

CHAPTER TEN

CONCLUSION

In this concluding chapter, I will briefly discuss the theoretical and practical implications of this thesis. I will first discuss the theoretical implications, then I will present some practical recommendations for the social activists who have been involved in Kedungombo.

Theoretical Implications

In this section I will discuss several implications of the thesis' findings and their supporting data for the theory of education and for the theory about the social impact of large dams.

Implications for the theory of education:

As far as educating the public about the adverse impact of large dams is concerned, the findings of this thesis refutes the Deweyan polarity between incidental and intentional education, and supports Cremlin's appeal for a more "ecological" or holistic approach toward education. All the knowledge about the social and environmental impact of dams that were published in the media, triggered by the Kedungombo controversy, exceeded by far the knowledge about this subject that was taught at civil and electrical engineering departments in the State and private universities in Yogyakarta and Central Java.

The findings of this thesis also shows the need to qualify Edward Saïd's observation about the dependence of the media on experts who are members of the media's "community of interpretation," as well as his distinction between the producers of "orthodox knowledge" and the producers of antithetical knowledge" in the media coverage of a certain complicated subject.

The thesis repeatedly shows that both types of knowledge overlapped within the mainstream media, often within the same articles and press interviews and originating from the same news-makers. This means that the producers of "antithetical knowledge" do not necessarily have to be different persons than the producers of "orthodox knowledge," as Said described in his Covering Islam.

Examples of these overlaps can be shown in the instances where the same newsmakers who challenged certain myths that were propagated by the authorities, upheld other knowledge claims made by the authorities in the same press interviews or articles they had written, The Kedungombo critic who challenged the image of the barren Serang River valley and the need to depopulate Kedungombo's green belt supported supported the notion of the Kedungombo resistance being the first of its kind in Indonesia and even unique in the world. Likewise, another Kedungombo critic who questioned the rationale of building large dams such as Kedungombo, simultaneously supported the dichotomy between the few upstream households that had to suffer and the much more numerous downstream households who would enjoy the benefits of the dam. Another prolific writer who was also one of the few to argue against building large dams, also supported the myth of the unique grass roots resistance to Kedungombo.

Hence, the producers of "orthodox knowledge" and the producers of "antithetical knowledge" do not always have to be two different groups of experts. The finding of this thesis also shows that some antithetical knowledge was produced in the mainstream media, while on the other hand, some orthodox knowledge was reproduced in the nonmainstream media, which are often expected to offer a radical critique to the development theory and practices of the State.

Without rejecting the usefulness of Said's distinction between "orthodox" and "antithetical knowledge" as an analytical tool, I believe that it is time to shift our attention to a developing body of social theory which begins with the assumption that "mechanisms of social and cultural reproduction are never complete and always meet with partially realized elements of opposition" (Giroux, 1983: 259).

This school of social theory focuses its attention on identifying the resistance that is exercised within the dominant institutions of society. However, the dominant institutions on which authors of this "resistance theory" have focused are still limited to the formal education systems. They mainly have observed the school, the textbook, and the hidden curriculum of those formal educational tools (Apple, 1981, 1982; Apple and Christian-Smith, 1991; Dale, 1982; Giroux, 1981, 1983; Willis, 1981; Wexler, 1982).

What is missing from their attention is that "resistance amid reproduction also exists in the largest "textbook" in our contemporary society: the printed media, which not only entertain and inform their readers, but also educates or miseducates them. Hence, as an item for further research I propose to view the printed media as a "textbook" on large dams and to investigate how ordinary readers — excluding the Kedungombo activists — have responded to the knowledge claims and emotional appeals raised in that "textbook."

