ANTON LUCAS AND ARIEF W. DJATI

The politics of environmental and water pollution in East Java

The story of how the Surabaya River was polluted, and the problems involved in trying to clean them up, is the major focus of this study.¹ The article focuses on the politics of environmental pollution of the Brantas River, so important for East Javanese people, and in particular its estuarine distributaries the Surabaya River and the Kali Mas, which flows through the centre of Surabaya, Indonesia's second largest city. This river system is the main source of drinking water for Surabayan residents and its satellite towns. As the source of drinking water, the quality of the Brantas River and its estuaries are important to ensure an adequate and clean supply of drinking water. How has water become a political issue in East Java and in Surabaya? What have been the responses of government, bureaucrats, communities, factories and water company officials, to the pollution? What action has been taken by local (*kabupaten*) government and by provincial level governments to combat this pollution? There are many political dimensions to the provision of drinking water, and the process through which 'dirty' water in the river becomes 'clean' water supplied to residential houses.

After describing the history of water pollution in East Java, which became a political issue eight years before the national Environmental Act was passed in 1982, we explain how the East Java provincial governor, his subordinates, and local communities handled the pollution problems on the Brantas river and its estuarine distributaries, the Porong River, Surabaya River, and Kali Mas. The bureaucracy, from provincial to municipalities and regencies, did make efforts to eliminate pollution, caused by factories and communities located on the rivers. We describe community reactions to river pollution in Surabaya and the various government programs to keep rivers clean (*Prokasih* and *Proper Prokasih*). In addition, we examine police department initiatives to handle pollution cases according to the new environmental laws.

¹ This article is a short version of Anton Lucas with Arief Djati, *The dog is dead, so throw it in the river; Environmental politics and water pollution in Indonesia*, Clayton: Monash Asia Institute, 2000. [Papers on Southeast Asia 51.]

In the second section we explore the problems of clean drinking water in Surabaya and East Java: the conversion of dirty river to clean drinking water, and the communities' responses to poor quality water. We also examine an alternative source of drinking water, the Umbulan Spring project.

Water pollution and environmental politics

Until the last thirty years or so, environmental pollution was an unimportant issue for East Javanese people. The Surabaya River, the primary source of drinking water in the region, was used as a dumping ground for rubbish, as reflected in a popular Javanese jingle:

When the guest is here, roll out the mat,
 When the mat is torn, patch it with sticky rice,
 When the rice cake has gone bad, give it to the dog,
 When the dog is dead, throw it into the river,
 When the river is flooding, leave the dog on the bank.²

Consequently, many factories were allowed to be built along the river in the 1970s without having adequate water waste treatment plants. Their waste products were pumped directly into the river.³ The impact of this pollution on the quality of the water seemed to go unnoticed until some incidents of heavily polluted drinking water in Surabaya in the mid '70s. These incidents inspired the provincial government to issue regulations protecting rivers from water pollution, and for the first time brought a political dimension to an environmental problem.

The first major factory pollution case in Surabaya occurred in July 1975, when fish died in large numbers as a result of liquid waste from a Korean-owned food additives factory located on the banks of the Surabaya river. As a result of this incident (and a subsequent survey of waste treatment facilities in factories located on the river), Environmental Pollution Control Teams were set up to monitor factories suspected of emptying untreated or poorly treated waste into the Surabaya river. A similar pollution incident two years later saw the temporary closure of four factories, the banning of the construction of new factories on the river bank, and the issuing of a set of quality standards

² The Javanese jingle goes: 'E dayohe teka, E bebero klosa, E klosone bedah, E tembelen jadah, E jadahe mambu, E pakakno asu, E asune mati, E buwaken ing kali, E kaline banjir E buwaken ping-gir'. Interview with Masdoekie, Surabaya, 14-2-1997. A shortened version is in *Surabaya Post* 1994.

³ The Balai Teknik Kesehatan Lingkungan (BTKL, Environmental Health Technology Laboratory) estimates that 60 per cent of the pollution of these two waterways comes from factories (Surabaya Legal Aid Institute Director Andik Hardiyanto, personal communication, 28-4-1997). The Department of Industry's Institute for Industrial Research says the bulk of the pollution is from domestic waste from the 92,000 people living within 0.5 kilometres of the river.

for industrial effluent, with compulsory compliance within three years.⁴ Pollution scares continued however into the 1980s, with both local and national Dewan Perwakilan Rakyat Daerah (DPRD, Regional People's Consultative Assemblies) becoming involved in the debate about how to respond to the pollution problem. The provincial government also began naming publicly those factories which had been given pollution warnings, and threatened with closure by the Governor of East Java, Soenandar Prijo Soedarmo (*Kompas* 1981; *Merdeka* 1981; *Warta Berita Antara* 1981).

Bureaucracy, communities and industrial river pollution

Today, in the era of *reformasi*, there is discontinuity in East Java between provincial governments of the past and the current provincial government when it comes to the issue of water pollution. Unlike their predecessors, who fought hard against environmental pollution, the incumbent government neglects this issue. Their attention is focussed on political survival, on defending their positions and supporting their parties, with no apparent concern for environmental issues. The current government has ignored what was highlighted by its predecessors. The absence of various environmental programs has worsened environmental conditions in East Java. Consequently, factories that have little concern for the environment have been able to ignore environmental regulations and return to their old polluting ways. Several of them reverted to not using, or using improperly, water waste treatment facilities, and began throwing their waste directly to the river system. Without continual vigilance and monitoring of waste treatment plants, factories that had been blacklisted because of environmental concerns by former regional governments, are polluting the river again. The quality of river water deteriorated until the stage where the quality of drinking water is again degraded. However, communities are still consistently complaining and protesting about environmental pollution. In several current cases, where both land and water pollution have had an impact on local communities, people are protesting again to factories and to the regional government, in much the same ways as they have in the past.

The situation was different fifteen years ago. After several serious cases of water pollution in the 1970s, and the implementation of the national Environmental Act in 1982, the regional government of East Java stepped up its campaign against polluting factories. Government pressure on polluting factories intensified in early 1987, when progressive officials led by the Deputy Gover-

⁴ *Tempo* 1977; *Lembaran Daerah* 1977b. The effluent standards covered eighteen heavy metals and other inorganic chemical compounds, four organic chemicals (hydrocarbons, oils, phenols and cyanide). The maximum pollution load measured by Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) levels were set at 30 ppm and 80 ppm respectively for all rivers in East Java (*Lembaran Daerah* 1978).

nor of East Java began a series of new measures: calling factory owners in for meetings, making surprise visits to factories and taking safaris on the river, as well as continuing to expose polluters in the press. River inspection trips were useful, according to Deputy Governor Trimarjono, because you could see the factories' 'backsides' (*pantat pabrik*). By this he meant of course that only by travelling along the river by boat could you see which factories were emptying industrial effluent into the river. Often used in East Java, surprise visits to factories, referred to as *sidak* (*inspeksi mendadak*), were also stepped up. A new word – *gebrakan* – was coined to describe these surprise actions of officials against factories.⁵ The term also denotes the increasing community and government frustration with factories that would not comply with water control standards set down, as they were repeatedly reminded, in the local government law of 1978. Also, for the first time, international pressure was brought to bear on East Java environmental issues. The World Bank's offer of a loan to build a new water installation on the Surabaya River was threatened if the provincial government did not take drastic action to clean up the pollution first. Trimarjono, anticipating the forthcoming World Bank visit, called a meeting; it was very poorly attended by junior management staff (the company directors did not appear). Angered by this response, Trimarjono began to make surprise visits to factories suspected of pollution, accompanied by a busload of officials and journalists. Once at the factory, he threatened to enforce compliance through the courts, or factory closures. Trimarjono told factory owners, who warned that such measures would create unemployment, that they only had themselves to blame if their factory was closed.

