Socialist Republic of Vietnam

Ministry of Agriculture and Rural Development

Draft

Vietnam Water Resources Assistance Project (VWRAP)

SOCIAL IMPACT ASSESSMENT

For

DA BAN SUBPROJECT

Edited September 2003
Social Impact Assessment for Da Ban in VWRAP Subproject

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EXECUTIVE SUMMARY

Social Assessment

1. Da Ban Irrigation Scheme is located on the south central coast of Vietnam in Hoa district in Khang Hoa province. The Scheme was built between 1978 and 1982 in a mountain area without habitation at the time. Three distinct groups of people settled, two from the local area and one from the north of Vietnam, all Kinh people. Although a gradual integration does take place the three groups are still separated by their social and economic differences, which might cause difficulty in forming wider social organizations such as water user associations.

2. Beneficiaries are 24 out of 27 communes with a population of 212,812 people in 43,071 households. The population density in the affected area is higher than average for the total district. Farming is the dominant occupation with 65% followed by sea products 10%, and for the urban area trade, construction, and industry and handicraft. Eco-tourism is high on the areas’ agenda for the future.

3. Farmers usually have several plots of land. According to the socio-economic survey undertaken in 2003 the average landholding was rather high with 0.96 ha/HH compared to the national average of 0.4 ha/HH, but it varies greatly between the communes in the Subproject areas. There was very few in the poor income group and the majority is in the lower middle-income group. A large number of the surveyed people possessed valuables somehow considered luxury items for a rural population such as telephone, motorbikes and refrigerators, which might be due to secondary incomes.

4. All the surveyed communes had access road with asphalt surface to the commune and electricity. The rural road network was well connected and developed. The social infrastructure was available in all communes and all the surveyed communes had primary schools, health care center and were connected to telecommunication.

5. Standard of living had improved considerably in recent years, and food security had gone up. Education in one area had got an honorable position for its primary education, and was now expanded to other areas. School enrollment was almost complete for the young cohort, but girls lacked behind particularly in secondary and higher education. Health and hygiene had also improved and more than ninety percent of the population in the Subproject area had access to clean water and seventy percent has toilets. Main diseases in in the Subproject area were malaria, goiter, tuberculosis and leprosy, but the number of cases has declined in recent years. While venereal diseases were almost absent in rural areas it was above two percent in the urban area. However, a large number of women were suffering from gynecological diseases not only from waterborne diseases, but also from unsafe tools when in labor.

6. There is no general gender discrimination, but there is a distinct gender division of labour in which women do the light work in agriculture and have the main responsibility for domestic
work, including livestock and poultry, and the men were doing the hard work. The only exception was tutoring the children which was done by men because of the higher level of education. Men were also paid higher than women when working as hired labor. Women were not participating in water management because it was considered hard work, and often had to be done at night, which was not considered appropriate for women particularly mothers.

7. The poverty rate varies from commune to commune but was generally around seven percent. Four percent of households had no agricultural land. The government had previously assigned land to these households in accordance with Decree 64/CP 1996, but most of the people had sold the land again partly because they had no collateral to invest in the land, and partly because they were used to a life as hired labour, and these people would prefer cash compensation instead of land for land. Due to improved agricultural methods there was temporary underemployment in agriculture, and many worked as hired labour 10 days/month. Unemployment was also high among young people due to young graduates who could not enter higher education, and a labor market with few opportunities.

Participation in the Subproject

8. The administration at provincial, district, commune as well as community levels endorsed the project and agreed to implement the Subproject in agreement with the Government and the World Bank policy. All farmers participating in group consultations wanted to take part in the implementation of the subproject and hoped to get jobs to earn cash income, especially those who were poor, women, and of vulnerable groups. Farmers were willing to participate in the distribution and management of water after the completion of the subproject, including women, if technical training for operation of the modern irrigation system would be provided.

9. The people, community heads and communal authority agree to provide contribution to the rehabilitation, upgrade and new construction of the tertiary system along with the supports from the government. Farmers propose that the government invest 50% of the cost and they would share the other 50% by borrowing from the government and repay gradually through crops contributions.

10. The people was willing and able to pay a higher irrigation fee after the irrigation system has been modernized, provided that the irrigating and discharging services would be adequate. Equally important would be to put in place a new mechanism whereby farmers could get required information and participate in water management particularly on issues relating to their financial contribution.

11. The farmers wanted to establish Water User Associations and introduce a system based on market principle in which they would only pay for the water they actually get. Further, farmers wanted the association to be based on community borders and actual water users instead of the administrative demarcation, which was presently applied. With this model, they could select their representatives whom, they felt, would be fully capable and committed to work for the community's benefits and sign the water user contract directly with the IMC. Those representatives would help them in monitoring and checking their contribution.
Subproject impact

12. There will not be any need for relocation due to the Subproject, but ten households will have severe impact by loosing more than 20% of their land due to land acquisition. In addition 522 households will have their residential structures marginally affected and 469 households will loose minor portions of their land due to the Subproject. The total number of households affected by land acquisition in Da Ban Subproject Phase 1 is 4,043. A full record of impact on land, structures, business, crops, trees, and other assets, including compensation entitlements, are provided in the resettlement action plan (RAP) for Da Ban Subproject.

13. Since there is no landmarks of canal’s safe corridor in the secondary and tertiary system, the corridor areas have been allocated for long term use to farmers in accordance to Decree 64-CP. Further, some parts of canal’s safe corridor were allocated to households for long term use (only 0.5 m from the foot of the embankment), other parts were temporarily allocated or not allocated but just occupied, and all safe corridor areas were used by the farmers for annual crops. Therefore, the subproject will have to make compensation for this land, although it should not have been occupied in the first place.

14. The People’s Committee of communes informed that they manage a 5% of non-allocated land, and this land could be used to compensate those households whose land would be lost. The community also agreed to help the people affected and to share the burden of land acquisition between neighboring households. The commune would provide rehabilitation assistance to affected people.

Short-term impacts

15. Farmers proposed closing of the canal for construction to be done in two rounds (1) from March 30th to May 15th and (2) from August 1st to September 15th, two rounds of one and a half month each. Farmers’ further proposed as a mitigation measure during water closing time to included a ten days opening.

