The Long Protest for the Long River

The Protest Movement Against the Construction of the Estuary Dam in the Nagara River (Japan)

Wilhelm M. Vosse

The word "Nagara-gawa" in Gifu prefecture, which enters the Pacific Ocean near Nagoya and is about 100 km long, now has a very specific connotation in Japan. Today, for most Japanese, the name of the river is closely associated with the worst that Japanese politics and nature destruction has to offer. The history of the Nagara-gawa estuary dam¹⁾ from its first plans in 1959 to its final construction and operation in 1995 includes bid rigging, intra-governmental pressure of government ministers, hunger strikes, and foreign pressure. The opposition movement, which opposes the construction of the Nagara River Estuary Dam has been, and is still, one of the most vigorous and active — however finally unsuccessful — citizens protest movements in Japanese postwar history.

Chronology of the Nagara-gawa Estuary Dam Construction

Japan is home to a very large number of dams. As of 1994, the Ministry of Construction (MoC) had completed 358 dams, and an additional 326²⁾ were still in the construction or planning stage. The first plan to construct an estuary dam at the mouth of the Nagara River near Nagoya appeared in 1959. It was considered to be necessary by the central and local bureaucracy because of floods that had repeatedly destroyed large parts of the lower land areas near the river. Shortly before the plan was announced, in September 1959, a severe flood wave triggered by the Ise Bay typhoon disaster, the worst typhoon of this century, had caused the death of more than 5000 local residents.

From January 1960³⁾ the Japanese Ministry of Construction began to set up a construction bureau to develop a concrete plan for the construction⁴⁾, and initiated the necessary judicial and administrative conditions in order to plan and administer the construction of the dam. In November 1963, a dedicated commission was set up to conduct preliminary research for the construction, which in 1965 issued the Basic Kiso River System Water Resources Plan. The cabinet then approved this plan in October 1968. The plan included (1) the construction of six dams⁵⁾ and other facilities in the Kiso river system, which could (2) deliver a combined industrial and municipal water supply for Aichi, Mie, and Gifu prefecture. After a number of flood incidents

and the collapse of the Nagara River shore dyke, which spilled large amounts of Nagara River water into some town in Gifu prefecture, the governor of Gifu prefecture agreed in September 1978 to begin the construction of the Nagara River dam.

Soon after, fishing cooperatives in the region began to voice public concern about the potentially negative impact the dam might pose to fishing grounds⁶, and forced the MoC and the responsible public corporation (PWRDC) to begin negotiations about alterations to the construction and possible damage compensation payments to the 22 fishermen's unions.

After many years of deliberations, in 1987, the MoC finally agreed to include a fish ladder into the dam⁷⁾, and (by using pamphlets and even children's comics) assured the fishermen and the residents in the area that the dam would not have any negative effects on the fish population in the river. Subsequently, all fishing unions including those that were severely opposed to the dam construction, changed their opinion and discontinued their protest. It seemed the government had won the support of the local residents.

The construction of the dam began in September 1988. However, the situation seemed to change in late 1990. After local and national opposition to the dam project had grown, then Environmental Agency (EA) Director General Kitagawa Ishimatsu officially inspected the locale and shortly thereafter rejected the Ministry of Construction's revised impact assessment as inadequate and concluded that further research into the environmental impact was necessary. The MoC, obviously being under some pressure to show understanding for the concerns of the residents, promised to look into the environmental matters once again, however, while the construction of the dam would be continued⁸⁾. This was one of the very few times in Japanese postwar history that an Environmental Agency Director openly criticized policies and the decision rationale of other ministries. Interministerial rivalry are not seldom in Japanese government politics, however, they are rarely visible for the general public. In this case, differences about the potentially negative impact of the dam on the river environment continued in 1990, but the MoC was at no point seriously considering to revise or to abandon the construction plans. After a period of differences between the Environmental Agency and the Ministry of Construction, and despite the fast that then Prime Minister Kaifu was actually rather sympathetic to the concerns of the Environmental Agency, he was forced to reshuffle his cabinet and appointed a Kazuo Aichi as new Director of the Environmental Agency.