Trimarjono's example of surprise visits was continued by Assistant Governor H. Masdoekie between 1992-1995. During this period many factories had installed waste treatment plants, but did not operate them, or only operated them when they knew government officials were going to visit. Hence the importance of sudden inspections. Officials knew from the colour of the water near the outlets from the factory that waste treatment plants were not being turned on, particularly during the dry season when the flow of water in the river was reduced. Textile mills and bean curd factories were targeted. What to do with the latter was the same bureaucratic dilemma for officials like Masdoekie and Trimarjono. The untreated water used for making bean curd was pumped out of the Surabaya River, which made the bean curd a health

⁵ *Gebrakan* is a Javanese word literally meaning to strike or hit a wooden surface, thus a *gebrakan* becomes a strike or hit at those responsible for river pollution. The local press took up the idea of officials striking at a common enemy (the factories), hence the often used phrase '*gebrakan Trimarjono*' referring to the Deputy Governor's unannounced strikes (surprise visits) to factories. A *gebrakan* has the connotation of an action done directly, immediately, spontaneously, by a high government official, to shock someone. The word can also be used as a verb, for example, 'Deputy Governor of East Java Trimarjono SH without warning struck at (*menggebrak*) both government and privately owned factories polluting the environment' (*Kompas* 1987).

hazard. But bean curd was the only source of protein and part of the basic diet of the population. So bean curd factories were a health hazard because of the polluted water used in making their product, and because the untreated waste emptied into the same river, from which they pumped their water to make the product in the first place. Factory owners said that waste treatment plants were difficult to run. Bribes were offered to officials inspecting the factories.

Polluting factories were exposed in the local press, to embarrass their owners. Officials considered that naming factories would be a sanction they could not ignore, as it would affect their credibility. According to Trimarjono:

I hit them hard in the press. If a factory had undertaken to install a waste treatment plant and then failed, I would announce it and tell them publicly they had broken their promise. Or I would say that I would publicly announce that I was returning on such and such a date to the factory, and this would be in print in the newspapers the next day. In this way I hoped to give them a fright. They would get a kind of social sanction from the community in this way, if it were announced in the press it would make them reluctant (*kapok*). We were faced with a dilemma. People could die after a while from pollution if we tolerated the [untreated] factory effluent [being put into the river]. If the factory were closed then that would 'kill' people's livelihood immediately. So it was a choice of death by disease or a different kind of 'death' from unemployment.⁶

What was pioneered by Trimarjono and Masdoeki at the provincial level was emulated at *kabupaten* level by their subordinates. Between 1982 and 1997, there were many actions taken by municipalities and regency governments to handle pollution in their areas. The Bupati of Nganjuk, for example, acted decisively in 1995, closing concealed effluent drains from a paper mill, and requesting the police to take legal action against the factory (*Surabaya Post* 1995). Meanwhile, the Bupati of Malang closed a cassava factory because it was not complying with the Governor's instruction (*Surya* 1997).

It is interesting to note here factories' reactions against initiatives from government officials. Factories put pressure on both government officials and journalists not to expose their business names if they were breaking environmental laws. Cases of factories intimidating officials using hired henchmen, are difficult to document, although attempts to bribe officials were apparently commonplace. Assistant Governor Masdoekie alludes to factories offering bribes to officials not to take action. But other types of pressure were brought to bear on bureaucrats, what Masdoekie calls the informal politics (*politik tidak*

⁶ Interview with Trimarjono in Surabaya, 15 January 1997. Trimarjono was born in Ngawi in East Java on 14 April 1933. After finishing a Law degree at Gadjah Mada University in 1962, he joined the Indonesian navy as a Lieutenant, and was appointed secretary to the provincial government from 1967-1985, when he became Deputy Governor, until 1990. He is at present chairperson of the East Java provincial DPRD, and believes that, in East Java anyway, 'the community is more critical of the work done by provincial assembly representatives and expects greater responsibility from them' (*Apa dan siapa* 1996:229).

resmi) of evasion by factories. Journalists warned Masdoekie about bribes and threats of violence from factories. Once a Chinese businessman arrived at his house with a suitcase of money, but they never offered him women.⁷

Besides this kind of indirect intimidation, other more subtle political pressure was brought to bear, exploiting connections between the large conglomerates and their connections with politically powerful decision makers. Again it is not possible to provide evidence of such connections and how they affect provincial governments' attempts to implement pollution regulation and controls. But former East Java Deputy Governor Trimarjono was quite frank about how these connections work in relating an experience he had while in office:

We were having a lot of problems with [paper factory] PT Tjiwi Kimia. They built a lagoon to process the effluent. But the smell became a problem as the lagoon filled up. Finally the local community protested, and Tjiwi Kimia didn't know what to do. They asked my help. I got them to make a pipe from the lagoon to the sea, so the waste could be emptied. But there were more problems. One day [the factory owner] Eka Tjipta Widjaja arrived at my office. He brought a 'powerful letter' (*surat sakti*) from Jakarta which asked for facilities from the police and the provincial government. So in turn I threatened him back (*saya ancam balik*). 'If you have a problem on your hands in the future and there happens to be, say, a fire in your factory, or protest about effluent, the *kabupaten* security authorities (*muspida*) will not act without my instructions.'⁸

As well as pressure from outside, pressure from within the bureaucracy also occurs. This usually happens when an official at a higher level disagrees with or has a different opinion from a subordinate, but for whatever reason the subordinate official refuses to change his opinion or continues to oppose his superiors. The result can be that the more senior official in rank then tries to block or hamper his subordinate or put pressure (direct or indirect) on the recalcitrant

⁷ Masdoekie suspects that a new regulation requiring that third level echelon officials (like himself) retire 'early', at 58, was because certain bureaucrats in the provincial government who were close to factories, wanted to see him out of the way. As former chairman of the East Java branch of the government Golkar party, he had expected to be on the election ticket for the national DPR, but this never happened. He is now chairperson of the provincial association of returned pilgrims to Mecca. (Ikatan Persaudaraan Haji Indonesia Propinsi Jawa Timur).

⁸ Interview with Trimarjono in Surabaya, 15 January 1997. Under Soeharto's New Order high ranking officials would write notes asking for favours for their 'clients' from local officials. Most officials at the provincial level would find it difficult to resist requests from a man with the power and influence of Eka Tjipta Widjaja, who heads Indonesia's second largest conglomerate business empire, even without a '*surat sakti*'. The environmental NGO Sekretariat Kerjasama Pelestarian Hutan Indonesia (SKEPHI) notes that conglomerates like that of Eka Tjipta represent ersatz capitalism in Indonesia, they disregard laws and official regulations in their business dealings, and are closely aligned with the political power holders. For a useful business biography of Eka Tjipta Widjaja and his CV Sinar Mas group, from an environmental NGO perspective, see SKEPHI 1994:88-90. According to Trimarjono, Tjiwi Kimia finally installed a UPL, although not before being taken to court in the early 1990s. He says that now the factory regards him as their 'saviour' (*dewa penolong*) for forcing them to install proper pollution control equipment.

official. A typical example of internal conflict within the provincial bureaucracy was the case of Assistant Governor Masdoekie, who favoured the '*gebrakan*' approach, while his immediate superior, the new Deputy Governor Harwin Wasisto wanted a less confrontational style, 'not shouting loudly and accusing each other' (*tidak gembar gembor dan saling tuding menuding*) (Surya 1993e).

Unfortunately, these initiatives have ended since the period of *reformasi* in 1998. The provincial government's successors now concentrate on current political issues. With the new political system, the governor and subordinates at regency and municipality level are chosen by the regional parliament (Arief Djati 1999). Therefore the positions of parliament members, who come from various political parties, are important. They can choose to remove mayors or regents according to their own interests. Unfortunately, their interests lie with their parties and they seem to have little concern for environmental issues.

The attitude of factories towards pollution control changed in 1989 after the introduction of the national Clean River Program. The Prokasih program covers all areas of river pollution, including identification of sources, warning, negotiating, monitoring and law enforcement. This included: identifying the main polluted rivers, which factories were sources of pollution (industries and companies), setting targets, and providing information, training and assistance in installing waste water treatment plants. It also included monitoring their waste water effluent – a stumbling block which has proved to be the main problem in implementation of the programme.⁹

The Prokasih program was required to review its performance quarterly and report its results to the governor.¹⁰ Meanwhile, the Proper Prokasih or Business Performance Rating program gave a pollution rating to companies involved in the Prokasih program. The priority targets were the pulp and paper, textile, petroleum, palm oil, rubber and processing industries. Ratings range from gold (companies or business activities who best used available clean technology, had zero discharge of pollutants, and whose environmental impact management efforts were an example to other countries), through green, blue, red, and finally black (for companies or business activities which had no environmental impact management and whose activities caused serious environmental concern). The main objective of Proper Prokasih was voluntary compliance rather than legal coercion. No court actions were taken

⁹ The founder of ICEL (Indonesian Centre for Environmental Law), Achmad Santosa (1996a:27) writes that 'Prokasih has been beset by inconsistencies in implementation, particularly in monitoring waste water effluents [...] irregularities in monitoring are compounded by inconsistencies in imposing administrative sanctions, by the involvement of various agencies in the Prokasih ad hoc team and the shortage of financial resources'.

