for all the fishermen coming here, have made these laws which we shall abide by for the good of all those who follow, and those who do not follow shall be punished.

A. Every year at the beginning of the fishing season, all the members shall meet in order to discuss what is good for the vanua. And after the season, there shall be another meeting in order to review

the problems or defects which might have occurred. The elected president shall preside over the meeting. Anyone who is unable to come should send a representative in order to avoid the penalty of this law.

Penalty for not attending the meeting: P0.10.

Penalty for leaving the meeting without the permission of the President or other official: P0.50.

B. It is the duty of every member to help any fisherman he sees is in danger or needs help because for instance he is capsizing, is ill, or has problems with his boat.

Penalty for violation of rule B.: P1.00.

C. No one may touch the fishing equipment or bait supply of another fisherman. If anyone finds someone else's fishing gear, he must inform the President who shall be the one to return it to its owner.

Punishment for stealing bait: P1.00.

Punishment for not returning fishing equipment that one finds: P1.00.

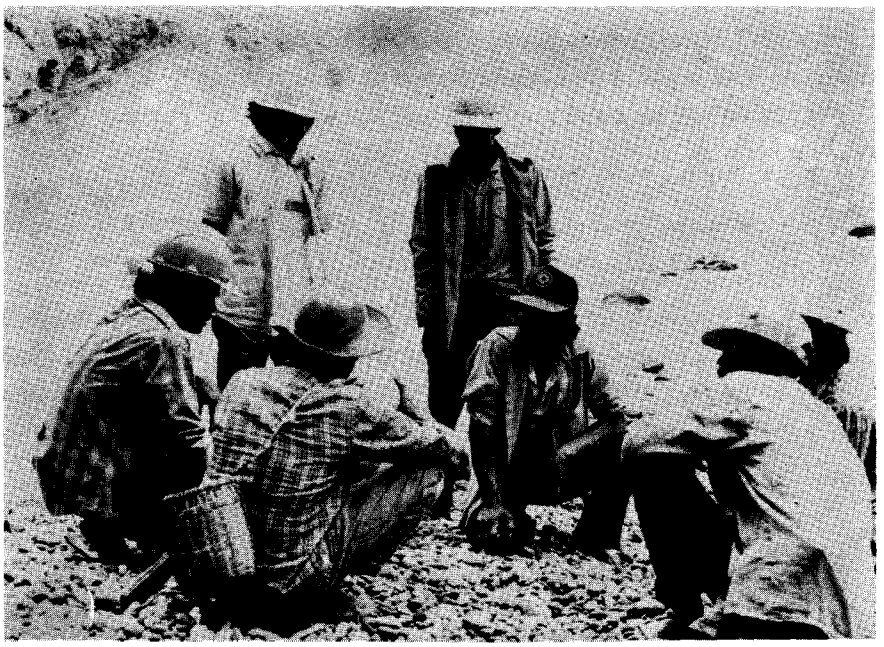
D. No one may 'place dirt' on a fisherman's boat like money, or bones of jajay (a species of fish that smells bad); no one may touch anything that is not his.

Punishment for violation of this law: P1.50.

E. The President shall say when the vanua shall be 'dismantled' and usually this shall be on the 31st of May.

Because my conscience is clean, I affix my signature to this document, so God help and guide me.

These regulations are updated each season as the need arises. Today, the secretary's notebook records new rulings made by the association.



11. *Mataws* holding a meeting along the shore during the ritual *mayvanuvanua*

MODERNIZATION AND TRADITIONAL FISHERIES

The present situation of fisheries in Batanes is rapidly changing. New technologies and methods of fishing are increasing in popularity and fisherfolk who use them are enjoying large catches. However, the sustainability of these innovations is still uncertain. The more recent innovations include:

- The use of more and more powerful lights for flying fish dipnetting by night (*sumuhu*). Torches made of bundled reeds have been replaced by pressure lamps, and recently by more powerful focusing lamps.

- The use of a speargun with goggles and flippers is not a traditional gear but was probably introduced by the 1960s.
- Motorized boats. Access to inboard and outboard motors has come largely due to loans from the Batanes Development Foundation (BDFI), a non-government organization. These boats are usually used for drift net fishing and trolling (pulling of hook and line).
- Drift nets (floating gill nets with pockets) to catch flying fish using a motorized boat. First used by an enterprising fisherman some ten years ago, it has become popular especially in Basco and Uyugan. The Department of Agriculture played some part in the introduction of this gear by distributing gillnets during President Corazon Aquino's visit in 1987. Drift net fishers are able to catch thousands of flying fish in a single day of fishing.
- Since about 1989, some fishing operations began using compressors, which allow divers to go deeper and stay for long periods of time under the sea.

