

Berjuang diatas Perahu: Livelihood, Contestation and the Common Interest in the Tegal Region on Java’s Northcoast

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The fish are crying
Crying their hearts out
They’re rolling around,
Crying their hearts out

The fish are shedding tears of blood
The sea is dirty
Full of shit
Waste from the factories
The sea is black and filthy.

The fish are crying, and so are the birds
The fish are crying, and so are the fishers
The fish are crying, and so is the sea
Their voices are like thunder
‘Let the sea be clean again’ they cry!
Like it was before, like before, like before¹.

¹ *‘Iwake pada nangis gulung kuming, nangis gulung kuming, Pada nangis gunung kuming; Iwake pada nangis metune banyu getih, Ndlewer sing matane, Iwake pada nangis laut kenang polusi, Laute dadi kotor, Isine runtah, kebek kotoran, Buangan limbah sing pabrik-pabrik, Laut dadi kotor ala laut dadi ireng ala laut geseng rumpeng; Iwake pada nangis, manuk-manuk melu nangis, Iwake pada nangis, Nelayan melu nangis, Iwake pada nangis, laute melu nangis, suarane kaya*



Open access to the declining Java Sea Indonesian marine fisheries - a so-called Common Pool Resource (CPR) - is increasingly contested. Although intensified during the era of *reformasi*, this is not a new phenomenon. Before WWII motorised boats which meant 'a huge increase in catching power' were introduced to pelagic fisheries using nets attached to floating fish lures (*rumpon*). Although their major commercial impact was in West Java coastal waters and around Batavia, motorised boats did not reach Tegal region until the early 1950's². The next radical impact on demersal (ocean floor) catches were the introduction of trawl nets in 1966 via the Chinese fishers based in east Sumatran port of Bagan Si Api Api, which caused the first open conflicts between trawl boats with local fishers in the Tegal region. (Butcher 2004: 154-155, 161)³. Two years later in 1966 came yet another technological innovation with resounding impact on catches of pelagic (surface swimming) stocks, through the introduction of the (Danish) purse seine⁴. The new technology was first adopted into the Java Sea in 1968 by a leading fisher in Pemalang, east of Tegal (Butcher 2004: 213).

The impacts of both trawl nets (*puket harimau* - banned between 1980-82) and the purse seiners (until the present) is that boats had to go farther and away to search for new fishing grounds. This means that while each trip is longer the number of fishing trips per boat decreased and the number of days at sea declined, a process which began in 1979 (Potier et al. 1990: 82-84)⁵. The prolonged conflict over trawl nets was only temporarily resolved by total bans, and are now back with a vengeance. The introduction of purse seine nets began a huge exploitation of pelagic

bledeg, njaluk laute dibalakna maning, Kaya maune maning, kaya maune maning, kaya maune maning, (KMSWT 2003)

My thanks to A. Budiharto for helping translate this song in the local Tegal dialect of Javanese.

² The MAJ 26, an 8 gt boat with a Yanmar marine engine built in Japan, arrived in Tegal as part of Japanese war reparations in 1951. 'This was the first time Tegal fishers saw a motorised fishing boat.' Interview with Dahuri in Tegal 27 September 2002.

³ Muarareja fishers from Tegal armed with amulets, crow bars and cudgels used to chase and board the Bagan Si Api Api trawl boats, and demand compensation money, a lucrative activity in itself, especially as the 'foreign Chinese' crews would usually surrender immediately. However after one violent clash, in which a Chinese captain was killed, the Bagan Si Api Api boat owners replaced all the Chinese with Javanese captains (Interview in Muarareja on 19 September 2004).

⁴ Purse seine nets are were like giant fish trap held in a vertical position by floats and vertical rings, which can be joined (pursed) by hauling in a rope passing through the rings, that trap fish inside the net. Like *payang* nets they were attached to a fish lure 'but had the great advantage that rather than having to manoeuvre carefully to aim the net at the school of fish gathered around the *rumpon*, [the purse seine net] simply surrounded the school with its wall of netting and then closed in on it' (Butcher 2004: 153, 213, 383)

⁵ Or in 1971 in Batang district east of Pekalongan (Wudianto et. al. 1986: 57).



fisheries in the Java Sea. However fishing net technology is constantly being modified. The issue of trawl nets was only temporarily resolved with this ban.

The introduction of the *arad*, a modified mini trawl, in the mid 1990s has produced a new series of conflicts, which have intensified since the era of *reformasi* began. The introduction of new fishing technologies – bigger and better nets, bigger and more powerful boats, lamps to attract fish, two way radios, GPS navigation aids - has increased production in the short term but has only postponed the problem of more fishing effort by more boats to catch less fish. The result of this increase in fishing effort over the last three decades (as Butcher argues in his historical study of marine fisheries of Southeast Asia) is that there are now no new frontiers to be exploited. The new challenge is to ‘find a way to exploit the seas in a way that preserves habitats and species while providing the people of the region with an essential source of protein decade after decade’ (Butcher 2004:291).

The question in this paper is that in the face of too many fishers needing a livelihood, and too many boats (overcapacity), how can the common interest work? Does the common interest depend on open access being maintained? Is the concept of a Common Pool Resource (CPR) underpinned by overlapping concepts of a common interest (commonweal) still a viable one in the Tegal region? Indeed, does the common interest (*kepentingan bersama*) still exist in the Tegal region? Or do rival stakeholders, faced with declining CPUE (catches per unit of effort), now have rival concepts of the common interest, which seldom overlap? Early in the era of *reformasi*, fisher communities tried to limited access to ‘their’ section of the Java Sea CPR. Amongst these communities involved in these conflicts (see below) the concept of ‘open access’ to a commons which is shrinking is being challenged.

The 1998 regional autonomy act delegate authority (*kewenangan*) to local and provincial governments to manage their own offshore waters. The conflicts over fishing rights between communities which came to the surface in the early part of the reform era, showed the plight of some fisher communities trying to maintain a livelihood from increasing competition from foreign as well as Indonesian fishers.



In the context of decentralisation and regional autonomy this paper looks at the following specific issues:

1. Maintaining livelihoods of medium and small fishers in the face of overfishing, big increases in the price of fuel since 2001.
2. Conflicts that have arisen as a result of regional autonomy over open access to fishing grounds between fishers within Tegal region (Muarareja-Surodadi, Muarareja-Tanjungsari) and outside (the conflict with Masalembo fishers).
3. How does the common interest work in the context of current economic and social relations in the Tegal fishing industry, in particular profit sharing, the trader-money lender (*bakul-pengijon*) system and long term indebtedness.
4. How various interest groups (government, NGOs and local communities) in the Tegal region are implementing programmes to promote the common interest.

Declining small fisher livelihoods and overfishing in Tegal region

Fisheries statistics are unreliable. However it is possible to find indicators of the phenomenon of overfishing by purse seiners in particular, which have been intensively studied since the late 1980s (the purse seiners replaced the trawl boats banned in 1980-83).

McElroy (1991b) notes how the landings of small pelagic fish in Java's north coast doubled between 1975-1987 (from 165,000 tons to 385,000 tons). Purse seiners production share increased from 49,000 to 162,000 tons during this period, but since then production has declined. By the early 1990s, the composition of the main species landed in the total catch (scads, mackerel and sarinellas) 'had shown large annual fluctuations over the last five years, indicated that the Java Sea pelagic fish stocks have now become "stressed"...because they are fished throughout their life cycle and geographic range... [They] may now be vulnerable to stock collapse' (1991b: 462). McElroy noted that total effective fishing effort (days spent at sea per year) had been above the MSY (maximum sustainable yield) - equivalent level of fishing effort since 1985 and has continued to increase (McElroy 1991a: 262)⁶. His hypothesis in 1991 (on

⁶ McElroy concludes that an increasing fishing effort was producing a declining catch from three main indicators 1. A decline in the total catch of the Java Sea despite a more or less stable number of (increasingly larger) fishing vessels 2. The increase in the average length of trip (to 32 days in 1988) and a decrease in total catch from 270 tons/vessel/year in 1985 to



available evidence from the 1980s) was that pelagic fish stock were under continuous pressure, and boats went further and spent more days per trip at sea, the yields of stock further away had fallen, further extending the area of operation of larger vessels. Secondly that more pressure was being brought to bear on the small pelagic resources ‘...resulting in fluctuations in the composition of the catch, and ...the size of the total catch in different years. The total volume of landings will also tend to decline’ (McElroy 1991a: 264). Nearly fifteen years later the story is the same.

