

****draft, please do not quote without author's permission**

'Gear conflicts' and changing seascapes in Batanes, Philippines

by Maria Mangahas

Paper for the Eleventh Biennial Global Conference of the IASCP, June 19-23, 2006. Bali, Indonesia. "Survival of the Commons: Mounting Challenges and New Realities"

ABSTRACT

Documents reveal that in recent times some of the most prominent conflicts in fishing on Batan Island (in Batanes, Philippines) stem from interest in new 'driftnet' technology for catching flying fish. On closer investigation, these in essence consist of challenges to the fishing calendar that is traditionally enforced by collectivities of fishers belonging to particular 'ports' or "*vanua*"s. A *vanua* denotes a particular landing spot, as well as a port-polity (a group of fishers that is organized, has laws and a leader), and which is ritually assembled at the beginning of the summer fishing season. Seeing 'Vanua-making' as a ritual technology aimed at collective success, what is really at issue in the conflicts between 'traditional' and new or 'modern' technologies are distinct common property regimes and opposed landscapes: a traditional notion of community and a cooperative framework for the commons on the one hand, coming into conflict with a modern view of atomized fishers and an 'open' sea on the other.

maria.mangahas@up.edu.ph

Department of Anthropology, University of the Philippines, Diliman

'GEAR CONFLICTS' AND CHANGING SEASCAPES

-MARIA MANGAHAS

I. Introduction

'Gear conflicts' may occur when particular new fishing technologies are introduced. The new technologies seem to 'take' fish from others, to be grabbing fish that would have otherwise been caught by previously established gears. The resolution of any gear conflict entails or generates, and tests, institutions of governance or of 'resource management' over the commons. In fishing especially, access to the resources out at sea is very much about access to a physical technology—one must needs first have a boat to get there after all. Any 'gear conflict' brings up the spectre of violence (violence being often addressed to a fishing gear itself) expressed as a covert assertion of the perceived moral rights of certain fishers in common property.

This paper starts from two documents (from the years 1989 and 1993) that were apparently addressed at resolving serious 'gear conflicts' in two fishing areas in the islands of Batanes, the northernmost province of the Philippines. The documents are intriguing, both were privileging the traditional rights of *mataw* fishing, a traditional hook and line method for catching dorado using flying fish as bait, over new "*driftnet*" technology for catching flying fish. One document was produced by a sectoral association of fishers, and the other by a local government. The reason why they are intriguing for me is because they hint at broader aspects of technology. The ardent clashes in fact were (and they may I think still be contemporary issues¹) between *systems* of economic organization and constructions of reality: Conflicts of technology are conflicts of worldview, of systems of meaning and structures and relations of production, that encompass specific orders of TIME and SPACE.

These broader contexts are the focus of this paper, which seeks to make visible the implicit assumptions of fishing methods in Batanes as coherent sociotechnical systems², and to gain a clearer view of how technological confusions and confrontations, and choices, may be produced and made. I took inspiration from some articles on the 'anthropology of technology' (Pfaffenberger, Lemmonier, Sigaut) and Ursula Franklin's CBC lectures (Franklin 2004/1999), that stress that any technology embodies a total system of behavior (in the Maussian sense of total—material, social, symbolic, political...). Any successful technological innovation entails the engineering of acceptance of the new technology, the establishment of infrastructures to support it, and so may have revolutionary consequences for society.³

In a 'gear conflict' then, it is one *total* system of behavior that clashes with or has 'impact' on another system of behavior. Every fishing technology thus carries with it a particular

¹Both mataw and driftnet fishing techniques were still in use in 2003, my last visit to Batanes.

²A 'sociotechnical system' "refers to the distinctive technological activity that stems from the linkage of techniques and material culture to the social condition of labor" 497 pfaff. Sociotechnical system building is inevitably sociogenic—p.500 a form of social solidarity that is not simply economic nor political. // Technology in its broadest sense refers to "the way people do things" (White, cited in Sigaut 1994:420).

³(E.g., industrialized technology demands there be a market [Polanyi 2001]).

construction of the sea as a commons. Mediation of conflicts between gears requires taking a position on any contradictions between these images of the commons.

Focusing on technology, I have sidestepped the discourse of 'resource management'. 'Management' is instead beheld in this paper as a *technique* for sustained production. It can be an aspect of a particular technological system. And my concern is not to prescribe policy solutions so much as to appreciate agency and structure at the local level. I would highlight in this paper therefore mataw *collective technology*, rather than 'community-based' forms of 'resource management', nor even 'customary marine tenure', both of which are surely valid vantagepoints, but which come from an *outsider's* point of view⁴. 'Community' within the technological frame of traditional mataw fishing incorporates fishers, fish and the spirits/ancestors/ghosts in fishing as a collective project (Mangahas 1994a). This important sociotechnical unit is the *vanua* (or "*port*"), the group of fishers sharing the same landing site, and 'making' the vanua has objective physical effects on fishing productivity which I will emphasize.

Mataw fishing technology specifically entails both individual and collective techniques, and is traditionally associated with many (taboos) prohibitions or "*dagen*" that are imposed on other methods of fishing during the summer fishing season. The regulation of fishing activities and the reproduction of an organized collective of fishers with laws and a leader are important consequences of the ritual 'making' the "*vanua*" or 'port' before the season commences, and can be appreciated as 'ritual technology'. Rites associated with a production calendar are no different from all the other techniques and actions undertaken for a good harvest (Condominas 1986) and they work specifically for coordination through the shared ritual calendar, and 'sociogenesis', generating a social group in meaningful relation to other social groups and networks, and this is most relevant in the context of widely dispersed actors in an ecological system (Pfaffenberger 1992: , Lansing 1991).

The primary goal at any rate, from the point of view of the mataw fisher, is not to conserve resources but to successfully catch fish (and also to avoid misfortunes). This is an explicit aim of 'Vanua-making' and of traditional seasonal restrictions. An old fisher, Don Mariano, had explained it to me this way:

"Yan ang unang ginagawa ng mga matatanda para sundan namin dahil sapagka hindi namin sundan hindi naman tinatalaban ang gawin namin" [Those were the things which the old people did, so that we would follow them, in order to ensure the efficacy of fishing'.]

His statement conveys that mataw rites are implicated in fishing success. They also bear the weight and authority of 'tradition', something handed down with explicit instructions for it 'to be followed' by contemporary fishers. This context links contemporary fishing activity with the actions of preceding mataws and sets it in a landscape marked by the paths of many previous generations of fishers, and by words that 'have been said there', which present-day fishers pass through anew each season and that they reproduce and make safe (and attractive to fish) by their own careful first actions and by 'cooperation'.

The context of driftnet fishing is global and more familiar: investment in modern industrialized motorboat and net technology makes fishing more 'efficient', cutting down

⁴Although I have previously attempted to describe the mataw institutions as a form of 'indigenous coastal resource management' (Mangahas 1994b).

on time and the costs of labor. Competition for an edge in the market motivates continuous technological innovation. As has been observed, the trajectory of continually developing fishing technology and modernizing fishing fleets as an economic strategy demands that the sea should be 'open' (Knudsen).

I'll begin with the two documents that are objective records of the 'gear conflicts' and their mediation by external agencies.

II. Mataw vs. Driftnet

“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”.

This resolution was made in 1989 (see Appendix A), the document was filed in the records of the Batanes Development Foundation, Inc⁵, whose president had an advisory function in relation to the Basco Fishermen-Farmers' Association (BFFA). The document states that the 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.”