In June 1993, the Asahi Shinbun printed an investigative article in which it revealed that major contractors for the construction of the dam, namely Taisei Corporation and Kajima Corporation had been involved in bid rigging for the contracts⁹⁾, which explained why the Japanese government and particularly the MoC was vehemently opposed to any alteration or abolition of the construction plans.

The First Protest Movement

The first residents' movement that was set up shortly after the government had

passed the basic plan to construct the Nagara River Dam in 1968. In 1974, its first tactic was to file a lawsuit against the construction that was signed and supported by more than 26,000 residents (many of those were members of the valley's fishery cooperative)¹⁰⁾. However, support for the opposition movement crumbled soon after because a series of floods destroyed large areas of land and strengthened dam supporters who argued that the dam would prevent further floods.

When the governor of Gifu finally approved the construction in 1978, it "dealt a devastating blow to the movement" (The Society Against the Nagara River Estuary Dam Construction 1995: 10). As a result, the number of supporters decreased over the next years and forced the residents to withdraw the lawsuit in 1981. Only a year later, however, in April 1982, the residents of the river basin filled a second lawsuit demanding the suspension of the dam project at the Gifu District Court¹¹⁾.

The Second Movement

In early 1988, the construction of the dam was imminent, and in June 1988, this triggered the foundation of the "Society against the Nagara River Estuary Dam Construction" (*Nagara-gawa kakōzeki kensetsu ni hantai suru kai*) by the photographer and outdoor sports writers Amano Reiko and Takagura Ken. Because they are famous writers with a large network of famous friends, their commitment and opinions were taken very seriously by the media, society, and by ministry officials. Their engagement gave the movement a new and strong impetus. After construction had begun, anti-construction movements were founded all over Japan. The *Society against the Nagara River Estuary Dam Construction* then established a nationwide network of 31 branch offices which were supported by a nationwide network of 59 citizens' groups that oppose dams. In 1996, the movement as a whole had about 16000 individual members¹²⁾, claiming the "largest membership and broadest national support of any single-issue interest group in Japan"¹³⁾.

Major Activities of this Citizens' Movement

The anti-Nagara-River Dam movement adopted an extraordinary wide spectrum of activities and approaches in order achieve their goal of preventing the construction of the estuary dam. It ranged from public events like conferences, demonstrations and protest rallies, private research activities, to the filing of lawsuits, contacting and cooperating with important politicians, negotiations and round-table discussions with public officials and ministers, and individual activities of the most prominent movement leaders such as hunger strikes.

Conferences and Demonstrations

Citizens' movements nationwide, which aim at protecting rivers, lakes, and marches, have been organizing citizen's conferences at least once a year, around 1993 and 1994 even more often. Since its foundation 1987, the protest movements against the Nagara River Dam have frequently participated in those conferences and took

those opportunities to explain their situation and the problems of river development in many other places in Japan. Members of the Nagara movements demanded greater openness and an open review process of public works projects in general.

Particularly between 1988 and 1992, the Anti-Nagara River Dam movements organized yearly conferences and open protest demonstrations. Because, in general, street rallies and indoor conferences are often ignored by the national media, the protest movement made many efforts to make these events as interesting as possible, so to attract media attention. Therefore, the opposition movement organized yearly so-called "Nagara River Days" near the planned dam site, which frequently involved marches along the rivers, as well as canoe demonstrations on the Nagara River itself. People in little boats frequently went very close to the construction site, thereby putting themselves into a limited danger. Pictures of these events frequently appeared in the national newspapers and increased the general awareness of the dam issue. Every year, between 5000 and 10,000 participants came to the events. In October 1992, the movement was even able to conduct an international conference on dam problems in Nagashima-cho (Mie prefecture) with participants from the US and Europe. The organizers were particularly proud to have the US-American nature protection activist David Brower, the co-founder of the Sierra Club, participating¹⁴).