Another way of looking at the unsustainability of local fisheries in the Java Sea is over-capacity. Squires (2003) argues that total effective fishing effort (measured by days spent at sea per year) has exceeded maximum sustainable yield (MSY)⁷ since 1985 and is increasing. The only way out of this overcapacity is to reduce the number of purse seine boats.

Recent research has confirmed these earlier hypotheses about the Java Sea pelagic fisheries. Suherman and Duto (2004) in an analysis of data from Pekalongan harbour from 1976-2001, show the stages of fast growth in purse seine pelagic fisheries has been characterised by the following

Table 1: Phases of expansion of Pekalongan Purse Seine Fisheries

Period	Motor capacity (horse power)	Net Length (meters)	Fishing tactics	Operational area	Peak Total production (tons)
1976-1981	120 hp	200-400m	Using floating lures	Traditionally inside Java Sea	24,300 (1973-1981)
1982-1984	150-165 hp	200-600m	Some boats using lamp lures (3,100 watt)	Eastern Java Sea (Karimunjava, Bawean, Matasiri, Natuna),and Makassar Straits	67,000 (1982-1989)
1985-1990	120-330 hp	400-750m	halogen and mercury		82,400

193 tons/vessel/year in 1988 and 3. an increase in the average consumption/vessel/year of major variable inputs (diesel fuel, salt and ice (McElroy 1991a: 262)

⁷ Estimates of MSY (maximum sustainable yield) or target fishing capacity ‘are often imprecise, simply unavailable, or not current in many instances, especially complex multi-species fisheries in the tropics. In the Java Sea fisheries the small pelagic fisheries exploited by the medium and mini purse seine vessels are over exploited, harvested at a level beyond MSY’ (Squires et al. 2003: 111). I am grateful to Jim Schiller for this reference.



			lamps (5,100 watt), radio communication, GPS fish finders		(1990-1996)
1991-2001	120-330 hp		7,500-30,000 watt underwater lamps		75,600 (1997-2002)

Source: Suherman and Duto (2003)

Note: The Pekalongan fishery is adjacent to the Tegal region to the east.

As the Table above shows, changing purse seine fisheries technology has meant bigger boats with larger crews, longer nets, more powerful underwater lamps, and capacity to travel greater distances to fishing grounds. Summarising the other findings of this study:

- The number of trips and the average trip per boat has declined from 9.1 trips per boat annually in 1986 to 5.2 trips in 2002.
- The number of operational days at sea has increased ⁸
- Production of Pekalongan purse seine fisheries has declined from the high point of 75, 600 tons in 1998.

A third study by Co-FISH⁹ found that in Tegalsari fishing village (Tegal municipality) there has been a big decline in the fish catch auctioned at the local TPI. This is because fishers are now selling their catch through *bakul pengijon* (trader money lenders- see below). The numbers of families whose livelihood was obtained from fishing (*rumah tangga nelayan*) has also fallen¹⁰ implying that fishers have been forced to find other employment because of low shares to fishing crews (although other occupations have also declined in the same village, suggesting a general exodus to find work elsewhere).

⁸ From 377 days in 1986 to 401 days in 2002.

⁹ The Coastal Community Development and Fisheries Resource Management is a project of the Asian Development Bank and the Department of Fisheries and Marine Resources running from 1999 - September 2005

¹⁰ Fish catch auctioned in Tegalsari TPI (Tempat Pelelangan Ikan) fell from 2,575 kgs (Rp. 1.9 billion) in 1999 to 923 kg (Rp 0.91 billion) in 2003. The number of families whose livelihood depended mainly on fishing declined from 4,820 to 1,254 in the same period (Tables II-67 and II-14). However in neighbouring Muarareja fish catch sold at auction declined even more drastically, while the number of fishers making a livelihood remained the same (Tables II-67 and II-5 Departemen Kelautan dan Perikanan et. al. 2004a). According to Pak A, one of the biggest Tegal *bakul pengijon*, the reasons for the scarcity of fish are 1. Overseas boats fishing illegally in Indonesian waters 2. Too many boats 3. Fish catches are no longer covering costs 4. Seasonal variability (catches go down in the west monsoon November – February and some fishers cannot go to sea at all) 5. Over production of small fish forcing prices down (interview in Tegal on 5 December 2004)



Biomass decline is also being observed in the domination of a particularly species in the catch (see above), but also in the number of species that are now officially endangered. A Co-FISH survey found that between 2002-2003, at seven fish auction centres (TPI) in the Tegal-Brebes-Pemalang region, 14 species were no longer being caught, while a further 10 species were being caught in very small numbers¹¹.

The impact of overfishing has translated into lower shares for both owners and deckhands of boats less than 5 gt tons in particular. In four harbours in Tegal region (Kluwut and Sawojajar in Brebes, Mujungagung-Larangan and TPI no 1-Surodadi in Tegal) between 25-50% of the total fishing fleets are lying idle¹². Apart from declining catches (over fishing), the other reasons are reduced size of fishing grounds (*daerah tangkap semakin sempit*¹³), declining fish prices, and increasing cost of fuel.

The following shows impact of rising fuel prices

Table 2 Changing fuel and fish prices Mujungagung, Larangan subdistrict

Prices	2001 (October)	2002 (November)	2003 (January)	2004 (March)	2005 (March)
Fuel (diesel) (Rp./liter)	900	1.400	1,890	1,650	2,400
Fish (teri nasi) (Rp./ kg.)	25,000	30,000	12,000	22,000	17,000

Source: Co-FISH data and interviews in Larangan and Surodadi subdistricts (Mardiyono, personal communication 14 June 2005)

Not only have small fishers in this community had to deal with an inexorable rise in fuel prices over the past five year, prices of *teri* have fallen. In 2003 fishers blamed *bakul-pengijon* for the price fall, using excuses like ‘export prices had fallen’ or ‘the quality of the fish was not quite

¹¹ The species no longer caught at all are *songot, sunglir, bambangan, kurau, belanak, tuma, udang windu, kurisi, cakalang, ikan terbang, julun-julung, and ikan kowe*. Those caught in very small numbers are *bawal, udang jrebung, layur, ekor kuning, cucut, kakap, kerapu* and *cumi cumi*. (Departemen Kelautan dan Perikanan et.al (2004a): p. VI-4. For identification of these species see Subani 2002 (I am grateful to Duto Nugroho for obtained this wall chart of Indonesian marine fisheries species)

¹² Interviews in Kluwut (Brebes), 4 September 2004; interviews in Mujung Agung-Larangan and TPI no 1 Surodadi (both in Tegal) and Sawojajar (Brebes) (Mardiyono, personal communication 10-13 June 2005.



good enough’ for a good price¹⁴. Seventy percent of fishers in Larangan community now use fuel mixing to reduce costs (mixing used sump oil with diesel). While this does not make a big impact on the size of crew shares, it reduces the life of boat engines by 2-3 years.

2. Regional autonomy and contestation over access to common pool resources

Rokhmin Dahuri, Minister of Marine Affairs and Fisheries in Megawati Sukarnoputri’s cabinet wanted decentralisation to change a centralist management system (where marine resource was controlled by large scale fishers), to a system which would ‘raise economic welfare and equalise disparities among regions’. He wanted to create a sustainable Indonesian fishery that would be ‘environmentally friendly, economically sound and socially just’ (Dahuri in Satria 2002: xv). Articles 3 and 10 of the Regional Autonomy act no 22/ 1999 gave districts and municipalities ‘authority’ (*kewenangan*) to manage the seas to a 4 mile limit, and provincial governments management of the seas to a 12 mile limit. Some regional governments and some fisher communities interpreted ‘authority’ to mean virtual ‘sovereignty’ and attempts were made to create exclusive fishing zones for fishers from particular districts and provinces (Satria et.al. 2002: p.1-2). During 1998-2000 fishers tried to establish ‘ownership’ of these fishing grounds, declaring areas offshore of their home harbours /districts/municipalities as single user areas¹⁵. The phenomenon, known as *pengkapling laut*, led to violent conflicts between users of marine and coastal resources (see below).