The introduction of modern equipment and the increase in Basco's population has influenced a shift in fishing as a means of subsistence or reciprocal exchange, to fishing as a commercial small-scale industry.

The expansion in fishing brought by technological innovations may be reaching its limits, however. With more and more fishers taking up drift net fishing, for example, the initial large catches are now levelling off. According to one drift net fisherman, whereas before drift net fishing yielded large daily catches, now catches vary widely every day. There are days when fisherfolk just break even or suffer a loss. However, the numbers of fisherfolk taking up drift net fishing will probably increase, adding to the competition, because of the widespread perception of fishing opportunity.

Mataws note that the flying fish have been going farther and farther from shore since drift net fishing became popular. Thus far however there are no expressed conflicts as drift net fishers give away live flying fish to *mataws* whenever possible. Compressor fishermen also agree that fish near the shore are getting harder to find so they must go farther out to sea to fish. One compressor fisherman predicted that, at this rate, in ten years the fishing situation will be so difficult that fishermen will not have the luxury to select only the big fish as they do now.

Advanced technology creates an imbalance among competing fisherfolk, favoring those whose equipment allows them to go farther and faster (motorized boats) or stay long under the water (through use of a compressor). In other words, the divers unaided by a compressor who are limited to shallower fishing areas must compete with fishers using compressors who can stay submerged for long periods of time. It is said that it is becoming more and more difficult to find lobsters and fish in nearshore areas. Unless measures are taken to restrict particular equipment, those with less advanced technology will suffer a loss of livelihood.

Disintegration of traditional world view

Modern ways are slowly eroding the indigenous traditions and world view, including the respect and awe for the environment and its resources. Even fisherfolk who still practice the rituals of 'cleaning' and participate in the ritual *mayvanuvanua*, often refer to these as old-fashioned beliefs. Some are not aware of the taboos or simply disregard them. For instance, the ritual *mayvanuvanua* is practiced in Basco and Mahatao but not in Itbud. Though ritual leaders still exist, the knowledge and ability to communicate with the *añitu* is rare today, unlike in the past when many people were known to communicate with these invisible beings. In some areas, natural formations that were believed to be close to *añitu* have been removed in the course of road building and other public works.

The continuation of mataw *law and government; overlaps with the Basco Fishermen-Farmers' Association*

Mataw fishers in Basco and Mahatao continue to be well-organized and form a cohesive fishing community based on use of the *vanua*. Recently, they have also tried to implement these traditional access rights through the Fishermen-Farmers' Association, a broad sectoral organization. On one occasion, fishermen at Valugan, Basco prepared a document entitled "A Resolution Prescribing Rules and Regulations Governing Fishing Operations within the Rudaw-Achip Fishing Grounds at Valugan, Basco, Batanes and Prescribing Penalties for Violation Thereof" (see Appendix D).

The Resolution, dated March 12, 1989, set down four main rules: First, it specified fishing grounds demarcated by the points Rudaw and Achip, where only *mataw* fishermen would be allowed to catch flying fish. Second, fishing using drift nets was banned from the area until after May 15 (towards the end of the fishing season). The penalty for violating this rule was a fine of ₱100. Thirdly, "pursuant to traditional fishing practices in the area," all fisherfolk must abide by the leadership and authority of the *mandinaw nu vanua* or first fisherman. Finally, vandalism of a fisherman's boat or equipment (an apparent reference to the placing of 'dirt') is penalized by a fine of ₱100 or replacement of the damaged object.

Unfortunately, this resolution is no longer implemented. The situation has become confused at Chanpan, a *vanua* where various equipment is used with motorized and unmotorized boats. According to the ritual leader there who was also the Vice-President of the Fishermen-Farmer's Association at that time, new technologies are being randomly incorporated into the *mataw* system. For example, the ritual leader says words during the ritual *mayvanuvanua* at Chanpan to lift the taboos from modern equipment used for speargun fishing, drift net fishing and diving with a compressor in the *vanua* and traditional fishing waters during the fishing season. *Mataws* themselves speak of shifting to drift nets if they could raise the capital for it. Implicit in these technological innovations is a notion of the sea as an open access resource and thus it now becomes vulnerable to a 'tragedy of the commons.'