(b). Implications for the theory on the social impact of large dams

The findings of this thesis have furthermore shown the usefulness of Aspelin's threefold division of the social impact of large dams, namely the ~~direct~~, indirect, and backup effects. To tailor more specifically to the need of anticipating as well as mitigating the social impact of large dams, I recommend those threefold impacts be called "upstream," "downstream"

effects, and "resettlement" effects. The latter includes the effects of the resettlement schemes -- including the new settlers — on the host population. Or, if one takes the dams and their reservoir as the primary points of references, one can also use the terms "primary," "secondary" and "tertiary" effects of large dams.

However, most studies of the impact of Kedungombo which were commissioned by the dam builders as well as carried out by the critics have only focused on the direct, upstream, or primary effects of the reservoir, which even excluded the impact of the dam itself. Hence, as a second item for further research, I propose to study the social impact of the dam upon the village community in the district of Grobogan, in conjunction with studying other downstream (secondary) and resettlement (tertiary) effects of the Jratunseluna Irrigation Project, including the uprooting of the indigenous Bengkulu from their customary land and waters in the Manjuntio watershed.

Speaking of the social impact of this large irrigation project, the findings of this thesis and its background data (see Appendix One and Two, pp. 310-358) have indicated ten major biases in the theory and practice of large dam EIA (Environmental Impact Assessment) and SIA (Social Impact Assessment). Those ten biases are: (a), a "red cross" bias; (b), a pre-project bias; (c), a "white collar" or middle class bias; (d), an upstream bias; (e), a community uprooting, or *bedhol desa* bias; (f), a secular bias; (g), an income-generating bias; (h), an agrarian bias; (i), an adult bias; and (j), a male bias.

What I mean by the "red cross" bias is that most of the theory and practice of large dam EIAs and SIAs take it for granted that the decision to build dams have already been made. Hence, EIAs and SIAs are only "red

cross terminals to treat the wounds that will be inflicted upon the society and the environment by large dams.

Related to the "red cross" bias is the pre-project bias. The literature mainly emphasizes the role of EIAs and SIAs as necessary steps in designing dams, before they are built. What should be done is to monitor the effects that may occur during the dam's construction stage or the early impoundment stage of the river. This is rarely covered by the literature. This negligence is extremely deplorable, since the modern history of dam building in Indonesia has had its share of fatal disasters, as well as some nor ones. The two major fatal disasters involved the breakdowns of the er dams of Sempor and Mrica (see Table 3, p. 48). Another minor disaster 'n modern Indonesian dam building history is the additional inundation of five villages by the Gajah Mungkur reservoir (see Appendix One, p. 311).

Next, the EIA and SIA literature suffers from a strong "white collar" ' middle class bias. This bias obscures the fact that the greater and the complicated the new large dams are the greater occupational risks and hazards the construction workers may have to face. It may not be coincidental that the Bakaru hydropower dam in South Sulawesi, which was claimed by its builders to have the longest tailrace tunnel in Indonesia, also the highest death toll of construction workers in Indonesia (see Table 12, P 5). Most of the literature, however, only treats labor aspects as part of the 'town or demographic' effects of large civil engineering projects.

Meanwhile, even under the heading of "demographic effects," the literature has rarely discussed the biological effect of a temporary imbalance between the army of male workers and the sexually available local women, culture with relatively stricter marriage rules and without easy access to contraceptive techniques. The literature as well as the EIA reports on

Indonesian large dams I have read have never mentioned the existence of "boomtown babies," such as those who were born to the 48 pregnant village women in Kedungombo, as discussed in Chapter Eight (pp. 221-222). This ignorance also indicates the adult and male biases in the literature, which will be discussed later.

The omission of labor aspects from the EIA and SIA literature on large dams is probably caused by the non-working class background of many ecologists and anthropologists who wrote the EIA and SIA literature and who conducted the actual EIAs on Indonesian dams. In addition, coming from a North American background, the labor aspects of large dams is obscured by the fact that those aspects are categorized as a completely different discipline, namely "occupational safety and health," which is supervised in the United States by a different agency, namely the Occupational Safety and Health Agency (OSHA), while EIAs and SIAs are supervised by the Environmental Protection Agency (EPA).