¹⁰ *Himpunan Peraturan* 1995:42-3. Achmad Santosa also notes that Prokasih would not be necessary if the system of water pollution control permits, as stipulated under Regulation No 20/1990 had been implemented. If Santosa here is referring to permits for disposal of liquid waste (that is pollution licenses), as far as the authors are aware, these have never been issued in East Java.

against companies with a consistent black rating for example. In the beginning companies who conducted voluntary environmental audits were exempt from Prokasih ratings, and there were some strange anomalies, as when PT CSI received a green rating in the second audit in December 1996.¹¹ Another heavily polluting paper mill, PT Tjiwi Kimia, saw its blue rating downgraded to red (Environmental Impact Management Agency 1997:9). None of the six heaviest polluters with black ratings over the period in which the ratings were given were located in East Java, but neither did the province have any companies that were in the green rating band (except PT CSI in March 1997). All were either blue (companies that complied with all regulations) or red (companies that have made efforts to control effluent but do not achieve compliance with allowable discharge levels).

Thus, the objective of those programs encouraged factories to be environmentally friendly by using water waste treatments plants. Unfortunately, during the period of economic crisis after 1997 all these programmes ended. If not officially, at least they were no longer being implemented. Without these programmes, factories are again free to throw their effluent in the rivers.

As a consequence, since the era of *reformasi* began, environmental issues have been forgotten by the East Java political elite. The quality of water from rivers has deteriorated. Perfect examples of the neglecting of environmental problems are recent cases of water pollution in East Java. PT CSI, for example, has had many environmental problems since its establishment in the 1990s. For example, pollution from its factory in early 2001 seeped into neighbouring aquaculture ponds (*tambak*) in Pasuruan, killing shrimp and fish (Surya 2001a). Shrimp farmers have protested to the local assembly and to the Bupati of Pasuruan. The Bupati promised to be the mediator in this case (Surabaya Post 2001a), but he did nothing. Farmers then protested to the Bupati that he was a liar (Memorandum 2002). A similar incident occurred in Surabaya. The Surya Agung Kertas company (SAK), which also had environment problems during the 1990s, polluted the Surabaya River in September 2001. There was no serious response from the Surabayan municipality or Gresik regency in the face of this pollution, even though peasants close to the factory were seriously affected. Their rice fields were damaged by the polluted water. Two months later, in November 2001, the same factory released more pollution into the river. This time, the Gresik regency parliament invited factory representatives

¹¹ Shrimp aquaculture farmers had protested violently against PT CSI (Cheil Samsung Indonesia) in November 1995, accusing the company of polluting their shrimp ponds. According to the Badan Pengendalian Dampak Lingkungan (Bapedal, Environmental Impact Management Agency), this company had achieved a green rating because their liquid waste analyses were 50% below the allowable standard, 'it performed good housekeeping, the park around the factory was nice, and well ordered, and the company reported its liquid waste analyses and flows regularly to Bapedal as required' (Environmental Impact Management Agency 1997:10).

to attend their meeting. At that meeting, they accused the factory of water pollution in the Surabaya River. However, instead of being punished, the factory was given a six-month period to improve its water waste treatment facilities (*Surabaya Post* 2001b). This disappointed the local NGOs so much that one of them, Ecoton, then tried to take the factory to court, without success. In another case, Ngadiredjo sugar mill in Kediri also polluted the Brantas river system. The effluent from this factory overflowed and water in the river became black, as did the drinking water of local residents, but again there was no serious reaction from the Surabaya municipality (*Kompas* 2001). Even when the police took the Ngadirejo sugar mill to court, the case failed because 'no evidence of proof was found' (*Surya* 2002). All these cases show that regional governments are not taking environmental and water pollution as seriously as their predecessor did, and are doing little to protect the people's source of drinking water.

The regional government's reaction, however, was far different from the response of local communities to environmental pollution. As victims of environmental pollution, communities still continue with their complaints and protests against pollution from factories. The forms of community protest are similar to those of the 1990s. The political context of this protest is often to focus on the cause of the pollution (for example a particular factory) in an attempt to put pressure on the authorities to help resolve the environmental issues. Even if authorities react positively to protests, the real problem is getting the factory to change its effluent treatment facilities. On the other hand if the community that is protesting feels that it does not get a positive response, they will go to the next highest authority, or if increasingly under pressure, public demonstrations (*unjuk rasa*) may occur, which may be peaceful protests, or may involve violence.

More often than not, media reports indicate that repeated written and verbal protests to local officials received no response at all. Attempts to meet with factory management were often unsuccessful. In many cases, local citizens took their protest to the local DPRD, but no positive responses were reported, except a commitment of these local assemblies to be mediator. The best example is the pollution of PT Semen Gresik in Tuban recently. The farmers who were the victims of this pollution held protests at the factory. They also went to the factory and regency office to appeal for their cause. On the way to their destination, police blocked the demonstrations and asked farmers to stop their protests (*Surya* 2001b).

The role of the police

The role of community protest against pollution has been an important factor in the development of environmental protection policies in East Java since

the first water pollution cases in the mid-1970s. However, not all the groups who worked against environmental pollution in the past are still active. The role of the police is crucial as it is their task to uphold the environmental laws enacted by governments. As we will see, the police, who were active in environmental protection during the early 1990s, ceased their efforts in the period prior to reformasi. From 1998, police operations against polluting factories were reduced, and since that time there has been no reporting of police involvement in environmental issues.

The police in East Java played an important role in making the community aware of Prokasih (Clean River Program) in its early stages. This was due mainly to the role played by East Java's progressive police chief at the time, Major General (Police) Koesparmono Irsan (now a member of Indonesia's Human Rights Commission). This campaign, which began in December 1990, produced some interesting statistics in its first year of operation. The role of the police in tackling industrial pollution of the Brantas River, specifically in the implementation of Prokasih, has as its legal background the Environmental Management Act of 1982 (UULH 1982). In order to implement this legislation a number of 'implementation acts' (*peraturan pelaksana* or PP) had to be passed, one of which was PP 29/1986 concerning AMDAL (Environmental Impact Analysis)¹² which made it possible to bring polluting factories to court, if necessary on a charge of subversion (*Surabaya Post* 1987).

Before his appointment as East Java's police chief, Koesparmono Irsan had already been involved in an important pollution case in his previous position as national Director of Police Intelligence (the Indonesian equivalent of a Criminal Investigation Bureau) in Jakarta from 1986 to 1990. During that time he investigated the importing of 'hundreds of drums' of 'dangerous and poisonous or toxic material' (known as B3: *bahan berbahaya dan beracun*) by an Indonesian company owned by Tanyo Sudharmono, a son of then Vice-President Sudharmono. Tanyo Sudharmono's company was reportedly being paid \$553,000 per imported drum of B3 waste in the port of Tanjung Uban in Riau province. The drums of toxic waste were stored at a nearby beach. The case went to a local court, which fined the captain of the ship that brought the drums of toxic waste from Singapore, not the importers.¹³

¹² Out of sixteen implementation regulations which Andik Hardiyanto maintains were needed, four have so far been passed concerning, apart from Amdal, water pollution, B3 (Bahan Bahaya dan Beracun, toxic waste), and PP No. 5/1990 concerning land and ecosystem conservation (Interview in Surabaya, 9-1-1997).

¹³ Interview with Koesparmono Irsan in Jakarta on 1-9-1998. Born in Pematangsiantar in 1940 (where his father worked as an engineer in BPM, the Dutch-owned oil company), Koesparmono was trained in the national Police Academy, and also has degrees in law and business administration. He served in the police force in Irian Jaya, and as head of the West Sumatra police, in the criminal investigation department, and as Governor of the national Police Academy.

Seeing the pollution situation in East Java in 1990, the new provincial police chief decided to initiate the police's own campaign against polluting factories (Operation Kemukus):¹⁴

I said to my police staff, 'We are going to act on the factory pollution problem'. My officers gave me the details of the cases, but the problem was the Environmental Management Act. You not only have to prove there is pollution, but you have to show where the victims are. I talked to the provincial government environment people [Bureau of the Environment] and the local Attorney General's Department. Our problem was that we didn't have anyone in the provincial-level police who was an environmental expert. So I asked for one from Jakarta. They sent someone from the national police headquarters (MBAK) laboratories. I was told to take water samples upstream and downstream [from the piggery and *tofu* factories], but I didn't know how far upstream or how far downstream. Besides having a polluting piggery [PT Sidomulyo], the Porong River also had a food additives factory which made the source of pollution hard to determine (Koesparmono Irsan, Interview in Jakarta on 1 September 1998).

