

# **STATEMENT OF OPINION ON THE AWASE TIDAL FLAT LANDFILL PROJECT**

15 March 2002

Japan Federation of Bar Associations

## **Main Conclusions of Opinion Statement**

The public waterways land reclamation project being pursued by the governments of Japan and of Okinawa Prefecture in Nakagusuku Bay (Awase district) should be cancelled, and, in conference with Okinawa City, conservation measures for Awase tidal flat, such as its designation as a national wildlife protection area, should be adopted, and procedures undertaken for its designation as a Wetland of International Importance under the Ramsar Convention.

## **Reasons**

### **Part 1 Background Relevant to Submission of this Statement**

#### **1.1. Importance of Tidal Flats and Increased Public Awareness of their Conservation Value**

Tidal flats are a type of natural environment formed out of sand and silt built up through the action of rivers and the ocean's waves and subject to repeated changes of water level due to the ebb and flow of tides. Tidal flats are rich in nutrients and organic matter washed down from the land and from rivers, and are also rich in oxygen supplied through tidal exchanges, and thereby give rise to extremely diverse ecosystems. They provide a good growth environment for bacteria, seaweed and seagrass, crabs, polychaete worms, shellfish, and other species of benthos and plankton, as well as juvenile fish and predators such as larger fish, shorebirds, sea birds and other waterfowl. Tidal flats function as seasonal habitats and staging sites for migratory birds that travel on global routes across national borders. In particular, Japan's tidal flats are irreplaceable in maintaining the East Asian Flyway for migratory birds, which stretches from Siberia through Southeast Asia to Australia and New Zealand.

The "Convention on Wetlands of International Importance Especially as Waterfowl Habitat (the Ramsar Convention)" adopted in 1971 brought into immediate focus the importance of watery and waterside environments such as tidal flats, and aims at the conservation of these habitats. With the adoption of the Ramsar Convention, conservation of tidal flats became an international issue. With the adoption of the Rio Declaration, Agenda 21 and the Convention on Biological Diversity at the 1992 UN Conference on Environment and Development (Earth Summit), the important function wetlands play in protecting biological diversity was recognized.

However, Japan's tidal flats are in danger of being destroyed or eliminated one after the other through landfill and land reclamation.

In the past, the Japanese archipelago was dotted with tidal flats of various sizes, and it has been estimated that there were about 82,600 hectares (ha) of tidal flats in Japan before World War II. However, Japan has little flat land, and tidal flats were made the target of development, and according to survey results published by the (then) Environment Agency in 1992, Japan lost 40% of its tidal flats in the several decades following the war, bringing the total to 51,462 ha.

The national government's reaction to this situation in recent years can be seen in a Cabinet Decision of December 1994, in the Basic Environment Plan revision of December 2000, and in the National Biodiversity Strategy adopted in a Cabinet Conference on Global Environmental Protection, with all Cabinet Members present, in October 1995. [These documents] have started making reference to the importance of tidal flats, but in practical terms, there is still no halt in the trend towards giving priority to development.

In this context, the closing of the dike for the Isahaya Bay Land Reclamation Project (Nagasaki Prefecture) on 14 April 1997 was a turning point that brought about an unprecedented level of awareness among the Japanese people of the importance of tidal flats, and how reckless it is to destroy them with easy facility.

### **1.2. Involvement of the Japan Federation of Bar Associations (JFBA) with the Tidal Flat Issue**

This JFBA has for some time been concerned with tidal flat protection, and has undertaken various relevant research activities. With respect to the Isahaya Bay Land Reclamation Project, the JFBA carried out an on-site survey in April 1996, the year before the Bay was cut off from the sea, and in October 1996, at Technical Session 3 of the 39<sup>th</sup> Convention on the Protection of Human Rights, a report and recommendations were presented on the problems of this project. Moreover, on 28 May 1997, soon after the closure of the dike, the President of the JFBA visited the site and issued a President's Statement calling for opening the gates in the dike, and on 17 October 1997, the JFBA published a Statement of Opinion calling for opening the gates and cancellation of the project. In addition, the JFBA has published Statements of Opinion calling for the cancellation of the Nakaumi Land Reclamation Project (May 1997) and of plans to landfill Sanbanze tidal flats in Tokyo Bay (December 1999)\*.

[\* Note: Nakaumi is located in western part of the mainland Honshu, and Sanbanze is located in Chiba Prefecture near Tokyo.]

The JFBA determined in March 2001 to further enhance its involvement in the issue of tidal flat protection, and established a Wetland Conservation and Restoration Project Team as part of its Aitipollution and Protection of the Environment Committee. Recognizing the need to grasp the situation at tidal flats around the country, this Project Team conducted on-site investigations at major wetland sites around the country, including Sanbanze, Watarase Reservoir, Kushiro Marsh, Lake Biwa, Nakaikemi Marsh, Kahokugata and others\*\*.

[\*\*: Watarase Reservoir is located in central Honshu Island, Kushiro Marsh is the first Ramsar site in Japan located in Hokkaido Island, Lake Biwa is the largest freshwater lake in Japan and a Ramsar site in the western part of Honshu Island, Nakaikemi is also located in western Honshu, and Kahokugata is located in central Honshu Island.]