16. Concerning short-term impact farmers mentioned that closing of water for construction could, apart from lack of water for irrigation, also have a negative impact on domestic water as the water level in the wells depended on the water levels in the canal. Second, the large gathering of workers for construction could have an impact to the security and order of the community, and make prices at local markets increased. Third, it was envisioned that there would be an impact to transportation of people because construction would affect canal bridges and power grids. Fourth, a possible impact to the environment was also envisioned due to dust from the road where there would the transportation of construction materials. Fifth, after completion of construction transportation would still be affected because earth left over from the dredging and excavating of canals, which should be used for strengthening embankment access road, would be “taken by some people.” This will affect the environment of the community both socially and environmentally.
Concerns:

17. Although the PC are responsible for the non-allocated land, which is referred to as 5% of total land in the area, some parts of this land have actually been legally allocated or more spontaneously occupied by farmers, who presently cultivate the areas. In cases where land has been allocated by the authorities the people will be entitled to full compensation. But in case where entitlements have not been granted or fully registered there might be debates over full compensation. But the farmers occupying this land might belong to vulnerable groups, and the Project should secure them full rehabilitation in order to avoid further contributions to poverty generation.

18. The detailed measurement survey (DMS) will have to focus on the ten households with severe impact from land acquisition (more than 20% lost) in order to evaluate if the remaining agricultural area will be sufficient to sustain the family income for these households or if particular rehabilitation assistance will be necessary.
1. INTRODUCTION

1. Da Ban Irrigation Scheme is located on the south central coast of Vietnam in Ninh Hoa district, Khanh Hoa province.\textsuperscript{1} The reservoir is located approximately 35 km north of Nha Trang, the provincial capital. The Da Ban River catchment’s is defined to the north by the Vong Phu Mountain Range, to the east by the Thong Nhat Railway line, and to the west by the Tan Lam River.

2. The Scheme was built between 1978 and 1982 in a mountain area without habitation at the time. After completion people began coming to reclaim virgin soil and set up farms. Due to the requirements related to settling up farms in the mountain area the people did not formed communities but settled one by one and lived scattered along the canal’s banks, especially at the head of the canal. At the ends of those two canals close to 1 grade canal, people concentrate more, but not in communities like the traditional villages of Kinh people. Habitation of the people living along main canals are totally different from that of people living at 1 grade and 2 grade canals, where people concentrate in hamlets at the banks, except at places where canals run through fields only. Although all are Kinh people the inhabitants in the Subproject area differ substantially according to their place of residence.

3. Along the banks of the main East and West canals, people came to live from three different places. One group of local citizens, who currently have houses in hamlets, came to claim virgin soil for setting up farms. A second group who were also local citizens moved there to settle but are now a mixed group doing either agricultural work as they had done at their old native place, or work for hire just to make a living. The third group were not local people but they had come from Northern and Central Northern provinces as: Thai Binh, Nam Dinh, Thanh Hoa, Nghe An, Ha Tinh, Quang Tri to work on the Phu Khanh cotton farm. The latter group was hardworking people who settled as farmers after the dissolution of the cotton farm in 1982, and today they differ from the more liaise faire lifestyle of their southern neighbors.

4. Due to differences of living circumstances, motivations and traditions, though living in the same area and getting benefit from the same water source of the Da Ban irrigation system, there are differences in work ethics as well as in standard of living between the three groups. Although assimilation occurs gradually there are still characteristics such as “a group of local people with clear target of reclaiming virgin soil for farming” to “a group of local people without targets or lacking in determination to reclaim virgin soil for farming” and “a group of people of farming worker origin,” which to a large extend describe their socio-economic status, with the second group at the bottom. These differences might cause difficulty in water management and distribution, and make it difficult to apply scientific & technical advancements to the agricultural field.

\textsuperscript{1} There are two major irrigation systems in the province: Da Ban and Ninh Hoa.
2. SOCIAL ASSESSMENT

2.1. Beneficiary Population

5. Beneficiary areas covers 24 out of 27 communes and 1 townlet of Ninh Hoa district with a total of 212,812 people in 43,071 households (4.9/household). Natural population growth ratio is 1.38%. Population growth rate is 1.45%/year. Population density of the beneficiary area of the Subproject was 269 people/km². The population density was higher (85 people more) than the average for the district due to a very low population density in three communes outside the Subproject area.

6. In the (smaller) sample survey of 212 households from three communes the size of the households varies from 6/person/household in Ninh Tho to 5.7 in Ninh An to only 4.2 in Ninh Dong, and the number of active labor from 4 to 3.3 and 3 per household respectively. This gives an advantage to Ninh Tho as the number of active labor determine the household’s human resources for agricultural production.

2.2. Production and Occupation

7. Farming is far the most dominant occupation in the area with 65% of the total population and forestry quite insignificant with only 0.09%, which is surprising in this mountain area. However, fishing and sea products are second with one in ten of the population engaged. Trade and services comes third, which reflects support to the urban population with more than 200,000 people nearby. Industry and handicrafts come fourth with around 6% employed in brick (tunnel brick factory with capacity of 25 million bricks/year, and over 200 households producing brick by handicraft methods), salt, cement, the Huldai shipbuilding factory, and a sugar factory with capacity of 1250 tones/year. One third of the 6,500ha area providing raw material for the sugar factory benefits from the Da Ban water source.

Table 1: Occupation as Percent of Total Population in Subproject Area

<table>
<thead>
<tr>
<th>- Structure of household according to main production branches</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Agriculture</td>
<td>65.45</td>
</tr>
<tr>
<td>- Forestry</td>
<td>0.09</td>
</tr>
<tr>
<td>- Sea product</td>
<td>10.06</td>
</tr>
<tr>
<td>- Industry, handicrafts</td>
<td>5.9</td>
</tr>
<tr>
<td>- Construction</td>
<td>1.73</td>
</tr>
<tr>
<td>- Trade service</td>
<td>6.45</td>
</tr>
<tr>
<td>- Transportation</td>
<td>1.36</td>
</tr>
<tr>
<td>- Others</td>
<td>8.96</td>
</tr>
</tbody>
</table>

8. Apart from the above-mentioned factories using Da Ban water, some new projects already approved by the State are the Ninh Thuy industrial Zone, with an area of 240 ha including the Ninh Thuy inhabitant and service area of 80 ha, and the Ninh Lam concentration

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2 Figures here are from the Social Assessment, which differs from figures provided by CPO, which also includes Van Ninh district.

3 Source: Statistic Year Book of Ninh Hoa district, year 2001, Ninh Hoa, 8/2002
inhabitant area of 500 ha. There is also the Doc Let tourist area (20-60ha), the North Doc Let project with an area of 250 ha under preparation, and a Handicrafts Centre is planned at the borderlands of 3 communes of Ninh Phung, Ninh Tam and Ninh Xuan, with an area of 80 ha.

9. Production development rate in 2001 increased by 21.5% with industry and handicrafts at the top with an increase of 58.5%, while tourist service ranked the second (by 18.7%); and agriculture only contributed with 4.7%. According to a report from the People’s Committee of Ninh Hoa district from 2002 economic growth rate for agriculture was 4%; industry and handicrafts 10% and commercial and tourist services was 12%.