In preparing cases to go to court, police had to follow strict procedures regarding provision of proof of pollution by particular factories or industries, and the necessity of showing a causal connection between the actual effluent discharge of a particular factory, and the polluted state of the river (*Surya*, 1991b).

The first Kemukus operation in East Java between August and December 1990 was thus designed to compile an inventory of companies polluting the environment (*Surya* 1991d). The police took effluent samples from suspected factories during their official operating hours. Apart from testing liquid effluent, which was sent to the BTKL (the Health Technology Laboratory), the police involved in the Kemukus operation interviewed factory owners and managers, and the Minister for Population and Environment Emil Salim, who publicly supported the police operations, announced that 738 factories had received warnings from the police because of pollution activities. Of these, 212 were told to install waste treatment facilities, 211 factories were 'put in order' (*ditertibkan*), 74 were evaluated as having 'the wrong attitude' (*membandel*) and were threatened with court action, while a further 24 factories received penalties.¹⁵

¹⁴ The name *kemukus* (from *kukus* meaning smoke or steam) was taken by Koesparmono from the Javanese shadow play where it means a dangerous dark cloud (Interview in Jakarta on 1-9-1998).

¹⁵ *Surya* 1992e. According to this report none of the 74 companies threatened with legal action were actually taken to court because the first Operation Kemukus focused on making an inventory of polluting companies. According to Koesparmono, 219 factories received warnings, and ten were taken to court, but all had the charges dismissed, except the piggery case (see below) which went to the Supreme Court (Interview in Jakarta on 1-9-1998).

The second operation which lasted from July to November 1991 aimed at direct legal action against the factories (*Surya*, 1991c). In this second Kemukus operation, the effluent of 48 factories throughout the province suspected of polluting the environment was tested in the police laboratory. Eight factories were targeted as being heavy polluters in the Mojokerto-Sidoarjo-Surabaya region, but only one was investigated further (*Surya* 1991e); at first the police did not reveal the identity of the factory, but the local press discussed the case openly (*Surya* 1991b). Pakerin was one of factories that was caught by this operation. Although the effluent water samples collected during the Kemukus operation clearly showed that the factory effluent was well above the maximum BOD and COD levels, and although the Operation Kemukus Team worked with the Department of Justice and were supported in public statements by Salim, the case never reached the courts, probably because it was not supported by Governor Basofi Sudirman, because he considered the factory important economically for East Java.

Early in 1995 the third Kemukus operation was launched and seven factories, later reduced to six, were named as polluters. The deletion of PT Avil Asia Tile from the list is an instructive example of the difficulties faced by the police or civil authority in obtaining proof that a factory was polluting the environment. A joint investigating team of police and Bapedal (Environmental Impact Management Agency) members arrived unannounced to examine the waste treatment plant in the tile factory, only to find the factory plant and equipment closed down (*Surya*, 1995a). According to later reports, the Avil Tile factory management not only closed down operations, but ordered all employees to clean up the site, remove all rubbish and also wash the dust of the walls of the factory. This made the joint investigation team's job of finding 'proof' of pollution in the waste treatment plant or in the environs of the factory difficult. This led to the comment by the new provincial chief of police Roesmanhadi that 'a third party had deliberately tipped off the factory about the planned operation, so it could stop its production before the investigation team arrived' (*Surya* 1995b).

Legal actions

The possibility of court actions against factories over industrial pollution was first raised in the local East Java media in November 1982, eight years before the first Kemukus operation. Since then East Java has pioneered legal action against pollution with six out of nineteen environmental cases brought to the courts in Indonesia before 1998.¹⁶ In this context, we will briefly examine some legal actions that arose as a result of the Kemukus operations. The general impression is that environmental cases are hard to prove, and the court

¹⁶ For a summary of these six cases, see Anton Lucas with Arief Djati 2000: Table 3, 120-2.

proceedings are subject to interference from either the government (which wants to keep a particular company operating) or the company concerned.

One such case to come before the courts in East Java was a criminal action brought by Mojokerto district against the paper mill PT Pakerin. Pollution readings showed that the effluent from the company was way above the maximum levels set by the regional government.¹⁷ Under the agreement signed under the Prokasih Program, PT Pakerin had until 31 December 1991 to clean up its effluent. In early 1992, head of the Mojokerto *kabupaten* Department of Justice, Hantoro Soermarjo, announced that his office was ready to take the case to the Mojokerto district court as soon as possible, but was 'waiting for instructions from his superiors' (Surya 1992c). The Environmental Minister Emil Salim, also wanted PT Pakerin prosecuted as part of the Clean Rivers Program. So did the police, who had identified the factory as one of 566 offenders in the first Kemukus operation. The Environmental Health Technology Laboratory (BTKL) was determined that this time the evidence would lead to a conviction:

For a 'material offence' (*delik material*) you have to prove that effluent [from a factory] has damaged the living environment. We thought that you could prove this by showing how the effluent affects fish with bioassay [English original] tests on the fish. We did bioassay tests for the Pakerin case. We spent Rp 2 million testing 5000 fish. We brought them live into the lab, one thousand at a time, and tested them with different concentrates of effluent we had collected in jerry cans at the factory liquid waste outlets, from 100% down to 12.5% effluent concentration, with 10 fish in each sample. Most fish died in the 37.5-60.5% effluent concentration range. We had to repeat the experiments within this range so we knew at what effluent levels the fish died (BTKL source).¹⁸

However politics would ensure the case never got to court. First the activist Mojokerto public prosecutor was transferred to South Sumatra. The provincial Justice Department, having previously announced they were ready to prosecute, suddenly dropped the case without any public reason. Governor Basofi, who on 13 September 1993 had publicly asked the local Justice Department to look carefully at the facts in preparing their court brief over the PT Pakerin pollution case, reinforced suspicion of political interference. Using typically Indonesian bureaucratic language, the Governor's message was clear to those who knew the situation:

¹⁷ The pollution load of BOD was 1,190 while COD was 3,101 (see also note 6)

¹⁸ The number of fish that die is also important in toxicity tests, that is if five or less fish survive an effluent is 'out of compliance'. Thus bioassay tests are designed to measure factory effluent toxicity, that is 'the ability of an effluent to kill or interfere with the growth or reproductive processes of aquatic life'. The toxicity of an effluent measures the effects it has on the health of aquatic organisms. However 'it is being increasingly recognised that no single test method or test organism can be expected to satisfy a comprehensive approach to environmental conservation and protection' (EMDI 1993: Appendix H).

It is up to the Justice Department, whether the Pakerin case is taken to court or not. But it is clear that the pollution at this factory can be overcome. PT Pakerin is really trying to control the pollution by building the best water treatment it can. If you don't believe me, go there and see for yourself. (Surya 1992c.)

This kind of public support for the factory by the Governor, who had already granted the company an extension of time to install a waste treatment plant (*Tempo* 1994:106), meant that the provincial Justice Department had no choice but to withdraw its prosecution of the case.¹⁹

Another case that came to court, that of PT Surabaya Meka Box paper factory, was initially the result of an industrial accident, an oil and diesel spill into the Surabaya River. The company had earlier been named in the police's 1991 Kemukus Operation, and had been part of the Prokasih Program since 1989. Because company failure to operate its systems properly was clear-cut (or because the factory did not have the same economic clout as did PT Pakerin), this time the East Java Governor threatened legal action and the case went to court with the intention of suing the company directors. Much to the surprise of the government (and the Surabaya LBH which was monitoring the case closely), company directors were not named in the police case file or deposition. Instead, the police named a boiler operator as the defendant. Assistant Governor Masdoekie has expressed his frustration in private that the police had altered the name of the person charged with a criminal offence without instructions from the public prosecutor.²⁰

The Kemukus Operation ended after Koesparmono was replaced as East Java's police chief. There are no subsequent reports about the operation or legal actions in the province. This is an indication that the success of police programs and legal action depends to a large extent on the policies of individual police chiefs, not on institutional policies. It is unsurprising that anti-pollution efforts ceased during the period of *reformasi*. Consequently, there has been a deterioration of water in East Java's rivers. Moreover, it has had an impact on the quality of drinking water.