With respect to Awase tidal flat, the Project Team conducted on-site investigations and interviews at relevant organizations 16-18 June 2001. As a result, the Team realized that although the legal procedures under the national Public Waterways Landfill Act have already been completed for the Awase project, Awase tidal flat is an exceedingly important natural environment, and its protection should be an urgent priority. Therefore, with the cooperation of the JFBA, the Kyushu Federation of Bar Associations, and the Okinawa Bar Association, a Symposium was held on 8 February 2002 at Okinawa City Public Hall to review the Awase Landfill Project, with the invited participation of relevant officials from the project's main developers, namely the Okinawa Development Council of the National Cabinet Office and Okinawa Prefecture's Department of Civil Engineering and Development, together with officers in charge of nature conservation within the Okinawa Prefectural Government, representatives of Okinawa's main nature conservation organizations, academics involved in researching tourism, as well as representatives of citizens' groups, both those in favor of and those opposed to the project.

The JFBA has drawn up the present Statement of Opinion based on its surveys and research, supplemented by opinions stated by participants and discussions that took place at this Symposium.

## **Part 2 Tidal Flats on Okinawa Island Today and the Importance of Awase Tidal Flat**

### **2.1. Tidal Flats on Okinawa Island Today**

Large-scale tidal flats have formed on Okinawa Island but most of them are being lost to landfill one after the other. A survey performed by the "Save Awase Tidal Flat Association" (see appended "Present Situation of Okinawa's Major Tidal Flats") notes that a total of 1,185 ha of tidal flats have been exterminated, including Itoman Tidal Flat (300 ha), Itoman Minami (South) Beach (50 ha), Yone Tidal Flat (160 ha), Yonabaru Beach

(140 ha), Kawata Tidal Flat (390 ha), etc. In addition, according to information published by Okinawa Prefecture, 2,390 ha of landfill was created on the island between 1972, when Okinawa was returned to Japanese jurisdiction, and 1997. The main cause of tidal flat extermination in Okinawa has been the promotion of landfill projects at an ever fiercer pace than in mainland Japan.

Most of the tidal flats that do remain are facing pollution problems from red silt runoff resulting from on-land development and other sources. Manko Tidal Flat (58 ha) is the only wetland on Okinawa Island included in the Ramsar List of Wetlands of International Importance. Although the designation of this wetland to the Ramsar List provided an opportunity for more active conservation activities that have yielded some results, deterioration of its environment is marked, and also because the extent of the site designation was limited, whereas formerly the site was a paradise for migratory birds, with over 5,000 shorebirds visiting the site, these numbers have plummeted sharply. Moreover, many other tidal flats, such as Awase and Sashiki Tidal Flats, are even now facing complete destruction through development.

## **2.2. The Importance of Awase Tidal Flat**

Awase Tidal Flat is located in Nakagusuku Bay in the central part of Okinawa Is., and the tidal flat is about 265 ha in extent. For a relatively large system, it remains in good condition. It has both sandy and muddy bottom areas, with the majority being coral rubble. There is also the largest area of seagrass and other marine plants in Okinawa Island, including the endangered algae *Pseudodichotomosiphon constri* (or *Vaucheria constricta*) and *Acetabularia calyculus* extending for 353 ha, and areas with concentrations of reef-building corals are also seen, forming a delicate and biologically diverse ecosystem.

The bottom dwelling community is rich, and includes many crustaceans, such as the *Mictyris brevidactylus* (Minamikometukigani' in Japanese), a crab that digs into the sand in a spiral, as well as shellfish such as *Modiolus philippinarum*, *Corculam cardissum*, *Pinna bicolor*, attesting to the fact that it is a large habitat site that exhibits the particular biogeographical characteristics unique to the Nansei Archipleago [Ryukyu Archipelago].

As the largest seagrass community in Okinawa Is., it provides a spawning ground for many fish species and, during high tide, many fish species also use it as a feeding site. It is also said that Dugong (*Dugong dugong*) and the Green Sea Turtle (*Chelonia mydas*) use it as a feeding ground as well.

The "WWF Japan Science Report Present Status of Tidal Flat Dwelling Benthos of Japan" (Dec. 1996), which functions as the de facto Red Data

Book for Japan's benthic organisms, notes 15 species of benthos that are "endangered" (corresponding to the same category in the Ministry of Environment's Red List) or "vulnerable" (corresponding to the same category of MoE). According to Okinawa Prefectural government's own Red Data Book, "Endangered Wildlife of Okinawa Prefecture," it is noted that the habitation and breeding of algae species *Pseudodichotomosiphon constri* ('Kubiremidoro' in Japanese, or, *Vaucheria constricta* endangered) and *Acetabularia caliculus* (vulnerable), as well as a fish, the blue mud hopper (*Scartelaos histophorus*) and the crab *Mictyris brevidactylus* (important local population), among others found at Awase. (The two algae species mentioned above are also noted as "endangered" in the national Fishery Agency's "Data Book of Rare Aquatic Wildlife of Japan.")

Although major migratory bird stopover sites on Okinawa Island that attract maximum counts of over 1,000 shorebirds have all been lost, among those remaining, the Wild Bird Society of Okinawa surveys note observations of 125 bird species, including migratory waterbirds, at Awase tidal flat, as well as the largest maximum counts on Okinawa Island of shorebirds and other migratory waterbirds, numbering over 900. Breeding of Little Tern (*Sterna albifrons*), a "vulnerable" species in the Red Data Book, has been confirmed, and for this and other reasons, Awase tidal flat should be considered an irreplaceable link in the chain the East Asian Flyway, a global migration route.

Also, Awase tidal flat offers a place for clamming, fishing, bird watching and other forms of recreation to people in the local area and from around the prefecture.