The Batanes Fishermen-Farmers' Association was organized in 1985 over the issue of fish pricing by local government. These associations are still in the process of being organized in other parts of Batanes today by the BDFI. BDFI chooses beneficiaries for fisheries livelihood projects through these Fishermen-Farmers' Association, and has been instrumental in providing access to motorized bancas.

The Fishermen-Farmers' Associations like the traditional *vanua* associations, is an association of fisherfolk. Unlike the traditional cooperative associations however, the head of the Fishermen-Farmers' Associations acts as a representative of the fisherfolk to the outside world. Besides natural leadership qualities, he must be able to deal with forms and red tape; to speak

articulately at seminars and meetings, including those held outside the province where the language is not Ivatan but Tagalog or English. The selected leader is usually better educated than most fisherfolk and, therefore, is deemed better able to confront the intimidating world of the educated and powerful that includes government officials and NGO workers, as well as link up with other fishers' organizations in the Philippines on sectoral concerns.

As users of a particular *vanua*, cooperative groups of *mataws* on the other hand are particularly concerned with local coastal management. As the Batanes fisheries today negotiate change, it is worthwhile to consider the implications of change and the traditional ways of relating to the sea as members of cooperative groups, because these may still hold relevant options for the future.

CONCLUSIONS AND RECOMMENDATIONS

Batanes is in a unique and enviable position not enjoyed by other fisheries in the Philippines. Due to out-migration, its population density is low. Relative isolation has slowed the pace of change and fostered an attitude of self-reliance among its inhabitants. It has no peace and order problem, no large-scale industries and therefore little pollution. Recently, because of its tourism potential, the province was declared a high priority protected area. Batanes presents an opportunity to plan resource management using indigenous cultural and social foundations.

The analysis of *mataw* fishing in Batanes provides some insights into how marine resources are perceived and exploited, as well as how they might be managed and conserved.

As an extractive activity, *mataw* fishing is sustainable. It endured for centuries without being destructive because it selects only mature specimens. It also benefits many other sectors of the community besides fisherfolk. It is not market-oriented; it provides for periods of poor weather and off-seasons. Through community resource management, it was able to support larger populations in the past.

This distinct fishing technique belongs to a whole culture and world view that is part of the indigenous matrix of Ivatan culture. The indigenous belief

system underlies the fishing activity as well as traditional organization, leadership, laws and sea rights.

However, fisherfolk are finding this can work anachronistically today. Inevitably, *mataw* fishing will clash with newer methods of fishing and technology and their accompanying modern world view and economy that views the sea as an open access resource and the market as the end goal of fishing production. These conflicts occur both between the different fisherfolk disputing access to resources as well as within the individual fisherman himself who finds traditional beliefs and world view increasingly difficult to apply in a modern world. Increased pressures on the fishing situation today stem from urbanization, the introduction of new technology, and the shifting orientation toward the market.

The following recommendations are therefore put forward:

1. Community-based resource management

At this level, traditional fishing cooperatives based on use of a *vanua* could be officially recognized to act as resource managers. Advantages to this are: they are decentralized or community-based, democratic, flexible, and they are already established by tradition. To fulfill this role, the organization must have true decision-making power or 'ownership' of sea territories. The association would have rights over demarcated fishing grounds. It should have the autonomy to decide and implement plans for equitable and sustainable resource use. Important issues include resolving conflicts over gear use and access. Such policies might include regulating mesh size; instituting catch quotas, marine reserves, closed seasons; protecting over-exploited species, according to what the group or its elected leader decides is appropriate or equitable in terms of gear-use conflicts or declining resources. Such policies would be equivalent to *abtas* or local fisheries laws.

The 1991 Local Government Code highlights preferential rights for marginalized sectors and especially cooperatives. Furthermore it provides that the municipality has jurisdiction over the marine area within fifteen kilometers from the shoreline. Community *vanua* associations in Batanes therefore can find recognition through municipal ordinances although local

government officials may not necessarily be aware of existing traditional fishing organizations. The role of non-government organizations and sectoral groups would be to inform and pressure local government to enact these ordinances.

Multi-gear *vanua* (as in the case of Chanpan) should perhaps have a representative for each type of fishing technique in the association, just as for example, there is a separate *mandinaw nu vanua* for *sumuhu* and *mataw* fishermen in Chanpan.