2.3. Land Holdings

10. Farmers usually have several plots of land. The average agricultural land holding in the affected project area was rather high, comparing to the national average: about 0.96 ha compared to 0.4. However, it varies greatly between the communes surveyed. The poorest in term of arable land was Ninh Dong, where per capita arable land was about 0.3 thousand square meters only, while this indicator in Ninh An was more than 1.8 thousand m².

<table>
<thead>
<tr>
<th></th>
<th>Total (m²)</th>
<th>Average land holding (m²/HH)</th>
<th>Per capita arable land (m²/pers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ninh Tho</td>
<td>4088</td>
<td>4088</td>
<td>681</td>
</tr>
<tr>
<td>Ninh Dong</td>
<td>13130</td>
<td>1313</td>
<td>313</td>
</tr>
<tr>
<td>Ninh An</td>
<td>305852</td>
<td>10547</td>
<td>1865</td>
</tr>
<tr>
<td>Total</td>
<td>383521</td>
<td>9588</td>
<td>1809</td>
</tr>
</tbody>
</table>

Source: Results of Socio-economic survey of PAP in 2003

11. Average cultivation area per capita in the whole beneficiary area of the sub-project was 1,267 m²/person, of which yearly plant cultivation land area is 950 m²/person (75% of the total cultivation land area). Paddy cultivation land area was 485 m²/person (38% of the total cultivation land area). The average cultivation land area of communes in two pilot areas was 1,751 m²/person, which is 484 m²/person higher than the common average figure of the sub-project area.

12. The average forestry area of the sub-project area was 1.943 m²/person, the figure of the communes in 2 pilot areas was 391 m²/person, which was 1.552 m²/person lower than the average figure of the whole sub-project area.

13. The average agricultural cultivation land area per household of the sub-project area is 6,258 m²/household, of which the yearly plant cultivation land: 4,693 m²/household (paddy cultivation land: 2,396 m²/household, equal to 4.79 poles’ length of central Vietnam), forestry land: 9,600 m²/household.

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4 In fixed 1994 prices.
5 Source 2001 statistic Year Book of Ninh Hoa District, Ninh Hoa, 8/2001
2.4. Standard of Living

A. Income and Assets

14. Income is often measured in agricultural production. Average food grain (calculated in paddy) per capita of the beneficiary area of the sub-project was 400 kg/person/year. Among the communes belonging to the 2 pilot areas of N3 and N4 of Phase 1, some communes have average food grain income higher than the common average income of the whole area, such as Ninh An commune with 700kg/person/year; Ninh Dong: 500 kg/person/year, while some other communes have their income lower than the common average income, as Ninh Tho commune: 370 kg/person/year.

15. Survey results show that there were around 8% of affected people (PAP) who had monthly income below 100,000 VND/person and belong to the poor income group. The well off group was 40% of the total surveyed. Average per capita income was much higher in Ninh An commune than in Ninh Dong. This may be caused by greater involvement of various non-farm activities in Ninh An than in Ninh Dong. Based on the Ministry of Labor Invalids and Social Affairs classification, four income-level categories have been identified in the area.

(i) Category I: The poor-income per capita is < D100,000/month.
(ii) Category II: The low-income per capita is from D100,000-D199,000/month.
(iii) Category III: The well-off-income per capita is from D200,000-D399,000/month.
(iv) Category IV: The wealthy-income per capita is > D400,000/month.

<table>
<thead>
<tr>
<th>Table 3. Levels of Monthly Income in percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
</tr>
<tr>
<td>Ninh Tho</td>
</tr>
<tr>
<td>Ninh §êng</td>
</tr>
<tr>
<td>Ninh An</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Source: Socioeconomic survey 2003.

16. Ownership of assets by the PAP surveyed shows a relatively wealthy picture. A large number of the surveyed HHs possess valuable, somehow luxury for the rural areas such as telephone, motobikes and refrigerators. Up to a third of the HHs surveyed have pumping machine, while some HHs have ploughing, sewing machine and generators.

<table>
<thead>
<tr>
<th>Table 4: Possession of HH Goods in Surveyed Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commune</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>Ninh Tho</td>
</tr>
<tr>
<td>Ninh Dong</td>
</tr>
<tr>
<td>Ninh An</td>
</tr>
</tbody>
</table>
17. All the surveyed communes had access road with asphalt surface to the commune and electricity. The rural road network was well connected and developed. The social infrastructure was available in all communes and all the surveyed communes had primary schools, health care center and were connected to telecommunication. HHs' facilities are shown in table 5 below.

<table>
<thead>
<tr>
<th>Total</th>
<th>90</th>
<th>58</th>
<th>70</th>
<th>38</th>
<th>10</th>
<th>10</th>
<th>55</th>
<th>8</th>
<th>8</th>
<th>15</th>
</tr>
</thead>
</table>

Table 5: Households Facilities in Surveyed Areas

<table>
<thead>
<tr>
<th>Lighting</th>
<th>Source of domestic water</th>
<th>Toilet at home</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Electricity</td>
<td>other energy</td>
</tr>
<tr>
<td>Ninh Tho</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Ninh Dong</td>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>Ninh An</td>
<td>93</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Socioeconomic survey 2003.

B. Education
18. Ninh Hoa district got the honorable name of illiteracy elimination and general education at primary school level. According to their plan, the district will generalize education at junior secondary school level to the year 2005. In 2002, the ratio of student graduating from primary school was 99.8%, from junior secondary school was 97.3%, from senior secondary school was 85%. In all localities, the authorities at all levels always attach great importance to the development of training-education work. Schools are supplied step by step with new equipment for teaching and studying. Most of schools in the district have been newly built or upgraded. Results of survey at the communes showed that cultural standard of households owners are at 7th form (12 year system). Illiteracy rate is 3-4%.

C. Health
19. Main diseases in the localities of sub-project area (Ninh Hoa district) area: malaria, goiter, tuberculosis and leprosy. Diseases communes in rural plain area are cold and fever, headache, sore eyes, tuberculosis and gynecological diseases of women. In the opinion of the Women’s Association, women’ gynecological diseases not only result from water source, but also from unsafe tools when women were in labor. Diseases related caused by “social evils” (meaning venereal diseases) are almost absent from in rural area.