Thus, Awase tidal flat is a valuable large-scale intertidal ecosystem that exhibits biogeographical features unique to the Nansei Archipelago. It also meets the Ramsar criteria for identifying Wetlands of International Importance. Its conservation is an issue not only for Okinawa Prefecture, but in the context of protecting Japan's diverse wetlands and as a way of meeting Japan's international obligations under the Ramsar Convention, it constitutes an exceedingly important case. For these reasons, Awase Tidal Flat has been included in a national list of 500 important wetlands chosen and published by the Ministry of Environment in December 2001. This list functions as reference material for implementation of conservation measures in Japan, for example, in practical application of protected area designations, and promotion of sufficient consideration of protection measures by developers in the case of development plans in these important wetlands and/or in their vicinity.

## **Part 3 Outline and History of the Awase Tidal Flat Landfill Project**

### **3.1. Outline of the Awase Tidal Flat Landfill Project**

The Awase tidal flat landfill project (hereafter referred to as “the project”) is mainly a project of the national government (the Okinawa Development Council of the national government’s Cabinet Office, hereafter referred to as the ODC) and Okinawa Prefectural Government, and aims to landfill 185 ha of public waterway, corresponding to Awase tidal flat and its adjacent marine area. Of this area, the ODC will be responsible for landfilling 175 ha and Okinawa Prefecture for 10 ha. The landfill will take the form of an artificial island close to shore. Of the overall cost of the landfill, the ODC will provide 30.8 billion yen and Okinawa Prefecture 18 billion yen (see appended “Map of Nakagusuku Bay Harbor Plan.”, **Note : map is omitted**)

The project has two aims. The first is the aim of the ODC, which is to dispose of dredge spoil created in constructing a shipping channel to serve the “Nakagusuku Bay New Harbor,” [being built] to the northeast of the proposed Awase project. The other aim involves plans being purveyed by Okinawa Prefecture and Okinawa City [where Awase tidal flat is located,] for construction of a marine resort on the landfilled land, officially called “Marine City Awase.”

The ODC plans to sell all the land area created by its landfill project to Okinawa Prefecture, and Okinawa Prefecture plans in turn to sell 90 ha of this to Okinawa City. Okinawa Prefecture and Okinawa City will each be responsible for provision of basic facilities to their respective areas. Construction costs are shown below:

#### **Costs to Okinawa Prefecture:**

|   |                  |
|---|------------------|
| Price paid to national government for purchase of landfilled land | 21.3 billion yen |
| Soil foundation improvement                                       | 4.2 billion yen  |
| Basic facilities  | 3.2 billion yen  |

#### **Costs to Okinawa City:**

|  |                  |
|--|------------------|
| Price paid to prefectural government for purchase of landfilled land | 18.4 billion yen |
| Basic facilities   | 9.2 billion yen  |

Both Okinawa Prefecture and Okinawa City plan to raise money for the project through bond issues, and at the last stage, Okinawa City plans to sell 90 ha, and Okinawa Prefecture plans to sell 39 ha, to private buyers in order to recoup their capital investments. Thus, the budgets for the project are self-contained [separate from both the Prefecture’s and the City’s regular budgets].

Plans for the use of the landfilled area after its completion are detailed in the appended “Land Use Plan Map” and “Details of Land Use Plan.” These plans secure areas for residential and tourism development, the main component of which is an area for construction of tourist accommodation, including 4 hotels, condominiums and cottages.

### **3.2. History of the Project**

Nakagusuku Bay, where Awase tidal flat is located, is a large bay 24,000 ha in area, extending from the Katsuren Peninsula in the north to the Chinen Peninsula in the south. Two cities, four townships and three villages share its coastline, and jurisdiction over the Nakagusuku Bay Harbor was handed over from the Ryukyu government to Okinawa Prefecture when Okinawa was returned to Japan [in 1972]. It was declared an “important harbor” in April 1974.

The major development projects presently under way in Nakagusuku Bay are (1) the New Harbor Landfill Project in the northern part of the bay, which will provide for transportation and processing harbor facilities, (2) the “Marine Town Project,” for the provision of harbor facilities together with basic municipal facilities in the southern Bay, along the Nishihara, Sashiki and Chinen coasts, and (3) the Awase tidal flat landfill project.

Thirty per cent of Okinawa City’s area is occupied by military installations, and the Awase project was conceived as a way of freeing Okinawa City from economic dependency on these military bases. The landfill plan was originally contained in the “Eastern Coast District Development Plan” of March 1987. At first, the local people’s strong attachment to Awase tidal flat kept this plan from going forward, but in May 1991, Okinawa City crafted a consensus with the local people by changing the plan, which originally called for landfill straight out from the shoreline, to an offshore island, preserving the existing shoreline. However, with the bursting of the economic bubble [in the early 1990s], funding for the project seemed problematic, and the plan had difficulty progressing to the project phase.

The turning point was the March 1999 appointment of the New Harbor District as the site for establishment of a Special Free Trade Zone, based on an April 1998 revision of the Special Law to Promote Industries and Development Plans in Okinawa. As a result, the Okinawa Development Council began to take an active interest in the provision of harbor facilities in the New Harbor District. In short, Okinawa prefecture invested 217 billion yen to develop the New Harbor District, next to Awase Tidal Flat to the northeast, landfilled Kawata Tidal Flat, and is promoting plans for the construction of a harbor with transportation and processing functions in the New Harbor District. However, in order for ships of the 40,000-ton class to enter this harbor as planned, a channel 13 meters deep needs to be dredged.