Vanua which are no longer organized may require an outsider's impetus – either that of a government agency or a non-government organization-to revive or reintroduce this mode of organization.[5]

2. Provincial resource management framework

On the provincial level, local government must define Batanes' development goals within the framework of sustainability, bio-diversity conservation, equity and participation. Fisheries development and management efforts should be coordinated with government agencies like the Department of Environment and Natural Resources and the Department of Agriculture, and non-government organizations like the BDFI, and the participation of fisherfolk via the Fishermen-Farmers' Associations. However the *vanua* organization should still be responsible for actual implementation.

The provincial level of coastal management must provide general guidelines for the local *vanua* fisherfolk cooperative associations. It must formulate policies on matters that extend beyond the local level such as:

- Migratory fish. These might be blocked by net fishers in one fishing area, affecting fishers using another fishing area.
- Marine conservation should be integrated with land use plans. For example, streams and rivers where bait shrimps are caught should be protected. Rare endemic species like the coconut crab should also be protected.
- Forest denudation and erosion also have a great impact on marine resources. This level of resource management could be integrated within IPAS plans to manage forest areas.

- Local pollution or garbage disposal.
- The introduction of commercial fisheries.

Inter-*vanua* communication should be facilitated. There should be a mechanism for local *vanua* fishing cooperatives to address conflicts that involve other *vanua* groups.

3. National framework for coastal resource management

A national strategy for sustainable development should serve as the overall framework for resource management. One important national government role is to protect Philippine marine resources from outside exploitation. The capability of the Coastguard and Navy to guard Philippine waters should be strengthened. Executive Order 473 declaring sea lanes that encircle the Batanes Islands for foreign fishing boats should be reviewed.

4. Raising environmental awareness and concern

A process of consultation among communities and an information/education program must precede the planning and implementation of policies on Batanes coastal resource management. In order to enable resource management on the local level, fisherfolk must understand their responsibility and decision-making power, as well as government's role in coastal resource management.

There should be information and education programs to raise the environmental awareness of fishing communities and emphasize the urgent need to manage resources. Traditional knowledge on environment could be included in primary and secondary school curriculums. Valuing distinct identities and ways of doing things where these teach cooperation, equity, respect for the sea and the catch, and awe of nature should be encouraged.

Policy-makers must also be educated on traditional culture and cooperative organization for resource management to raise their sensitivity to their potential. Communities must also be involved or consulted on policies. It has been observed (Baines 1985:39) that without clear guidelines for matching tradition to economic development, tradition is likely to be overwhelmed by development pressures because those who make the development policy decisions have been educated in a foreign mode and therefore have limited understanding of their own people's tradition.

AREAS FOR FURTHER STUDY

This study is limited by its focus on *mataw* fishing. Further research on the following topics would be useful for coastal management in Batanes:

1. Identification and demarcation of territories over which communities have sea use rights.
2. How to include fisherfolk who do not use boats in resource management.
3. Other fishing techniques and their organization of production, traditional knowledge and fisheries tradition.
4. Specific conditions and dynamics at each of the *vanua.*
5. The environmental impact and sustainability of newly-introduced fishing methods.
6. The role of women in fishing and resource management.
7. The feasibility of developing commercial fisheries capable of exploiting offshore waters to which Batanes fisherfolk do not currently have access.

ENDNOTES

1 One NGO's experience in setting-up community-based resource management in Samar underscored the effect of the community's sense of having rights to artificial reefs that had been set up by the organized fishers. When the fisherfolk thought that they were not free to make decisions over use of the artificial reefs they had set up, they did not safeguard the site or ensure that members had priority of access. When it was made clear that the artificial reefs site was 'owned' by the organization, they regulated the entry of other fishing gears and oversaw the use of the reefs for their own benefit (Tan 1993).

2 This paper is drawn from the researcher's MA thesis in anthropology which is an ethnography of the world of the *mataw*. The researcher acknowledges support from the Batanes Development Foundation, Inc. (BDFI) then headed in Basco by executive director Edmundo Puño. BDFI is a non-government organization based in Batanes which includes livelihood projects and a community radio station among its major programs. They facilitated the research in many ways, from helping the fieldworker find a place to stay, and making introductions, to providing valuable information, guides, communication with Manila, moral support, without which the research might not have been possible. Although BDFI played a great role in facilitating the research, the opinions expressed in this paper are those of the researcher alone.

3 These findings run contrary to the perception of the Batanes Protected Landscapes and Seascapes management plan of IPAS (DENR-IPAS 1992b:100-101).

4 It is therefore not the case that the population of Batanes "still does not exert pressure on the resources" as reported by DENR-IPAS (1992b:40).