Two landmarks on either side of Valugan Bay, Rudaw (a prominent red hill) and Achip (a big cave), demarcate the fishing grounds being regulated. Valugan Bay is in Basco municipality, capital town of the province, and where there is a good mix of fishers, using different kinds of gear including motorized boats. The resolution prohibits fishing using nets for flying fish in “*areas where other fishermen particularly the 'mataw' are catching flying fish for dorado*”. Fishing with nets is “*not allowed before May 15 of every year*” on pain of fine of 100 pesos. And the resolution reiterates that:

“all fishermen fishing in the areas shall follow all instructions, or directions given or made by the leading fisherman who was designated to make the first fishing trip mandinaw no vanua) pursuant to traditional fishing practices in the area.”

The final item hints at acts of sabotage that may have occurred at the vanua, “*any person caught or found vandalizing any fishing banca, banca accessories and other fishing gears or equipment*” is penalized by a fine of 100 pesos or replacement of the damaged gear, or both.

What is interesting about this document is its reference to relevant aspects of mataw collective technology. One is the date (*May 15*) for allowing nets to be used; the next section on the traditional Fishing Calendar will explain the significance of this date. Another is its mention of the “*leading fisherman*” designated to undertake the “*first*

5I owe thanks and acknowledgement to the BDFI and its staff for facilitating my fieldwork in Batanes in 1991 and 1992.

fishing trip (mandinaw no vanua)” for the season. (The rationale for this is that the first to fish should be a 'good fisher' who would 'call' the fish and advertise the vanua, see chapter ____.) This Leading Fisher is also the formal leader of the *vanua* as an organization, as the resolution reiterates, his “instructions and directions” should be followed.

Municipality of Mahatao Ordinance 03-03: “Regulatory Ordinance for the Preservation of Cultural and Traditional Method of Fishing During the Months of March, April and May”

The Sangguniang Bayan (Municipal Council) voted unanimously to pass this ordinance on May 3, 1993 (see Appendix B). It upholds mataw rights over fishers using gill nets “*or any method other than the traditional way of catching flying fishes which are being used as baits for the migratory dorado*” in Mananioy Bay. The penalties for violation are high: P500 for the first offense, P1,000 for the second offense, and P2,500 “*or imprisonment of 3 months or both*” for the third offense.⁶

I learned about this ruling in the summer of 1997. The Leading Fisher of the vanua Maratay told me about the background of events that had happened in the summer of 1993 that led to the ordinance:

Summer of 1993, mataw Z together with a fishing partner deployed a driftnet for flying fish. The net belonged to his wife's relative who came from the neighboring town of Ivana and who also brought over his slightly larger (than the mataw fishing boats) boat to Maratay. With the driftnet they would catch flying fish early in the morning, then mataw Z would proceed straight to matawfishing using the netted flying fish as bait. Since he had so many baitfish, he was able to catch many dorado, as many as 10-20 in one day! [Me: How did you feel about that?] 'If he wouldn't give away some of his flying fish to us then we would get extremely hot-headed.' At sea the mataws from the vanua of Diora would shout to the boat to 'GO BACK TO IVANA!!' The driftnet was labeled as 'the net of Maratay'.

In the middle of the fishing season, some serious sabotage was discovered in Maratay: two boats had been vandalized. A large square of wood had even been sawn out of one boat and fitted back in. The mataws of Maratay were outraged, more so because they were 'the wrong boats'. Neither belonged to the net-using mataw, one belonged to his brother and the other to another relative. The controversial net was also stolen and was never found. The mataw whose boat had been seriously damaged was shouting that he 'didn't want to see that boat from Ivana at the vanua again!' The boat's owner rowed it away from Maratay and back to Ivana.

Days later, a person that had been missing for some time and who had close ties with families of Maratay mataws (he was not a fisher himself) was found hanging from a tall tree near the vanua of Manichit, an apparent suicide.

The Leading Fisher's brother who was employed as a policeman in Mahatao was among those who brought the incident to the level of municipal officials, which issued the

⁶Local government has jurisdiction over “Municipal waters” extending up to 15 km. from the shoreline. This authority is stated in the Local Government Code of 1991.

ordinance in response to the issue.

A mataw from Diora explained to me that the net was very efficient, he said that the Bay is like a cul-de-sac: 'when the current goes in, it swirls around and brings the flying fish inside. The net was used at strategic positions (in only 3 places—near Racuaydi, by the cliffs of Maydac, and at Manichit at the outer ends of the bay) to block their path. When a school of fish was taken, 'there would be no flying fish left' for anyone else.

I have a theory, which I was not able to verify, that the driftnet-using mataw Z (who is definitely among those locally recognized as a 'good fisher' or “*masagal*”) was the Leading Fisher for that year. This could have given him the power to set the precedent of bringing a driftnet, which may have been rationalized as intended to 'help' the other mataws with some baitfish. However it led to serious conflicts apparently involving not just his own but three vanuas whose fishers fish in Mananioy Bay (Maratay, Diora and Manichit).

The case reveals that local government structures were relevant to resolving the gear conflict. The Ordinance cited 'tradition' and the priority rights of mataws specializing in catching dorado over other types of fishing, by virtue of their having been practicing this livelihood since a very long time ago (they were first), rather than unformalized principles for equitable fishing that would be affected by the introduction of new gears.

Meanwhile, the wording of the two documents shows that the conflicts also consist of challenges to the traditional fishing calendar. They compel us to realize the extent to which mataw technology regulates fishing activity in particular fishing grounds.

III. Collective technology, the 'fish of summer', and the traditional fishing calendar

“*Mataw*” refers to a specific technique for catching one particular fish, the golden-bellied dorado (*Coryphaena hippurus*), using hooks and lines, but by first catching live flying fish bait using special hooks and another form of bait (crustacean). “*Mataw*” also refers to the fisher that does this kind of fishing—and that commits to only this kind of fishing—for a period of time during the summer months in Batanes.

Before driftnets entered the scene, matawfishing was talked about in relation to the schedule to “*sumuho*” or fish for flying fish at night using torchlight (“*suho*”), and to do “*manayrin*” or use a hook and line for bottom-dwelling fish. Both *mataw* and *sumuho* are traditional methods and also well-documented for the natives of Lanyu or Orchid Island or Botel Tobago in the territory of Taiwan where they also perform sacrificial rites to start the fishing season (e.g. Hsu 1982, von Brandt 1984). *Manayrin* denotes the use of a hook (“*sayrin*”) in fishing, but which is brought to the bottom using a sinker.

Hon. Eduardo Balasbas, who was former Mayor of Mahatao, former Vice-Governor of Batanes, as well as a Barangay Captain in Mahatao, told me the following about fishing in Diora:

“*Manayrin* [using hook, line and sinker] *could only be done in*

*Valugan*⁷ after the dismantling of the *vanua*, because these are the instructions of the *Mandinaw nu Vanua* [the 'Leading Fisher'], and he has to be the one to do it. Because they said, if you were to *manayrin* using flying fish as bait it would be like sending the flying fish to the bottom. Anyway it's not good for *manayrin* fishing until May, when it is already the *avayat* wind [Southwest monsoon]. Usually the first *avayat* is on May 10.”

The capture of two kinds of fish are prioritized by such rules: the dorado, locally called “*arayu*”⁸, and flying fish or “*dibang*”, these are migratory fish associated with the summer months of March, April and May. Dorado and flying fish are in quantity the most prominent marine resources of the summer, one could even say that they define “*summer*” or “*rayon*”, by their temporary presence and as the intense focus of activity by many fishers for this brief period. They are also referred to as the 'fish of summer', “*among no rayon*”.

The basic logic underpinning the practical logic⁹ of traditional regulation of fishing activities during summertime in Mananiy Bay is a binary opposition between the living creatures that belong to different levels of the sea—demersals vs. pelagic species, as well as between fish that are present all year round and those that are seasonal. In contrast to the surface-swimming migratory fish like dorado and flying fish,¹⁰ local bottom-dwelling fish are sometimes referred to as regular or 'real fish', “*uyod a among*”, these are typically caught using hooks, lines and sinkers (“*manayrin*” fishing).¹¹ Interestingly, it is for the pelagic resources—that is to say, fish that are migratory and seasonal, and perceived as coming from far away—that many regulations are imposed.

