Supporting Report L

CORPORATE FINANCIAL PLAN

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L1 Assets to be Owned and Managed

L1.1 Owned Assets

Central government's paid in capital of PJT I was increased by Rp.13 billion in the year 2002 to Rp.30 billion from Rp.17 billion because of owned assts transfer for Begawan Solo. Likewise at incorporation of PJT I Jeneberang, owned assets for about Rp.3.4 billion will be transferred to PJT I. These assets excluding land should be depreciated by the current depreciation method of PJT I or straight line method without residual value. Depreciation calculation will be made by PJT I head office and reported to PJT Jeneberang. PJT Jeneberang is responsible to keep inventory record and in case of elimination, it should be approved by MPW through application by the president director of the head office. Inventory record should have historical data to recognize whether transferred from government or purchased by PJT I. Amount of owned assets is listed on the B/S together with accumulated depreciation value. PJT Jeneberang's proposed owned assets are shown in Table L1.1.

L1.2 Managed Assets

Managed assets will be transferred by the decree of MPW to enact GR No.5/1990 on PJT, for state owned property/state treasure to be managed by the corporation. The decree will be issued as administrative guideline by determining the types and quality of the assets and instruct property bookkeeping, valuation and yearly report of inventory. Managed assets are not listed on the B/S and therefore depreciation calculation is not needed. However for the purpose of property valuation and determination of property status, depreciation calculation is recommended. PBB has been imposed to PJT I on their managed assets, but it is said amount is negligible so far. PJT Jeneberang's proposed managed assets are shown in Table L1.2.

L2 Proposed Revenue

L2.1 Revenue Planning and Cost Allocation

(1) Approach

To formulate the revenue planning of the corporation, the services subject to fee charge to beneficiary and fund support from the government are to be identified. According to the legal frame and practice of the existing PJTs, the following services will be rendered in the Jeneberang River basin by the corporation;

Services	Chargeability/Beneficiary	Legislation to be revised*
1) Public Service Obligation (PSO)	Unable to directly charge	
a) Flood Control	Population	Expected GR on PSO
b) Irrigation Water Supply	Farmers (not legalized to charge)	Ditto
c) Flush Water Supply	Population	Ditto
d) River Water Quality Monitoring	Ditto	Ditto
e) Watershed Management	Ditto	Ditto
2) Commercial Service	Able to directly charge	
a) Water Supply		Prov. Regulation No.8, 1991
- Municipal Water	PDAM	Ditto
- Industrial Water	Industry	Ditto
- Plantation Water	Plantation operator	Ditto
- Fishpond Water	Fishpond operator	Ditto
b) Water Provision to Hydro Power	PLN	Ditto
c) Non-water Services	Intending user	GR No.93, 1999 (PJT I)
3) Quasi-public Service	Able to only partly charge	
a) River Area Management	River area user	Prov. Regulation No.5, 1999
b) C-class Mining Management	Miner	Prov. Regulation No.7, 1993 GD No.78 KPTS/III/'94
c) Waste Water Monitoring	Polluter to the Jeneberang	GR No.342/KPTS/M/'02(PJT I) Prov. Regulation No.7, 2003

Note : The existing legislations need revised so that the corporation be assigned to the service, and charge and collect fees. Or, new legislations need prepared in case of public services.

Next, the service cost for the above each item tariff will be calculated through the cost allocation method and based on the full-cost recovery principle (for the "normal" service cost of the corporation). For the commercial services, the base tariff to recover the allocated service cost is also calculated. The tariff applicable to quasi-public and non-water services[1] will be separately obtained, and set with reference to the prevailing market prices and the existing PJT tariff.

Thirdly, commercial service tariffs in particular will be analyzed in comparison to the existing tariff level applied by PJT, and in terms of cost recovery potential and affordability to pay. Depending on this analysis, tariff regime for the better attainment of cost recovery will be

[1] Non-water service in the Jeneberang includes tourism, reservoir fishery and own property development. However, when using "non-water revenue", revenues from quasi-public services such as river area management (in the form of land lease), c-class mining, and waste water monitoring are also included, although these are components of river basin management. Such a categorization of non-water revenue follows the practice of PJTs.

presented for the commercial services, together with revenue plan for public services. In this respect, revenues expected from PSOs will be subject to cross-subsidy. The concept of PSO is currently under discussion between PJTs and responsible authorities, but an application of the concept to water resource management is not realized.

(2) Cost allocation of the corporation's O&M

Cost allocation to each service is made against the regular operational cost of the corporation, which amounts to about Rp. 9,000 million (including required margin[2]). Cost allocation adopts justifiable expenditure method based on benefit value, as introduced by "Concept for Calculation of Water Use Fee[3]". At first, the benefit value of four major services (i.e. flood control, irrigation, water supply and hydro-water) are derived by reviewing the latest project evaluation reports on Bili-Bili Multi-purpose Dam and related facility (see Table L2.1). Cost allocation ratio for the joint-facility is resulted as below (see Table L2.2).