Hunger Strikes, Negotiations and Protest Rallies

However, such demonstrations and conferences of protest movements did not impress the Japanese government to take the movement seriously enough to actually talk with their representatives. Therefore, in November 1992, the movement leader, Amano Reiko, decided to stage a hunger strike near the dam site, demanding negotiations with the Ministry of Construction. After 19 days, the Ministry if Construction (MoC) agreed to hold their first official negotiation with the protest movement (*Citizens' Conference to Stop the Construction of the Nagara River Estuary Dam*). However, the MoC had agreed to these negotiations only under the conditions that they would take place behind closed doors, that nothing would be taped or otherwise recorded.

Despite the ongoing negotiations, in 1993 the *Public Water Resources Development Corporation* conducted the first test of the gates. This triggered a large number of protests marches, demonstration, and other events to protest the dam, in October 1993 with about 10,000 participants; and in February 1994 in Tokyo. Similar demonstrations were also held at other prospective dam site throughout Japan, among others at the Yoshino River (*another dam construction project that had triggered severe citizen protest.*)

Because the Ministry of Construction still wanted to start operations of the dam, in 1995, Amano Reiko staged a second hunger strike. From June 13, 1995, she sat in front of the MoC in Kasumigaseki to urge the reversal of the decision to start operating the dam. For Amano, this hunger strike was not just a media campaign for a couple of days, she appeared very serious and seemed as if she was almost ready to

die. After 19 days of strike, doctors in a hospital insisted that she should stop the strike because of serious health risks¹⁵⁾, but she went on for another five days before she lost consciousness and was brought into a hospital. Minister of Construction Nosaka refused to talk with her during her strike and did not hesitate to close the gates of the Nagara River Dam on 7 July, the day Amano was brought to the hospital for the first time. Although the hunger strike nearly killed Amano Reiko, it had virtually no impact on the deliberations of the Ministry of Construction.

In September 1996, the *Citizens' Conference* organized another "*International Nagara River Dam Summit*" concerned with negative environmental effects of dam problems on the international worldwide scale with about 300 participants from China, the UK, the USA, and Japan, some of them internationally renown experts and environmental activists. From the U.S. American experience with dam projects, it had become clear, that the maintenance of dams had been far more expensive than formerly estimated, and citizens' participation and a breakup of the information dominance of large corporations was soon considered to be the most important prerequisites for a change of water management. These two points, an (1) increased level of water reuse and the (2) disclosure of information, were particularly important for the Japanese anti-dam groups, because that was exactly what was perceived to be lacking in Japan.

Private Research Activities

Because reliable data and information on the negative effects of dams in general, and the Nagara River dam in particular was almost nonexistent, in 1995, the opposition citizens' movements set up an "Investigation Committee" to scientifically measure the environmental impact in cooperation with scientists. A small group of reform oriented Diet members and a former Director of the Environmental Agency openly supported this independent investigation. Shortly afterwards, Katsunori Yamaichi, a researcher at the Gifu University (Department of Education), who had privately conducted an Environmental Impact Assessment downstream the Nagara River, confirmed that the "environment deteriorates because of the Nagara River dam" due to the pilling up of colloidal sediment¹⁷⁾. A finding that was later reconfirmed by other independent research groups. Despite these findings, the Environmental Agency stated in 1995, that it did not intend to conduct a separate investigation. In the following years, before and after the dam had gone into operation in 1995, numerous citizens' organizations investigated the water quality of the river, and the impact of the dam on the wildlife (fish and birds). All of them came to the conclusion that the dam had had a substantially negative impact on the local environment¹⁸).

The Three Court Cases

The opposition movement has not only used demonstrative means to prevent the construction and then start of the operation of the dam, it also used legal means. The first movement in the 1970s, that consisted mainly of fishermen, had filled a lawsuit in

1973 at a the Gifu District Court, but had to withdraw it eight years later (1981) because of decreasing local and movement support. In 1982, some Gifu prefecture residents filed a new lawsuit with the Gifu District Court against the *Public Water Resources Development Corporation* (PWRDC), demanding prohibition of the dam construction, arguing it was unnecessary und environmentally unsound¹⁹. However, the residents lost this second lawsuit 12 years later, in June 1994, when the construction of the dam was almost finished²⁰. The court gave the following reason for its decision: The "construction of the dam will serve the public interest in terms of flood control and water usage"²¹.