Alongside the 4 and 12 miles management zones created by decentralisation, fishing zones (*jalur*) have been recreated. Taken from the 1976 legislation to control trawlers, under Minister

¹³ This means boats under 5 gt using mini trawls now have to go beyond the 6 mile (*Jalur Ia/Ib*) limit, and stay longer at sea (for 3 days instead of overnight), which adds to the cost of supplies. It also reduces the deck hands share of profits (Mardiyono personal communication 15 June 2005).

¹⁴ Interviews in Larangan in 2002 by Mardiyono (personal communication 14 June 2005).

¹⁵ This was not a new phenomenon. In the early 1900s, the captain of a Dutch vessel conducting a fisheries survey of the Java Sea, prepared a map (from information collected from crews of boats) showing where the fisheries from particular villages in East Java and Madura fished, particularly where they located their floating fish lures (*rumpon*). ‘Each village has ...its own fishing ground and will not leave it, even if more fish are being caught in neighbouring areas’. While attempts (by officials?) had been made to change this arrangement (presumably to provide open access for fishers from other areas) ‘so far they have only brought about conflict between the vessels of neighbouring places’. According to the Dutch captain, observance of these village fishing boundaries ‘would prevent the growth of the fishery, for “competition and mutual emulation can only work for the good”’(quoted in Butcher 2004: 100-102 and Map 4.4). Then in 1976, to reduce conflicts between trawlers and traditional fishers, the Minister of Agriculture Decree No 607/1976 created three fishing zones. Zone (*jalur*) I (3 mile) for small fisheries where trawlers were banned: zone II 3-7 miles where small trawlers were allowed to operate and Zone III (over 7 miles) where large trawlers could operate. Because the government



of Agriculture decision no 392/1999, Indonesia's fishing grounds were divided into three fishing zones with specified fishing gear boat size and capacity specified for each zone. Boats which are caught not complying face heavy fines or having their licenses revoked or both, if they are caught.¹⁶

Neither regional autonomy maritime zones, which aimed to give local (provincial and district) governments more management of maritime resources, or the resurrected fishing zones (which aimed to control open access and preserve the CPR), will preserve sustainability of fisheries in the Java Sea, without effective enforcement¹⁷.

Despite provision to decentralise the issuing of fishing licenses to districts, provincial authorities still issue licenses for boats under 30 gt (and motors of less than 90 hp), and boat owners still go to the Directorate General of Marine Fisheries in Jakarta for boat licenses over 30 gt¹⁸. Then they wait long periods before being issued with a Fishing License (SPI - *Surat Penangkapan Ikan*); the Fisheries Business License (IUP - *Izin Usaha Perikanan*) is issued by the provincial government (for boats under 30gt otherwise in Jakarta). On the most important SPI license, an *ex-juragan* (who owned four purse seine boats before going broke) says:

could not enforce these zones, conflicts between trawlers and small fishers continued to increase until in 1980-83 trawlers were banned in all Indonesian waters except the Arafura Sea (Semedi 2001: 1)

¹⁶ The issue of Siswasmas (*Sistim Pengawasan Masyarakat untuk Kelautan*), a joint security patrol programme between the Provincial Fisheries office, the Tegal Water and Air Police (PolAirud) and the Navy (DANAL) is hampered by lack of coordination and lack of patrol boats. The only Fisheries boat the 'Barakuda' patrols the fishing zones only once a month because of lack of funds. Tegal Pol Airud has one speed boat, one rubber dinghy and one remote control radio.

¹⁷ According to SK Menteri Pertanian no 392/1999 legal nets are permanent nets, and unmodified moveable nets (*Jalur Ia* 0-3 miles); 150 meter purse seine nets and 1000m drift gill nets (*Jalur Ib* 3-6 miles); 6000m purse seine nets, tuna long lines and 2,500 meter drift gill nets (*Jalur II* 6-12 miles). *Jalur III* (12-200miles) is the Exclusive Economic Zone (see Butcher 2004: 242-246). Importantly *Jalur IB* has a category 'modified nets which are not stationary' which presumably refers to modified trawl nets. The matter is complicated by the fact that other nets such as *cotok* and *cantrang* (a common net in Tegal - Kusnandar 2000) can also be modified as trawl nets. There is no information on how widespread is the trawling of such nets. One study of decentralisation of marine resources argues that in the decade following the banning of *puket harimau* in 1980 many fishers started using *arad*, *cotok* and *cantrang* as 'smaller and cheaper versions of trawl nets'. In the beginning this created conflicts between those fishers who could afford such nets with fishers using more traditional nets, but now that their use is very widespread, there is little conflict (Satria et. al. 2002: 54). The difference between *arad* and *cantrang* nets (apart from the trawling issue) is that *arad* have 'otter boards' (*siwakan*) 1x 0.5m attached to each side of net lines close to the boat which keep the net open 10 m. *Cantrang* nets have much smaller otter boards (*kayu sinkal*) and therefore they do less damage to the biomass than *arad*.

¹⁸ The Tegal harbourmaster says that the Department of Marine Affairs and Fisheries in Jakarta will not give up its authority to issue licenses because they make a lot of money for government officials. The Tegal harbourmaster says *sopek/compreng* boats under 7 gt are supposed to be managed by districts/municipalities (Interview 23 September 2004), but Ministerial Decision No 45/2000 on licensing of fishing enterprises only defines what records boats must carry (Peraturan 2002: p. 15-16)



Local businessmen (pengusaha pribumi) feel under great pressure (tertekan sekali) arranging an SPI because there are many difficulties. You have to go to the office of the Director General of Fisheries in Jakarta to apply. It takes 3-4 months to get the license and costs between Rp. 4-5 million. It's valid for one year, so you only have license for the 8-9 months remaining. Fishers can't wait that long. They should issue temporary SPI. The system makes people crazy (gebleg)¹⁹.

Other licenses issued by the local harbourmaster, name Sailing Permission (SIB - Surat Izin Belayar each time a boat goes to sea); a Port of Origin Certificate (SPT - Surat Pas Tahunan - for boats larger than 7 Gt); a Seaworthy Certificate (SKK- Sertifikat Kelaikan Kapal) ; a Certificate of Skills (SKK - Surat Keterangan Kecakapan, which both the captain (*nahkoda*) and the chief mechanic should have if the boat sails further than 50 miles from the harbour where it is registered) ; and a telecommunications certificate (Sertifikat Radio Telekomunikasi) for boats more than 7 gt Many boats take a risk and go to sea without these licenses or certificates. Recently five fishing boats - ironically owned by the Tegal municipality- were impounded and their captains sentenced to jail for not having the necessary paper work. Neither the Tegal water and air police or the local Fisheries Department have the patrol boats or security officers to patrol 'their' region of the Java Sea, given the hundreds of boats at sea at any one time. The Tegal Harbour Master has only 8 marine inspectors for the 125 large purse seiners (over 30 gt) which unload their catch every day²⁰.

In theory under Governmental Regulation (*Peraturan Pemerintahan - PP*) no 141/2000, provincial governors can delegate to (district) officials the issuing of fish enterprise licenses (IUP) and fishing licenses (SPI) for boats less than 30 gt with engines less than 90 hp. which are not using foreign capital or foreign crews (Direktorat 2002 p.13). This has not been implemented in Central Java²¹. Another local issue is who runs the harbour. The national Department of Communications says it will not allow district level administrations to take over the control of their local harbours²². Provincial level administrations still control the fish auction system and infrastructure. The government collects a levy of 5% via the TPI of which only 0.95% goes to the

¹⁹ Interview with bankrupt boat owner in Tegal on 13 September 2004; *Muara Pos* no 9 Minggu ke 2, May 2004 'Nelayan Tegal keluhkan proses perizinan'.

²⁰ *Suara Merdeka*, 1 November 1999 [title of article]

²¹ Interview with Tegal Harbourmaster 23 September 2003)

²² *Kompas* 12 August 2004 'Daerah tidak berhak ambil alih pelabuhan'



municipal government²³. The latter says that without funds it cannot improve the livelihood of fishing communities in Tegal municipality²⁴

Since the era of reformasi began, contestation over access to CPR (common pool resources) has been caused by use of illegal trawl nets (*arad*), and fishers rejecting boats which fish in ‘their’ fishing ground which bring no benefits to local communities. We will look at two such conflicts, one between two fisher communities within the Tegal region, and one between Tegal fishers and Masalembo fishers (an island community between East Java and South Kalimantan provinces).