5 Note that attempts to institute "community-based" resource management programs often falter because they fail in the most basic levels: organizing and sustaining enthusiasm; having credible and capable organizers; and actually devolving power to community organizations. Ignorance of local systems of leadership and organization is another factor (Sandoval and Dygico 1991, Tan 1993 e.g.).

Appendix A

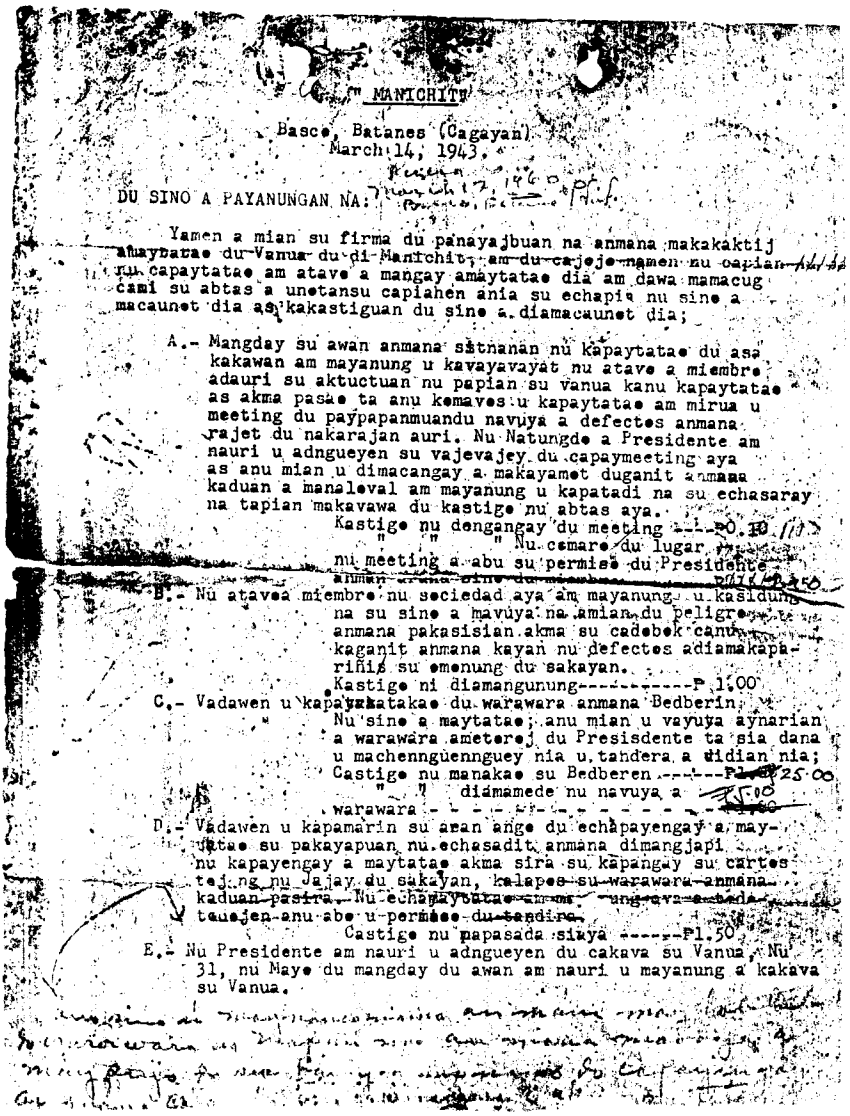
List of fish caught in Batanes

"1st class"	"2nd class"	"3rd class"
Taniji	Arawa	Parayan w/horn
Vahuyo	Mamen	Hanggsa
Tiklaw	Vayamong	Nitiñit
Malakay	Asded	Shark
Agton	Danotok	Songo
Lapu-lapu	Hahay	Haho (jacketfish)
Kaypid	Parayan	Ponayo
Manayri	Arayu	Aymang
Idek	Liñao	Pagui
Cirel	Tilapia	
Paniracherawan	Ched	
Vated	Ancosicosi	
Arayu		
Galunggong		
Hasa-hasa		
Malawlaw		
Tinarey		
Gayagay		
Havokan		
Ivayo		
Octopus (kuyta)		
Dibang		

January 1991 BFFA proposed price per kilo:

1st class	— P35.00
2nd class	— P30.00
3rd class	— P25.00
Kanañis/Annos (cuttlefish)	—P40.00
Lobster (live)	— P70.00
cooked	— P65.00
uncooked	— P60.00
Kayang	— P30.00
Dried Arayu	— P75.00
Dried ordinary fish	— P70.00

Appendix B



" MANICHIT"

Basco, Batanes (Cagayan)
March 14, 1943.