Plans called for the dredge spoil from this channel to be used as surface soil in the New Harbor District, but as the work progressed, it was found that the dredge spoil was not as sandy as expected, and it was judged inappropriate to dispose of it by using it as surface soil in the manner planned. The result was a large amount of excess dredge spoil. In this context, and in reaction to a request by Okinawa Prefecture, the ODC decided to undertake another landfill on a scale large enough to deal with the excess dredge spoil, giving as its reason for its support of the Special Free Trade Zone development. The ODC then asked Okinawa Prefecture to participate in the Awase Tidal Flat Landfill Project. In this way, in the Awase project was [again] hastily put into motion.

As noted below, the Environmental Impact Assessment (EIA) has already been completed for this project, and licensing procedures for the landfill under the Public Waterways Landfill Law were completed on 19 December 2000. Construction work on the seawalls began in August 2001, while plans call for the landfill to start during the next two years, and to be completed 7 and a half years later.

### **3.3. Present Status of the Project**

Since the 1999 meeting of the Ornithological Society of Japan, where a report was delivered showing Awase Tidal Flat to be the most important site for shorebirds on Okinawa Is., there has been a growing trend towards reassessing Awase Tidal Flat's value for conservation. Even though the licensing procedures under the Public Waterways Landfill Law have been completed, as noted in Part 4 below, miscalculations in the land use plan have recently been thrown into high relief, and doubts about the project from the viewpoint of nature conservation have not been quelled; in fact, doubts are now being raised about whether the project itself is necessary or even rational.

In this context, on 31 July 2001, in view of the discussions being held by the committee established to monitor the project's Environmental Impact Assessment (the Environmental Monitoring and Reviewing Committee for Awase District of Nakagusuku Bay Harbor, hereafter referred to as the Environmental Committee), major construction work on the seawalls that was planned for mid-August 2001 was for the time being postponed. The reason given for this was that, in light of the strong criticism being leveled at the practical effectiveness of the seagrass transplanting project adopted as an environmental mitigation measure, construction would be delayed until the effectiveness of the transplanting project was confirmed.

The experimental seagrass transplanting project started in November 2001 was the first of its kind in Japan to combine backhoe dredgers and collecting boxes. However, local conservation organizations observing the

transplanting site noted that the transplanted seagrass was not taking root, and that the project had buried and destroyed branching coral communities underneath. However, on 22 February 2002, the Environmental Committee determined that the experimental transplanting project was going along as expected, and that although there were points where technical improvements should be made, looking at the project as a whole, transplanting seagrass is feasible by using the present method.

When this decision was reached, Mr Omi, Minister in charge of Okinawa issues within the Cabinet Office, said at a press conference on 26 February, "Our aims on the environmental front have to a certain extent been achieved. We have heard from the Prefecture from the perspective of demand for the project, and as a result hope to move forward without delay." And, on 8 March, having received a report on projected demand for land use of the landfilled area from Mr Nakasone, Mayor of Okinawa City and Mr Higa, Vice-Governor of Okinawa Prefecture, he officially declared the start of the construction phase, saying, "For the time being, we have the consensus to proceed with Area 1 (approximately 90 ha)," and it is expected that construction may begin sometime in March 2002.

The citizens of Okinawa City have twice demanded adoption of the necessary statutes for implementing a referendum on whether the Awase Tidal Flat Landfill Project should take place or not, and the local newspaper, the Okinawa Times, conducted an opinion poll of Okinawa City residents in November 2001 which showed that 57% were opposed to the landfill project. However, pro-construction citizens' groups collected 85,000 signatures in favor of the project ? this accounts for nearly 70% of Okinawa City's population of 142,000, giving rise to doubts about the legitimacy of the petition campaign. Despite this kind of context, and without having sufficiently clarified problems related to estimates for the ultimate use of the landfilled land and environmental protection, notably the seagrass bed transplanting project, authorities have gone ahead with the decision to start construction based on politicized judgments that goals had been met.

#### **Part 4 Are the Goals of this Project Rational?**

##### **4.1. The Goal of Dredge Spoil Disposal is Irrational**

As noted above, the two aims of this project are (1) construction of the marine resort facility "Marine City Awase," and (2) disposal of dredge spoil.

In order to justify the investment of a great deal of public money in this project, and to justify the massive impacts it will have on the environment, the second goal noted above must be a rational choice. So, first we will take a look at this goal.

As noted above, the involvement of the ODC in this project was a result of the designation of Nakagusuku Bay's New Harbor District as a Special Free Trade Zone. However, if we look at this designation, it is not possible to say that it was made on the basis of sufficient consideration of its probable competitiveness with the great number of Free Trade Zones in Southeast Asia, to which many manufacturers are moving their production capacity due to labor costs, etc. After landfilling Kawata Tidal Flat, the immense sum of 217 billion yen was spent on constructing a harbor with transportation and production facilities at New Harbor District, but we must say that there are grave doubts as to the rationality of this investment. Also, the fact that it is producing excess dredge spoil in itself attests to faulty planning.

Even if we set aside these considerations, as can be seen from the example of Fujimae Tidal Flat, which Nagoya City planned to use as a garbage landfill but was forced to abandon the plan in the face of severe criticism from in and outside Japan, awareness of the importance of tidal flat wetlands is rising higher every day, and it is not rational for the national government to decide to use any of the country's few surviving tidal flats as a dump for dredge spoil, moreover one like Awase Tidal Flat that has superior value as an intact ecosystem as evidenced by its selection as an important wetland by the Ministry of Environment. This is because protecting tidal flats is a national goal, as seen in the national government's Basic Environmental Plan, which calls for protection of tidal flats, seagrass beds, coral reefs, etc., and its "National Biodiversity Strategy," which states "Efforts should be made to protect these kind of ecosystems and natural habitats, " (in page 35). From the standpoint of these documents, decisions to landfill disappearing ecosystems such as tidal flats must be made with extreme caution. And, because there are various alternative ways of dealing with dredge spoil, using it to landfill tidal flats should be prohibited on principle.