20. Diseases of semi-mountain area are malaria, dengue fever, leprosy and goiter, though they do not become epidemics, but the diseases affect the labor force in the area. According to a report of the people’s committee of Ninh Hoa district disease prevention had become a priority and paid off at all levels of the district actively supported by the people. The ratio of people getting malaria in 2002 in the district was reduced by 34% (512/1505 people), tuberculosis reduced by 35% (196/560 people), and metal disease reduced by 57% (25/44 people) compared to 2001.
D. Hygiene and Sanitation

21. Clean water: The ratio of household in rural area using clean water of Ninh Hoa district was 36,577 households, (accounting for 92.52% of total of 39,531 households in rural area), of which 34,588 households (making up 94.6% of total households) use clean water from well sunk and built with bricks, water from canal running through filter tank, UNICEF drilling well, or water in jar containing safety water; and 1,989 households using tap water (drilling well with filter in each center. Each center has 40-50 households) making up 5.4%. The rest (7.5%) directly use canal water for living (mainly households living along canal N3 and N4). At present, 5 safe water supply system have been completed and put into operation, connecting small water network for 3 communes of Ninh Da, Ninh Giang and Ninh Ha. Each system supplies water for 50 households. Ninh Thuong water supply project is under construction with the total investment capital of VND2.2 billion, of which 1.2 billion is financed by APPEL of the Republic of France. At Ninh Hoa townlet: 100% of households use safe water.

22. Toilets. In the rural area 70% of households use one or two compartment latrines, about 10% of households use septic tank or semi-septic tank toilets, 20% of households have no toilets but go to the canals or deserted land. In the urban area (townlet), about 30% of households use 2 compartment latrines, and 70% of households use septic tank or semi-septic tank toilets.

2.5. Gender

23. The women are participating in most of the socio-economic development programs in the area and play an important role in the social life of the community, especially the campaign for "Good and strong children", "Hunger eradication and poverty alleviation and employment generation"; other programs include the "For the advancement of the women", "Gender equality", "Reproductive health" and "Care to teenagers".

24. Women represented in management post in local authority bodies and in social organization account for 25% in Ninh Dong and Ninh An commune. According to a report of the Women Union of Ninh Hoa district, the number of divorce cases in the district in 2002 is 20, in which 60% are of young couples which was mainly attributed to the family’s economic difficulties.

Division of labour based on gender

25. In all the communities consulted, the management, distribution or intaking of water to families’ fields was considered a hard work and done by men, although women say that they can take charge if they are trained and do not have to stay up late at night as at present. Women mainly take part in harvesting, selling the products, keep money and part of maintenance. Men do the remaining work in agricultural production, such as preparation of land, sowing, weeding, spraying of pesticide, harvesting, drying, and storing. The ratio of doing field work (time spent in the field) between women and men was 20% and 80% respectively. Raising castle and poultry of the family was mainly women’s work and they were in charge of 70% of the work. Women did almost all household work although men were tutoring the children at home because of limited
education of adult women. This division of labour was regarded by women as their obligation, particularly in rural area, and was less gender divided in urban areas.

2.6. Poverty and Vulnerable Groups

26. The whole district has two poor communes, Ninh Tay and Ninh Tan, making up 7.4% of the total number of communes/townlet of the district. At present the Subproject districts have 2,515 poor households, with 10,936 people, accounting for 5.86% of total households of the district. The average number people in poor households were 4.3 people. The number of households overcoming poverty in 2002 were 828 households (3,910 people).

27. The number of agricultural households without agricultural land was 3.86% of the total 39,531 agricultural households of the district (2001). All these households were previously assigned land in accordance with Decree 64/CP (1996), but they sold out all their gained land and became again households without land. They sold their land partly due to their difficult situation and the fact that they did not have investment capital for production, but also because they had become used to working as hired labor and were reluctant to manage and calculate on their own land. Most of those households without land are poor, or have medium living standard. The ratio of poor households in the communes of the 2 pilot areas is shown below.

Table 6. Poor Households in Surveyed Area

<table>
<thead>
<tr>
<th>Commune</th>
<th>No. Poor Households</th>
<th>No of People</th>
<th>Overcoming poverty</th>
<th>Hunger households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ninh Tho</td>
<td>76</td>
<td>358 (5.3%)</td>
<td>n.a.</td>
<td>0</td>
</tr>
<tr>
<td>Ninh Dong</td>
<td>39</td>
<td>131 (3.6%)</td>
<td>19</td>
<td>0</td>
</tr>
<tr>
<td>Ninh An</td>
<td>181</td>
<td>852 (6.9%)</td>
<td>n.a.</td>
<td>0</td>
</tr>
</tbody>
</table>

28. Table 6 above shows that the local authorities helped by the community has been actively fighting poverty and it had been possible from 2000 to 2001 to get 19 households out of poverty, and in neither of the communes were there households so poor that they were starving.

29. The number of poor households in the rural areas of the subproject in 2001 was 3,423 out of 39,531 (accounting for 8.66%). According to the poor people themselves the main reasons for their situation were: (i) lack of fund for cultivation and raising livestock; (ii) lack of jobs, especially the ones that can bring cash income, (iii) lack of labor, (iv) member of the family was frequently unwell, (v) low educational level and ability in management and organization of production; (vi) head of the family was a woman (single woman, single mother, or deformity).

30. On the average, each person works for hire about 10 days/month (as there are leisure months in agriculture when there is no requirement to employ people). Labor cost of female laborer was VND 15,000/day, while that of male laborer was VND 20,000. Thus, the average monthly income from working for hire was around VND 350,000. With food grain income from family’s field and income from working for hire, one family could only meet the daily normal demand of food and beverage for 5 members and study fee for 3 children. Poor households had

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6 Source: Statistic Year Book of Ninh Hoa District, 2001, Ninh Hoa, 8/2001
no capital accumulated and they were still living in the temporarily made cottages built at the time when they first came 15 years ago (1988).

31. On the contrary to poor households, the well-off households have high yearly income (average VND3 millions/person/year), excluding food grain enough to meet the demand of family and food for breeding), especially income in cash from planting commercial fruit trees, industrial plants (sugar cane), fish raising and breeding (pig, cow, poultry).

2.7. Development Challenges and Priorities

32. Irrigation water for agricultural and industrial production and for coastal areas sea production was of high priority. Ecological tourism areas were also high on the wishlist. Farmers wanted to increase their two annual crops to three, which they could foresee as a result of the irrigation scheme. In order to meet the need of water for industrial and tourist areas, the province was making plans to invite VINACONEC to build Tien Du reservoir (Ninh Phu commune) to supply water for the industrial zone and Ninh Thuy concentration inhabitant area (Ninh Thuy commune). The province also had plans to invite Power III and Black River Companies to make project for the construction of reservoir for hydro-electric power Egronru (Ninh Tay Commune) and for supply of irrigation water in service of agricultural cultivation for the western part of district, which does not enjoy Da Ban water source. The province also wanted investment capital for industrial and tourist areas. For farmers a high priority was also a reduction of agricultural material expenses especially for fertilizer, insecticide, and seeds. The current average expense for agricultural input (excluding labor) was 30% of the total production value from paddy cultivation.