PDAM, Jasa Tirta and drinking water

When it comes to examining the provision of drinking water to households, it is necessary to consider the relationship between PDAM²¹ and Jasa Tirta.

¹⁹ Surya 1993d. Provincial government unwillingness to act against PT Pakerin, according to a local lawyer academic, was due to four factors. Its export markets which earn foreign exchange are not derived from oil and gas, it is a project which has attracted large investment to East Java, it provides employment for thousands of local people, and its presence promotes regional development (Zaidun 1995:77).

²⁰ The implication is that, in order to do this, factory management was in collusion with members of the police.

²¹ PDAM (Perusahaan Daerah Air Minum) are state-owned water companies, many of which have been sold off to private enterprise by local authorities since 1998.

While the municipal and *kabupaten* PDAMs throughout East Java are responsible for supplying water to households for domestic use, Jasa Tirta is the company contracted to supply the 'untreated' river water. Jasa Tirta is a state-owned company, established under the control of the Department of Public Works in 1990. As Indonesia's only catchment-wide water resources management agency, its main tasks include the management of water resources (including infrastructure), management of water supply, and water quality management 'in the context of the broad objective of water conservation for national development'. This means Jasa Tirta is responsible through a series of contracts for supplying enough water for electricity generation, regional drinking water, industry, agricultural estates and plantations, fisheries and livestock. Jasa Tirta also has responsibility for flushing the Surabaya River (and other rivers) to keep pollution at manageable levels (Perusahaan Umum 1993:4, 8-9). As the company monitoring river pollution loads as part of the Prokasih program, Jasa Tirta operated one of the three officially accredited water sampling laboratories (the others being the BTKL and Department of Industry laboratories),²² and conducts monthly tests of river water in 50 testing sites where factories are suspected of emptying effluent into rivers.

With these objectives and tasks to fulfil, Jasa Tirta has to manage the entire Brantas river catchment basin, which includes 40 rivers in East Java. This is not an easy task. It levies rates (*iuran*) on water users, to whom it supplies water, namely industry, the Perusahaan Listrik Negara (PLN, State Electricity Company), and municipal and *kabupaten* PDAMs. In Surabaya municipality, the problem arises because PDAM is wholly dependent on Jasa Tirta for providing enough water of a specified 'standard' quality to supply the needs of the entire city. However, PDAM complains that it has no say in the management of the rivers, and has to pay a negotiated fixed contract price, regardless of the quality of the water supplied, which varies according to the flow throughout the year. If consumers protest about the quality, and PDAM blames Jasa Tirta, Jasa Tirta's usual response to PDAM is 'your water treatment facilities are not working properly'. According to a staff member of Jasa Tirta, the provincial government has said that Jasa Tirta is not responsible for municipal domestic water quality.²³ Jasa Tirta does not operate any water treatment facilities, and does not have the authority (nor the manpower or expertise), to enforce water pollution regulations against polluting factories, hotels and hospitals. Neither, of course, does the Surabaya PDAM. Until enforcement of proper waste

²² Unlike the well-funded BTKL laboratory, in the early 1990s the Jasa Tirta lab has financial and management problems. These include shortages of funds for vehicle maintenance, and repairs to equipment such as a pH reader and spectrometer, while both the Jasa Tirta river monitoring teams 'complained that they monitored in the morning, [but] industries discharge their waste in the evening' (Koffel 1994:12).

²³ Interview with Jasa Tirta official in Surabaya on 22 January 1997.

treatment is improved, every time there is a water quality or supply crisis in Surabaya, PDAM will continue to blame Jasa Tirta, saying that it cannot properly treat the poor quality water Jasa Tirta supplies quickly enough to meet the demand of Surabaya's consumers. Until the installation of effective waste treatment facilities is properly enforced, attempts to shift responsibility for periodic water quality crises in Surabaya are likely to continue.²⁴

In addition, the Surabaya municipal PDAM and some, but not all, *kabupaten* PDAM have their own water testing facilities. This reflects a priority within PDAM where quantity has been given priority over water quality. While all the 37 second level local administrations (*kabupaten* and municipalities) have PDAM, not many have a water testing laboratory to monitor and control water quality. The laboratory with the best reputation is the BTKL, because of its independently funded facilities, its relative autonomy, and its effective management.²⁵ The main problem the laboratory faces is expense in testing for heavy metals such as lead or mercury. Also the BTKL have no control over how water test results are used. For example, factories send water to test, and then write reports to the supervising government agencies, saying the water is clean. Issues such as where, how and when water samples were taken have never been addressed.²⁶

It is difficult to improve the quality of PDAM's drinking water. Besides PDAM's lack of technical expertise, there are serious problems arising from PDAM as an institution. Firstly, there is corruption. After former Director Hoesodo was accused of misusing Rp 23 billion in funds earmarked for the upgrading of the Karang Pilang water treatment plant (*Jawa Pos* 1998b), his successor has also been accused of corruption and has since been replaced by the Mayor of Surabaya. This case emerged after the national Badan Pemeriksa Keuangan (BPK, Financial Auditing Board) disclosed their finding that the enterprise lost Rp 31 billion with no clear explanation. Secondly, PDAM became an informal treasury for many activities, especially recreation facilities, for the local government (Pemda).

²⁴ Since era of reform, the police have been investigating the directors of Surabaya PDAM over the 'disappearance' of 10% of the US\$12.5 billion World Bank loan to expand the Karang Pilang treatment plant water filtering capacity (*Jawa Pos* 1998a, 1998b).

²⁵ With 500 million rupiah in aid from the Japanese government via the National Development Planning Board (Bappenas), the BTKL completed a new laboratory complex in 1997, and then had an annual government budget of 200 million rupiah plus another 30 million rupiah from projects.

²⁶ The 1990 water pollution manpower study conducted by the Canadian-funded EMDI project recommended the establishment of a laboratory council to cooperate in scheduling water sampling and analysis, to standardize methods of water sample collection, transport, storage and analysis, to coordinate results of testing and monitoring, and to develop a system of data recording that would eventually lead to the creation of a common data base for water quality (Fraser and Wiriaatmadja 1990:28). The political obstacles to implementation of these policies, in the form of overlapping departmental responsibility for water quality are formidable.

Well pollution

Although the focus of this section is river pollution, the pollution of wells from various sources directly affects what is the only source of domestic water for many residents of Surabaya. Indeed, throughout the province, salination of ground water has been reported for many years, in some cases this is thought to have originated from brackish water shrimp ponds (*tambak*). Pollution of wells of villagers living near factories (including two paper mills) have been reported regularly over the past ten years.

Recent research in East Java shows that a major source of well pollution is nitrate contamination. A survey of households in the province showed that up to one quarter of the population drink water with a nitrate content higher than the maximum 10 mg/l recommended by the World Health Organization (Wetselar et. al. 1996:77). The source of this nitrate build up in groundwater is apparently not what was originally suspected as the cause, namely nitrogen fertilizer applied to rice fields (which has increased enormously in recent years because of the spread of high yielding rice varieties), but rather human excretion of digested food waste and to some extent animal waste. With 'drop' toilets and simple septic systems, nitrates quickly get into groundwater aquifers, and become highly concentrated. High nitrate consumption via domestic well water causes serious health hazards to pregnant women (by affecting the blood's capacity to convey oxygen throughout the body). It also causes diseases such as stomach cancer and diabetes. The problem with nitrate pollution is that being colourless, odourless and tasteless it cannot be detected by villagers or urban *kampung* dwellers, whose criteria for water quality are the colour of the water and its taste. Apparently boiling the water, the traditional method of getting rid of faecal coliform, only increases nitrate concentration.²⁷

Popular protest against the Surabaya drinking water company (PDAM)

The poor quality of drinking water in Surabaya has caused much complaint and protest from Surabaya residents. Their complaints and protests about the quality of water supplied by PDAM, Surabaya's domestic water supplier, have always been published (even during Soeharto's New Order), together with the ongoing problem of inadequacy of supply.