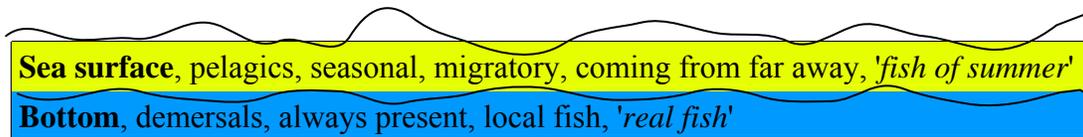


Figure 1 . Basic binary oppositions in traditional fishing

Dorado are best fished from the *Valugan* side of Batan Island. *Valugan* is a direction based on a sense of the shape of Batan Island itself and is more or less eastward. The 'opposite side' is *Kadpidan* (or *Chadpidan*), the side 'at the back' of Mt. Iraya is *Dichud*, and the coastline 'below' Batan Island is *Kajbo* (site of the town of Imnajbu). In the summer, fishing on the *Valugan* side i.e. *Valugan Bay* and *Mananiy Bay* (see map), has traditionally been reserved for fishers of dorado and flying fish.

The summer fishing season commences from the 'Making of the *Vanua*' or “*port*”

⁷Diora is also referred to as *Valugan* in Mahatao.

⁸Some common names used in other parts of the world to refer to dorado are 'common dolphinfish' and 'mahi-mahi'.

⁹Bourdieu 1977

¹⁰Other pelagic species do come into Batanes waters: from the largest blue marlin (*malakay*) to the smallest anchovies (*yuyuno*). But these are not the focus of much attention or as *Ivatans* would say, of many “*beliefs*”, as are dorado and flying fish.

¹¹Or by other means such as diving with a speargun, running and casting “flying” nets at the edge of the coral terrace (*manaway*, cast nets on bamboo poles), or using small nets set during low tide

(*Mayvanuvanua*), after which rite many prohibitions or *dagen* traditionally come into effect and no other fishing is permitted outside of mataw and sumuho fishing for flying fish because using methods for bottom-dwelling fish would by this logic 'send down' pelagics that belong to the surface. Diving, and even swimming in the vanua are prohibited during this period. The 'fish of summer' are something of an ambiguous and sensitive (as in easily 'offended' or 'hurt'), but highly-valued category; they are observed to behave enigmatically in terms of when in the season they will appear, when they will disappear, and not necessarily showing interest in the bait of the matawfishers. Following protocol, the Leading Fisher (“*Mandinaw no Vanua*”) has the authority to set the date for 'breaking up' the vanua (“*Kapaychava no Vanua*”), which puts an end to the closed season and opens the fishing grounds to 'all other kinds of fishing'. This would usually coincide with calmer seas on the Valugan side of Batan Island late in the season as the wind would shift to southwest monsoon or *avayat*.¹²



Figure 2 . **KAWAN: 'wind direction' or 'the seasons' in Batanes**

A *vanua* denotes a particular landing spot and group of fishers. We could also refer to mataw fishing as a narrative of one 'clean', orderly, and cooperative 'port-polity' in competition with other ports to attract fish. Each vanua has its own laws and a leader (the Leading mataw). The ritual “*Mayvanuvanua*” or 'Vanua-making' is basically a sacrifice to give the spirits their 'share' and to insure against 'accidents', and it links the contemporary vanua with the 'vanua of the ancestors'. Vanuas are special geological features which allow coming ashore and going to sea in a generally dangerous coastline. There are only four vanuas used by mataws on the Valugan side of Batan Island: Chanpa-n, Manichit, Maratay and Diora (see map). With some variations, similar rites are performed in each of the four mataw vanuas. (discussed in chapter _).

Joining a vanua for any mataw fisher is compulsory¹³ but not difficult, and fishers may

12From late May rains become frequent in Batanes, and from June to October typhoons may come into the area from time to time (Batanes usually experiences up to 7 typhoons a year). A two-week spell of beautiful sunny weather called the “*little summer*” (*dekey a rayon*) could occur sometime in September. Although it has been observed that the weather patterns are changing and that there are longer periods of good weather in recent years, from November the northerly winds blow strong and may bring spells of cold weather, these winds are sometimes referred to locally as “*Siberian winds*” and may lead to cancellation of flights, effectively isolating the Batanes islands from Luzon or the mainland of northern Philippines for weeks. This is the season of *amian* or “*winter*”, which calls for warmer clothing, including “*bonnets*” and ski masks. By February the weather is still cool but many preparations are underway for the coming summertime.

13A fisher could also conceivably fish from a vanua without 'joining' the group, i.e. participating in *Mayvanuvanua*. However he may be deterred by the notion that misfortunes will transfer to such a one. Words may even be expressly said during ritual to the effect that 'whoever does not cooperate, let the

also transfer from one vanua to another from year to year, depending on personal preference, convenience to fields, or other reasons. (Some fishers may also opt out of fishing to focus on another summer occupation for a particular year.) Hence the composition of members of a vanua may fluctuate from year to year, although it would usually contain most of the same members, and often there were closer ties of kinship, neighborliness or friendship between many of them. As homebase and source of identification of each mataw, the members of a vanua would keep a sense of the day-to-day fishing fortunes among its group and frequently assess these in relation to the entire season, to the pattern of previous seasons, and in comparison with what is heard to be happening in other vanuas.

Ritual actions to 'make the vanua' ("*Mayvanuvanua*") consist of the sacrifice of a pig, offerings of sugarcane wine ("*palek*"), a bead ("*motin*"), and 'payment' of a coin. These actions converge toward an ideal outcome that appears both magical¹⁴ and aesthetic. The words of mataw ritual, which are perceived to leave an impression on the landscape, express this; the First Fisher of the season 'calls' the fish to their vanua, which he advertises as the 'most beautiful'. And mataws are concerned about getting the 'dirty', which happens when taboos are broken. This desideratum for 'cleanness' also underlies selecting the appropriate leader, the performance of 'cleaning' rites for the vanua when collective success or 'luckiness' ("*sagal*") seems to be down, maintaining discipline, and observing protocol among the group of fishers. The motif of 'Firstness' or the Power of First actions, runs through all the mataw rites. The Leading Fisherman for the season as a kind of ideal man, a 'good fisher', is also a part of the collective technology of mataw fishing, as the one deployed on behalf of the group to persuade the fish to choose their vanua(!), and as the leader responsible and influential on the safety and success of the vanua. Each fisher member of the vanua is also responsible for overall fishing fortunes by their "*cooperation*".

In this way, the vanua as a collective—a particular 'community' of fishers nurturing beneficial social relations with fish and spirits—can be seen as part of mataw 'techniques' for bringing fish home to the vanua. In this way effectively, competition between individual boats is subordinated to the need for working cooperatively, and instead vanuas rival other vanuas.

How traditional ritual scheduling might enable 'complex coordination' of a large population of resource users, how the institution of a Leading Fisher heading the vanua collective may coordinate activities and administer the fishing schedule in response to changing environmental conditions, and how the traditional calendar and organization of fishers might serve to manage ecological relationships that are not obviously linked would make a good subject for ecological study (and was beyond the scope of my research).¹⁵ In the Batanes situation of migratory resources and dispersed fishers

misfortune go to him'. Each fisher must be physically present for *Mayvanuvanua*. In case of illness, a mataw's wife would have to be the one to stand in as his proxy during the rite (in Maratay).

14 Mataw rites can also be appreciated as part of a 'technology of enchantment' [following Gell 1999], in the sense of magic as the 'ideal technology' for the seemingly effortless accomplishment of something.