Contestation over access to common pool resources: ‘making a livelihood from the sea in a safe and peaceful way’ (Tegal chief of police intelligence).

Throughout 2002 fisher communities clashed along the northcoast of Java and with other island communities in the Java Sea and in the Banka Belitung region of South Sumatra. A brief analysis of two such conflicts demonstrates the issues behind the disputes.

The conflict between Muarareja and Surodadi (15 km to the east of Tegal municipality) shows the actions fishers took early in the reform era to protect what they regard as their ‘own’ CPR from over exploitation by (banned) trawl nets. On 7 March 2000 a *sopek* fishing boat with 3 crew from Muarareja, West Tegal subdistrict, was fishing with a mini trawl (*arad*) inside the 3 mile (*jalur* Ia) zone near the coastal village of Surodadi.

A suspicious group of fishers from Surodadi were watching the Muarareja boat closely. Not long after this four Surodadi boats appeared and surrounded the Muarareja *sopek* boat. They caught the crew using a trawl (*arad*) net which had been banned for a long time. The crews on the Surodadi boats threatened the Muarareja fishermen, telling them to stop using the *arad* net. Then the Surodadi fishers asked for the nets. This created more tension. They threaten the Tegal boat, forcing them to leave and board the Surodadi

²³ The 5% levy is then divided between provincial government (1,90%) municipal government (0,95%), and two cooperatives, the local KUD Mina (which includes savings funds for both fishers and traders [!], and a social welfare fund) (1,45%) and the provincial level PUSKUD Mina Baruna (which includes an insurance fund, an auction system and infrastructure fund, and a *dana paceklik* (emergency welfare) fund (0.70%). (Interview with chief fish auctioneer TPI Tegal Harbour, and data collected from Tegal HNSI office, 5 December 2005).

²⁴ [Figures for total fish auction levy, value of fish production as percentage of Tegal Gross Regional Domestic Product. no of fishermen as total percent of labour force]



boats. Suddenly the boat (owned by Ny. Darwi Saryadi) caught fire. The Navy sent a fast patrol boat to calm the situation down, all they managed to do was save the burnt boat's motor²⁵.

Significantly, the focus of all but one of the press reports was not on the threat to sustainability from mini trawl nets. The press described the conflict primarily as a law and order issue. The stories in the press were about how successful the navy and the PolAirud had been to prevent a violent clash (*tawuran*) between two angry communities. Burning a boat was a violent criminal act and village leaders were quite rightly ordered to 'calm the anger of the community (*meredam kemarahan warga*); indeed press sympathy was with the *bakul-pengijon* boat owner whose crew had been using the illegal nets (*tampak shock berat dan kelihatan sangat terpukul dengan kejadian itu*). It is not surprising she was so upset as her boat was reported to be worth Rp. 25 million. But the press made compensation the major issue, not the use of mini trawl nets. A prominent spokesperson for the Muarareja community did admit that 'the community was wrong to use the *arad* nets, but it wasn't necessary to burn our boat', this was 'taking the law into one's own hands' (*tindakan main hakim sendiri*). Predictably the ex-navy Mayor of Tegal, still using Orda Baru political language, said he wanted the authorities could solve the problem as quickly as possible, 'so excessive behaviour would not spread' (*agar eksesnya tidak making meluas*)²⁶.

The Semarang daily *Suara Merdeka* ran a ¾ page photo with the key leaders of both sides of the dispute embracing each other in a 'spirit of peace' (*damai*) after agreement (*kesepakatan*) had been reached²⁷. During the New Order, maintaining the same social harmony, reaching a cooperative agreement way, was more important than environmental justice, reaching a peaceful solution was more important than protecting the environment.

The Tegal chief of police intelligence was the only official who publicly acknowledged that both sides were breaking the law:

'It seems that Captain Wulyono was able to clarify the legal background to both sides in dispute. Burning a boat can get a harsh penalty. So can the use of trawl nets which the government has banned for a long time: "If both sides cannot find a peaceful way out of the dispute then supremacy of the law (*supremasi*

²⁵ *Suara Merdeka*, 9 March 2000 'Gunakan jaring *arad*, kapal nelayan dibakar: TNI AL dan Satpolair turun tangan',

²⁶ See e.g. *Suara Merdeka* 9 March 2000 'HNSI Upayakan ganti rugi'; *Wawasan* 10 March 2000 'Kapal dibakar, nelayan Muarareja menuntut ganti rugi'; *Suara Merdeka* 10 March 2000 'Korban pembakaran menuntut ganti rugi',



hukum) will decide the conflict. I hope that everyone realises that the main issue is *how can fishers make a livelihood at sea in a safe and peaceful way. Having enough food (urusan perut) is the main issue. Not obstinately accusing each other of being in the wrong*²⁸ [author's italics].

Indeed having enough food (*urusan perut*) was the main issue. But how to get enough food in a way that is also ecologically sustainable? According to the head of the Tegal Fisheries office, replacing mini trawl nets impacts most on small fishers, the very group whose livelihoods are most under threat²⁹.

Only the above press report on this incident made more than passing reference to the *arad* nets which were the cause of the conflict in the first place. No press reports discussed the implications of the (widespread) use of these nets on declining in-shore fish stocks. The press did not bother to find out if any Surodadi fishers were using mini trawl nets themselves in 2000. In June 2005, 50 per cent of fishers (30 boats) in Surodadi TPI no 1 are 'active *arad* users' during two months of the West monsoon (December-January) when they cannot fish with other nets³⁰. Yet back in 2000 the Surodadi fishers collectively paid Rp. 7.5 million as compensation (*uang santunan*) to the Muarareja boat owner³¹, and the matter disappeared from the public domain.

The main findings of a subsequent investigation into the conflict by Co-FISH were that (legal) beach seine nets (*pukat pantai*) had been converted to trawl *arad* modified by attaching otter boards to widen the net, making it possible to trawl 14.3 ha of seabed in the Java Sea in one day³²; boats with *arad* trawl nets were operating in part of *jalur* Ia and Ib, between 2-6 miles

²⁷ *Wawasan* 13 March 2000 'Nelayan dua desa damai'.

²⁸ 'Bagaimana nelayan bisa mencari nafkah di laut secara aman dan damai. Urusan perut inilah yang saat ini harus dikedepankan. Bukan ngotot-ngotan siapa yang salah' *Suara Merdeka* 13 March 2000 'Nelayan Surodadi-Muarareja sepakat damai'.

²⁹ Which is why Pak S. says 'With *arad* I close one eye', and 'In Indonesia trawl nets are considered as a solution to social conflict rather than [a problem for] protecting resources' [English originals]. Under SK Dirjen Perikanan no 340/1997 small scale fishers with boats (*sopek* and *jukung*) under 5 Gt/15 hp motors are allowed to use modified trawl gear, (which the Fisheries official said includes *arad*). At sea only small boats used these modified trawl nets (Interview 29 September 2004)

³⁰ Personal communication with Mardiyono, 14th June 2005. It is difficult to estimate how widespread is the illegal use of trawl nets, because it is considered as an illegal net, not statistics are collected on its actual use (Departemen Explorasi Laut 2002: I-4). Informants say that they are easy to hide on the large purse seine boats. A lecturer in the Faculty of Fisheries at Pancasakti University in Tegal said he was certain that the main spokesperson for the Muarareja community and his family used *arad* trawl nets

³¹ *Suara Merdeka* 9 May 2000 'Nelayan Surodadi beri santunan'.

³² According to Co-FISH, an *arad* net with a width of 6.61m being towed by a boat with a 16 hp motor at 2 knots per hour could trawl 3.57 ha of seabed in one trip of 1.5 hours (Departemen Explorasi Kelautan et. al. 2002: Lampiran 1-3)



from the coast (which would automatically bring them into conflict with smaller boats using non-trawl nets)³³; the Muarareja boat trawling with an *arad* net burnt in 2002 was located halfway between the shore and the 3 mile (*jalur* Ia) zone; that the number of *arad* nets in Muarareja more than doubled in four years to 2000³⁴ but have since declined³⁵; *arad* nets which were brought from Cirebon to Muarareja in 1985, they were in fact legalised by the government in 1997 for boats under 5 gt with 15 hp motors³⁶, they are cheaper and (being a trawl net that is used the entire year), catch more fish than other nets³⁷, in the process they damage the (gill and trammel) nets of other fishers (the main cause of the conflict between the two fisher communities in Tegal).