Even if we go so far as to concede this principle and admit the need to landfill, consideration of alternatives, cost benefit analysis, and comparative analysis of environmental impacts should be required. However, the national government did not undertake a sufficient comparative analysis of these kinds of alternatives in making the decision to take part in this project. Thus, we must say that its participation in this project for the purpose of disposing of dredge spoil was lacking in rationality from the viewpoint of both technical content and procedure.

## **4.2. Difficulties in Implementing the Project's Land Use Plan**

### **4.2.1. Okinawa City's Estimates**

Estimates of the economic benefits of the "Marine City Awase' Facility Plan" are made in the [Prefecture's] "Report on Surveys and Estimates of the Socio-Economic Ripple Effect of Okinawa City's East District Coastal Development Plan" published in November 1993.

According to these estimates, this project will be a multi-purpose development, including provision for business, leisure, commerce, culture, etc. Construction of resort hotels and facilities for business and commerce will attract customers from outside the immediate area, and create employment in the offices of information service companies, research facilities, etc. This development will be tied to the provision of marinas and other leisure facilities, as well as places for people to relax, meet and get in touch with culture, such as a beachside park, a wild bird park, an art museum and so on, making it a comprehensive and compound development, bringing extremely large economic benefits from production volumes, employment and income, public funding opportunities, and so on.

Specifically, a large ripple effect on net production of goods and services within Okinawa City from the influx of 140 billion yen worth of capital is recognized, and, taking 1990 as a base year and compared to estimates over the same period assuming no development, an increase of 54.4 billion yen by 2005 was foreseen. Large-scale effects in all sectors were estimated, concluding "By 2005 per capita income will rise to 4,030,000 yen, achieving an income disparity value of 110.9, higher than the Prefectural average, and thus dissolving income disparity." Also, "The number of workers employed will reach 60,000 persons, with the unemployment rate at 5.2%," foreseeing one solution to an unemployment rate around 10% estimated for Okinawa City in the case of no development. In addition, expectations are also expressed for upward trends in city indicators such as commercial vitality, urban environment, municipal services, health care and public welfare.

### **4.2.2. Real Probabilities for Implementation of the Expected Project**

The economic ripple effects predicted by Okinawa City all depend on the assumption that the functioning compound/comprehensive development scheme will possess sufficient power to attract customers, after the landfill has been completed, the infrastructure built, and the hotels, condominiums, cottages, marine research center, tourism business school, public education center, and other proposed buildings are all completed. Thus, whether the project is rational or not is, in short, dependent on the actual utilization probabilities.

In view of this, we will take a look at the documents that deal with actual utilization probabilities, which were attached to the application for

permission to landfill a public waterway in order to elaborate justifications for the landfill.

According to this document, estimates of the number of people that will utilize each of the facilities planned is calculated on the basis of the scale of each facility and the amount of area needed per user, and these added up to reach 177ha [of landfill needed] (for the national government portion), and this is given as justification for the landfill. In particular, according to the calculations of users for the resort facilities, which function as the central component of the development, "The number of tourists to Okinawa will be 6.16 million per annum in 2006. Of these, 178,000 will visit Okinawa City, and 60% of these (107,000 persons) will be accommodated at the Awase district. Based on an average of a 5.27 night stay for each person, overnight accommodation for 563,900 users per year are planned in order to deal with this, including 4 hotels, one condominium, and one cottage facility, amounting to 1,275 rooms."

However, the basis for calculating these numbers was a survey report published in 1992 that prolongs an afterimage of bubble economy times and does not agree with present economic realities. Any plan based on this survey is bound to be completely meaningless. In actuality, the number of tourists to Okinawa in 1996 did not quite reach 3.5 million persons, and the average number of days spent in Okinawa Prefecture by tourists in 1999 was 3.74, with an average of only 2.7 nights/person, and moreover, these numbers are showing a continually declining trend. There is an exceedingly wide and growing gap between the reality of recent years and the predictions of 1992 on which this plan is based. One of the panelists at the Symposium noted above [in Part 1, section 2] was Prof. Kohama, professor of tourism industry studies at Meiou University, who noted (as reported in the Okinawa Times morning edition 4 July 2001), "The upper limit for tourists to Okinawa is 5 million and over the next 10 years this will rise, if at all, to 5.5 million. In reality it will be hardly possible to apply the calculations in the justification documents."

Also, according to newspaper reports (Okinawa Times morning edition 4 July 2001), "The planning document includes construction of an aquaculture facility, and calls for its management by the Nakagusuku Bay Coastal Fisheries Promotion Council. However, the Council office says, 'It is impossible for our organization to do the management.' Also, the plans call for construction of a marine research facility, but the entity that is supposed to manage that facility, Ryukyu University, says 'We have no plans for such a facility.' And again, the adult education center is supposed to be a facility of Okinawa Prefecture, but because of the severe situation of the prefecture's finances, Okinawa City has given up on that idea and is looking

for some other kind of facility to replace it.” Thus, the plan seems to have a very fragile basis in reality.

In addition, with respect to the construction and management of the main resort facilities, Okinawa City has 3 times sent out a questionnaire survey to companies that might be interested, the results of which also give rise to major misgivings about the possibilities for actually implementing this plan.