However, one positive side effect of the lawsuit was, that it had forced the Ministry of Construction's River Bureau to disclose a wide range of documents on flood control, water usage and the environmental data, which the citizens' movements would not have received otherwise. There were a few more lawsuits filed by citizens opposing the dam in the following years, however, they all ended unsuccessfully for the citizens.

Revision of the Public Works Control Law

The Nagara River dam citizens' movement was not a one-issue or not-in-my-backyard movement (NIMBY); its leadership realized that the Nagara River dam was only one dam among more than 300 dam projects, and that residents had organized protest against those dam constructions at many sites. Therefore, they considered the reform of the "Public Works Control Law" as one of their key objectives. The movement leader therefore had since the late 1980s begun to lobby certain Diet members, as well as sympathetic local and prefectural politicians for their support, through individual contacts as well as large-scale symposia in Tokyo. For the most part, support came from the SDPJ, the JCP, Shinto Sakigake, and later particularly from the Democratic Party of Japan (DPJ). In 1989, concerned Diet members had successfully set up a cross-party "Committee to Discuss the Nagara River Estuary Dam Problem" (Nagara-gawa kakōzeki mondai kataru kai) in the Diet, and in December 1990, about one third of all Diet members signed a petition demanding Prime Minister Kaifu to discontinue the Nagara River Dam construction. This indicated a sizable level of support for the dam opposition inside the Japanese Diet — an important encouragement for the activists.

In April 1992, the Ministry of Construction (MoC) published the results of an investigation arguing that, after some modifications, the dam would not have any negative impact on the environment and that it was therefore be "generally acceptable" to continue constructions. The Environmental Agency then confirmed these investigation results. However, because the new results fundamentally contradicted those of the environmental impact assessment conducted by the Nature Conservation Society of Japan (NACS-J) only one month prior, the mass media began to openly cast doubts about the results of the MoC study and began to criticize the Environmental Agency.

After the LDP had lost the Lower House elections in July 1993, Igarashi Hirozō of

the SDPJ, who in 1990 was one of the signatories to oppose the dam construction, became the new construction minister. This change of government naturally triggered great hope among the movements' activists. And indeed, in April 1994, movement members met with construction minister Igarashi, with the hope to convince the MoC not to temporarily close the dam gates for testing purposes. However, construction minister Igarashi did not agree with the citizens' movement argument, asked for understanding for the tests, and stressed that local residents had been involved in the investigative committee for the closing test²²⁾. Eventually, the dam gates were closed for testing for 10 days.

The Round Table Discussion

Nevertheless, facing growing critique from all sides, especially the media, the Ministry of Construction in late 1994 (*in the last year of construction*) proposed to start formal talks between government body in charge of the construction, the general contractors, and members of the opposition movements, including researchers, lawyers and Diet members. In the following rounds of discussions in November 1994, the opposition groups questioned the results of government fact-finding commission, and requested the release of important water quality data. Although the citizens were not successful in preventing the closure of the main dam gates for testing, the ministry agreed to stop the tests in case the oxygen level of the water went below 3ppm during the test, and promised further seismological research in the vicinity of the dam.

A month later, in December 1994, the new minister of construction Nosaka agreed to the citizens' demand that further talks should be based on the principles of "consensus-based binding arbitration" (*similar to Narita airport dispute*), but the minister opposed the assignment of a "neutral arbitrator". The citizens' movement demanded to use a similar style of round-table discussions that had been used in the dispute over the construction of Tokyo's Narita Airport, which, among others, included a majority decision making of all participants instead of a full consensus.

However, after pro-dam representatives of the thirteen cities and towns in Gifu prefecture expressed their dissatisfaction with the prolonged decision-making process, and repeated their demand to conclude the final construction phase as soon as possible, the minister of construction now played down his former acceptance of "real" round table talks, and now insisted that no third party could participate, and that the talk would only be between the MoC, researchers of the investigation committee, and members of the opposition groups, and that the Minister of Construction would preserve the right to make a final decision after he had heard all the arguments. Thus no round-table majority vote, as demanded by the citizens.