I do not believe, however, that social activists should frame their social and environmental concerns along those bureaucratic lines, and should better see construction workers also as human beings, who might suffer adverse effects from the large dam building industry, just as the nearby farmers and fishers. In addition, a part of the working force during the construction of large dams has regularly been recruited from the local population. Hence, this part of the population may experience a double or triple exploitation from large dams: first, as farmers they may have to release their land to the government-supported dam projects and become temporarily pushed out of their farming business; second, if they are lucky enough to be recruited as workers in those large civil engineering projects, they may have to face incredible occupational hazards on the scaffoldings or in the underground

powerhouses and tailrace tunnels; third, after the dams are completed and the impounding of the reservoirs begin, the same individuals who may have lost their job in the project may have to suffer from water related impacts.

While the workers who may come from outside the region, do not have to worry about the dam once it is built, the local population has to continue deal with other impacts. The literature has dealt with these local community-specific impact in the following biases. The upstream bias in the literature obscures the impact of large dams on the population living downstream of the dam, whose livelihood and resources are going to be affected by the construction of the irrigation and electricity distribution networks. It even further obscures the impact of the dam on the host population in the regions where the displaced population are going to be resettled.

The emphasis in the theory and practice of large dam SIAs, especially in Indonesia, on resettling the displaced population far away from the reservoir, is evidence of the prevalence of the community uprooting, or *bedhol desa* bias. It effectively obscures the adjustments that have to be made, to enable the displaced population to live around the reservoir.

The secular bias obscures the possibility that large reservoirs in a population with strong religious feelings, such as Indonesia, may have some adverse socioreligious effects. The fact that the impoundment of the Kedungombo reservoir might increase the popularity of a free sex tourist spot, was not at all addressed in the project's EIA. My comparative study on the preparation and construction of other dams has also shown a consistent low priority on the effects of the dams' reservoirs on local religious institutions. For instance, in the case of the Saguling reservoir in West Java, the

reservoir's effect on the Arafah Islamic boarding school (*pesantren*) only emerged after the dam was constructed (see Appendix One, p. 322).

The "income generating" bias in the EIA and SIA literature obscures the impact or effects of large dams on numerous domestic activities, which do not generate income but substantially save the families' expenditures. Many, if not most of those activities are carried out by women. This also indicates the male bias which will be discussed later.

The agrarian bias in the literature obscures what one may call the aguarian effects of dams and their associated water bodies. The literature as well as the EIA reports of Indonesian dams which I have reviewed are mainly focused on the effect of waterborne diseases, and do not include the numerous tiny adjustments which landborne communities have to make in their traveling, water fetching, cooking, playing, communicating, and other practices. Even from the limited data on the villagers who drowned in the Kedungombo reservoir, in Kedungombo's downstream facilities, and in other reservoirs (see Tables 9,10, and 11, pp. 223-228, 235), three patterns have emerged. First, several cases of multiple victims happened when the villagers and their relatives from outside the reservoir area were coming to or returning from wedding parties. Second, some of the women who drowned were doing the laundry in the reservoir and its downstream irrigation facilities. Third, many of the children who drowned were going to or coming from school and tried to swim across a flooded creek or were playing with their friends in the water. Fourth, several men who drowned were working on their floating fish nets but could not swim.

Closely related to or overlapping with the agrarian bias are the "income generating," adult, and male biases in the EIA and SIA theory and practice. Since in contrast to reservoirs, free flowing rivers are mainly the

source of free food, the place to socialize while bathing and washing, and the means for unmstitutionalized transportation, these functions of free flowing rivers have been obscured by the income generating bias in the literature. These functions of the river, some of which had to be taken over by the newly created reservoir, have also been obscured by two other biases: the adult bias, and the niale bias.