15 Lansing (1991) points out that the synchronization of human activities could well be an important aspect of maintaining complex ecological relationships. Tooker (19) suggests the possibility of similar ecological functions in coordination of agricultural activities by a central leader among Akha highlanders.

belonging to different 'ports', could the fishing calendar enforced by mataws, and the collectivities of fishers created by their ritual technology possibly coordinate to maintain the resource base? This is an issue that I may touch on but whose answer requires a much broader ecological, and a deeper historical, study. But we may say for the moment that as an indigenous system that has surely persisted a century or two (per the observation of 19th century Dominican missionaries from Spain [Gonzales 196 :], the mataw system of fishing has proven a stable--'sustainable'--means of making a living.

What may certainly be the case is that the priority placed on seasonal summerfish may have an unintended bearing on the productivity and sustainability of the fishing for stationary demersals. By giving priority to matawfishing, an off-season for the demersal species that are caught by bottom hook and line fishing, netfishing or speargun fishing is effectively extended in the eastern or Valugan-side fishing grounds of Batan Island. In Valugan Bay for example, the 'break-up' of the vanua in May was formerly eagerly anticipated because lobsters and bottom-dwelling fish living there had grown large in the interim (S. Abela pers.com.)

The physical impact of mataw 'ritual technology' of Vanua-making is regulation of access to resources in time and space. This scheduling of fishing activity brings to mind other traditional resource-regulating institutions in Southeast Asia, such as *Sasi* ('prohibition') in the Maluku Islands, which in the case of fish, had been primarily intended for coordination and maximization of the catch for a community (Zerner 1998:545).

Lansing's research on irrigation schedules regulated by water temples also comes to mind (Lansing 1991). If we consider the mataw traditions from the perspective of environmental relations then many of the ingredients of 'modern management' are there: scheduling of fishing, limitation of access to fishing grounds, quotas, the appreciation of fishing as a dynamic interaction between fishers and mobile fish, rather than with static 'fish stocks', and, engagement of the emotions of participants.

But this is a distinct local vision of fishery regulation that accomodates the presence of unseen spirits, and negotiates delicate social relations with fish that have sensitive feelings and the agency to allocate themselves among fishers and vanuas. Rather than conservation of local species, or even achieving equitable distribution of fishing opportunities and access to resources, the explicit concern of mataw regulations and rites is that of welcoming the migratory 'fish of summer', by maintaining a vanua or homeport that would find favor with the fish—the rationale for observing rules. Respect toward the fish or at least outwardly high regard, is conveyed in taboos against carrying the fish improperly, spitting out the bones when eating them, etc, a proper way of hauling them into the boat etc.,. These prohibitions also jive with the timing of distribution, and how the dorado or *arayu* catch, which is prepared into dried fillets, is traditionally not supposed to be exchanged for money until after they have been shared out at the end of the season. In mataw rituals, the fish are 'cared for' and feted with 'delicious' sugarcane wine, observing prohibitions and enforcing cooperative behavior is seen to prevent the port from being vulnerable to 'dirt', which affects collective fishing success. With proper and sustained interactions with fishers, and in solidarity or 'pity' for the human condition, fish as fellow beings may be persuaded to give themselves. It is along this vein that the success of fishing is meaningfully framed in terms of 'cooperation' or group solidarity.

Within this landscape, there is space for use of 'other methods of fishing' including driftnets (whose boats also have to pass through the vanua to get to sea, which is why the

vanua is also the locus of regulation) but only after the mataws have declared the restricted season over. There is no space for a detailed discussion of the techniques of individual matawfishers here (please see Appendix C for more information).

Why must mataws take priority over other kinds of fishing? I think it is very relevant to mataw fishing's operational context which is an entire season, since the aim is an accumulated total catch over the three months of fishing. The day-to-day fishing fortunes of each matawfisher fluctuate wildly (on the same day different 'good fishers' may catch 2, 3, 4, 1, 7, or 0), but the seasonal recorded totals for a fisher can be quite consistent across the years. Thus some mataws are famously known as *masagal* or 'good at catching fish', and their standard goal today is to catch 'at least 100' each season in order to meet their many share contracts and obligations for sharing that will take place at the end of the season and will distribute the catch of dorado far and widely among the larger community (see chapter).

IV. Flying fish, the market, and wider transformations

Flying fish (family *Exocoetidae*) are only an incidental requisite for mataws, who are specialists that aim for dorado. But they are also an important 'fish of summer' that were traditionally fished by *sumuho'*, using attracting torches and scoopnets, and were also associated with 'beliefs' and rites. Which gives us another simple opposition maintained in the traditional fishing calendar in Valugan: between *sumuho'* and *mataw*, or between fishing at night for flying fish and fishing in the daytime for dorado.

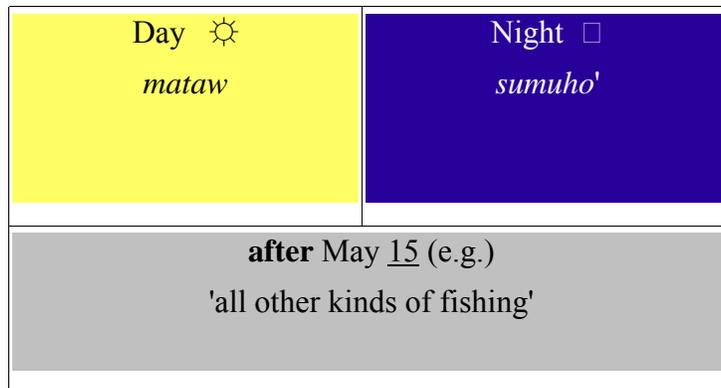


Figure 3 . Traditional summer fishing in Valugan (Basco and Mahatao)

Sumuho and mataw fishers did not compete for flying fish, because sumuho' fishing is done at night while mataws fish in the daytime. According to some Basco fishers I interviewed in 1991, some flying fish are more active close to the shore at nighttime, and some in the daytime. The kind of flying fish caught at night by *sumuho'* are usually slender and white, and called the "*suhohen*" or "*suhwan*" (i.e. caught by "*suho*" or torchlight). Whereas the flying fish typically caught by mataws are bigger, with reddish-brown 'wings', and called "*patawen*" (caught using "*pataw*" or floats). These are the principal species of flying fish that are captured although there are also other kinds of

flying fish. There are in fact at least six kinds of flying fish, also distinguished by size and when in the summer they usually appear in Batanes waters. “*Madavit*” which are also used by mataws are described as small, short and round, and speckled, they 'fly' more and come in schools. “*Anak*” are small flying fish sometimes caught by sumuho fishers. “*Pa'dang*” are the last wave of flying fish in the summer and so they were the ones that could be caught by driftnets which were permitted only later in the season after the mataws 'dismantled the vanua'. Driftnet technology, which is used in the daytime, now demands access to flyingfish *during* the season in mataw fishing grounds and therefore to directly compete with mataws.

It seems that the driftnets were introduced at least by 1986, when the new Philippine President Corazon Aquino visited Batanes. Government agents from the Department of Agriculture accompanying her gave away driftnets and promoted their use during this visit (Mangahas 1994a:). Funds administered by the BDFI also became available for fishers to loan in order to acquire and upgrade boats and equipment.

The driftnets require larger capital investment and thus imply involvement in the cash economy, and they have fostered interest in accumulation in novel contexts in Batanes. The catch from driftnets would be sold fresh immediately after fishing, and the remainder not sold processed for drying. A regular market for fresh fish can be found in Batanes especially among salaried government employees, and moreover since the early 1990s, an increasing number of households acquired refrigerators and so could afford to buy fresh fish for future consumption.

(This transformation has also happened to *manayrin* fishing, which was formerly also undertaken simply because it is fun to do. Today it is presumed that manayrin fishers go out to fish for the cash income, but before the late 1990s the catch was usually distributed as gifts, since the fish that could not be consumed would spoil otherwise.)