In the early 1990s, the morning daily *Surya* ran several newspaper polls and letters to the editor and published short interviews with Surabaya residents about the dirty city water supply. Most complaints were about poor service from PDAM, very poor water pressure, and the water supply being cut off for most of the day (*Surya* 1991a, 1993c). In July 1994, *Surya* invited readers to phone in their complaints about the municipal water supply, which were then published, an unusual initiative by the regional press in those days. They reveal a number

²⁷ Fox 1996:44. In Lombok, a similar survey showed more than 50 % of wells in 46 locations throughout the island were heavily polluted with nitrates (*Kompas*, 1996d).

of concerns about the problems of providing clean safe water to the residents of Surabaya. People had their own makeshift water treatment facilities at home to try to get rid of the smell, the sediment and the mosquito larvae. People with no wells had to scrub out their water tubs every morning before bathing, because of the muddy sediment. *Kampung* people were installing small pumps to try to increase the flow of water from the PDAM mains supply. People had to buy water from their neighbours. People found tiny larvae wriggling in the water. Water quality had declined compared to previous years and callers referred to the 'trauma' of having what seemed to be worms coming out of the mains supply into their bathing water. Others spoke of broken water mains spilling out onto the street for days, with no sign of any repairs being made. Several callers contrasted the money that PDAM spent on a very grand (*megah*) six-storied municipal office block with the little it was prepared to spend on upgrading the rusty pipes throughout the city. People spoke of having to stay up until the early hours each morning to ensure that enough water was collected in containers for household needs, and of having to buy bottled water for drinking.²⁸

This phone-in of complaints of PDAM consumers conducted by *Surya* newspaper generated more water tests, the results of which only added to the debate, which went on for several weeks between environmentalists, PDAM and PT Jasa Tirta, about the causes of the poor municipal water quality and pressure in Surabaya.²⁹ A *Surya* editorial blamed the high levels of detergent in the Surabaya River on the chemical used in making Indonesian soap powder, which is difficult to remove by existing water treatment processes.³⁰ PDAM maintained the problems were due to ancient pipes no longer able to cope with higher water pressure, causing the water to become polluted in some areas; the Surabaya municipal DPRD blamed PT Jasa Tirta for supplying such poor quality water to PDAM for treatment. The DPRD also blamed the provincial Badan Lingkungan Hidup (BLH, Environmental Bureau) for not taking harsher measures against factories polluting the Surabaya River. There were also calls for the privatization of PDAM.

Another kind of protest against PDAM water pollution involved residents threatening to withdraw participation in government development programs. This resulted from delays in the connection of new housing neighbourhoods to the Surabaya municipal water supply. After waiting for three years and

²⁸ These comments from 30 consumers (47 telephoned the newspaper on the first day) were published over five days from 1-5 July 1994 as 'Complaints of citizens about the municipal water supply' (*Surya* 1994a).

²⁹ At the time Airlangga University Professor of Public Health Faud Amsari said the levels of pollution in the PDAM water supply could cause serious skin diseases and chronic allergies (*Surya* 1994c).

³⁰ According to the *Surya* editorial, Indonesian detergent is made from ABS or alkyl benzene sulfonate, a chemical imported from overseas, where its use in detergents in the USA, Japan, France and Germany is banned. Its replacement, ALS (alkyl linier sulfonate), can be removed more easily during water treatment (*Surya* 1994b).

filling in three lots of forms registering their households to become consumers, residents of one *kampung* (urban ward) protested 'at PDAM's false promises' and felt that 'PDAM was putting one over them'. Representatives of 152 families complained to *kampung* officials, who passed on their complaints up the administration hierarchy, finally to the Mayor of Surabaya, with no result. Finally the residents, who had won local development awards in their *kampung*, told officials that they would no longer participate in any kind of *kampung* community service (which is considered obligatory for all residents) until they had an answer from PDAM as to whether their registration for water connection 'had been accepted or rejected'. The most influential local official, the head of the *Kampung* Association, supported their protest, saying that waiting for three years without a reply from PDAM made people 'disappointed and unwilling to participate in development'.³¹

Women's voices

It may seem surprising, given the New Order suppression of political dissent, to find women in Surabaya protesting louder than anyone about environmental issues. However, respect for authority and keeping quiet about social issues has its limits, especially in regard to the issue of clean water, which directly affects women's daily lives. The impact of polluted wells or constant failure of the municipal water supply is felt mostly by poorer *kampung* women in their traditional gender roles of doing most of the domestic work, namely cleaning, cooking and washing.

The state-sponsored Pembinaan Kesejahteraan Keluarga (PKK, Association for Promoting Family Welfare), a semi-official women's organization functioning at all levels of government down to the rural village or urban Neighbourhood Association, is not known for promoting political protest by its members. Altogether a non-political organisation, its office bearers are usually the wives of local officials who loyally support their husbands in implementing government development policy (along with other village-level institutions) at the grass roots level (Eldridge 1995:32). The main activity of PKK is to run educational courses for wives or mothers from the Neighbourhood Association up to the provincial level.³² But on several occasions in Surabaya in recent years women have protested about polluted water, using the PKK organization as an conduit to make their voices heard.

³¹ *Memorandum* 1993a. In the same year another group of 20 residents in two other urban wards in Benowo subdistrict in Surabaya took their complaints about air pollution caused by PT 'KJ' to the Mayor and numerous complaints to the local subdistrict head (*camat*) but got nowhere (*Surya* 1993a). Protests about air pollution and noise from factories have been regularly reported in the Surabaya daily press.

³² Unlike PKK, membership of the other officially sponsored women's organization, Darma Wanita is obligatory for wives of government officials. On gender politics in New Order Indonesia and the control of women by the State, see Rahayu 1996.

In early 1990 a group of PKK women became involved in a protest when their wells were polluted by effluent from PT SSS in Tembok Dukuh in Surabaya municipality. In March of that year *kampung* residents living near the factory complained that their skin itched after using well water, which had changed to a colour that was the same as the effluent from the factory that spilled out through a broken retaining wall. Residents were forced to start buying PDAM water, paying suppliers Rp 1000 per day. On 4 September 1990, around 11 a.m., fifteen women from the local PKK went spontaneously to visit the PT SSS factory management to ask their opinion about the complaints from residents that had been made in a letter three months earlier, but had not been acknowledged. After the PKK women's visit, the factory tried to discredit them with accusations of 'holding a demonstration' and of stealing a disputed number of bags of cement. The factory also reported the visit to the local *Koramil* (subdistrict military command), as a result *kampung* officials were called up for questioning. It seemed that the local military authorities and the factory were in collusion, and so social protest was being treated by the military authorities as a security issue.³³ However an investigation by the village authorities (the headman and the BABINSA or *kampung* level security) found that in a *kampung* laneway containing oozing effluent, 48 wells were polluted (the water had turned yellow), and subsequent tests from the BTKL laboratory showed high concentrations of zinc and chrome (*Muchayanah* 1992:78-83). What happened to the protest after that is not clear, although in another groundwater pollution case, a protest by 70 'mostly women' residents to the government-owned alcohol factory PT Aneka Kimia resulted in research (between the factory and the Surabaya Institute of Technology) that discovered waste was seeping into the groundwater. After repairs to a leak found in waste-holding lagoons, the factory constructed deep wells for 50 affected households (Koffel 1994:8).

In early 1996 another group of PKK women twice took their complaints to the office of the Surabaya municipal PDAM, in a demonstration concerning the city water supply. Although connected to their homes, water had been cut off for several months. At 7.30 a.m. on 27 March 1996, three cars arrived at the grand front entrance to the office of Surabaya PDAM. Much to the surprise of those already at the office, thirty women emerged wearing the East Java PKK uniform and immediately rolled out their posters, and spoke to the media. The women were cross and their patience had run out. PDAM had promised to supply water to 240 homes already connected to the municipal water supply but nothing had happened. The women had reported the situation to the regional representative of PDAM, and to the head office of the water

³³ The two local leaders were released from detention after the PKK women visited the Surabaya Military Area Command (Korem 084), and the Surabaya Lembaga Bantuan Hukum (LBH) sent a letter of protest to the East Java Military Area Command (*Kodam*), and because of the comments made by the Minister for the Environment (Sugianto 1996:81, note 2).

company but there had been no response. Because the well water was too salinated for use, the community depended on PDAM for domestic water. *Kampung* officials had already made verbal and written reports about this situation. The community had also sent a letter to Box 5000 without result. The main impact of this was that households had an extra monthly expense of between Rp 120-150,000 for buying water. 'Just imagine', she said, 'the cost of buying water for eight months is about Rp 950,000.' The women then met with the Surabaya PDAM Director Hoesodo and several staff. The next day a team from PDAM arrived in the *kampung*, and they were told that if the water were not turned on they would take their complaints next time to the Mayor and to his wife, and if necessary to Governor Basofi. In the meantime Hoesodo told the press that it was a water supply problem (the company needed an extra 1,000-2,000 litres per second to reach outlying areas), and not a matter of employees manipulating the distribution. However, PDAM acted quickly in response to the protest, which got blazing media publicity, and the following day the *kampung* had running water (Surya 1996; Surabaya Post 1996a, 1996b).