Although the majority of the displaced people are children, specific impacts on children have been neglected in most of the EIA and SIA literature and actual EIAs of Indonesian dams that I have read. Very rarely has 's body of orthodox knowledge discussed and recommended steps to tigate the effect of the river engineering structures on the education of the en whose schools got inundated, who therefore have to travel over the water at least twice a day to go to their new schools, and face the risk of getting drowned. The Hterature has also not discussed how the newly cre- water bodies have replaced soccer fields and other open spaces where majority of the displaced population used to fly their kites and play other games. Likewise, the Hterature also does not discuss the fact that the oirs often push children faster into the working force, since they have p their parents compensate their lost income generating as well as expenditure saving activities.

Finally, despite the fact that at least half of the population displaced from dams and reservoir projects are women (see Table 1, p. 12), the SIA and iterature as well as the actual EIAs implemented on Indonesian dams ely discussed the more gender specific impacts of those dams. These e victims have also been disadvantaged by income generating and g 'an biases in the Hterature. In addition, the Hterature has not discussed t that the female villagers play an important role in the income gen-

erating activities of the rural households, especially in marketing the farm and off-farm products. With the inundation of the markets, and the tendency to uproot the local communities and to settle them in far away transmigration sites, the women often have to suffer from losses in their former income generating activities, and some of them even have had to rent out their primary Capital, their bodies, to unknown male bidders.

Hence, the final item for further research is to develop an "antithetical knowledge" about the social impact of large dams which addresses those ten biases. This antithetical SIA knowledge should start from the premise that a large dam is only one of several options to take in solving food, energy, and flood problems. Only if all the other options have been considered, and the decision to build certain dams are inevitable, the desire of the potentially displaced population to settle on the reservoir banks should be seriously considered. Next, the potential adverse impact of dams that have been, or are in the process of being built should be continuously monitored and mitigated. During the construction of those dams, the occupational hazards faced by the construction workers deserve equal attention as the adverse impact of the local population. Finally, monitoring and mitigating the social impact of large dams should be carried out with special attention to the downstream and resettlement effects, with an emphasis on the age and gender specific needs of the displaced population, with a genuine respect for religious feelings and the religious social fabric of populations, and with a special emphasis on the aguarian rather than the agrarian impact of reservoirs and all their auxilliary water bodies.

Practical Recommendations

I will present three sets of practical recommendations for Indonesian activists who have been involved in criticizing the Kedungombo dam, and

who have begun new campaigns against two new large dams in Riau and Central Sulawesi. Those three sets of recommendations are related first, to the systematization and dissemination of existing information: two, to the media language in the activists campaigns; and three, to the way to remind the general public about the social costs of large dams that have been built in Indonesia.

(a) Information systematization and dissemination

The "antithetical" knowledge about large dams generated in the mainstream as well as nonmainstream media will not be useful for future generations of young idealists, if no special efforts are made to systematize, reproduce, and disseminate that knowledge.

Hence, one step which may be taken by social activists who are concerned with a more truthful picture about large dams, their impact, and the struggles against these dams is to document those data, which can be obtained from different sources. The data collected for this thesis, especially those presented in the tables and appendices, shows the wealth of information that can be extracted from newspapers, news magazines, as well as bulletins from numerous religious and nonreligious organizations in the national and local languages.

After being collected, that information needs to be systematized, reproduced, and disseminated to all organizations interested in this topic, especially, those organizations who have covered similar topics at different points of their life-cycles. Disseminating systematized data to all these groups would give those organizations a historical depth and a national width, which would prevent claims of uniqueness or claims of supremacy, that only provide free public relations (PR) Service to the dam-building industry.

(b) . Improving current anti-large dam media campaigns

This thesis has shown how poorly the media strategies of the critics have been carried out, especially realizing that they have had to deal with powerful adversaries who have major influence over the mainstream media. Hence, in dealing with the unfinished business of Kedungombo, as well as in the current campaigns to cancel the Kotopanjang dam in Riau and the Lake Lindu dam in Central Sulawesi, the following steps may be useful.