DU SINO A PAYANUNGAN NA:

Yamen a mian su firma du panayajbuan na anmana makakaktij amaytatae du Vanua du di Manichit, am du cajeje namen nu capian ... ju capaytatae am atave a mangay amaytatae dia am dawa mamacug cami su abtas a unetansu capiahen ania su echapia nu sine a macaunet dia as kakastiguan du sine a diamacaunet dia;

A.- Mangday su awan anmana sitnanan nu kapaytatae du as kakawan am mayanung u kavayavayat nu atave a miembre adauri su aktuctuan nu papian su vanua kanu kapaytatae as akma pasae ta anu kemaves u kapaytatae am mirua u meeting du paypapanmuandu navuya a defectes anmana rajet du nakarajan auri. Nu Natungde a Presidente am nauri u adngueyen su vajevajey du capaymeeting aya as anu mian u dimacangay a makayamet duganit anmana kaduan a manaleval am mayanung u kapatadi na su echasaray na tapian makavawa du kastige nu abtas aya.

Kastige nu dengangay du meeting ---P0.10
" " " Nu cemare du lugar ...
nu meeting a abu su permise du Presidente ...
anmay ... sine du miembre ... P0.50

B.- Nu atavea miembre nu seciedad aya am mayanung u kasiduma na su sine a mavuya na amian du peligre ... anmana pakasisian akma su cadebek cantu ... kaganit anmana kayan nu defectes adiamakapariñis su emenung du sakayan.

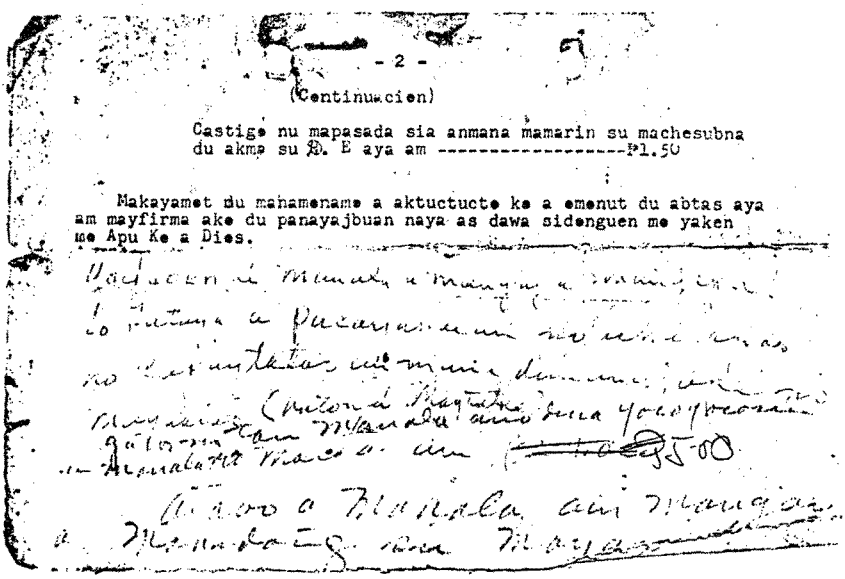
Kastige ni diamangunung----------P 1.00

C.- Vadawen u kapayakatakae du warawara anmana Bedberin ...
" Nu sine a maytatae; anu mian u vayuya aynarian a warawara ameterej du Presisdente ta sia dana u machennguennguey nia u tandera a didian nia;
Castige nu manakae su Bedberen ----P 25.00
" " diamamede nu navuya a ...
warawara ...

D.- Vadawen u kapamarin su aran ange du echapayengay a maytatae su pakayapuan nu echasadit anmana dimangjapi nu kapayengay a maytatae akma sira su kapangay su cartes tejong nu Jajay du sakayan, kalapes su warawara anmana kaduan pasira. Nu echapaybutae ... ungeva echada tauejen anu abe u permise du tandire.

Castige nu papasada siaya -----P1.50

E.- Nu Presidente am nauri u adngueyen du cakava su Vanua, Nu 31, nu Maye du mangday du awan am nauri u mayanung a kakava su Vanua.



- 2 -

(Continuacion)

Castigo nu mapasada sia anmana mamarin su machesubna du akma su D. E aya am ----------P1.50

Makayamet du manamename a aktuctucto ke a emenut du abtas aya am mayfirma ake du panayajbuan naya as dawa sidenguen me yaken me Apu Ke a Dies.