According to the results of these surveys, the first was sent out to 294 companies in 1993, of which 115 companies answered, and of these, only 33 companies expressed a desire to take part in the development. The second questionnaire was sent out in 1996 to 270 companies, of which 84 companies answered. The number interested fell abruptly to only 12 companies. The survey in 2000 sent out to 108 companies got replies from only 18 of them, with an equivalent of zero companies interested in taking part in the development, that is, the Okinawa City official responsible for the survey was forced to say, “There were no concrete results appropriate for publication.”

These results are only natural in the context of an economic recession that has continued since the bursting of the bubble economy ten years ago, and which shows no sign of letting up. It is a fact that plans for attracting companies to the already-completed Toyosaki District Landfill in Tomigusuku Village and to the New Harbor Landfill area are not proceeding as planned.

In view of the above, it becomes clear that the land use plan for the Awase landfill has no basis whatsoever in reality.

At the Symposium noted above, the responsible officials from Okinawa Prefecture and members of the pro-development citizens' groups emphasized that this plan was needed as an explosive stimulant to the sagging economy of Central Okinawa Is., but they expressed no clear vision with respect to the probabilities for actually implementing the land use plan. In addition, an official responsible for the project made some remarks to the effect that the uses of excess land were being reconsidered with relation to the land use plan, but if that is the case, they should throw out the existing plan and start over with a fresh discussion.

#### **4.2.3. What the Project will Bring to Okinawa City**

As noted above, in order to implement the land use plan, Okinawa City alone will have to bear 27.5 billion yen of the costs of this project. However, if it turns out that they are not able to sell the landfilled land, they will not be able to recoup what they paid out, and in the final analysis the City will simply have to bear the cost. Okinawa City's ordinary budget for fiscal 2000

was in the range of approximately 43.7 billion yen, and it may work out that they will end up having to bear costs amounting to about 63% of this figure. Considering that, at the end of fiscal 2001, Okinawa City was about 34.4 billion yen in debt (equal to 277,000 yen per capita of Okinawa City's 124,000 population), it becomes apparent that going forward with this plan is an immense risk for Okinawa City.

Because of the danger that pursuing this plan may cause these kinds of problems for Okinawa City, the City should make a thorough study of how realistic the plan really is, how they will deal with the financial side of the costs of implementing the plan and the associated infrastructure, and what the risks are should it fail. They should then make sure the results of their study reach their citizens, and solicit the citizens' opinions about the plan.

However, with the exception, as mentioned above, of having Okinawa Prefecture [continue to] own part of the landfilled land to be put up for sale, as a way of sharing the risk, Okinawa City has shown no sign whatever of having performed sufficient studies of these matters. In fact, all their information regarding the plan has by no means been made public, and the information that has been released tends to be that which will encourage citizens to support it.

According to an opinion poll conducted by the Okinawa Environment Network from March to April 2001, more than 64% per cent of those polled said they did not know what was going to be built on the landfilled land, while only 10% answered that they thought it was a needed development. This illustrated clearly that citizens are not very familiar with the project, and that it cannot be said that they are actively supporting it. This situation applies even more to the citizens of Okinawa Prefecture as a whole.

In this context, it is probable that the landfill will not only destroy a valuable tidal flat ecosystem and fail to result in the intended economic ripple effects by failing to attract businesses, but also leave the citizens of Okinawa City and Okinawa Prefecture with nothing but debt from the cost of buying up the landfilled land and providing infrastructure, ending ultimately in tragedy. To prevent this from happening, and to prevent the destruction of ecologically important tidal flats and seagrass beds, it is already clear that to continue pursuing this plan would be an indefensible course for Okinawa Prefecture and Okinawa City.

## **Part 5 Problems with the Environmental Impact Assessment (EIA)**

### **5.1. General Outline of the EIA**

The national Okinawa Development Council (ODC) undertook an environmental impact assessment to determine what impacts this project

will have on the environment. That is, from 1993 to 1998, surveys based on the category of the national EIA Guidelines were carried out, and a draft EIS (Environmental Impact Statement) was drawn up in March 1999. Since June 1999, after Japan's present Environmental Impact Assessment Law was adopted, the assessment was carried out in accordance with that new law. A first EIS was published in November of 1999. However, after some supplementary surveys were carried out, a revised EIS was published in March 2000.

The EIS concludes that 1) based on considerations of alternative measures and measures to avoid / minimize impacts as set out in the new law, environmental standards for air, noise and other natural environmental factors, as well as other environmental factors such as protection of biological diversity, the project meets environmental standards (Item 5-34; notes below also refer to itemized statements in the EIS), 2) that the developer is avoiding / minimizing impacts as far as is practically possible (5-65, 5-329), 3) that because of implementation of coastal environment protection measures (6-1) and consideration of mitigation through seagrass transplanting (6-5), and so on, the project is taking environmental protection properly into account (5-329, 425, 456, and Overall Assessment, Item 8-1 ~ 7).

## **5.2. Lack of Awareness and Evaluation of Awase Tidal Flat's Important Values**

In 1993, Okinawa Prefecture established the "Okinawa Prefecture Environmental Management Plan," and according to the "Guidelines for Protection of Natural Coastal Environments (in Okinawa Island)" included in that Plan, Awase Tidal Flat, and in particular its seagrass bed area, is accorded a Rank I value "area for strict conservation measures," while its area other than the seagrass bed is accorded Rank II, meaning that it deserves protection / conservation. Because a Rank I area should be strictly protected, this means that it should be left alone. In principle, complete destruction of seagrass beds in a Rank I area should not be allowed. If the environmental impact assessment really took environmental protection properly into account, naturally it should consider alternatives to landfilling this area, for example, disposal of the dredge spoil in some other area.