First, some applied research, including producing documentary material to support ongoing media strategies, should be thought of well in advance as well as during the course of the campaigns. The Kedungombo campaign experience provides numerous examples of forsaken campaign opportunities. For instance, the "save-the-children" campaign is an excellent example of how a certain tactic (publishing a public Service ad in a sympathetic newspaper) lost its convincing power when it was not followed up by providing photos and essays to the media, to highlight the adverse impact of the reservoir on the displaced children. Similarly, the aborted attempt to use the court to highlight the flaws and fallacy of the Interior Minister Decree No. 15 of 1975, after the authorities banned the media from reporting the Kedungpring court sessions is another telling example of how any media strategy needs backup scenarios and backup material.¹

Second, in developing their media language, the activists who challenged the government's policy on Kedungombo should learn from their adversaries about how to appeal to the masses. Hence, in keeping up with the developments related to the Jratunseluna Project as well as in future campaigns, developing a new popular language is highly recommended, using cultural symbols derived from local folklores or from the religion of the majority of the affected inhabitants.

Third, speaking of appealing to the religion of the majority of the affected inhabitants, the tendency of many radical social activists to sterilize their media language from religious, especially Islamic undertones, should be reconsidered. Many modern Islamic thinkers have seriously thought of alternatives to capitalism, based on their respective nation's 'experience in joining the world capitalist System as well as based on ideas which were directly derived from the Qur'an and the Hadith. Many Islamic nations have also had their own experiences in having to deal with the social and environmental impact of some of the largest dams in the world.

The construction of large dams have been justified in the past with specific references to the Ma'rib dam in the kingdom of Sheba (Smith, 1971: 14-20; Ali, 1983: 983, 1139), the current United Republic of Yeman, based on the as-Saba' and an-Nahl verses in the Qur'an (Samad, 1984). With the recent plans to reconstruct that dam (Steele, 1986; *Amanah* , 4-17 Dec. 1987), this Qur'anic reference may be instrumental in popularizing a modern technology in a field dominated by the non-Islamic (Western and Japanese) experts.

As discussed in the theoretical section of this chapter, the damming of rivers or lakes in remote places in Indonesia often seriously affects the social fabric of the local communities, which centers around certain religious institutions. In the case of Kotopanjang, one only has to remember that this dam's reservoir will inundate the site of an influential Islamic institution in the region, the Darussalam school (Jabbar, 1987). While in the case of Lake Lindu, the increased water level created by damming the lake's natural outlet will adversely affect some hamlet communities which constitute an Islamic minority in the region (Setyarso, 1990).

Therefore, the Indonesian activists' critique of the Kotopanjang and Lake Lindu dams may be enhanced by referring to Muslim scientists' critiques of the Aswan dam in Egypt. Why? Because the Aswan dam has more often been portrayed in the Islamic media as a model of how beneficial a large dam in an Islamic country can be (Marzuki, 1989; Naparin, 1990; Syabirin, 1991; *Suara Hidayatullah*, Oct. 1990), than in relation to the dam's adverse impact (Suroto, 1976).

Some of the work of Muslim ecologists such as Hussein Fahim and Nabil Subi ath-Tawil, have already been cited by Indonesian scientists or translated into Indonesian.²⁵ However, their ideas need to be further popularized through the mainstream and non-mainstream media, which have so far been more interested in the non-Muslim contribution to the studies about the social and environmental impact of large dams.