In these and other demonstrations women carried protest posters and banners which reflected their concerns: 'The economy is unstable, yet because PDAM water has stopped we have more expenses', 'Help us Pak Hoesodo [PDAM director], PDAM water has stopped because someone is cheating', 'Don't deceive us with your usual reply, low water pressure', 'We complained a year ago to PDAM that the water had stopped, this treatment makes people feel stupid and neglected', and 'the PDAM Director should sack the well known person who is demanding unauthorized payments'.³⁴

The Umbulan Spring project

As previously mentioned, there is an alternative resource of drinking water for residents of Surabaya – the Umbulan Spring. The proposals for the development of this project during the New Order is an interesting case study on 'crony' capitalism in Indonesia under the Soeharto regime. Since the colonial period, the spring, located 70 kilometres to the southeast has been an extra source of domestic water supply for the city of Surabaya. The full capacity of this natural aquifer has never been exploited, although Mohammad Noer's dream during his two-term governorship (1967-1977) was to build a new pipeline to connect the spring water to the city water supply. Umbulan Spring, with a reported flow of 5,000 litres per second, was first used in the

³⁴ The Indonesian is 'ekonomi resah, belanja meningkat, akibat PDAM macet', 'Pak Hoesodo tolong kami, air PDAM mampet karena ada permainan', 'Jangan bohongi dengan alasan klasik, debit air kecil', 'Sudah satu tahun dilaporkan ke PDAM air tetap ngadat membuat rakyat tambah bego dan merana', 'Direktur PDAM segera copot oknum yang melakukan pungli'. The reference to deception is connected to the PDAM distribution manager for West Surabaya, who according to the message on the placards, was demanding illegal payments (Surabaya Post 1996a).

early 1900s when several European houses in Pasuruan were connected to the spring water. Later the Dutch built a pipeline that still exists today to supply water to the European residents of Surabaya, adding an extra 110 litres per second to the city water supply. The rest is used by a neighbouring district town, and empties into a river system which provides irrigation for wet rice, and fresh water for aquaculture ponds (*tambak*).

Control of the Umbulan Spring has been an ongoing issue in East Java. In 1940, the Dutch formally gave control to Pasuruan municipality authority, which had plans to develop the growing harbour as a centre of trade. After the Second World War management of the spring stayed with the regional authorities in practice, although efforts to get the provincial government to formally recognise these local use rights were unsuccessful (*Surabaya Post* 1997). In the 1980s various plans to develop a new pipeline were drawn up but never implemented for lack of finance. (*Surabaya Post* 1982)

In the 1990s, consortiums emerged with proposals to invest in the project by building a much larger pipeline. All had connections with powerful political leaders as well as Jakarta-based economic interests, and reflected the nature of how large government contracts were awarded under Indonesia's New Order government. The East Java regional government in 1996 faced a unique situation. Two of the President's children were both bidding for the Umbulan water supply project against each other. The history of the Umbulan development proposals looks like a who's who of business interests of the children of the New Order political elite. Fourteen investors expressed interest in the project. Bimantara Siti Wisesa (BSW), a subsidiary company of Bambang Trihatmodjo's Bimantara conglomerate, signed the first Memorandum of Understanding in 1989, but subsequent negotiations with the regional government broke down after only three months. One of the problems was that BSW wanted PDAM to build a new water distribution system, the company also wanted the regional government to indemnify the company against any financial losses, as well as guaranteeing the water supply to consumers (*Surya* 1992b).

The next to emerge was the Bromo Consortium headed by Tanyo Sudharmono (son of Lieutenant General Sudharmono, a former Vice President and head of the powerful State Secretariat, SEKNEG, and Golkar chairman in the 1980s). The Bromo Consortium spent the next four years trying to reach agreement with the regional government on the one hand, while securing Bank of America finance on the other.³⁵ From the start negotiations with the

³⁵ It consisted of Tanyo Sudharmono's own company PT Duet Comfact, and three British companies, Northwest Water, Matt McDonald and Co, and Coustin and Mowlem, who subsequently withdrew and were replaced by the well known Bakrie Brothers conglomerate, Trans Bakrie. The breakdown of consortium shares was 76.8 pounds sterling (Rp 160 billion) from the British group, Rp 100 billion from money raised from within Indonesia, with the remainder of the total estimated project budget of Rp 302 billion from the World Bank (*Surya* 1991f, 1992a). An Australian based company, Transfield Australia, held 60% of Trans Bakrie shares.

regional government proved difficult, over issues relating to compensation over nuclear attack, sabotage, rebellion, and the problem if the spring dried up. The consortium also wanted the government to bear the burden of losses resulting from *force majeure*. The provincial government not surprisingly refused to be burdened with *force majeure*. There was controversy over an Aid, Trade and Provision Grant (ATPG) of 20 million pounds sterling under which the consortium was obligated to purchase British equipment. Another issue was the price to be charged to PDAM Surabaya for the water, although in July 1992 the company finally agreed to the government's price of Rp 694 per cubic metre, reduced to Rp 638 per cubic metre in October 1992. At this point a 'neutral consultant' was brought in to monitor the total capital costs. Another problem to emerge was the fate of 1,399 hectares of irrigated rice fields if the irrigation water was diverted to Surabaya. There was also the cost to the government of the compulsory acquisition of a strip of land 60 kilometres long by 6 meters wide for the pipeline, estimated to cost between Rp 3-4 billion over three years (Surya 1992d). Bakrie Brothers announced it was having second thoughts about the project, Bimantara offered to re-tender, but Governor Soelarso rejected the Bimantara offer, saying that the government was still bound by the Bromo Consortium negotiations. Finally, Governor Soelarso appeared to lose patience and set a final deadline of 10 March 1993 for the conclusion of the negotiations. The British investors failed to meet the deadline, and the government deleted the Bromo Consortium from its shortlist of investors.

In early 1993 a new investor was on the scene, Indonesia's largest real estate company, Ciputra, run by Eka Tjipta Widjaja. The Surabaya branch of the Indonesian Real Estate Institute had already announced that they were interested in the Umbulan Spring development because of the problems that real estate developers were having with providing sufficient quantities of water to their elite housing estate projects. Many developers were building housing without water connections, because they were waiting for Umbulan (Surya 1993b). A central issue, which had not been discussed, at least publicly, was 'who is the water for?' The regional government wanted the water for domestic consumption in Surabaya. In April 1996 Governor Basofi announced that the President's youngest son Tommy Suharto's company, Hutomo Mandala Putera, had been given permission to make a feasibility study with a new consortium (consisting of PT Mandala Citra, the Ciputra Group and Beatle Corporation from the USA). A month later the consortium made a new proposal to develop the spring for US\$500 million.

However this was still not the end of the Umbulan saga. In June 1996 another investor, Citra Lamtoro Gung Persada, owned by Mbak Tutut (Tommy Suharto's high profile older sister), announced it was also interested in investing in Umbulan. The East Java regional government was unable to refuse the company's request to carry out a feasibility study and they subse-

quently gave a presentation of their investment proposal to the government. The press quickly picked up on the awkwardness of the situation for the regional government, as Governor Basofi tried various tactical manoeuvres to solve this impasse, including publicly suggesting that the two rivals get together to form a joint proposal. It was a strange forerunner of the Soeharto family rivalry over the Busang gold mine, where Mbak Tutut supported one company and her brother Bambang Trihatmodjo supported the other. Governor Basofi denied that there was any problem about the siblings both tendering for the project, but that is what seems to have happened. The regional government had 'a big headache' (*pusing tujuh keliling*) with two rival siblings' consortiums and, not wanting to fall out with one of the President's children, had no choice but to allow Mbak Tutut's company in on the bid. The problem resolved itself when her company failed to show up to make their proposal presentation to the assembled officials at the Governor's office on 19 November 1996. Mbak Tutut's consortium was politely made 'the reserve investor'. Eventually it withdrew and Tommy Suharto's company was declared the winner of the contract, which was signed on 11 April 1997.³⁶