In the discussions held by Co-FISH with the two sides involved in the conflict, Muarareja fishers said they were forced to use them because of 'economic necessity', While admitting they knew that *arad* nets were banned by the government, they maintained that the majority of *arad* nets were only being used 32-25 miles off shore (5-7 hours travelling time from Tegal). While only a few boats were fishing near the shore; they had no objection to a ban as long as it was enforced for the entire north coast of Java region; that other fine-mesh nets catching undersized fish should also be banned, that *arad* should be allowed in the *jalur* III (between 6-12 miles and in the 12-188 mile Economic Exclusive Zone (ZEE)).

Surodadi fishers claimed that *arad* fishers often operate in the *jalur* I (gill rumpus and loang net) zones, they often collide with and damage these nets; they have no objections to *arad* operating outside the 6 mile *jalur* III; that *arad* have totally exhausted stocks of demersal fish (including shrimp as well as other 'small' species); Surodadi fishers want proper regulation of fishing *jalur* by the authorities. The Co-FISH survey found that fishers refuse to change from mini trawl nets

³³ See above footnote 15.

³⁴ From proximately 150 units in 1996 to 350 units in 2000 (Departemen Explorasi Kelautan 2002: III-3). The total number of *arad* nets in Tegal in 2003 was 339 the second largest counted after *cantrang* (347) while purse seine (197) was third (from a total of 1066 nets). (Pemerintahan Kota 2004: 9) Because *arad* are illegal other data (catch per net type, value of production per net type and number of fishing trips per net type) cannot be calculated.

³⁵ From 402 in 2001 to 359 in 2003 (Perikanan Kota Tegal: 9). Many fishers would be reluctant to admit they use *arad* nets, and informant spoke of fishers concealing trawl nets on bigger boats.

³⁶ According to the head of the Fisheries Office in Tegal, by SK Dirjen Perikanan no. 340/1997 which allowed small-scale fishers with boats of less than 5 gt and 15 hp engines to use modified trawl gear, including *arad*. (emphasis of interviewee). This official also said 'With *arad* I close one eye, if not there is continual conflict. (Interview with head of Tegal Municipal Fisheries Office, 29 September 2004)

³⁷ 'Each type of fishing net has its own use period (*masa tangkap*), because it follows the seasons of the targeted fish. '*arad*' can operate at any time of the year, which creates *kerawanan* in the supply of coastal fish resources' (Departemen Eksplorasi Laut 2000: IV-5). Figures on *arad* production from Co-FISH *arad* conflict study.



for two reasons. The first is profitability. Annual profits for owners of mini trawl *boats* is nearly double that of gill net boat owners. This is because *arad* nets are much cheaper than the alternatives, and they catch more fish. The second is indebtedness. Muarareja fishers rely on so called ‘interest free’ loans from *bakul pengijon* to buy the nets (see below on the influence of *bakul pengijon*) Although this saves them 18% interest on bank loans, if they don’t use mini trawl nets they will lose their livelihood (Departemen Eksplorasi Laut et. al. 2002: V-2, 3)

Fishers are in a weak bargaining position. They are conscious of the fact that *arad* destroy the environment, but they can’t change to other nets, because the boat they use is a loan from a juragan or a *bakul*. If a fisher changes to a more environmentally sustainable net, the loan will be called in and the boat taken back (kalau mereka ganti non *arad* perahu akan ditarik)³⁸.

Still, since the violence over unfair fishing practices reflecting unequal access to the CPR occurred in March 2000, number of reported users of *arad* have declined from 402 nets (2001) to 339 nets (2003). This may be accurate reporting, but it does not solve the issue of how to maintain the livelihood of poor fishers on the northcoast region of the Java Sea.

The Masalembo conflict – inequity in the exploitation of a CPR

Masalembo islands lie midway between the provinces of East Java and South Kalimantan, and is under the administration of East Java. In November 2002 open conflict between the fishers from Masalembo, who wanted to protect their CPR from overfishing, and those from Javanese northcoast districts who were fishing in within the 12 mile zone which Masalembo regarded as ‘their’ fishing grounds. One boat (from Pati) was burnt and two Pekalongan boats were seized. Angry fishers from where the fishers had come from went to challenge (*ngluruk*) the Masalembo fishers. The social tension resulting from this incident, the fourth involving Masalembo fishers since the reformasi era began (Adhuri 2002), followed a familiar pattern to the earlier confrontations. The scenario was as follows: a group of boats from a north coast district would be ‘captured’ by armed fishers, accused of fishing in the wrong *jalur* and plundered. This meant being towed back to Masalembo Island, where boat and equipment (radio, licenses and galaxy lamp) were confiscated. Captured fishers would eventually pay a negotiated ransom. Over time

³⁸ Personal communication with Mardiyono, 12 June 2004.



the ransom increased from Rp. 1.5 million to the last ransom of Rp. 400 million for two boats. On the fourth clash in November 2000, a Juana (Pati) boat was burnt and two boats seized. The response was a threat of physical violence to Masalembo fishers (*nglurug berperang*)³⁹. A delegation from Tegal went to Jakarta with five demands for Sarwono, then Minister of Fisheries and Maritime Affairs.

These demands were 1. that the police take ‘strong action’ against the boat burners 2. that purse seine boats banned from the Java Sea in July 2000 be allowed back in, but only to operate in the Exclusive Economic Zone (ZEE) beyond the 12 mile territorial waters limit⁴⁰ 3. that the Regional Autonomy Act needed an implementing regulation (*Perpu*) to clarify the meaning of ‘authority’ for marine affairs in the context of regional autonomy 4. that foreign boats captured ‘stealing fish in Indonesian waters’ should be processed by Indonesian courts 5. if found to be ‘acting illegally’, the boats should be destroyed. Minister Sarwono agreed to all five HNSI demands.

‘What’s good about being in debt?’⁴¹ - Profit sharing, money lending and the common interest

There are three social issues affecting how the common interest works in the Tegal fisheries industry, namely profit sharing arrangements, the role of *bakul pengijon* (traders who are money lenders – also called *bakul bakul pengijon, langgang warung* or *tengkulak*) and indebtedness.

Profit sharing relations between boat owners (*juragan*) their assistants (*pengurus*)⁴², captains (*nahkoda*) and unskilled deck hands (*pandega*, also ABK – *anak buah kapal*, or *buruh nelayan*) are not regulated by law. As we have seen, shares vary between 50:50 and 60:40 in the owner’s favour. This is because of unequal profit sharing arrangements, widely commented on in the Co-FISH socio-economic assessments of Tegal region fisheries and by local NGO workers, who have observed that an owner will take his/her share before deducting expenses (as in the case below). Because shares are now so low many ABK are leaving their communities to find work on

³⁹ *Suara Merdeka* 8 November 2000, ‘Puluhan ribu nelayan siap serbu Masalembo’.

⁴⁰ This meant revoking an instruction issued five months previously to ban all large purse seine boats over 30 gt from operating anywhere in the Java Sea, an important policy measure to address the overcapacity in the industry (*Suara Merdeka* 30 September 2000 ‘Purse seine dilarang beroperasi di Laut Jawa’). See discussion on overcapacity below.

⁴¹ ‘Apa anaknya punya hutang?’ (interview in Tegal with Pak Carna, 6.09.04)



bigger foreign boats, often staying away for 3-6 months. This means many captains are having difficulty recruiting ABK. But for locally owned large boats:

Fisher livelihoods are not improving much at present. Especially if the owners are local juragan or tuan lokal, the shares system is very unjust (*sangat tidak adil*). Usually the boat owner takes 50%, then 25% is deducted for expenses to go to sea again (*perbekalan*), the remainder is divided between the navigator/captain (*jurumudi/nahkoda*) and the crew (*anak buah kapal*). The crew say that they don't understand the real share system, because they are never told what are the costs of going to sea again (rice, cooking oil, spices, ice, fuel), prices of supplies are usually decided directly by the boat owner, and the boat owner has a supply shop as well⁴³.

Profit sharing arrangements affect how the common interest works in the fishing industry. Whether expenses are deducted before or after the owner takes his/her share is one issue just mentioned. Another issue is the depreciation (*penyusutan*) deduction of 25% on every catch by bigger boats. The practice of assigning extra shares to skilled crew members is an incentive as long as the catch is a good one, with declining catches unskilled deck hands suffer the most⁴⁴.