2.8. Social Impact of Da Ban Subproject

33. There will not be any need for relocation due to the Subproject, but ten households will lose more than 20% of their land due to land acquisition. The detailed measurement survey (DMS) will have to focus on these households in order to evaluate if the remaining agricultural area will be sufficient to sustain the family income for these households or if particular rehabilitation assistance will be necessary. In addition 522 households will have their residential structures marginally affected and 469 households will lose minor portions of their land due to the Subproject. The total number of households affected by the Da Ban Subproject in Phase 1 is 4,043. A full record of impact on land, structures and other assets, including project affected peoples’ entitlements, are provided in the resettlement action plan (RAP) for Da Ban Subproject.

3. CONSULTATION, INFORMATION DISSIMINATION AND PARTICIPATION

34. Community consultations were carried out in all three communes of the two pilot areas: Ninh Tho (canal N3), Ninh An (N3 &N4), Ninh Dong (N4) and in hamlets of Ngoc Son (Ninh An commune), Noi My (Ninh Dong commune).
3.1. Commitment to Implement the Project in Accordance with World Bank Policy

35. At consultative meeting with local authorities at province, district and commune levels was carried out, and the social advisor informed on: (i) the contents of the Project at national scale and the subproject of Da Ban irrigation system modernization; and (ii) the World Bank policy on resettlement and ethnic minorities. The consultative meetings were attended by leaders of some staff offices of the provincial people’s committee as well as the Department of Agriculture & Rural Development, cadastral office, the commune people’s committee as the cadres in charge of transportation –irrigation and land management of communes. Results of consultation show that all leaders of the local government at all levels as well as the staff offices of the people’s committee supported the Project, and was committed to implement the Sub-project in accordance with the policy of the World Bank.

A. Consultation with Provincial Peoples Committee

36. The province had been informed about the contents of the project and agreed to the requirements of the project. The provincial authorities found that modernization of this irrigation system was very necessary, suitable to the people’s aspiration, and to the socio-economic development targets of the province to the year 2010. At present, water level in the lake is low, the dam system is not very safe, the canal and ditch system seriously downgrades and needs to be renovated. The provincial people’s committee is ready to receive the sub-project and committed to implement correctly WB policy, and create the best conditions for the implementation of the sub-project. Regarding WB policy, the province had previously experience with good results to implementation of projects using loans from international organizations, including the World Bank and the ADB, especially in the fields of compensation, site clearance, resettlement, and so they will definitely fulfill their commitments.

37. Regarding site clearance for project construction, the Department of Agriculture & Rural Development hold that in principle, all canals and ditches have rights of way, but as a result of bad management, these areas have been assigned to households either for long term use, or for temporary use. Therefore, compensation for site clearance not only include plants, farm produce, but also land in some cases. A source of land for compensation is the reserved land fund of 5%, which was presently managed by people’s committee of the communes.

38. According to report of the provincial people’s committee, all localities of the province are carrying out the policy of priority to ethnic minority as follows: Besides the policy to resident students who are ethnic minorities as stipulated by the Government, all non-resident students who are ethnic minorities at Primary schools (Level I) are provided with VND30,000/month; at junior and senior secondary schools (level II and III) are provided with VND120,000/month. This sum of money will be paid in rice. The rice could eliminate hunger for those households.

39. To the year 2004, the province will complete house construction for 100% of poor households, who are ethnic minority; each house is worth VND7-9 million. Supply ethnic

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7 Include: People’s Committee of Khanh Hoa province (with the attendance of leaders of Agriculture & Rural Development Department), People’s Committee of Minh Hoa District with the attendance of representatives of related specialized offices as Transportation - Irrigation/Agriculture & (Rural Development, Cadastral official).
minority households with goods free of charge, medicine, seeds, insecticide, fertilizer, iodine salt, and other essential commodities. Irrigation fee does not have to be paid by the poor people. Each household will also be supplied free of charge with electric line, electricity meter, and 1 lamp in order to use the national power network. In case the households themselves reclaim the virgin soil, each household will be granted VND4 million/ha for 2 crop field, VND3 million/ha for 1 crop field. Each household is presently granted VND5 million to build a house and garden.

40. Proposals of provincial people's committee were: though World Bank policy has some points different from the policy of the Government, it would still be easy to be implemented if the Government issues timely documents suitable to World Bank policy. This experience had been drawn from the actual site clearance to develop the projects of the Communications Projects with loan capital from the ADB.

41. At present, the province was carrying out the program for fortification of canal system grade 3/on farm. In principle, this program was implemented according to the way of "a joint efforts by the State and the people" to the ratio of 50/50% of the total investment value of the project. But in reality, the people in the province experience difficulties, and they could not directly contribute their money, and had to borrow money from the central Government in order to make contribution. The provincial government also borrows the remaining portion (50%) from the central government. However, since 2002 the source of loan from the central Government has no longer been available. Therefore, with a view to the continuation of the program implementation, the province requested a loan according to the above-mentioned way from World Bank or from the government of Vietnam. For their part, the provincial People's committee would be responsible for the return of capital and loan interest to World Bank and the government.

42. According to the viewpoint of the provincial People's Committee, it was very difficult to mobilize the people to work for the deduction of their contribution like in Northern provinces, because in fact, they cannot calculate how much labor they have to contribute on the one hand, and on the other hand, they cannot organize their work themselves. People agree to work when asked, but if the heads of hamlets were asked, then the answer would be that no one would be able to organize the execution! Commenting on this matter, the Director of the Agriculture and Rural Development Department holds that the main reason why the people or heads of the community themselves do not want to take part in the project development, even for the deduction to their contribution were: (i) they are used to relying on State subsidy since the national reunification for the rapid socio-economic development of this poor area; (ii) standard and qualification of local cadres are limited; (iii) people are living in difficulties; and they themselves also have to contribute many other things.

43. The Agriculture & Rural Development Department, mentioned that when the State lend the people 50% of the total estimated expenses for their contribution, the State should simplify financial procedures for disbursement (as approval for unit price without requirement of invoices, vouchers for payment), so that the people and committees can themselves organize the execution of projects of canals grade 3/on farm.

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8 While in Northern provinces, province borrows 50% from the Central Government, and the people themselves contribute the remaining 50%
B. Consultation with PC of Ninh Hoa District

44. At district level there was also completely support for the Project. The district agreed to make commitment to the implementation of the sub-project according to WB policy. In case of land compensation, the locality still had the land fund of 5% (reserved land) for compensation, which could be utilized without any difficulty. Regarding canal grade 3/on farm and contribution for construction of the people, the people’s committee of the district holds that at present, the program for the fortification of canals and ditches are assigned to the district by the province with the people’s contribution to renovate and upgrade some canal lines belonging to the Da Ban irrigation system. From 2000-2002, 10 projects with 13.9 km of canals were fortified with the total expenses of VND 25.5 billion, of which contribution from the people was VND 500 million, capital from local budget was VND 3.6 billion, the rest was loan from central government with no interests to be paid. People’s contribution was in form of paddy at the level of 80kg per/ha/crop.