However, this landfill project will completely destroy about 49 ha of seagrass beds (25 ha of which has seagrass coverage of over 50%), and will also completely destroy 49 ha of tidal flats and 47 ha of area where reef-building corals are distributed. As noted in Part 2 above, this project will eliminate a rich, valuable breeding and habitat site for a wide variety of wild creatures. In spite of this, the EIA does not consider methods for avoiding these impacts. It utterly ignores the purport of the Environmental Management Plan.

### **5.3. Other Significant Flaws in the EIA**

#### **5.3.1. The on-site surveys are insufficient and do not appropriately reflect the rich natural community at Awase tidal flat.**

As noted above, according to surveys by the Wild Bird Society of Okinawa (WBSO), 125 species of birds belonging to 33 families, 11 orders, have been observed at Awase Tidal Flat, among them 30 species, such as Schrenck's Little Bittern (*Ixobrychus eurhythmus*) and Black-winged Stilt (*Himantopus himantopus*), that are listed in Japan's Red Data Book or Okinawa Prefecture's Red Data Book. The site is also at an important location along the East Asian Flyway for migratory shorebirds, and many more birds visit this site than Manko Tidal Flat [a Ramsar site]. In spite of the fact that Awase tidal flat has been recognized as the largest migratory bird site in Okinawa, the relevant on-site surveys for the EIA were only performed once per season in 1996, and once in winter 1997 (5-280). As a result, "the seasonal survey found 66 species of 20 families, 8 orders of birds," only about half of the number found by the WBSO (5-280), and of these only 11 Red Data Book species were observed (5-298). Many of the birds observed by the WBSO, such as the Class IA (Critically Endangered) Black-faced Spoonbill (*Platalea minor*) and Spotted Greenshank (*Tringa guttifer*) were completely overlooked.

Also, in spite of the fact that it was obvious at the assessment stage that supplementary surveys were needed, the final EIS used the original results from surveys performed for the draft EIS.

With respect to species of shellfish, on-site surveys for the draft EIS identified only 18 species (item 3-253 of preparatory document), and only one of these was a species listed as endangered in WWF Japan's Science Report (*ibid.*), Japan's de facto Red Data Book for tidal flat benthos. However, a survey by the "Ryukyu Wetland Research Group" collected 72 species of shellfish, four times as many, among them 14 species listed as endangered, vulnerable or rare in the WWF Japan's Science Report, including *Batillaria zonalis* (vulnerable) and *Pitar (Pitarina) pellucidum* (rare). The EIS, however, makes no reference whatever to this or other similar survey results, nor were supplementary surveys performed; rather, the original survey results used for the draft EIS were again used.

Moreover, with respect to the alga *Pseudodichotomosiphon constri*, which is listed as a Class I endangered species in the Ministry of Environment's "Sea Plant Red List" as well as in "Red Data Okinawa" published by Okinawa Prefecture, its existence was completely overlooked, as in the draft EIS. Only when the Governor of Okinawa Prefecture pointed out the problem were surveys undertaken to confirm its existence at the site, and although the EIS mentions environmental protection measures for this species, it

gives only 0.9 ha as the figure for habitat covered by *P. constri* (6-6, 8), although in fact the species covers 1.77 ha, over twice this area.

Because the predictions and evaluation of environmental impacts are based on the field surveys, these must be as accurate as possible. However, there were many such problems with the field surveys for this EIA, causing the EIA to lose credibility. [Translator's note: Results of surveys performed by non-government agencies or organizations are not used or referred to in any way in government environmental impact assessments.]

### **5.3.2. The *Pseudodichotomosiphon constri* transplanting scheme is poorly conceived.**

The EIS recommends transplanting of the alga *P. constri*, although techniques for transplanting this species have not been established, the time frame given is too short to determine the success of the experimental transplanting scheme, and the result may bring about the extinction of the species.

Prof. Noro, Faculty of Fisheries at Kagoshima University and member of the project's Environmental Monitoring and Reviewing Committee, pointed out, "This will be exceedingly difficult as the life cycle of the species is still unknown. The difficulty will be about equal to the breeding project being undertaken to protect the Japanese Crested Ibis (*Nipponia nippon*)." [Translator's note: Extinct in the wild in Japan since 1982; present breeding efforts depend on birds imported from China.] Prof. Noro expressed further doubts about the transplanting project, noting, "*P. constri* individuals are hermaphroditic, each individual producing both eggs and sperm. No other alga species do this. It is not clear how this species reproduces; confirmation of transplanting techniques will require 3 to 5 years," and called for protection of the site, saying, "Rather than discussing transplanting, we should perhaps be talking about how to preserve the environment where *P. constri* is presently growing."

Thus, in order to ensure the survival of the *P. constri*, the EIA should have considered how the landfill could be avoided and the area where it is growing appropriately preserved, but this consideration was completely absent from the EIA, showing it to be not a true assessment, but rather a so-called "awa-sessment." [Translator's note: This derogatory term is taken from the Japanese verb "awaseru," meaning "to conform," and implies that the assessment was made to conform to the goal of the development.]