The role of trader moneylenders (*bakul pengijon*) in the Tegal fisheries industry is not a new phenomenon⁴⁵. Their multiple roles make indebtedness a complex social issue. *Bakul* in Tegal municipality have many functions. As brokers, they handle all kinds of fish, buying at auction, and sending to the big cities of regional Java (Jakarta, Bandung). They must know the market

⁴² A former boat owner said that a *pengurus* 'could never make a loss (*untung melulu*). The person buys supplies, gets a commission on the diesel fuel purchased for the boat, if the catch is good (*along*), he gets a percent, if the boat is lost at sea, the *pengurus* already has made his cut on the supplies (Interview in Tegal, September 2004)

⁴³ ABK know this practice of inflating prices by *juragan* is widespread. Personal communication with a leader of FPPN-BP (Forum Perjuangan Petani dan Nelayan Batang Pekalongan, Batang-Pekalongan Farmers and Fishers Struggle Forum), 23 May 2005.

⁴⁴ Two examples, on a large Tegal purse seine boat the 'Philadelphia' of 80 gt, with a crew of 35 ABK, on an average fishing trip of 45 days, obtained a net profit of rp. 31 million, divided 50:50. The ABK share is not divided equally between all 35 ABK. An extra 19 skill shares is added to the actual number of ABK, as skill shares (for the captain, deputy captain, fish lure operators, winch hands, a swimmer who untangles nets, 4 *jegong*, and an *anak prapok*). As well, the owner's two assistants (*pengurus*) who buy supplies also get shares. A further share is set aside for the boat captain who must visit a spirit medium (*suhu*) to pay for talisman used in rituals to ensure that safety and wellbeing of the boat and crew is maintained. In the 'Philadelphia' the unskilled deck hand (ABK) share in the above example was rp. 583,600 for the 45 day trip, or rp. 13,000 per day, which is roughly the same as ABK on boats of less than 7 gt if the catch is a good one.. 'In a nutshell income derived from the sharing system [in the large purse seiners] varies from one to ten across individual crew members' (Roch and Clignet 1998:101)

⁴⁵ Money lenders and fish dealers were recorded as lending money to fishers for boats and gear along Java's northcoast in the mid 19C, and probably before when Chinese tax farmers lent money to fishers to pay taxes (one tenth of their catch), and to repay debts on boats and gear. Tax farmers were willing to continue these high risk loans because profits were so high (Butcher 2004: 50-51)



they are buy from and selling to each day, so they can bid competitively, and make a profit. Those that lend money for boats and supplies are referred to as *bakul pengijon* (or *tengkulak*, in Tegal *bakul pengijon* literally ‘people who handle fish’), and they buy fish at a cheaper price from indebted boat owners. Many act as patrons, contributing money whenever their ‘clients’ or fisher families need assistance for marriages, funerals and even for routine living expenses (Satria 2002b)

The function of providing credit to fishers is important, because institutional credit is not available, despite the government’s concern to get banks to lend money to fishers⁴⁶. For big and middle size purse seine boats, selling a small percent of the catch to *bakul* before the bulk is sold at TPI, is not an issue. Small fishers have no choice but to borrow from *bakul pengijon* for boat and equipment repairs ‘with the condition that all their catch has to be sold to the *bakul pengijon* which means that the sale price is determined by the owners of capital in a one sided way’⁴⁷.

We can three different views on traders. The NGO view, often reflected in the media, is that fishers would be better off if their debts to *bakul pengijon* were paid off. Then their entire catch could be sold through the auction system, where prices are higher (at present up to 40% of the catch at some TPIs is sold outside the auction system). This would mean greater returns to fishers, and the 5% levy on catches at TPI would produce more funds for supporting fishers. According to this perspective, *bakul pengijon* are a major cause of poverty in the fishing industry.

A second perspective is that of the essential contribution women traders make to the network of fish distribution in markets on Java’s north coast. Their role in the networks of fish distribution and as entrepreneurs in the marketing of fish, supplying the market with informal fish production from the purse seine boats⁴⁸, and supplying regional and Jakarta markets as well as the fish processing home industry (Antunes 1998: 243-257)⁴⁹. Many small fishers prefer to sell to *bakul*

⁴⁶ Individual loans are impossible to obtain. Bank Bukopin financed the PEMP programme (see below) for Central Java to the tune of rp. 6 billion in 2001. Fishers complained that interest rates were too high. the Fisheries Department said only 38 per cent of loans were repaid

⁴⁷ *Kompas* 15 November 1999, ‘Nelayan kecil tak pernah dapat kredit’.

⁴⁸ *Bakul pengijon* buy all the fish caught individually by the deck hands of the medium and large perse seiners.

⁴⁹ The money lender roles of traders are mentioned in passing in the Juwana harbour study, where , the impact of *bakul pengijon* buying 40% of fish catch at some TPI was not an issue in Juwana harbour in the early 1990s like it is in Tegal



pengijon because they can sell their catch quicker, while the auction (with only one auctioneer) can take 2-3 hours. Fishers are scared prices will have fallen drastically by then (*harga ambrol*)⁵⁰.

Banks won't lend money to fishers to buy boats or to finance their enterprise (banks won't accept boats as collateral for loans, while very few fishers have certificates of land ownership, which are acceptable to banks). The fishing cooperatives (KUD) set up in the 1970s by the New Order government to provide cheap credit to fishers are now all bankrupt.

An interview with a small fisher in West Java sees the problem thus:

Fishers have high risks, for example boats can be lost, sunk at sea, so creditors are afraid that their loans will not be paid back. Small fishers with boats about 2 x12 meters often have mechanical breakdowns, or nets and sail repairs, so they can't go to sea. They are forced to borrow from fish moneylenders (*tengkulak ikan*), on the condition that all of their catch is sold to the moneylender. It goes without saying that the sale price is determined by the creditors (*pemilik modal*)⁵¹

Over time big traders become moneylenders and then buy boats themselves. The Tegal Municipal Fisheries Department records lists 40 large, 166 medium and 83 small fish traders in 2003 (Perikanan Kota 2004:13).

The third perspective on *bakul pengijon* is their role in patron client relations. This perspective emphasises traders' social as well as economic roles (Satria 2002: 3-6), which are more important for the survival of small boat owners⁵². The trader described earlier⁵³ said that she gave assistance (not loans) for fishers to repair nets, motors, and damage to boats which occurred while at sea. Also 'if fishers don't have enough money for daily needs, I help them. I have to give them what they need, because they are my *anak buah* (clients)'. These loans are never paid off because no interest charged. Clients (small fishers in boats of less than 5 gt) sell their entire catch to the

today. One trader money lender in Sawojajar (Brebes district) finances 100 boats out of the 140 *sopek* in this fishing community at rp. 5 million each (interview on 16 September 2004). See *Suara Merdeka* 10 July 2001 'Nelayan masih terlibat bakul'.

⁵⁰ Interviews in Muarareja Tegal 5 September 2004.

⁵¹ *Kompas* 15 November 1999 'Nelayan kecil tak pernah dapat kredit'.

⁵² Interview in Sawojajar on 16 September 2004

⁵³ See note 43



trader. In communities where there is no TPI, or it is non-functioning, this marketing role is essential.

Because of the impacts of overfishing already discussed, trader moneylenders are also starting to feel the pinch. Boat owners they have sponsored face difficulties in repaying loans. Thus one of Tegal's biggest *bakul pengijon* who owns four large purse seiners and has loans of Rp. 5-20 million out to 25 large purse seiners, has had to take back 10 boats, after no repayments have been made for five years. These are sold for less than the loan.⁵⁴ In 2002-2003 Pak S. (a large trader) says that he ran out of working capital because 'there were too many fishers and too many boats. Yields on the big purse seine boats declined by 50%. But boats with *cantrang*⁵⁵ nets declined by 80%'. I had to sell a car for Rp. 100 million in order to pay for my boats to go to sea'. The main reason for the decline in fish catch, according to Pak S were foreign boats 'stealing' fish in Indonesian waters, too many Indonesian boats, and the rising cost of supplies, which often meant that returns from fishing do not cover operating costs⁵⁶. Finally, smaller and smaller fish are being caught making current fishing practices unsustainable⁵⁷.