Meanwhile, the availability of new materials has led to the rapid evolution of many fishing technologies. Sumuho' fishing became more and more industrialized, using boats powered by motors instead of by rowing, while the lights shifted to petromax lanterns and then to battery-powered lamps. Eventually sumuho' became less and less popular in Valugan Bay as more fishers shifted to driftnets. However these shifts may well have introduced 'Chaos' on the commons (Gilbertson 1993); fishing conditions now include the uncertainties of the market and become less and less predictable from year to year.

When I was in Batanes in 1992, in Basco, in Valugan Bay, in the southern municipalities of Uyugan and Ivana, and on the western side of Mahatao (where there is no mataw fishing), motorized boats and driftnets were being deployed to snag flying fish in larger numbers than had ever been caught before. A driftnet could catch a thousand flying fish in one day, as compared with a sumuho' operation that would be able to bring home a hundred or more fish in one night (still to be divided between the three crewmen). The glut of flying fish for sale also brought down the price of flying fish, till it would reach as low as about P5 per fish¹⁶. However by 1997 there were more driftnets being deployed but the catches had declined dramatically compared to the phenomenal proportions of 1992.

¹⁶Batanes is isolated from the mainland of the Philippines by rough seas (the only regular means of transportation is by air), hence there is only a local market for fresh fish.

Meanwhile, different vanuas are experimenting with modifications in ritual and the regulations to be imposed during the fishing season (see also chapter ____). As noted by other anthropologists, rituals are somewhat “stable forms of collective social action” because correct ritual procedure is a matter of concern to the group as a whole, even if the meanings and functions of rites may not be that coherent to its practitioners or changing meanings may be attached to rituals by individuals or segments of society (e.g. Gibson 1986:). However in the vanua of Chanpa-n, and the fishing grounds of Valugan Bay especially, there has been experimentation and the setting of new precedents within the structure of this traditional practice. At Chanpa-n this effectively incorporated the driftnets instead of banning them, and discarded the earlier 1989 resolution cited above.

In 1992 a ritual officiant of Chanpa-n told me that many of the matawfishers were themselves shifting to driftnets to catch flying fish. This included the ritual officiant himself. He told me that before they allowed this, they have taken the precaution of saying words during the 'Making of the Vanua' (*Mayvanuvanua*) at the beginning of the season, announcing 'Do not prohibit/taboo' (“*Dagen nyu ava*”), 'speargun fishing, netfishing, “*compresor*” fishing¹⁷, and all other kinds of fishing, and come here to our Vanua, o 'fish of summer', to Chanpa-n.'

In this way the 1989 resolution cited earlier had been effectively rescinded. The verbal or spoken ritual contract containing the regulations was instead modified. The ritual officiant that I interviewed observed however that flying fish catches have fallen since that time, and it has become necessary to go farther and farther out to sea to find flying fish. He said that this proves the validity of traditional *dagen*. However now that a new precedent had already been set, he did not seem to think that they would go back to the old restrictions. Perhaps too many fishers had already invested and made their commitment to the new technology.

In March 1997, I met the President of the BFFA and asked him how things were going at Chanpa-n. He told me that there are some 'new procedures' [“*bagong patakaran*”]: *Sumuho* and driftnet 'have been combined' and are represented by the 'Leading Fisher for Flying Fish'. There are thus *two* Leading Fishers in Chanpa-n, one for flying fish and one for dorado. The 'Leading Fisher for Flying Fish' goes out in the daytime instead of at night', he said, 'and from driftnet fishing, they often go straight to trolling for dorado. But they always give flying fish away 'for free' to mataws,' he said.

It seems that the gear conflicts continue be discussed within the tradition of organizing the fishers and setting seasonal regulations, or of 'Making the Vanua'. This time the traditional claim by mataw fishers as against the driftnet competition for flying fish is resolved by compelling driftnet fishers to submit to a kind of 'tax' on their catch in support of the bait needs of mataws.

V. Conclusion: Changing Seascapes in Batanes

The situation surely continues to evolve in Valugan Bay, not to mention the other fishing

¹⁷Compresor fishing involves use of a compresor machine to pump air through a hose down to a diver, enabling him to reach deeper depths and to stay long under the water.

grounds in Batanes¹⁸.

Given these developments, Mananiy Bay is quite an extraordinary fishing area in Batanes that during the summer, fishers there commit to only mataw fishing in the traditional fashion. This seems exceptional since in all the other waters off Batan Island, competitive industrial technologies such as mechanized boats and gears made of commercial synthetic materials are increasingly being deployed. The mataws in Mananiy Bay, as with most fishers in Batanes, are highly interested and aware of new technologies and even participate in these developments, however from year to year traditional mataw fishing still continues to hold the priority in the operational seasonal calendar.

One reason why this may be so is the gear in relation to the vanua's location: fishers are not interested to invest in motorized boats because a boat using a sail and oars still maneuvers easier and faster out at sea than one depending on a motor, a larger boat would be grounded during big waves whereas the mataw's smaller "*tataya*"s are able to negotiate such waves; meanwhile Manichit and Maratay are only accessed by steep and narrow paths over the hills where it would also be difficult to drag a big boat through to bring it down to the beach for the summer. The use of a row boat and driftnet in 1993 enmeshed the vanuas in a serious gear conflict which was resolved in the level of local government, establishing a more fixed regulation that is readily visible and more difficult to rescind. Diora's vanua meanwhile has a reputation for being one of the more dangerous vanuas to negotiate when waves are big. This may also reinforce the necessity for observance of ritual tradition: rites for the vanua are couched as 'a matter of life and death'. (Without the sacrificial rite to give the spirits their 'share', tragic *disgrasya*—accidents or misfortunes—may take place.)

Another reason is economic: mataws in Mahatao have developed more complex shares agreements where their product has more value than in the local market context. (These arrangements are discussed in greater detail in chapter ____.)

I have tried to show how two distinct sociotechnical systems engage with each other in the 'gear conflicts' in Batanes in this paper. Batanes fishers pursuing flying fish and dorado are caught up in competing seascapes and relations of production. The struggle in these 'gear conflicts' involves redefining the landscape and inscribing appropriate patterns of authority and of time, the coordination of activities according to the ecological and ritual calendar, achieving some kind of balance with other technologies, and addressing changing conditions each year due to the dynamic behavior of the weather, of the fish and of fishers.

I have highlighted creative negotiations in seeking to resolve the oppositions between traditional collective technologies and modern individualistic fishing technologies. Modern gears are set in the market context and demand continuous innovation, this favors atomized competition where each fisher is 'on his own' in an 'open' sea. However the seasonal regulatory framework which is part of the traditional technology of

¹⁸I have not mentioned another former mataw vanua, the vanua of Itbud in Uyugan, which simply gave up practice of ritual entirely and where mataw fishing using live flying fish bait has gone practically extinct. Nearly ten years have passed since 1997 and perhaps the regulations have evolved further since that time.

matawishing opposes this. On the other hand there appears to be sufficient flexibility within the ritual traditions to continue to serve as venues for creating order in the fishing grounds.

Batanes fisheries and the local government structure also seem to be reluctant to commit to the 'open' sea, this is the strength of tradition for the moment. Perhaps this is also because the context for fishing is still a *local* market, relative remoteness from larger market contexts makes collective 'Vanua-making' still a viable and responsive technology in Batanes. Nevertheless this ordering is vulnerable to the many pressures brought by the new technological systems, most likely further 'gear conflicts' between 'traditional' and 'modern' technologies will continue to redefine the common property regime.