45. According to the district authorities the people were not able to renovate and build canal grade 3/on farm by themselves (as their life is in difficulty with low income). Therefore, it was advisable to apply the method of joint efforts made by State and people (people contribute 80kg of paddy/ha/crop, the rest is loan from the state and local budget).

46. If the counterpart capital for compensation would come from the central budget it would be much more convenient to active carry out the WB policy on resettlement, compared to capital coming from the local budget. However, no matter who would supply the counterpart capital, the people’s committee of districts would fulfill their commitment to correctly implement the related policy of WB on sub-project in general, and on resettlement in particular, which was in agreement with the VN Government’s policy committed to WB and with the actual local situation.

C. Consultation with PC at Commune Level

47. Consultation with the people’s committee of communes in the sub-project area found that the implementation of the Subproject was very suitable with the people’s aspiration for the improvement of irrigation water supply capability and the improvement of environment hygiene along the canals of the irrigation system. The people’s committee of communes/wards shall actively take part in the implementation of the Project according to WB policy as committed. The fulfillment of this commitment is not only to the Project, but also the responsibility of the locality in the implementation of the plan assigned by the people’s committees of the province, and the district. The people’s committees of the communes would use the land fund of 5% under their management to compensate for households loosing land, if they agree to receive land, in accordance with WB policy. In case they for some reason refuse to receive the compensated lot the people’s committees of communes will negotiate with the neighbors for changes, or transfer to make it suitable to the desire of the households receiving compensation.
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D. Consultation with Farmers

48. The community consultation took place at the two areas N3 and N4, and all households as well as representatives of social organizations \(^9\) enthusiastically agree to implement the sub-project in accordance with the WB policy. The people had previously taken part in and carried out some projects using funds from WB, or from some other international organizations such as the project of power line construction and the project of renovation and upgrading of 1A national highway, and, therefore, they were used to the compensation mechanism and policy of resettlement.

49. The people wanted an early implementation of the sub-project. They badly needed water for the area, which currently was irrigated by rain water (as at Ninh Tho commune: in the total of 535 ha of cultivation area, there are 225 ha irrigated by rain water, making up 42%). Water could help them to reduce poverty in rural area with only 2-crops, and to create favorable conditions for the application of scientific-technical advances in agriculture, as well as crop diversification suitable to market demand.

50. However, the people and community leaders are still worried about the correct implementation of WB policy if the counterpart capital source is from the local budget, because this budget source is normally not always ready and not paid in time, which would affect to the pace of compensation, site clearance and project execution, including reducing the trust of affected people. Therefore if the counterpart fund would come from the central budget it would be much more convenient for the correct implementation of WB policy on resettlement, and it would also be more suitable to the local financial capability.

51. At the communes in the Phase 1 area, 90% of households were granted red book land for use. On the rights of way of canal there had been assigned land to the inhabitants for long-term use, which is 0.5 m from the foot of the canal bank. Therefore, if the Subproject would occupy land on this right of way, they had to be compensated plants, farm produce, in addition to land for the inhabitants. However, land compensation would not be difficult, as the reserved land fund of 5% presently was available in all communes. Further, some canal lines grade 2 had been fortified by concrete according to the Program for fortification of canals, ditches of the province and the level of land occupation (if any) during the implementation of sub-project would be reduced, thus making it more suitable to the use of land fund of 5% for compensation. For example at the Ninh Tho commune belonging to the canal N3 model area, the canal line N3 going through the commune area is 4,000 m, and all 4,000 m of this canal were concreted, of which 2,500 m totally belong to the commune’s territory, the remaining 1,500 m lie on the border area of Ninh Tho and Ninh An communes. The total length of the canal grade 3 on farm of the commune is over 40 km, of which 13 km have been fortified. The canal line N3 was fortified with the rights of way of 1.2 m.

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\(^9\) Including representatives of social organizations: 1/ chairman of Front; 2/ Representatives of Association of Former Soldiers; 3/ Women’s Association; 4/ Farmer’s Association; 5/ Agricultural Encouragement Association; 6/ Association of Elderly People; 7/ the Youth Union; (There is no ethnic minorities in the sub-project area), and: - representatives of local authorities and specialized officials: 8/ Secretary/assistant secretary; 9/ Chairman/or Vice chairman of Commune People’s Committee; 10/ Chief or Deputy Chief of Hamlet; 11/ Commune cadastral; 12/ Heads of cooperatives; 13/ Heads of Irrigation Teams of Communes.
"for them, and by them" and they will enjoy the achievements of those projects. Farmers can take part in: (i) simple work (digging, heaping, transport, concretion, construction, keeping guard), (ii) do some parts of projects of building, renovating canals, ditches of simple technique with guidance of technicians, (iii) take part in the monitoring of project execution, (iv) maintenance and protection of canal lines after completion. The community is ready to contribute their property to the State for the renovation, up-grading, and new construction of canal line grade 3/ on farm. The elderly people even regard those contribution as the property left for their offspring in the future.

57. As a new thing women can take part in the water management, distribution work on the canal system grade 3/on farm after the completion of the sub-project, even this work is currently done by men who have to stay up late to lead water, which is not considered suitable to the health of women and particular mothers.

58. Farmers affirm that the repairing, rehabilitation and new construction of various canals in the tertiary system are difficult and they cannot do the work themselves. They can contribute with support from the government. Consultation for rehabilitation, upgrade and new construction of tertiary canals shows that farmers want to apply the overall arrangements of "sharing between the government and the people" in which the government will provide 50% of the total estimated cost and farmers will share the other 50%. The contribution of farmers will be borrowed from the government by communes’ PCs and repayment will be made gradually every year based on the areas irrigated of each household (same as a current lining program of the government, whereby farmers have to contribute 80 kg of paddy/ha/crop every year).15

59. The farmers agreed not to ask for compensation of land acquired for rehabilitation and upgrade of existing tertiary canals. The amount of land acquired for new construction of tertiary canals will decide whether compensation will be necessary or not. If small pieces (around 100 m2) is taken and does not affect the household’s source of income, compensation is not needed. However, if the land taken is big in size (above several hundreds m2) and do affect the source of income, compensation is needed and can be of land if communes still have some available, or it could be in cash. If the assets on the land acquired are crops, it is only required that farmers should be informed in advance so that they can harvest or make other plan for this land. This is acceptable and compensation is not necessary. If the assets are structures, only laboring support (by community) or cost for moving is needed. Commune authorities mentioned that if any household is heavily affected, it is possible that non-affected households will be mobilized to share the loss by laboring support or cash. According to them this will ensure not only the equality of community in construction of public works, but also divert losses of households.