Symbolic capital

'Involvement in the functioning of village institutional arrangements... generates "symbolic capital" in the forms of prestige, honour, obligations, respect and authority... various forms of symbolic capital can be employed to affect patterns of resource access' (McCarthy 2005). Along

⁵⁴ This trader cites the use of trawl nets, the price of diesel and the small size of fish as the reason why *juragan* cannot make repayments to her. She replaces her own boat captains if they make a loss (cannot cover the cost of supplies) for four consecutive trips. She has had two captains for five years, one for one year and one for 5 months (interview on 19 September 2004)

⁵⁵ *Cantrang* trawl nets are similar to the banned *arad* mini trawl nets, only smaller, ie. they do not open as wide when being trawled, and therefore catch less fish and do less damage to the biomass.

⁵⁶ 'To send a purse seine boat to sea now costs Rp 20 million, it used to cost Rp 11-12 million a few years ago. If the price of diesel goes up, the price of everything else goes up. How can fishers improve [their livelihood] when they are beaten into the ground (*ringsek*), and powerless (*mati kutu*)' (interview 5.12.04)

⁵⁷ Another former owner, Pak O, decided to leave the industry (others say he went bankrupt), sold his 3 large purse seiners and invest in retail ice business, and real estate, for the following reasons. Firstly while diesel fuel has more than doubled in price since the economic crisis fish prices have been stationary Secondly environmental change. Some inshore demersal species are nearly extinct. Pak O recalls 'Seven years ago we could stand in the shallows at night and catch 50 kg of squid with petromax lamps. Now they are gone, a sign that they are going to be wiped out altogether (*tanda kepunahan mulai datang*). This has created the condition that boats have to go further for longer to get the same return, using technology (trawl nets) which is unsustainable. Declining yields have created less sustainable technology, the hand held *cantrang* nets which are trawled behind boats, are now bigger and are run by mechanical winches, not held by hand (so can be longer and heavier). Pak O also raised marketing issues. Because there are no commercial cold storage facilities at both fish auctions in Tegal most of the fish are either consumed locally or frozen by individual *bakul* and sent to markets outside the region—mainly Jakarta. (Interview with Pak O in Muarareja, Tegal, 5.09.04) '



the northcoast of Java, the Java Sea fishers use symbolic ways of making their livelihood secure firstly through visits to spirit mediums (*suhu*) and the payment of *uang kembang*. Secondly symbolic capital is employed in the performance of an annual ritual call *Sedekah Laut* (Jav. *Suro Sapar*); to maintain fish catches in the following year.

The practice of paying *uang kembang* (money for protective i.e. supernaturally enhanced objects) to *suhu* for spiritual protection against uncertainty is universally practiced amongst fishermen of the Tegal region. The custom reflects the high level of physical risks and dangers that are always a part of fishing; ‘daily seasonal conditions (wind, tides, storms and the monsoon) meant that in former times fish did not always appear at the same time and place they normally did’ (Butcher 2004: 53). These hazards and disasters from the natural world were compounded by social dangers, such as boats being lost through pirate attacks while crews disappeared and were never found⁵⁸. Hence the importance of taboos and rituals in fishing communities as a kind of cultural insurance (or symbolic capital) for both natural, social and also spiritual risks, because ‘the sea is a huge empty space without any boundaries nor resting places...it is a mysterious and unpredictable space inhabited by demons and evil and beneficent spirits’ (Antunes 1998b). Boats and their crews try and protect themselves from these forces. Before going to sea, boat captains in the Tegal pay *uang kembang* (Rp. 500,000 on large purse seine boats) for Arabic prayer formula, amulets, or holy water to sprinkle over the nets (the cost of this spiritual protection is deducted from the catch along with other expenses, before the crew gets their share). Each captain chooses his own *suhu* (*dukun*), but each boat in debt to the same *bakul pengijon* must have a different *suhu*⁵⁹.

All fishing communities hold an annual *Sedekah laut*, to coincide with the month of Suro in the Javanese calendar and Maulud in the Islamic one (the northcoast of Java being strongly Islamic). The *Sedekah laut* is both a ritual and a community festival. In the ritual last year in Tegal, 500 boats went to sea with offerings (*sesaji*) including the head of a goat, for the ‘the lord of the sea’

⁵⁸ This still happens today. In July 2004 a boat from Sawojajar (Brebes) with 11 crew disappeared so far without any explanation of what happened, or assistance from the local government for their families.

⁵⁹ This became evident in the reply to my naïve question to a well know trader whether her 4 large purse seiners all had the same *suhu*: ‘*Ngambblas sici ngambblas kabe*’ – (Then if I lost one boat, I would loose the lot) was the quick reply. It is necessary to spread all kinds of risks, symbolic as well financial.



(*penguasa laut*) in order the boats will be safe, and the catch will be big (*along*). The offerings are taken then out of the harbour in a boat procession and cast into the sea⁶⁰.

The village community ritual which accompanies this offering to the powers of the Java Sea is a traditional Javanese *selamatan* ritual. Villagers prepare food to eat communally, stage traditional performances and hold *naga* (dragon) boat races. In the past during the Javanese month of Suro, fishers were forbidden to go to sea because they believed it would bring disaster. “The concept of the common interest (*kepentingan umum*) working for the sea, river estuaries, and brackish water for fish ponds, originates in the collective responsibility of the *nyadran* process’⁶¹.

However this collective responsibility for maintaining symbolic capital in fisher communities is weakening. The entertainment aspect of the *Sedekah Laut* *selamatan* is becoming stronger. But there are deeper social issues than the commercialisation of rituals (which are everywhere apparent).

Why are fishers loosing their feeling of owning and managing the commons (*wilayah umum*)? The following story can help explain this. In the past fishers in Batang [district] knew all the kampung people from one end to the other, all the names of the families, who the parents were, and their character (*tabiat*). This is no longer the case. In the past fishers went out on day trips, so they had plenty of time to chat (*bercengkrama*). Nowadays a fisher goes away for one day to six months at sea. I think this is the reason that tradition and community feeling (*rasa kebersamaan*) amongst fishers is declining⁶².

According to an NGO worker with the Co-FISH project in Tegal from 2000-2004, community ties are being eroded by an attitude of ‘please yourself’ (*masa bodoh dengan orang lain*), social jealousy, suspicion and unwillingness to cooperate between individuals, groups and communities. When the project invited fishers to discuss the degradation of the local Karang Jeruk reef, each community blamed the other for the damage and agreement could not be reached for some time on how to manage the reef sustainably without conflict⁶³.

⁶⁰ The two ‘queens of the Java Sea ‘ on this region of the northcoast are Nyi Rantamsari and Dewi Lanjar (Java’s north coast equivalent of Nyai Loro Kidul). *Tegal Tegal* no 17 20 July –5 August 1999 ‘Nelayan Tegal adakan sedekah laut’, p.8.

⁶¹ Personal communication with Mardiyono 23 May 2005.

⁶² Ibid

⁶³ Personal Communication with Mardiyono 5 June 2005. Karang Jeruk is the main breeding ground for shrimp and other demersial species in this part of the Java Sea..



Programmes for implementing the common interest.

The government and NGOs and communities themselves have programs for implementing the common interest. The ambitious ADB funded Co-FISH (Coastal Community Development and Fisheries Resources Management Project (which runs an from 1998- September 2005) build a Rp. 60 billion harbour and port infrastructure, including a new fish auction centre⁶⁴, trader kiosks and offices; and ran programmes for eliminating poverty amongst small scale fishers (Departemen Ekplorasi Laut et. al. 2004), and for eliminating conflict caused by *arad* nets (see above). Co-FISH also had environmental programs for rehabilitation of the Karang Jeruk reef (an important fish breeding ground of 4 hectares in area 6 km off the coast of Tegal), by creating artificial fish sanctuaries made of rubber tires. The creation of the Karang Jeruk fish sanctuary is a useful case study in the working of the common interest to solve environmental and open access issues in relation to the exploitation of a marine CPR.

Karang Jeruk reef was being overfished and undergoing environmental damage from boat anchors from more than 200 boats (2-5 gt) from two communities⁶⁵. Under the auspices of Co-FISH, meetings were held throughout 1991 with communities using the reef who agreed on the problem but not the solution . The problem was habitat degradation, namely destruction of mangroves, sea grass, coral). Fishers using the reef and other so called stakeholders (the local naval base and the water and air police (PolAirud)⁶⁶.) finally reached an agreement tto create a sanctuary which protected less than half the reef. A working group the reef the KFSKJ (Karang Jeruk Fishing Sanctuary Group) was also formed to explain (*mensosialisasi*) the agreement to their respective communities.