Appendix C

U_MANICHIT_U

Basco, Batanes (Cagayan)
March 14, 1943

REVERADO
March 12, 1960
Basco, Batanes Phil.

DU SINO A PAYANUNGAN NA:

Yamen a mian su firma du panayajbuan na anmana makakaktij a maytatao du vanua dudi Manichit am du cajojo namen nu capian nu capaytatao am atavo a mangay amaytatao dia *am dawa mamacugcami* su abtas a unotan su capiahen ania su echapia nu sino a macaunot dia as kakastiguan du sino diamacaunot dia;

A- Nangday su awan anmana sitnanan nu kapaytatao du asa kakawan am mayanong u kavayavayat nu atavo a miembro adaori su aktuctuan nu papian su vanua kanu kapaytatao as akma pasao ta anu komavos u kapaytatao am mirua u meeting du paypapanmuan du navuya a defectos anmana rajet du nakarajan auri. Nu Nu natungdo a Presidete am nauri u adngueyen su vajewajey du capay eeting aya as anu mian u dimakangay a makayamot duganit anmana kaduan a manaloxal am mayanung u kapatadi na su echasaray na tapian makavawa du kastigo nu abtas aya.

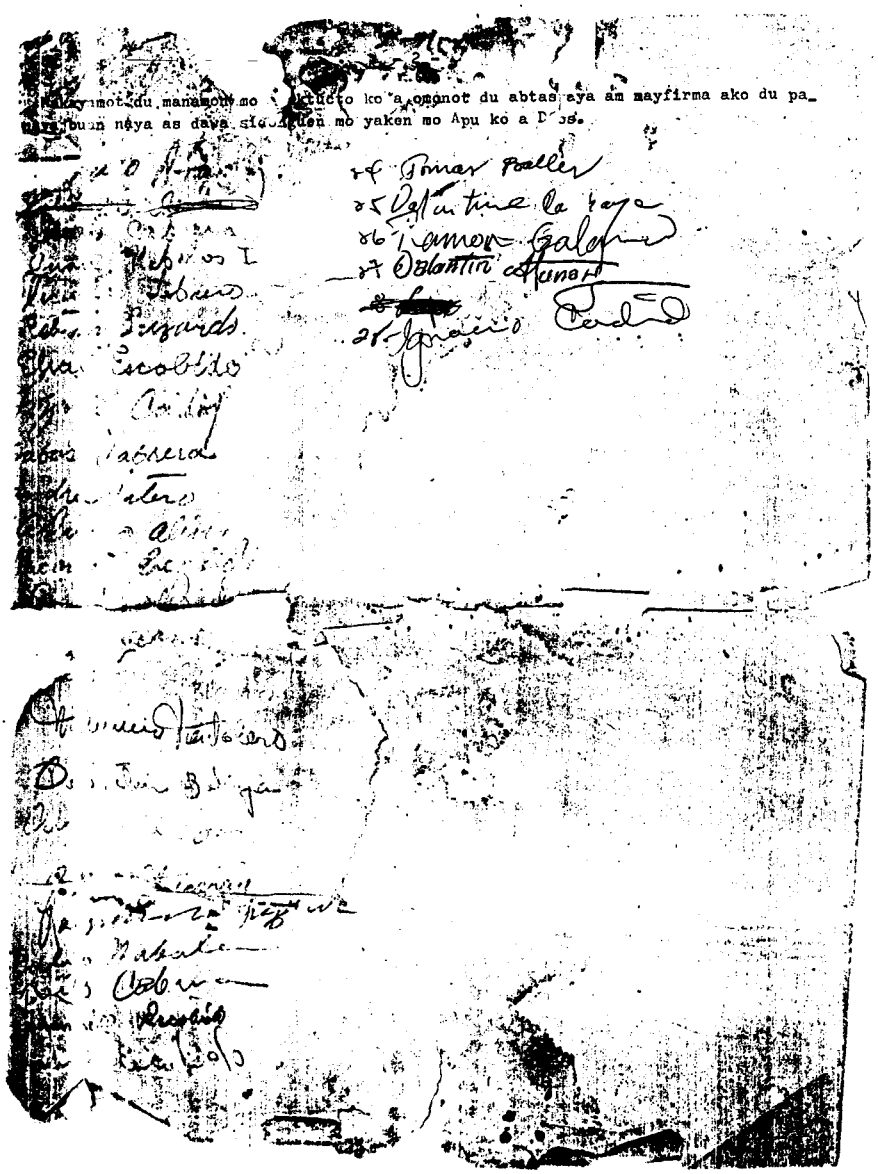
KASTIGO: Nu dengangay du meeting. - - - - - - - - - - - -P1.00
Nucomaro du lugar nu meeting a abu su permiso du
Presidente anmana aranu sino du miembro - - - P0.05
u sociedad aya am mayanung u kasidung na su sino a mavu
anmana pasasisian akma su ka ock dano kaganet anmana
iamakaparifian su omonung du sakayan.
nu diamangunung - - - - - - - - - - - - - - - P1.00