60. In conclusion, the farmers believed that the basis measures to mitigate reverse impacts should be to mobilized strength and contribution of the community. Unaffected beneficiaries

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15 List of contributions of farmer households at present: 1) Irrigation fee: 396 kg/ha/year (2 crops per year); 2) Canal lining: 80 kg/ha/crop (2 crops per year); 3) Security, national defense: VND 12,000/hh/year; 4) Support children: 5,000/hh/year; 5) Catastrophe and Flood Mitigation: VND 3,000/hh/year; 6) Support to those who made great contribution the nation: VND 10,000/hh/year; 7) Rural road: VND 100,000/hh/year; 8) Support poor people: VND 10,000/hh/year; 9) National service: VND 50,000/hh/year; 10) Housing and land tax: VND 4,800/hh (200 m2)/year for HH in rural areas, and VND 21,000/hh/year (200 m2)/year for HH near by national road No. 1A and provincial road. Agricultural tax is not levied from 2002.
should have the obligations to contribute labor and money together with the community to help those who are affected to restore their lives. These can only be achieved through information dissemination to the community on project content and policy. During implementation it would be important to make known to the farmers the implementation arrangements and construction schedules so that they can actively participate and arrange for their particular situation.

3.4. Existing Model of Water Management

61. At present, there is no water user association in subproject areas. There exist three models of water distribution and management depending on whether the community has agricultural service cooperative or not.

Model 1. Village head is the representative

62. In this model it is the Village head who is acting as representative and signs a contract with IMC directly through a local irrigation management enterprise under IMC, as in Ninh Tho commune (N3 canal), Ninh Hoa district. The village does not set up an irrigation team, but depending on each lot (each field), water is taken by households next to each other in exchange. Commune’s PC solves only disputes or civil suit, if any, and does not involve others in the process of water distribution and management as in other models.

63. Model advantages. When each village sets up an irrigation team for distribution and management the coordination with IMC and other villages is easier. On the other hand, the collection of irrigation fee can cause trouble over wrong implementation of the contract. In addition, the irrigation team will help to stick the responsibility and rights of water users to IMC. No extra fee for irrigation service beside the irrigation fee is paid to IMC.

64. Model disadvantage. Difficulties in water distribution and management leading to the wasting of water because there is only the village head who does the work. Difficulties in the collection of irrigation fee because each household takes water to their field themselves and they do not know the value and compulsory terms of the contract, thus water is used excessively and farmers refuse to pay the fee.

Model 2. Village head and director of agricultural service cooperative are the representatives

65. In communes which have agricultural service cooperatives at village level (such as Ninh An commune, N3 and N4 canals, Ninh Hoa district with 2 agricultural service cooperatives at village level), village head and director of the agricultural service cooperative represent the water users to sign the contract with IMC through a local irrigation management enterprise under IMC. In case there is an agricultural service cooperative of communal level, the cooperative director represents the water users and 1 to 2 village heads are his aide, depending on the size of areas irrigated. The cooperative does not set up an irrigation team. The village head and cooperative director sign the contract and manage the distribution of water to cooperative’s households. At irrigating time, the village head and cooperative director inform the water users based on the location of their fields (in consistence with the distribution schedule) to take water to their fields by themselves.
66. Model advantage. The water users are active in taking water to their fields without incentive. Only by asking a big number of farmers they come to take water regardless of the time of the day. As in model 1, only the village head represent water users and farmers do not have to pay a big extra amount for those who manage and distribute the water (because there are 2 people only). In case of disputes among water users or areas using water, which need the intervention of the authority, the presence of the village head is a significant advantage.

67. Model disadvantage. Unorganized intake of water by individual households makes it difficult for the distribution and management of water, particularly at present when the secondary and tertiary systems have been deteriorated. There are difficulties in distribution of water among areas within the cooperative and commune where water is in short supply. This situation leads to disputes among the water users and cooperatives in the same commune. These disadvantages are believed to decrease if an irrigation team is established to be in charge of regulating water among households and cooperatives. Distribution and management of water relies on only a few people, i.e. village head and cooperative director. Because of their responsibility they have to undertake the work but the water users do not select them. Hence, in certain cases some of them are not experienced in the field for which they are responsible. Furthermore, there is no opportunity for the water users to set up a mechanism to monitor their work.

68. It is clear that this model still has disadvantages like the other models in which the commune’s PC is a representative in other subprojects. Among the problems are: (i) The irrigation fee paid to IMC are usually less than the actual water receivers. The actively irrigated areas and subject to irrigation fee are also smaller than the actual ones. The same situation also happens to the semi-actively irrigated areas. The government losses while those who are benefited are not the water users, but their representatives who sign the contract with IMC on their behalf. As a result, the IMC cannot cover the cost of maintenance, repair and upgrade of the works due to financial shortage caused by insufficient irrigation fee. Consequently, irrigation works and canals become degraded quickly and unable to provide water. (ii) At the same time, the farmers have to pay full fees for the actual areas irrigated and they are not aware of the balance because they are not informed about it. Only their representative who signs the contract know and use this balance. This gap in management provides a window of opportunity for violation of financial procedures and corruption. The situation erodes gradually the trust of water users to their representatives and they have a desire to change the current model of water distribution and management.

69. The IMC on their part is unable to control the actual irrigated areas because the present model does not have a direct link between the benefits of the IMC with that of the farmers using the water.

Model 3. Agricultural service cooperative of communal level is a representative

70. This model is applied in community where there is agricultural service cooperative of communal level, such as Ninh Dong commune, N4 canal, Ninh Hoa district. The cooperative director representing the water users signs the contract directly with the IMC through its local irrigation management enterprise. The cooperative of communal level has a legal status. The cooperative set up an irrigation team consisting of 25 people. The team is responsible for irrigating the water and repair of tertiary canals. They and divided into 5 sub-teams for 5
villages. Team members are farmers who are selected by the villages. A village head or deputy head must participate in the sub-team and be the chief of the sub-team. Water is regulated to each village based on IMC’s schedule.

71. **Model advantage.** (i) Reducing the extravagant use of water thanks to the management of village’s sub-team; (ii) no dispute among households and villages using water in the commune; (iii) members of the village’s irrigation sub-team are genuine farmers of the village, therefore they know the status of water of either surplus or shortage of each field of each household in their village; (iv) the farmers find it easy to keep track of their contribution relating to the use of water since they are informed regularly by the cooperative, especially by their voted members of the irrigation team. Hence, there is no sign of difference between the collected amount of irrigation fee and the contracted areas indicated in the contract papers with IMC.

72. **Model disadvantage.** The provision of water by IMC sometimes does not follow the contract because of degraded canal system. As a result, water is brought adequately to communes at upstream, and less to those at downstream. This causes disputes amongst communes, which can only be solved with the participation of communal authorities. This requirement of the cooperative is not usually accommodated. Cost of irrigation service paid by water users to the irrigation team in addition to the irrigation fee paid to IMC is still high for farmers. This contribution varies from commune to commune depending on the difficulties of water intake.