REFERENCES

- Acheson, James M. 1988. *The Harbor Gangs of Maine*. University Press of New England, Hanover
- Agrawal, Arun. 2003. Sustainable Governance of Common-Pool Resources: Context, Method, and Politics. *Annual Review in Anthropology*. 32:243-62
- Bourdieu, Pierre. 1977. *Outline of a Theory of Practice*. Cambridge University Press
- Condominas, Georges. 1986. Ritual Technology in Mnong Gar Swidden Agriculture. In Irene Nørlund, Sven Cederroth, Ingela Gerdin (eds.) *Rice Societies: Asian Problems and Prospects*. Scandinavian Institute of Asian Studies. Curzon Press/The Riverdale Co., London/Riverdale, MD.
- Franklin, Ursula. 2004/1999. *The Real World of Technology (Revised edition)*. House of Anansi Press, Inc., Toronto
- Froese, R. and D. Pauly. Editors. 2004. *FishBase. World Wide Web electronic publication*. www.fishbase.org, version (12/2004).
- Galindez, Rosanna G. 1996. *Fishing and Fish Preserving Practices and Related Beliefs Among Selected Mataws in Mahatao: Their Implications for Livelihood and Education Management*. MA Thesis in Education Management, St. Dominic's College of Batanes
- Gell, Alfred. 1999. The enchantment of technology and the technology of enchantment. In his *The Art of Anthropology; Essays and Diagrams* (edited by Eric Hirsch). Athlone Press, London
- Gibson, Thomas. 1986. *Sacrifice and Sharing in the Philippine Highlands*. Athlone Press, London
- Gilbertson, Neal. 1993. Chaos on the Commons. *MAST*. 6(1/2):74-91
- Gonzalez, P. Julio, O.P. 1966. *The Batanes Islands*. UST Press, Manila
- Gudeman, Stephen. 1996. Sketches, Qualms, and Other Thoughts on Intellectual Property Rights. In Stephen B. Brush and Doreen Stabinsky (eds.) *Valuing Local Knowledge: Indigenous Peoples and Intellectual Property Rights*. Island Press, Washington, D.C.
- Hornedo, Florentino. 1989. Development begins with self-help. *Payuhwan*. 1(1):3
- Hsu, Ying-Chou. 1982. *Yami Fishing Practices – Migratory Fish*. Taiwan Aborigine Monograph Series 1. Southern Materials Center, Inc., Taipei

- Hviding, Edvard. 1996. Traditional Institutions and their role in contemporary coastal resource management in the Pacific Islands. *Naga, the ICLARM Quarterly*. 14(4):3-6
- Lansing, Stephen. 1991. *Priests and Programmers: Technologies of Power in the Engineered Landscape of Bali*. University of Princeton Press, New Jersey
- Lemonnier, Pierre. Anthropology of Technology. *MAN Local Government Code*. 1991.
- Mangahas, Maria. 1994a. *Mataw, Amung nu Rayon, Anitu/Man, the 'Fish of Summer', and the Spirits: An Ethnography of Mataw Fishing in Batanes*. MA Thesis, College of Social Sciences and Philosophy, University of the Philippines, Diliman
- Mangahas, Maria. 1994b. *Indigenous Coastal Resource Management: the case of mataw fishing in Batanes*. Center for Integrative and Development Studies (State of the Nation Series), University of the Philippines, Diliman
- Pfaffenberger, Bryan. 1988. Fetishised Objects and Humanised Nature: Towards an Anthropology of Technology. *MAN*. 23(2):236-252
- Pfaffenberger, Bryan. 1992. Social Anthropology of Technology. In *Annual Review of Anthropology*. Volume 21:491-516
- Peterson, Nicholas and Bruce Rigsby. 1998. *Customary Marine Tenure in Australia*. Oceania Monograph 48, University of Sydney
- Polanyi, Karl. 2001 [1944]. *The Great Transformation: The Political and Economic Origins of Our Time*. Beacon Press, Boston
- Recio, Dolores. 1973. *Ivatan Medical Practices*. Phd. Dissertation. University of California, Los Angeles
- Sigaut, François. 1994. Technology. In Tim Ingold (ed.) *Companion Encyclopedia of Anthropology*. Routledge, London and New York, pp.420-459
- von Brandt, A. 1984. The Fishery of Lan Yu (Botel Tobago): An Old fishing Culture. In B. Gunda (ed.) *The Fishing Culture of the World*. Akadémiai Kiadó, Budapest
- Yamada, Yukihiro. 1967. Fishing Economy of the Itbayat, Batanes, Philippines with special reference to its vocabulary. *Asian Studies*. V(1):137-219
- Zerner, Charles. 1998. Men, Molluscs and the Marine Environment in the Maluku Islands: Imagining Customary Law and Institutions in Eastern Indonesia 1870-1992. In Richard H. Grove, Vinita Damodaran and Satpal Sangwan (eds.) *Nature and the Orient: The Environmental History of South and Southeast Asia*. Oxford University Press, New Delhi

APPENDIX A

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-Farmers Association 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 fisherman 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 (arayu) bait within the areas between Rudaw and Achip.
2. That no fisherman 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 (100.00) pesos.
3. That all fishermen fishing in the areas shall follow all instructions, or directions given or made by the leading fisherman who was designated to make the first fishing trip mandinaw no 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 equipments shall be penalized by a fine of one hundred (100.00) pesos or to change the damaged equipment or both fine or changing of the damaged equipment at the description of the BFFA Officers.

Unanimously approved by the body,

Certified true and correct:

Tomas Batan
President, Valugan Port Chapter
BFFA Vice President

Quirino Gabotero
President, Basco Fishermen-Farmers Assn

APPENDIX C

Technography of Mataw fishing

Figures I and II outline the sequence of techniques or operations in mataw fishing, which has two levels: individual and collective.

Sigaut (1994) defines an operation as “the smallest possible change that can be fully observed”. He notes that technical facts (or intentional actions to achieve a physical change in something) are social facts, that can be compared with alternative ways of carrying out a given operation. An operation is defined by its location on a production path (or 'sequence of operations').

The collective technology of mataw fishing regulates fishing activities based on two principles: 'cleanness' and the setting of good precedents. *Mayvanuvanua* ('Vanua-making') and *Umdinaw du Vanua* (the 'First Fishing Trip') at the beginning of the season brings about or 'constructs' a vanua—a community in which man, fish and spirits are drawn together within a framework of social relations. Mataw ritual technology initiates diplomatic relations with the spirits/ancestors, 'pays' them their due share and acknowledges their presence. The Leading Fisher, representing the vanua, invites fish from foreign places into the vanua. In all cases, selection of the appropriate date to perform each operation should be auspicious, this is considered carefully and usually by consulting the *pilaton* (a horoscope/almanac).

Figure I. THE SEQUENCE OF OPERATIONS IN MATAW FISHING: COLLECTIVE TECHNIQUES	
OPERATION	TIME
1 – <i>Mayvanuvanua</i> / 'Making the Port'	e.g. March 1 ¹⁹
2 – <i>Umdinaw nu Vanua</i> / 'First Fishing Trip' (by the Leading Fisher)	e.g. March 5 Matawfishing commences after a successful first fishing trip by the Leading Fisher
3 – <i>Maynamunamu</i> / 'Cleaning'	Usually midway through the season, at least once, e.g. April 14
4 – <i>Kapaychava' nu Vanua</i> / 'Dismantling the Vanua'	Date to be decided by the Leading Fisher, usually after the first week of May. Other fishing techniques may be done once the vanua is dismantled.

¹⁹With some variations, similar rites are performed in each of the 4 vanuas on the Valugan side of Batan Island, and each vanua has a set date for when to perform *Mayvanuvanua*. The vanua of Maratay is usually the earliest on March 1, and Manichit is the last to make their vanua by around March 15.