The round-table talks between promotion and opposition groups started on March 12, 1995, shortly after the Hanshin/Kobe earthquake in January 1995, therefore the leader of the opposition movement, Amano Reiko, demanded, among other, to revalidate earthquake safety measures. After only a few round-table talks, the minister of construction Nosaka Koken unexpectedly decided in March 1995 that he wanted to

conclude the talks as scheduled by the end of March, despite the fact that no agreement had been made. After fierce opposition of the protest movement representatives, the minister of construction then agreed to a continuation of the round-table talks throughout April. However, after eight sessions of the round-table talks²³⁾, on May 22, 1995, the SDPJ minister of construction Nosaka announced his final decision to approve operation of the dam, which then went into full operation only a day later.

This was not entirely unexpected by the opposition groups, but they nevertheless reacted with great disappointment and felt betrayed. Even two SDPJ construction ministers, of whom one was an outspoken opponent of the dam when the SDPJ was in opposition (Igarashi Kozo), did not have the power and stamina to reverse a decision that had been made almost 30 years earlier by a LDP government, even though the rationale of the entire decision was no longer considered to be valid by experts and residents alike. Additionally, most daily newspapers took a critical stance towards the project and now condemned the minister and the new government alike for not standing up to their promises.

Although this example of round-table talks did not end the way the citizens had hoped for, it nevertheless forced the Ministry of Construction to disclose a large number of internal information and data, which the opposition movement and also the media later used in their argument against the necessity of the dam. This data was in the following years also used by many similar dam opposition movements in Japan.

Support from Politics, Researchers, Media

As mentioned before, the Nagara dam opposition movement was not a single-issue movement, and it was not a small local movement of politically inexperienced residents. On the contrary, the broad-range approach: protest on the street, on the river, information exchange, negotiations, law suits, and independent water-quality research, made a rather professional type organization. It was also not alone in its endeavor. Over the years, it had attracted a wide range of support from individual politicians, parliamentary political party factions, such the SDPJ, the JCP, in the national Diet, but also on the prefectural and local level. One of the most-prominent politicians that opposed the dam was Kan Naoto, who called the Nagara dam construction a "symbol for uselessness" (*muda no shōchō*) and stressed the need for a comprehensive administrative reform, in particular to change of the *Public Works Control Act* (*kōkyō kotowaza kontorōru hōan*). The DPJ later submitted proposals to reform construction related laws to the Diet, which among others stressed the importance of broader citizens and NGO participation in the decision-making-process.

The activities of the citizens' movements were also frequently supported by prominent individual natural scientists and scientific association, who in many cases scientifically reconfirmed and supported the claims of opposition movements, especially as the impact on the natural environment (water quality, fish, etc), and flood control measures were concerned. Support came, among others, from virtually all large nationwide environmental protection organizations and natural environment research

organizations in Japan: The Japan Ichthyology Association, the Nagashima Research Group, the Japanese Land and Water Academy, Japanese Ecological Society, the Nature Conservation Association of Japan (NACS-J), the WWF-J, the Japan Wild Bird Society, and many other. Many of these environmental organizations conducted research and sent open letters of concern to the respective ministries. Support also came from international environmental protection organizations, such as in 1991, when the British Committee of the World Wide Fund for Nature sent a proposal to then Prime Minister Kaifu in which they requested the discontinuation of the construction. Internationally renowned environmental activists also frequently visited the construction site and meetings of the opposition movement.