*Measures to improve the present model of water distribution and management*

73. First of all, the canal system needs to be rehabilitated, upgraded and modernized. Only by doing so the improvement of the present model of water distribution and management can take place. Second, diminish intermediary layers in water distribution and management. Third, make known to water users the areas to be irrigated by indicating in the contract to be signed with IMC as well as the balance of irrigated area of each household. Only by doing so the farmers can exercise their rights of monitoring the implementation of the contract and the performance of those who distribute and manage the irrigation. Fourth, while waiting for application of a new model, there should be a consistent management from top to down levels on all types of canals, including the tertiary ones to avoid disputes amongst areas. Fifth, the people, who take part in water distribution and management, should be paid by the government (cash or kinds) as currently applied to IMC staff. Finally, the farmers requested to establish the association of water users to facilitate the systematic and continuous regulation of water based on canal network and not by administrative areas as at present.

3.5. **Irrigation Fees**

74. According to DARD reports, irrigation fee required by IMC is 27 kg/500m2/year (2 crops) (or 540 kg/ha/year). Payment in cash is based on the local rate of rice at the time of paying, certified by the commune’s PC in its written paper (about VND1.188/ha/year). However, consultation with the community at the 2 pilot areas shows that there are differences in irrigation fee amongst communes:
- In Ninh Tho commune (N3 canal): 9.9 kgs/500m2/crop (or 19.8 kgs/500m2/ year (2 crops), equivalent to 396 kg/ha/year);
In Ninh Dong commune (N4 canal): 13.5 kgs/500m²/crop, equivalent to 540 kgs/ha/year (2 crops) as the same as in DARD reports. Besides the irrigation fee paid to IMC, water users in Ninh Dong commune have to cover the cost of irrigation service as salary to the irrigation team of 6.5 kgs/500m²/crop or 260 kg/ha/year (2 crops). As such, the total payment for using water of households in Ninh Dong commune is 20 kg/500m²/crop, equivalent to 800 kg/ha/year (2 crops) or VND 1,760/ha/year;

Farmer’s willingness to pay for irrigation and discharge service after rehabilitation.

75. No irrigation fee is collected from 5 out of 24 communes (21%) every year. Among 3 communes of the 2 pilot schemes of N3 and N4 still owing the irrigation fee are Ninh Tho and Ninh An communes. Ninh Tho owed the amount of VND 182,137,920 of irrigation fee from 1997 through the end of 2002, and Ninh An owed VND 293,779,200 from 2000 through the end of 2002. Reasons are the lack of supervision of commune’s PC, and the dependence of support to people from the government.

76. However, the water users still affirm that they are willing to pay higher irrigation fee, if they are provided adequate irrigated water, as nearly half of the cultivated land presently are using rainwater. The rationale for being able to pay higher irrigation fee is that (i) the provision of adequate irrigated water will save a lot of their time using to intake water to their field, (ii) the expected increase in crops output, and (iii) the benefits of diversified agricultural production.

3.6. Farmers Proposed Water Management Model

77. In order to improve the present models of water distribution and management, the water users agree to establish a water user association with the persons selected by them to be responsible for water distribution and management and sign the contract with IMC on their behalf. If the commune has an agricultural service cooperative, the association should be established based on this organization. If the commune does not have a cooperative, the new establishment of the association should follow the organizational structure of an association. According to the farmers households should be able to chose between the two associations or they could be members of different associations.

78. The people fully endorsed application of market principles in providing irrigation service by IMC, i.e. they will pay only for the amount they buy with. This should rely on a system capable of measuring the actual water. This principle ensures fairness between water providers and users and can reduce the inadequacy of responsibility in maintenance of canals and the current excessive use of water.

79. However, farmers were concerned that there should be people in charge who have sufficient authority to make timely intervention in disputes with upstream areas if the irrigation water does not reach their areas. They also needed cooperation and support from the local authorities. They hoped that the above problems would be resolved after modernization and completion of the subproject. Further, the farmers, both women and men, expressed a desire to

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18 According to Da Ban IMC, total irrigation fee the water users still owe from 1997 to the end of 2002 is 1,197 tons of paddy (equivalent to VND 1,437,122,628)
receive training and learn from other countries on how to improve their water management system.

80. Concerning the institutional set up there were 2 models of water distribution and management proposed by the farmers:

**Model 1:** Establish the association of water users based on the local agricultural service cooperative. This would provide the advantage of a combination of resources of the cooperative and the staff of the new regime of the association.

**Model 2:** Establish the association in each community. The majority of the farmers preferred this model. The water users would select their representatives for water distribution and management and sign the contract with IMC. All the association's activities would be agreed upon by its members in their regular meetings and made transparent especially concerning financial management.

81. Although the model of association will make use of good experiences of the former agricultural cooperative at commune or village levels the farmers propose that: (i) the association should be of the initial size of village as it was suitable with the management ability of the farmers who are still less experienced with this work; and (ii) establishment of this model should only be after the irrigation system has been modernized.

3.8. Community Consultation Concerning Mitigation Measures

82. The communities recommendations concerning mitigation measures were to: (i) disseminate widely to the community about the project content and the policy as well as the construction plan, including the schedule for water closing and opening schedules; (ii) mobilize the strength of the community for contribution of the works, and share the losses between affected and non-affected households; (iii) those who are responsible for the management and implementation of the subproject should be qualified and experienced and know the policies of the WB and the government well. This will help to cause less losses to the people due to wrong implementation of these policies; (iv) compensation should be at the rate acceptable to the people and help the affected households to rehabilitate; (v) use the 5% unallocated land for compensation to those who do not want compensation in cash; (vi) there must be representatives of the people to participate in the monitoring of the process of compensation, resettlement, and construction in agreement with the WB policy; (vii) enhance the administration management capacity of the community to limit the security and social disorder likely caused by the big gathering of workers for construction; (viii) commune authority and village have to coordinate with the project implementing units to implement the subproject in their area. First of all, the commune cadastral officials have to define clearly the boundary of land, which has been allocated long term to the households to facilitate the inventory of project affected people, which will take place latter on; (ix) rehabilitation and upgrade of canal embankment should also aimed at making it an access road; (x) rehabilitation of canal should be made within the existing line. Tertiary canals built by farmers themselves are taking a lot of land and need to be re-shaped; (xi) construction should be carried out at the time when there is less production activities with appropriate construction method; (xii) contractors have to commit, with legal enforcement, to
repair the roads and other infrastructure they use for construction activities and have measures to reduce dust from the transportation; (xiii) find the best roads for transportation and suitable place for construction materials, which makes a minimum disturbance to the community; and (xiv) strengthen management and monitor the process of canal construction with full participation of the communities.