This recommendation, obviously, requires also some re-education on the part of many Indonesian activists, whose Western, Japanese, and Indian connections seemed to be much more well-established, compared to their international Islamic connections. This re-education includes a familiarization with the Sabeen dam, which is not only a model of the sophistication of ancient Arabic technology, but, first and foremost, part of a model of a just and prosperous Islamic State, which has been an inspiration for many Indonesian scholars in reflecting on moral, technological, as well as political problems (*Panji Masyarakat*, 11-20 Jan. 1980; *Amanah*, 4-17 Dec. 1987; *Suara*

²⁵) A report of 20 years (1960-1980) resistance of the Sudanese Nubians against displacement from Lake Nubia and the return of the Egyptian Nubians to their former land on the banks of Lake Nasser is described in Fahim, 1981, pp. 92-99. A later work of Fahim is cited in Tjitradjaja, 1989, p. 65-66. A booklet by ath-Tawil, who criticized the adverse health impact of the Aswan dam, has been translated into Indonesian. See ath-Tawil, 1985.

Muhammadiyah, 16-31 March 1990; *Rindang*, March 1990; Abdullah 1988a and 1988b; Hasyim, 1981; Sensa, 1987).

Similarly, the contribution of a Pakistani scholar who posed an Islamic critique to state-controlled centralized irrigation development (Siddique, 1986: 47-52, 94-99), is another entry point worth exploring.

(c) . A public reminder about the social cost of large dams

The critics of Kedungombo, who have spread their wings to Kotopanjang and Lake Lindu, may learn from the New Order on how to instill a State ideology of into the Indonesian society, namely the ideology of anti-communism. Officially called *Panca Sila*, or the Five Principles, in reality only the first principle, the belief in the one and only God, is emphasized, while the other principles of humanism, nationalism, democracy, and social justice are pushed to the background.

To inculcate this interpretation of *Panca Sila* in the public's mind, various devices and techniques has been used, ranging from constructing monuments to remember the victims of communism, designating new holidays, establishing new indoctrination courses to replace the ones organized by the previous administration, up to producing movies about the cruelties of the communists which showed Soeharto as the saviour of the nation. The basic thrust of all these propaganda techniques was obviously very dichotomistic: the communists were the villains, and the military were the heroes.

In order to popularize concerns about the social impact and costs of large dams in Indonesia, similar tactics can be developed. Monuments to commemorate the victims of development do not have to be built: the dams themselves may fulfill that function. The martyrs for whom prayers, hymns, and poems can be raised and invented are abundant, ranging from

the construction workers who died at the Karangates and Bakaru dams (see Table 13, p. 247), the villagers who died during the breakdowns of the Sempor and Mrica coffer dams (see Table 3, p. 48), to the social activist, Mahfudin Hermanto, who was assassinated for investigating compensation frauds during the land appropriation of the Cirata dam (see Appendix One, p. 321).

Besides those martyrs, there are numerous living victims who can still provide their testimony about the adverse impact of dams to their livelihood, ranging from a village head in Wonogiri who was fired for leading a compensation rejection movement during the construction of the Gajah Mungkur dam (see Appendix One, p. 322), the villagers who were convicted for obstructing development at the Mrica dam, the six social activists who were sentenced to four years imprisonment for inciting the local villagers to defend their rights at the Bakaru dam (see Appendix One, pp. 333-334), the villagers whose rice-fields were flooded without proper compensation and resettlement at the Asahan dams (Appendix One, pp. 327-328), the villagers whose entire homes were flooded due to predetermined compensation problems and technical miscalculations at the Kedungombo, Gajah Mungkur, and Batujai dams (Appendix One, p. 337), the twelve villages around the Riam Kanan reservoir who have not yet received new land titles to compensate for the ones they lost twenty years ago (Appendix One, p. 325), until the numerous indigenous communities who were displaced and uprooted from their customary environment to accomodate other communities uprooted from the Java-based dams.

All the important dates related to the experiences of those martyrs and living victims could be turned into memorial days to be celebrated to remind the public of the social costs incurred in building such large dams.

Summary

To conclude this thesis, I have briefly discussed some theoretical and practical implications of this study. First, I presented several implications for the theory of education and the theory of the social impact of large dams. After that, I presented several practical suggestions for the social activists who have been involved in Kedungombo, and who have begun new campaigns against two other large dam projects in Indonesia.