Since 1990, when the Nature Conservation Association of Japan (NASC-J) had released their report and the open letter to the MoC about the possibility of environmental degradation caused by the dam construction had attracted widespread media attention, the majority of national newspapers became opposed to the construction project and openly criticized the handling of the case by the Ministry of Construction, particularly their restricted information policy. In December 1991, a NHK opinion polls revealed, that more than 70% of the valley's residents opposed the construction of the dam. Many newspapers began to use investigative methods and revealed undisclosed government data, for example that the ministry used unreliable water usage and flood control data when it planned the dam. In 1993, the Asahi Shinbun revealed cases of bid rigging by contractors. The investigative reporting particularly of the Asahi Shinbun has been very important in the development of the residents' opposition movement. The two largest scoops (bid rigging in June 1993, and the insufficient data of the MoC in December 1993) gave fresh and important arguments to the residents' groups and worsened the public image of the project, that of the MoC and the contracted companies, and brought wide-ranging sympathies to the residents and strengthened their support. The second Anti-Nagara River dam residents' movement had been successful in attracting a broad range of media attention that was overwhelmingly critical of the dam project.

Concluding Remarks

The Nagara River Estuary Dam project was probably one of the most typical among the many construction projects in Japan. It epitomizes the often quoted Japanese "construction state" or *doken kokka* (Chalmers Johnson 1982). The construction industry in Japan is the largest industrial sector employing 6.2 million people in more than half a million construction companies²⁴. In 1993, more than 31 trillion Yen²⁵ or 43% of the national budget went to construction companies. The reliance on public construction Projects has led to corruption stood in the center of the scandals in 1993. Although meanwhile new election laws and other provisions have been enacted in order to reduce so-called "money politics" and "pork-barrel", it so far remains to be seen whether these laws will have the anticipated effects.

The anti-Nagara River Dam movement failed in the sense that it did not prevent the

construction of the dam, but its endurance and strength became an example for other anti-dam movements in Japan, and therefore an important predecessor for movements against large-scale public construction projects in Japan. A recent example is the protest against construction of the Tokushima dam on the Yoshino River (Tokushima prefecture, Shikoku Island), where activists used tactics and approaches they had seen in the Nagara River case. In January 2000, a referendum in the city of Tokushima was held, in which more than 90% voted against the Yoshino River dam construction.

The anti-Nagara River dam dispute exemplifies very forcefully the severe problems protest movements still face in contemporary Japan. Despite the fact that they made use of virtually all means available to them, and used them over a relatively long period of time, they still failed to stop a project that was apparently of central importance to the central as well as the prefectural government. This dispute underlines the inflexibility of the Japanese government throughout all these years, particularly in such large scale projects that involve enormously large amounts of government funds and therefore direct and indirect benefits for contractors, as well as and politicians and bureaucrats.

Notes

- 1) If not otherwise indicated, in this chapter dam is used for the Nagara River Estuary Dam.
- Official figures published by the MoC in 1998 (River and Water Homepage of the Ministry of Construction).
- 3) At the beginning of the high-economic growth period.
- 4) The proposal for the construction of the Nagara dam in 1961 was drafted by the Chubu Regional Bureau of the Ministry of Construction in the "Nagara River Estuary Dam Plan", revealed that the primary aim of the dam was not water and flood control or the protection of the population, but that it was considered necessary for the water supply for the industry in the area. The plan read: "In these documents, we propose the 'Ise Bay Industrial Waterworks' based on (the construction of) the Nagara River Estuary Dam as one of the fundamentally best methods (to secure) a future supply for the Ise Bay Coastal Industrial Complex".
- 5) Among the six were the Iwaya Dam, Tokuyama Dam, and the Nagara River Dam.
- 6) The Nagara River was a rich fishing ground for sweetfish (ayu) and corbicula (shijimi).
- 7) The fish ladder was supposed to allow sweetfish to ascend the river. Fish experts, however, soon expressed doubts if such a provision would be effective.
- 8) Atkins 1991: 6.
- 9) Asahi Evening News, June 25, 1993.
- 10) A short chronology of the Case and the activities of the anti-construction movement can be found in: The Society Against the Nagara River Estuary Dam Construction 1995.
- 11) This lawsuit was rejected by the Gifu District Court 12 years later, in July 1994. See description of second lawsuit later in this chapter.
- 12) These figures have been published in: The Society Against the Nagara River Estuary Dam Construction 1995: 1.
- 13) Their *mission statement* in 1995 read as follows: "To halt the dam (barrage) under construction at the estuary of the Nagara River, being one of only two major rivers without dams on their main channels. To promote the reform of Japan's outmoded river policy and policy-making process so that environmental and social concerns are adequately and democratically addressed; and to promote legislation that would ensure adequate environmental protection and see that it is enforced" The Society Against the Nagara River Estuary Dam Construction 1995: 2.