⁶⁴ This massive new infrastructure project opened by President Megawati has been plagued by problems, not all of them easily fixed. The main structural problem is that the breakwater entrance to the Java Sea is opposite the wharf, which created a swell caused the boats continually knock against the wharf as they try and unload. The TPI and the wharf have no barrier so *bakul pengijon* get to the fish and buy much of it before it can get into the auction shed (the latter problem is being addressed and a fence is now being built around the auction pavilion.

⁶⁵ From Kalibacin in Tegalsari village 90 small boats (2-3 gross tons) using hand held lines to catch *ikan cracas* used the reef, while another 120 boats (with a crew of 5-7 ABK) from Mujungagung village in Larangan subdistrict fished the reef for *ikan teri*. As most of the crews from this village are married, a total of 720 + families depend for their livelihood on the waters surrounding this reef.

⁶⁶ The stakeholders finally identified were 3 fishing communities Muarareja, Kalibacin (Tegalsari), Surodadi), the navy base , the water and air police, the Tegal municipal Fisheries office, and the HNSI.



The weaknesses of the fish sanctuary agreement were 1. that there was no legal enforcement in the form of a district law (*Perda – peraturan daerah*), because the Tegal municipal assembly (DPRD) was not interested in the issue 2. There was no agreed sanctions for fishers who broke the agreement, unless they were bombing and mining of the coral. Even then sanctions were difficult to enforce⁶⁷) 4. Even if there was a *Perda*, members of the KFSKJ could not enforce the agreement ‘because they were faced with an undercurrent of fishers who had to make a livelihood’⁶⁸.

Local governments also implemented a program to give financial assistance to fishers to offset the sharp rise in cost of fuel since 2000. The PEMP (Pemberdayaan Ekonomi Masyarakat Pesisir – Coast Communities Empowerment Programme) was implemented in 125 coastal districts/municipalities across 30 provinces, as part of the nation wide PPD-PSE (*Program Penanggulangan Dampak Pengurangan Subsidi Energi*) to offset the impact of rises in fuel prices, as a result of the reduction in the national fuel subsidy. Fishers in the programme received direct grants of Rp. 1-5 million. These were supposed to be repaid over a twenty month period with interest into a revolving fund, which would then be lent to other fishers. The programme, which ran for two years, went broke because of the low level of repayments⁶⁹.

Not so the Tegal district where 100 fishers in two communities (Surodadi 1 and Larangan) each got Rp. 2.5 million for new Dong Feng outboard motors. The repayment rate of 50% in the first community was due to two factors. Most of the fishers who got loans did not sell their fish through the TPI so the 10% repayments could not be deducted. Secondly their catches were so small they asked that no deductions be made. Repayments in the second community were higher

⁶⁷ In February – March 2002 fishers from outside the Tegal region mined coral from the reef. ‘Local fishers did not dare catch them, and were scared of being threatened if they reported who was damaging the reef (Personal communication Mardiyono 11 June 2005)

⁶⁸ ‘Harus berhadapan dengan arus bawah nelayan yang harus memenuhi tuntutan hidup’ (personal communication with Mardiyono 11 June 2005).

⁶⁹ Tegal did not have a PEMP (Pemberdayaan Ekonomi Masyarakat Pantai) programme, because of the Co-FISH project. In Kendal district (west of Semarang) where the PEMP budget of rp. 750 million was as follows: 15% for consultants fees, 5% management fee, and 80% to be used a revolving fund (*Dana Ekonomi Produktif Masyarakat*) based on community proposal. In Batang district east of Pekalongan the rp. 664.5 million was spent on PEMP 2001 (of which 77% was spent on building new boats, 20% on working capital for traders (*bakul*). This programme was replaced by PEMP 2002 with rp. 950 million in funds for direct assistance. (

Suara Merdeka 20 June 2002 ‘ PEMP bukan proyek bagi-bagi bantuan’. In Tegal only purse seine boats more than 30 gt got grants under this programme, not the most needy fishers (interview with head of municipal Fisheries office, 29



(75%) because fishers sold their catch through the TPI which deducted the loan repayments until loans were repaid⁷⁰.

Fishers in this community want this to be a model for repayment of loans to *bakul pengijon*. 'If I were a member of the local KUD board today I would borrow money from the bank (with the good offices of the Bupati), and pay off the debt each boat owes'. Fishers would then have to sell all their daily catch through the TPI. The KUD would collect a levy of 10 per cent deducted from the catch by the TPI, to repay the loan and to give loans to fishers for supplies. *Bakul pengijon* would also have to buy their fish at auction at the TPI. The total debt of fishers in Surodadi (boats x Rp. 3 million per boat) is about Rp. 210 million. The KUD could repay that loan off if all fishers auction all of their catch in the TPI, in a year.⁷¹. Can the KUD replace the *bakul pengijon* as a patron?. Probably not. Unlike the 1970s, catches are so small that many fishers can't afford to have loan repayments made by the TPI.. There is also mistrust of KUD involvement in such a scheme.

Preliminary Conclusions

- The common pool resource interest in the Java Sea marine resource is under threat from overfishing, After trawl boats were banned in 1981-82 purse seiners began fishing pelagic species at rates that were unsustainable by the end of the 1980s.
- There is not one common interest among fishers. Boat crews on large and medium purse seiners are better financed and the system of shares means the more skilled they are the more they can earn. Rather there are overlapping common interests, small versus large purse seiners, *sopek* under 5 gt and single manned *compreng*.

September 2004). According to this official 'There is no concrete solution on how to help small fishers' (English original). The millennium net program also aims to raise production for small fishers

⁷⁰ Local memory recalls that in the 1970s the entire catch was sold via the local auction centre. Because the government cooperative (KUD) was able to give loans to fishers for supplies to go to sea, nobody was so dependent on *bakul pengijon*. This was when the KUDs were still new and still had money. Repayments were deducted each time fishers auctioned their catch. At first all the Tegal harbours were under one central district level KUD. Then in 1987 the Tegal KUD went bankrupt and couldn't make loans to fishers for supplies any more. So each fishing community formed their own KUD. Now they are bankrupt too. (Interview in Surodadi on 24 September 2004). The problem with this scheme is what happens when fishers need to borrow again.

⁷¹ Interviews at Surodadi TPI on 24 September 2004.



- For boats under 7 gt. or less (*sopek* and *compreng*), rising costs, declining catches, seasonal variations and contracting fishing areas mean incomes per day for ordinary crew can be around rp.13, 000 if the catch is good (*along*), but these days often goes below rp. 10,000, so baots do not go to sea. Mixing sump oil with diesel fuel to save expenses is counterproductive in the long run.
- The regional autonomy zones of management and the re-introduced fishing zones were attempts by the state to support the common interest. Lack of enforcement has left communities to confront the problem of mini trawl nets. There is a wide range of views within the fisher community and the fishing bureaucracy on this issue. It depends on what common interest is being discussed
- The Co-FISH program has tackled a range of social and environmental issues amongst fisher communities, as well as programmes to raise incomes of fishers. Two environment ecosystem protection programmes are creating an artificial fish sanctuary and getting agreement from fisher communities for a strategy to protect the Karang Jeruk reef breeding grounds⁷².
- The provincial Fisheries department (in Semarang) acknowledges that there 520,000 fishers making a livelihood in the Java Sea, while the optimum number is 249,000. As a provincial Fisheries Department official remarked, ‘Where do the rest go? You can pay off their debts, but where do the fishers go?’⁷³

⁷² Fish sanctuaries are essential if ecosystems are to rejuvenate, ‘by giving the spawning biomass of many species the opportunity to rebuild, such sanctuaries supply fish. to adjacent waters and in this way increase catches outside their boundaries’ (Butcher 2004: 290-291).

⁷³ The optimal number of Java Sea fishers is calculated by dividing MSY (maximum sustainable yield in rupiah calculated by multiplying the potential fish tonnage by the price of fish) by the optimal level of income (rp. 2 million per month) Interview with a provincial Department of Fisheries official, Tegal 29 September 2004.



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