Individual mataws fish alone without any crew, however there is an important division of labor to make fishing more efficient. Live bait supply of shrimps, small rock crabs (*kayang*), or coconut crabs (*tatus*; Sn. *Burgos latro*) is maintained by the *mamedberen* (bait supplier) throughout the season. Usually freshwater shrimps are taken from the streams, the rock crabs are fished out 'by the eyes' using a long split pole device, while giant coconut crabs are hunted in the forest using traps. Coconut crabs are an expensive delicacy in Batanes (a medium-sized one can fetch a local market price of P300), nevertheless these may even be purchased by mataws if no other bait is available. Lobsters are used only infrequently since they cannot be kept alive for long. The live bait are kept in boxes or in baskets placed in the stream near the home of a mataw.

FIGURE II. MATAWFISHING: INDIVIDUAL TECHNIQUES	
a. ORGANIZATION OF PRODUCTION	
OPERATION	TIME
<p>1 – preparatory arrangements and shares contracts for the means of production / division of labor <i>bedberen</i> (bait supply) <i>hana'</i> (salt) <i>tataya</i> (boat) <i>warawara</i> (fishing gear) <i>mangpid</i> (taking the boat from one side of the island to the other [only in Maratay and Manichit])</p> <p><u>optional contracts</u> e.g. <i>manala'</i> (fisher's helper) e.g. to hire farmhands: <i>mamayit</i> (weeding) <i>araro</i> (plowing) e.g. to borrow farmland [only in Mahatao] others: e.g. firewood, fuel, construction supplies</p> <p><u>Preparation of required facilities:</u> <i>ralawan</i> (work table for processing the catch) <i>rakayan</i> (drying structure) <i>pañisanan</i> (fieldhouse with hearth)</p>	<p>Arrangements and preparations have been made by the beginning of summer</p>
<p>2 – <i>Payatay</i> / 'Sharing-out'</p>	<p>End of the season / e.g. May 25</p>

Each fishing trip amounts to 3 steps of fishing, with the mataw first catching flying fish

using floats and a very specialized hook baited with fresh crustacean flesh, and then catching dorado using the flying fish.

FIGURE II. INDIVIDUAL TECHNIQUES	
b. A FISHING DAY	
OPERATION	TIME
Fishing 1 – (through a <i>mamedberen</i> or bait fisher): obtaining a supply of bait for flying fish 2 - fishing for flying fish 3 - <i>Mangarayu</i> / trolling for dorado using flying fish bait	Typically, a matawfisher sets out to sea before sunrise and is back before noontime although sometimes a fisher may have a late start, or may stay out at sea until late in the afternoon.
Processing the catch 1 – filleting dorado (<i>paypinpin</i>) 2 – salting 3 – drying 4 – maintaining the catch in dry storage	After the fishing trip <input type="checkbox"/> (Overnight) <input type="checkbox"/> (total of about 3 days in the sun, taking care of the accumulated dried catch may also be seen to by the fisher's helper, or by his wife or a family member) <input type="checkbox"/> (until the end of the season)
optional: <i>Maynamunamu</i> / 'Cleaning'	Before or after fishing

To catch flying fish: mataws use the “*yuyus*” hook to which is tied the bait (“*bedberen*”) using sewing thread. The *yuyus* looks like a small piece of wood with a few serrations cut into it, and to which an outwardly curving sharp piece of wire is attached, like a curved needle. Only mataws use this kind of hook, and its origins go back to the very first mataw fisher. According to fishers in Valugan, Basco, the mythical fisher Mayo appeared and made mataw fishing popular [“*Siya ang nagpauso ng mataw*”]. He came from Sabtang some said, he simply emerged from under a woodpile, and he began trying out all the vanuas on Batan Island. Eventually he 'chose' Chanpa-n. He was able to catch flying fish and use this as bait for dorado, other fishers tried to find out how he was able to catch them and they could be used as live bait. A fisher was able to get him drunk, and finally wrestled with him, until the *yuyus* that he had hidden in his g-string (*sagot*) was discovered. Once the secret was out, fishers rapidly learned the new technology. After some time Mayo disappeared, although he had left instructions (*vidin*) concerning the rites for the vanua.

Going out to sea early in the morning, a matawfisher heads to any spot in the Bay where he would like to commence fishing. He sets out several floats, to each of which is tied a baited *yuyus*. As soon as the float jerks, signalling a flying fish has swallowed the hook, the fisher gives chase, rowing quickly, and retrieves the flying fish from the *yuyus*, which is designed to as to be easily removed and to inflict minimal damage. Withdrawing the *yuyus* is like disengaging a thorn that has caught on one's clothing.

Dorado and flying fish are surface-swimming fish that are brought by sea currents (“*riyes*”) while at the same time swimming contrary to the current. Mataws welcome strong currents because they bring more fish. The currents are stronger during the day and weaker at night during the summertime. During 'winter' the opposite is true, currents are stronger at night and weaker by day. Batanes fishers use the currents, allowing themselves to be drifted one way and waiting for another current to carry them back, and this may possibly form part of fishing knowledge that makes a big difference in fishing success. Some currents are favored by fishermen since they bring fish nearer to shore. Flying fish that were brought by the current to rocky areas are called “*pina'sed*”.

Fishing for dorado: A live flying fish will then be attached to a large barbed hook (size #9 or #10) tied to the “*ichet*”, a short line about 2-3 feet in length, and which is then tied for the time being to the boat, keeping the fish in the water, The *ichet* has previously been labored over by the mataw in his spare time to wrap it with an extra layer of fibers (for protection from being snapped by the teeth of the dorado); it has the hook at one end, then the “*itumid*”: a 3- cm. short piece of wood dangling on a string about one hand's breadth from the hook, and at the other end is a swivel, to which can be attached the long fishing line when the time comes to deploy it. The hook goes one 'wing' of the flying fish, and is tied firmly to fish's body, while the *itumid* is placed in its mouth. The hook faces toward the head of the flying fish because dorado chasing flying fish are said to turn quickly and bite them head-first.

Once a mataw already has a few flying fishes, he takes one *ichet* and connects it to a long line called the “*tuyungan*”, and he unfurls his sail to start trolling for dorado. A hooked dorado is 'coaxed' into the boat and then is briefly wrestled and bent back so that its hooked mouth is tied to its tail by the *ichet*. This is to prevent it from jumping out of the boat. A flying fish can sometimes be retrieved from the dorado's mouth and used again. If there are many dorado and they are hungry, they may not be that finicky about preferring live bait and even only pieces of flying fish can be used. The quantity of dorado that a matawfisher can catch will depend on first being able to catch flying fish. Some spare crustacean bait is sometimes also brought to sea to try to catch more flying fish.

Coming ashore, the catch is rinsed in the sea and the “*riyal*” or bile sac is removed. The fish are arranged neatly in the “*pingga*” or carrying pole, they are then taken home to be processed for drying. The style of preparing the fillets or “*pinpin*” is a standard one for all mataws.²⁰ The final product takes the form of a dried fillet of dorado. It is easy to

²⁰Without removing the skin and the head, each fillet is sliced out close to the spine. The fillet is then further thinned of a layer of flesh (*hathat*). A strip of dark meat that runs vertically down the fillet (called the *sindang*) is also sliced out. Also removed are parts called the 'ear' (*tadiña*) and 'fin'. (These

identify mataw fieldhouses, since right next to each one is a tall frame, the “*rakayan*”, for hanging his dorado out in the sun. Dried fillets are stored above the hearth in the fieldhouse until the time comes for dividing-up and sharing them out following specific shares contracts (see next chapter). This is why to be a mataw fisher implies a serious commitment for an entire season. It is a significant investment of time and energy, to produce a form of wealth in dried fillets of fish.

On 'Cleaning': these are rites intended to counter the effects of 'dirt' (“*rudit*”) which jinxes the fisher. The fisher keeps (in dried form) the First Fish that he caught for the season, called the “*tangdah*”, and he would speak to it, offering it 'delicious' sugarcane wine. The pouring of alcohol brings the image of “*washing*”, and this cathartic action is aimed at the 'hurt feelings' of fish due to improper human behavior or violation of prohibitions or taboos (“*dagen*”). Other objects used in cleaning rites are the “*motin*” (a blue-green bead) and a piece of copper or coin.