The East Java provincial government's efforts to find a consortium of private investors to develop the Umbulan Spring water resource did not encourage debate about either the constitutional issues (the Indonesian constitution says that all natural resources are controlled by the State) or the equity considerations. This is not surprising. In its push for industrialisation in the province, electricity is always in short supply. Increasingly however water has become a problem for factories. In the case of the Umbulan Spring, the distribution of water to different districts along the pipeline before it gets to Surabaya municipality was a hot political issue. Of concern to the regional Surabaya municipal administration was how PDAM would distribute this increased water capacity for the city. Would priority be given to the 40% of poorer Surabaya *kampung* residents who do not have running water, to residents of the planned elite real estate complexes, or the Dream World entertainment park (proposed by the national real estate developer Ciputra, who also happened to be one of Tommy Suharto's Umbulan consortium partners)? How Umbulan would help the 40% of unconnected residents (mostly *kampung* people who numbered around 1,300,000 in the year 2000) who are at the bottom of the socio-economic ladder

³⁶ *Forum Keadilan* 1996. After Mbak Tutut's consortium withdrew, it was reported that Ari Sigit (President Soeharto's grandson) was going to build a third water treatment plant at Karang Pilang (*Memorandum* 1997). Mbak Tutut's brother Sigit Hardjojudanto together with the Salim Group (in partnership with two overseas water management consultants Thames Water International and Lyonnaise des Eaux respectively) took control (in the form of a 25 year lease of all plant, equipment and labour) of Jakarta municipal PDAM in early 1998. The leader of the Jakarta PDAM Privatization Team noted that in Surabaya water rates had gone up 400% over the past four years, although PDAM Surabaya 'was not yet privatized' (*D & R* 1998). (On the Jakarta situation, see also Braadbaart, in this volume.)

(given PDAM's apparent reluctance in the past to connect poorer *kampung* to the city mains supply) was not debated publicly. Obviously there would have to be a trade-off between government-owned PDAM's profitability as a high revenue earner – meeting the water needs of industry – and social welfare – providing clean water for urban *kampung* dwellers. Water rates in Surabaya were certainly going to rise, unless the supply is differentiated (consumers connected to the Umbulan supply pay more). In contrast to the price of water charged by PDAM, the water rates which the community were going to have to pay would be much higher. Even though water is a commodity which governs the very lives of so many people, and according to the Indonesian Constitution is controlled by the State for the welfare of its citizens.³⁷

Conclusion

Water pollution is not a new problem in East Java. Surabaya felt the effects of pollution for the first time in 1975 when their drinking water became cloudy, dirty and smelt rancid. Events like these have recurred continually until the present, surprising both the local community and the local government. The community's reaction gave the government a reason to act, to the point that environmental problems, especially water pollution, became a political issue that had to be handled quickly.

The worsening quality of their drinking water was caused by heavy pollution of the source of the drinking water, that is the Surabaya River. The pollution came from the dozens of factories around the Surabaya River, as well as from household waste. Since the events of the mid 1970s, the local government has tried to protect the quality of water sources by enacting local regulations. These efforts were undertaken by Governor Mohammad Noer, and continued by his successors. In 1977 Governor Soenandar Priyosoedarno temporarily closed several factories accused of dumping waste directly into the Surabaya River. However, these actions were in conflict with economic policies to provide jobs, so the closures were not long term.

The progressive efforts of Soenandar Prijoe Soedarno were continued by his successors such as Deputy Governor Trimarjono and Assistant Governor Masdoeki during the 1980s and early 1990s. With their own individual styles, these two bureaucrats forced several factories to install UPL so their waste did not pollute the environment. Besides these measures, the two of them were also

³⁷ *Jawa Pos* 1997. *Surya* in an editorial echoed these sentiments, saying that the entry of the private sector into what has been the responsibility of a public company, to provide clean water for the community, which under the 1945 Constitution is the responsibility of the State, will mean that the price will be calculated according to business (that is profit) criteria (*Surya* 1996). Finally, the East Java provincial government revoked their contract with Tommy Suharto and fined his consortium for failing to begin construction of the Umbulan pipeline by the agreed date. The fine of one billion rupiah was never paid (*Surya* 1998).

consistent in monitoring and cautioning factories that obstinately resisted implementing local environmental regulations. Trimarjono, for example, seemed committed to force conglomerates of the caliber of Eka Tjipta Widjaja to immediately install waste treatment units in the Tjiwi Kimia paper mill in Mojokerto. During that time, although he didn't receive much guidance from his superiors, Masdoeki was also committed to forcing factories to install and use their UPLs. Even though it is not widely recognized, these two politicians made quite an important contribution to fighting pollution in the East Java region.

Apart from these two players, another person who should be mentioned here is Major General (Police) Koesparmono Irsan. As the head of the East Java regional police force during the 1990s, he initiated efforts to catch environmental polluters and bring them to justice. With the launch of the Kumukus Operation, perhaps the only operation in Indonesia carried out by police aimed at environmental polluters, the East Java police were successful in dragging several environmental polluters to court. Although the results of the prosecutions were unsatisfactory, the actions of the East Java police showed that the issue of pollution could be categorized as a serious offence.

These provincial government efforts to tackle pollution continued by district governments at the *kabupaten* and *kotamadya* levels. Several mayors and *bupati* in East Java without hesitation forced closures on factories that violated the environment. For example, in 1996 the Bupati of Bondowoso closed the Bodindo Abadi factory because they were disposing of untreated waste. Even when the Regional Investment Planning Board recommended re-opening the factory, the *bupati* refused.

At that time, the government also initiated several environmental protection programmes to clean up the rivers of East Java. The first was Prokasih, the Clean River Program, which began in 1989 and was aimed at protecting several rivers in East Java from pollution. This program was then followed by the Program Proper Prokasih, which assigned environmental green, blue, red or black ratings to each factory. Green meant the factory's waste did not pollute the environment, and black meant the waste was very damaging. The programme was not very effective because many companies that polluted the environment obtained a blue rating, which meant that they were not big polluters. However, at the very least, the programme went some way to force factories to be careful with the disposal of their waste; it also raised awareness about who were the heavy polluters.

Indeed, since the mid 1970s, East Java communities have reacted quite strongly to environmental polluters, protesting to government authorities and to factories themselves, over incidents of pollution. Demonstrations and protests ended in a positive way when they were quickly followed up by the government or the factories involved. However, these protests could quickly become riots if they were not treated seriously. One example of this is the pro-

test of fish farmers in Kali Rejoso, Pasuruan, to PT Cheil Samsung Indonesia. The waste material from this food additive/ flavouring company were killing the fish in the farmers' ponds. But PT CSI rejected the accusations, with the result that the factory was attacked in 1995.

Unfortunately, the prolonged economic crisis had a very serious effect on the environment. As people are fully aware, the economic crisis which started the year before Soeharto stepped down, has had serious effects on the Indonesian political system. The emergence of new political parties, with elite parties that prioritize their own position rather than the interests of the people, has resulted in a protracted political struggle in the region. Moreover, in the new political system, the position of the district assemblies (DPRD) is stronger, and they can be obstructive or even bring down the district head (*kepala daerah*). Regretfully, politicians in the DPRD have been more interested in authority and wealth than the people's welfare (Arief Djati 1999). Consequently, issues relating to the people, including environmental issues, are given less attention. Factories which previously had been known to be polluters are now frequently disposing of their waste without using waste treatment. In Surabaya alone, several rivers that were the source of drinking water have been polluted, with no serious attention from government departments.

However, quite recently there have been some fundamental efforts made by the provincial government. They plan to move buildings located on the river banks. The first stage is to remove illegally built houses, and in several areas this has already been done, although in other areas of Surabaya, the houses are still there. These efforts will expand to include removing factories along the Surabaya River. If these plans are successfully realized, there is a possibility that pollution in the Surabaya River will decrease, as the houses and factories along the river are the major causes of river pollution. Although this issue must be handled carefully, if these attempts are successful then Governor Imam Utomo will make a significant contribution to the environmental problems in East Java. The difference with his predecessors is that where they were only treating the symptoms, Imam Utomo will kill the cause of the disease. The problem of where the new homeless are going to live though, has not been addressed.

From the analysis above, it is clear that since the 1970s environmental issues in East Java have also been political issues. A number of policies have been produced by the East Java political elite since the 1970s, making significant steps towards the protection of the environment. Although some of these efforts have not been continued by successive governments, especially after *reformasi*, the present Governor Imam Utomo at least has a policy to clear industrial (and domestic) buildings from the river levees throughout East Java. Whatever the prospects for this policy, its success or failure, we will have to wait and see.

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