- David Brower later wrote an article about his trip to support the anti-Nagara River Dam movement.
- 15) Amano Reiko suffers from a circulatory problem with the left half of her brain.
- 16) Yamauchi said: "kakōzeki de kankyō ga akka shita", AS: November 4, 1995.
- 17) Yamauchi had found many dead Yamato corbicula.
- See: AS: September 21, 1995, September 3, 1995, January 31, 1996, March 3, 1996, March 26,
 1996, May 29, 1996. A report by fishermen about decreasing number of fish in AS: June 21,
 1996.
- 19) Both sides argued in the following way: Plaintiffs: Argued that (1) damage from sea water could otherwise be prevented, (2) the dam would cause water levels to rise, and (3) the dam would damage the environment and prevent sweetfish and trout from swimming upstream. The PWRDC simply argued that appropriate flood measures had been taken, and that a fish ladder would allow fish to swim upstream.
- 20) Presiding judge was Hidaka Chiyuki announced the ruling on June 19, 1994.
- 21) Asahi Evening News: July 20, 1994.
- 22) Amano Reiko was the representative for the residents' group.
- 23) The sessions took place on: 12.3., 26.3., 27.3., 30.3., 13.4., 15.4., 16.4., 22. 4., (all in 1995).
- 24) Figures of the mid 1990s, quoted in (McCormack 1995: 27).
- 25) In 1993 terms: about \$220 billion.

References

Atkins, Sidney. 1991. Nagara River News. Japan Environmental Monitor (JEM) 34.

— 1992. The Nagara River Estuary Dam. Japan's last free flowing river is being needlessly destroyed. *Japan Environmental Monitor* (JEM) 39.

——. 1993. Nagara River Update. Time Running Out. *Japan Environmental Monitor* (JEM) 48.

Brower, Dave. 1992. Save the Nagara. *Earth Island Journal*. 7, no. 4: 12–21. Notes: Earth Island Institute.

Douglas, Kate. 1995. Last stand on the Nagara. New Scientist 148, no. 2004 (Nov, 18): 42-45.

Griesbach, Amanda. 1995. Nagara River Update. Time Running Out. *Japan Environmental Monitor* (JEM) 48.

Hamilton, David P., and Masayoshi Hanabayashi. 1994. Dam Nuisance. *The Asian Wall Street Journal*, April 18.

Johnson, Chalmers. 1982. MITI and the Japanese Miracle, Stanford University Press, Stanford.

Kitagawa, Ishimatsu, and Reiko Amano, eds. 1997. Kyodai-na gukō. Nagara-gawa kakōseki. Sei, kan, zai yuchaku no kōzō. [A Gigantic Act of Folly. Nagara River Estuary Dam. A Symbol of the Interconnection between Politics, Bureaucracy and Economy]. Nagoya: Fūbai-sha.

Losch, Petra. 1993. In Defense of Japan's Last Wild River (Nagara River). *Earth Island Journal* 8 (1). McCormack, Gavan. 1995. Growth, Construction, and the Environment. Japan's Construction State. *Japanese Studies. Bulletin of the Japanese Studies Association of Australia* 15 (1), (May): 26–35.

Nagara-gawa kakōzeki wo yamesaseru shimin kaigi [The Citizens' Conference to stop the Nagara River Dam Construction], eds. 1994. Damu samitto in Nagara-gawa. Nagaragawa Day 94. Shiryōshū [Dam Summit at the Nagara River. The Nagara River Day 94. Material Edition]. Osaka.

Ōta, Shōji. 1992. *Nagara-gawa kakōzeki wo kangaeru* [Deliberating about the Nagara River Estuary dam]. Tokyo: Gendai shorin.

The Society Against the Nagara River Estuary Dam Construction, eds. 1995. *Profile of the Society Against the Nagara River Estuary Dam Construction*. Osaka.