C- Vadawen u
o du warawara anmana Bedberen;
sino a maytatao; anu mian u navoya ta aynarian a
rawara am etoroj du Presidente ta sia dana;
manakao su Bedberen - - - - - - - - - - - - P1.00
Nu diamamide nu navuya a warawara - - - - - -P1.00

D- Vadawen u kapamarin su aran ango du echapayengay a maytataosu pakayapuan na echsadit anmana dimangjapi nu kapayengay a maytatao akma sira su kapangay su cartos tojang nu jajay du sakayan.

L- Nu Presidete am nauri u sdngueyen du cakava su Vanua, Nu31 nu Mayo du mangday du awan am nauri u mayanung a kakava su Vanua.
Ano sino u maynamonamo an mana maylablab do warawara as mapanmo an mana navoya a maypoja su pinaynamonamo Docapayingay an mana catangked na a warawara a akma su tataya.
KASTIGO: - P1.00
Nu mapasada sia anmana mamakin su machesubna du
akma E. aya am - - - - - - - - - - - - - - -P1.50

Vadawen u manala a maiepsl do tataya a pacayapuan no kalapos no kapaytatao an mana dimangjapi no maytatao(NATON U MAYTATAO)Gatosk nu Matao an dina yocoyocoran u manala na. Nu MOLTA. - - - - - - - - - - - - - P1.00
Atavo u manala am mayay a manidong su mayaraya ta anodeasacango as mian u piligro an cano mian u lidiat an nesisita u cayan atavo no manala as mangay ava do matarek a tomalamad so cadoan a maytrabajo gatos no tay manla
o dina yocoyocoran u manala na. MOLTA: - - - - - - - - - - - - - P0.50
10th of March will be the first meeting of all member of the Manichit
OLTA: - P0.50
KOA: - P1.00



Appendix D

EXCERPTS FROM THE MINUTES OF BASCO FISHERMEN-FARMERS ASSOCIATION MEETING HELD ON MARCH 12, 1989 AT PORT VALUGAN (CHAN-PAAN)

A RESOLUTION PRESCRIBING RULES AND REGULATIONS GOVERNING FISHING OPERATIONS WITHIN THE TUDAW- ACHIP FISHING GROUNDS AT VALUGAN, BASCO, BATANES AND PRESCRIBING PENALTIES FOR VIOLATION THEREOF.

WHEREAS the Basco Fishermen-Farmer's Association (BFFA) is committed to preserve harmony among all fishermen. fishing in the Rudaw-Achip fishing grounds and thus maintain peace and unity conducive to progress and development; and

WHEREAS it has been observed that there are some fishermen who disregard the rights and welfare of other fishermen most particularly those engaged in dorado fishing;

NOW THEREFORE, be it resolved as it is hereby bodily resolved;

1. That no fishermen or group of fishermen are allowed to catch flying fish with nets in areas where other fishermen particularly the "mataw" are catching flying fish for dorado (arayo) bait within the areas between Rudaw and Achip.

2. That no fishermen or group of fishermen are allowed to fish with nets beyond the area designated by the group/association before May 15 of every year. Any person found violating this regulation shall be penalized with a fine of one hundred pesos (P100.00).

3. That all fishermen fishing in the areas shall follow all instructions, or directions given or made by the leading fishermen who was designated to make the first fishing trip (mandinaw nu vanua) pursuant to traditional fishing practices in the area.

4. That any person caught or found vandalizing any fishing banca, banca accessories and other fishing gears or equipment shall be penalized by a fine of one hundred pesos (P100.00) or to change the damaged equipment or both fine or changing of the damaged equipment at the discretion of the BFFA officers.

Unanimously approved by the body.

Certified true and correct:

Sgd. Tomas Batan
President, Valugan Port Chapter
BFFA Vice-President

Sgd. Quirino Gabotero
President, Basco Fishermen-Farmer's Association

Sgd. Prudencio Hubalde
Secretary

Certified true copy:
Tomas Ibardo

4/4/89

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