### **5.3.3. Doubts over the artificial tidal flat as mitigation measure.**

The central area of tidal flat that will be completely erased as a result of this landfill is mainly sandy (mud content 0%), inhabited by seagrass and small spiral shellfish, accounting for about 49 ha of area. As mitigation for

the destruction of this area, artificial tidal flats of incomparable quality are planned, amounting to 4 ha each of muddy and fine sandy tidal flat area. Moreover, the site where the construction of these artificial environments are planned is outside the project zone to the southwest (EIA 6-4) where the existing bottom is coral rubble or sand mixed with coral rubble, where small spiral shellfish and species of gulfweed are presently living and breeding (6-3, Table 6.1.1), meaning the further destruction of about 8 ha of tidal flat. This artificial tidal flat plan clings to the notion of creating habitat for the Blue mud hopper (*Scartelaos histophorus*), completely ignores the habitats of shellfish, seagrass and other coastal ecosystems, and denies the principles of biological diversity protection.

The (then) Environment Agency's "On Opinions Regarding Tidal Flat Alteration at Fujimae Tidal Flat," published 18 December 1998, presents a scientific discussion of why artificial tidal flats do not function as replacements for natural tidal flats with diverse ecosystems, but this EIA cites a muddy artificial tidal flat in the New Harbor area as a successful example of tidal flat construction (6-3), although compared to the approximately 1,800 migratory birds that visited the original, natural Kawata Tidal Flat that occupied the same area in 1970, the number of birds visiting the artificial tidal flat in January 2000 plummeted to 27 birds, with only 13 birds recorded in January 2001.

Therefore, an artificial tidal flat will by no means function to replace the diverse and rich coastal ecosystem that will be completely destroyed at Awase Tidal Flat, and will not qualify as an environmental protection or mitigation measure.

#### **5.3.4. The developer's attitude toward the opinions of citizens and of the Governor of the Prefecture is inappropriate**

Citizens have submitted opinions calling for the protection of Awase tidal flat that say, "The landfill will destroy the environment and should be cancelled," and "To landfill a large area of natural marine habitat such as this will most likely have huge impacts on the creatures living there. We would like the only beach left in Okinawa City where citizens can go for recreation to be left as it is." However, the developers have reacted by saying that places for people to get in touch with nature will be provided through the construction of artificial tidal flats and an artificial beach (10-5,6), exhibiting an attitude that is neither appropriate nor sincere.

Similarly, the opinion statement of the Governor of Okinawa Prefecture reads, "The 265 ha of tidal flats and 353 ha of seagrass beds in the area to be landfilled and the surrounding sea form a large-scale shallow coastal area. This kind of coastal shoal/tidal flat area preserves the balance of a delicate ecosystem that has been built up over a long period of time. Because

this project will destroy 49 ha of tidal flats and 79 ha of seagrass beds, it is feared that the diverse ecosystem extending from the shoals to the tidal flats will suffer significant impacts, giving rise to various problems. Thus, priority should be given to preserving nature in its original state in areas high in natural values. In view of this, in order to pursue the protection and preservation of the natural environment at the tidal flat / seagrass beds in the project area, impacts from the project should as far as possible be avoided or minimized.” In addition, this opinion statement strongly advises conservation of *P. constri* sea weed, of feeding and roosting sites for birds, and so on, calling for the preservation of nature in its original state in this tidal flat area in view of its high natural values, as elaborated above (10-7 and below).

Nevertheless, the developers reacted to this, as noted above, by failing to confirm the presence of *P. constri* until the final EIS, and moreover, even after confirming its presence, dealt with it by adopting the mere contingent of an unplanned transplanting scheme devoid of a sufficient basis in science. The developers have not dealt at all with the issue of protecting the area’s bird species or other biological diversity. The attitude adopted by the developers completely ignores the important values of Awase tidal flat.

#### **5.4. Summary**

Thus we can see that Awase tidal flat has formed and preserved an ecosystem that is one of the most biologically diverse in the country, where a great many endangered and vulnerable species live and breed.

Among the reasons given for including Awase tidal flat in the list of important wetlands of Japan were, “habitation by *Pseudodichotomosiphon constri* (endangered),” “Relative abundance of migratory birds using the site during northward and southward migrations, and as an overwintering site, presence of more than 1% of the minimum estimated population of Pacific Golden Plover (*Pluvialis fulva*), records of 0.25% [of known population] of Gray-tailed Tattler (*Heteroscelus brevipes*),” “Largest overwintering flock of Pacific Golden Plover in Japan. Records of RDB species Redshank (*Tringa totanus*) and Far Eastern Curlew (*Numenius madagascariensis*),” “A particular abundance of rare shellfish species.” However, the EIA for the project undertook no precise surveys or assessment of these realities, and thus it is not a proper assessment of this project’s impacts. Thus, the pursuit of this project’s implementation based on this assessment should not be countenanced.

Also the original purpose of the Environmental Committee should have been to monitor the EIA of the project from its planning phase, but this Committee was not established until after the project had already been decided on. This leads to the suspicion that the role being played by this

Committee is to make minor adjustments and rubber stamp the project plan in order to facilitate its implementation.

## **Part 6 Conclusion**

Based on the results of our investigation outlined above, Japan Federation of Bar Associations believes that the Okinawa Development Council and Okinawa Prefecture should cancel the Okinawa City East Beach (Awase Region of Nakagusuku Bay) Development Plan in order to prevent wasteful use of public funds, and to protect the precious natural environment of Awase tidal flat, and, in cooperation with Okinawa City, should devise measures for its protection, such as its designation as a National Wildlife Protection Area (“Wildlife Protection and Hunting Law” Article 8, Section 8, Paragraph 1, Item 1), and undertake procedures to add the site to the Ramsar Convention List of Internationally Important Wetlands. To this end, we submit this Statement of Opinion.

[End of Statement]

**(The original is written in Japanese.)**