In old times, 'dirt' may also be seen as having been intentionally cast by another fisher (money, hair from a goat's beard, a black stone, squash leaves, the green fish bones of the “*hahay*” fish, a rotten egg, that may have been placed on the boat or that it may have come into contact with even unintentionally). This would be described as an act of 'envy' (“*inanahet*” or “*bwisit*”). One implication of the concern for 'cleanness' however is that the boat, gear and person of the fisher are supposed to be kept at least literally 'clean'. Fishers in former times were said to minutely examine their boats to check if fish bones might have been inserted in the cracks. The boat would be 'cleaned' by burning cogon grass around it or by rubbing it with a sweet-smelling grass (“*kuhasi*”).

Today however, 'Cleaning' bears the most conflictual load as an action that is 'outdated'. Personal cleaning practices²¹ when the subject of conversations (or interview by me) usually turned into mockery, and even embarrassment, and were always discussed in the context of joking and exaggeration. For example one fisher said that he would have to boil his gear in order to 'sterilize' it. Meanwhile some mataws would quite strongly avow that didn't perform any rites in order to fish successfully. I did observe however that when a mataw with a reputation for being good at fishing was coming home with zero catch, the wife, close friends, share partners and former mataws were interested to root out specific probable reasons for why their mataw or even the vanua as a whole may have gotten 'dirty' or 'sick'. Eventually a consensual diagnosis may be reached which calls for the Leading Fisher to perform 'Cleaning' for the entire vanua (see the previous chapter).

assorted parts, including the eggs and the liver, are usually made into a meal to feed the mataw's household or are assembled into small bundles to be sent to shares partners.) Horizontal cuts are made in the flesh of the fillet delineating up to 8 square segments, each of which is called a *mudemude* (*gaga* in Sabtang). And finally to reinforce this work and to keep the fillet flat when it dries, the head is tied securely to the thin stomach side of the fillet using fibers from the skin of the pandan plant (*uhango*), and two short sticks of reed (*viawo*) are inserted into the skin on the back of the fillet. The prepared fillets are rinsed in water and salt is liberally spread on them. Then they are left overnight in a rectangular wooden box, and the next day are hung out to dry in the sun. For more details see Galindez (1996).

21I never actually observed any 'Cleaning' rites, which in any case are supposed to be done privately. From the data I have it would seem that there is much variation from fisher to fisher in actual practice.

Modernizing Mataw Techniques. Lest we think that the individual and collective mataw technologies have not undergone their own transformations and innovations, a few notes are interposed here on how the techniques and equipment of mataws and of different vanua collectives are not undifferentiated, and have evolved as well.

Personal preferences and styles of fishing vary among individual mataws today. The long fishing line (*tuyungan*) can be used “*misamorongan*” or with hooks attached on either end. Many mataws take along a spare “*solid*” nylon fishing line as an extra line, apart from the traditional home-made stranded *tuyungan*. One mataw for example said he usually brings seven hooks, six are used on three *tuyungan* misamorongan-style, and one on a solid line. According to a Leading Fisher, his mataw father would bring 8 fishing lines to sea, but he himself only uses five, and he doesn't like misamorongan because it is 'hard to fix' (arrange neatly in the boat).

Apparently, present-day mataws are using smaller hooks compared with previous generations. Commercial hooks of Norwegian make are also used, and are available in local variety stores or purchased from Chinatown in Manila. Mataws also shape their own hooks out of pieces of found materials, such as metal wires and clips drifted from Taiwanese fishing vessels. The hooks have barbs, and are also said to be 'lighter' (made of aluminum perhaps?).

Other 'drifted' resources (“*yavat*”) such as water bottles, nets, bouys and floats are collected and modified for fishing or recycled into other useful things by Batanes people generally.²² The fishing line is also made out of recycled Taiwanese rope or net fibers and has come a long way from the time when it was made out of fiber from the *hasu*' plant, which produced a much thicker line. Commercial nylon and the solid one-strand nylong made of “*tansi*”, which is available in local stores are also used.

The new industrial materials makes the work 'easier'; with indigenous materials the manufacture of gear had been much more labor intensive. Among other innovations are the use of commercial Vulcaseal™ to caulk the boat instead of “*varuk*”, the cotton-like fiber from the roots of the *varuk* tree (vulcaseal is quicker to apply although it doesn't last as long). Styrofoam and plastic water bottles are used as floats, whereas a species of small squash called “*hatawon*”, was once grown specifically for making into floats.

Powertools have also significantly speeded up the labor in boat-making. Quite a few mataws in Mahatao were able to acquire their boats through loans from a non-government organization and from the same boat-makers outfitting those using inboard motors and driftnets. In 1997 I learned that there were 3 full-time boat-making workshops in Basco. I met one proprietor who told me that since he started in the early 1990s he has already made more than 30 inboard motor boats. He has also been converting a lot of boats designed for outboard motors to shift to inboard which are said to be 'easier to fix'. His customers were planning to use their boats for many types of fishing: compressor, trolling with hooks and lines, and driftnets, in waters from Basco up to Sabtang, Itbayat, and the smaller uninhabited islands.

²²Drifted ropes and nets are typically unraveled and restranded if not into fishing lines then into thicker ropes for tethering cows and carabaos, while spherical bouys made of plastic, metal, or glass of different sizes are reworked into water containers, cooking pots, grain bins or wine jugs.

Many mataw fishers learned something of mataw fishing as children taken along on fishing trips by their mataw father or relative or friend, or they practice on their own and learn tips from other mataws. But much depends on individual initiative. Mataw fishing skills and environmental knowledge are not necessarily generally shared even between father and son. (When I interviewed an old mataw on terms for the sea currents, he started drawing a map and traced the paths of the currents around the islands. His mataw son looked on with much interest and said that he did not know these things.)

The old mataws attributed improved catches to improvements in in the technology, 'many dorado got away before'. They also cited more restrictions that set catch quotas before. A mataw was supposed to head for shore once he had already caught 9 fish. Only after landing his catch could he 'go out to sea again' ("*mamirwa*").²³

Some techniques have gone out of fashion among the mataws, like a method of catching flying fish called "*paula-ulay*". This made use of a *tuyungan* with the *yuyus* for catching flying fish attached at one end. According to a retired mataw: 'if you set out early, you can even catch flying fish at night, you let your line out after leaving the vanua and maybe by the time you reach Makbukbuk (a hole in the cliff at the far end of Mananiyo Bay), you have a flying fish already.'

From interviewing some oldest mataws I heard the observation that the younger generation are more *masagal* or can catch more fish than the older generation. The *masagal* grandparents of current mataws had averaged 60-80 fish in one season, while among the best mataws of the present generation were a few with phenomenal catch records of more than 200! (In 1992 the top scores in Maratay were 247 and 217.) The current aim of the *masagal* mataws in Maratay is to catch 'at least 100' in one season.

However the specifics of gear technology are not a theme of everyday talk among contemporary mataws. After fishing they usually tell about what part of the Bay they went to, and how many flying fish they had, how many dorado 'went' to them, and how they got fish from other fishers that were approached by dorado. Only when I interviewed some mataws about the details of their gear did their talk about fishing suddenly shift and I heard a sentence that could have come straight from fishers in any other part of the Philippines: 'people have become smarter, but dorado have become smarter too', and they started to talk about fishing as a contest of wits between fisher and fish.

²³Catching 9 fish in a fishing trip is not a common occurrence however. One mataw that had been a Leading Fisher had a personal record of 16 fish in one day. However during the summer of 1997, which was not a good season, 8 was the most fish that any mataw caught in one day.