Joint-facility Allocation Ratio Justifiable expenditure, based on economic benefit	**Flood control**	**Irrigation**	**Water supply**	**Hydro Power**
	31.1%	25.6%	29.6%	13.7%

Then, O&M cost for "joint-facility" (dam, reservoir and related facility like sabo dams) is allocated to the said four major service costs in proportion to the above allocation ratio. While, O&M cost for specific facility such as riparian structures, irrigation intake weir, water supply related facility, is made left to the corresponding services, according to the purpose of those facilities.

Management activity cost such as river conservation, flood and drought, water quantity, and watershed management is assumingly allocated at first to directly related services, and the remaining to the said main services according to allocation ratio of joint-facility[4]. Lastly, indirect cost and required margin for the corporation are allocated according to the ratio of each service cost of the direct portion (the same as full-cost allocation ratio in the table below).

(3) Allocated service cost

Through the above processes, the allocated cost for each service of the corporation is obtained. As for commercial services and irrigation water service, the base tariff (defined as tariff able to recover the allocated cost of each service) is calculated by dividing the cost of each service by the volume of production (or scale of benefited area). The result of initial tariff derivation is summarized as follows (see also TableL2.2);

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2 Margin is calculated so that the corporation is able to assure 15% of Return on Equity (as indicated by MSOE).

3 Draft, Secretariat Pokja RKSP, MSRI, February 2002.

4 Concerning watershed management cost for example, 20% of total cost is assumingly allocated to the watershed management service at first. The remaining cost allocated to the main services (flood control, irrigation water, municipal water supply, and hydropower) according to allocation ratio of joint-facility, because watershed management activity is to contribute to stable realization of these services through maintenance of water catchment.

(Unit: million Rp.)

Service item	Service cost allocation ratio	Allocated service cost (and tariff) in 2004 price	Allocated service cost (and tariff) in 2007 price
1) Public Service Obligation (PSO)	56.0 %	Rp. 5,034	Rp. 6,229
a) Flood Control	24.7 %	Rp. 2,224	Rp. 2,752
b) Irrigation Water Supply	27.1 %	Rp. 2,431 (Rp. 102,751/ha)	Rp. 3,008 (Rp. 127,149/ha)
c) Flush Water Supply	2.2 %	Rp. 198	Rp. 245
d) River Water Quality Monitoring	0.8 %	Rp. 72	Rp. 89
e) Watershed Management	1.2 %	Rp. 109	Rp. 135
2) Commercial Service	39.2 %	Rp. 3,523	Rp. 4,359
a) Water Supply	32.3 %	Rp. 2,902 (Rp. 38.6/m^3)	Rp. 3,591 (Rp. 47.8/m^3)
b) Water Provision to Hydro Power	6.9 %	Rp. 621 (Rp. 8.0/kWh)	Rp. 768 (Rp. 10.0/kWh)
c) Some Non-water Services	-	-	-
3) Quasi-public Services	4.8 %	Rp. 431	Rp. 534
a) River Area Management	2.6 %	Rp. 233	Rp. 289
b) C-class Mining Management	1.4 %	Rp. 127	Rp. 158
c) Waste Water Monitoring	0.8 %	Rp. 71	Rp. 87

Tariffs for industry, plantation and fishpond water supply are separately derived as follows (see also Table L2.2), because water supply volume to these users and their number are too small to be taken into account in the above benefit-based cost allocation process.

a) industrial water: comparing the average PDAM consumer tariffs between the whole and large unit customers, and multiplying the base tariff of water supply by the ratio between those customers
b) plantation and fishpond water: comparing the average net incomes of plantation (sugarcane) and fishpond with paddy farm, and multiplying the base tariff of irrigation water by the ratio between those land use forms

Sub-services	Multiplier as a result of comparison	Tariff in 2004 price	Tariff in 2007 price
Municipal Water as a whole	(as a base rate)	Rp. 39/m^3	Rp. 48/m^3
- Industrial Water (city)	Multiplier factor : 3.70	Rp. 143/m^3	Rp. 177/m^3
- Industrial Water (others)	Multiplier factor : 1.70	Rp. 66/m^3	Rp. 82/m^3
Irrigation Water (paddy)	(as a base rate)	Rp. 102,751/ha-year	Rp. 127,149/ha-year
- Plantation Water	Multiplier factor : 0.53	Rp. 54,040/ha-year	Rp. 66,872/ha-year
- Fishpond Water	Multiplier factor : 3.87	Rp. 398,083/ha-year	Rp. 492,607/ha-year

L2.2 Water Service Revenues

(1) Raw water supply to PDAM

Legislation and approval of tariff

As long practiced in the existing PJTs, raw water fee, chargeable to the drinking water providers that intake the raw water from the river, should be introduced in addition to the existing surface water tax. Provincial Regulation No.8, 1991 needs revised so that the corporation be also entitled to charge raw water (or water resource management) fee to the users according to intake

volume (per m^3). Tariff is to be approved by the Central Government, upon an agreement with PDAMs.

Comparison to the existing tariff of PJT

Current tariff is set as Rp. 40/m^3 by PJT I Brantas, though it proposes much higher rate to its customer (PDAMs) based on its own calculation (cost allocation) method. While, the base rate in the Jeneberang is derived as Rp. 39/m^3 in 2004 price. Raw water tariff should be also subject to annual revision according to inflation trend, and periodically reviewed based on the aging of facility.

Household affordability to pay

In Makassar, where around 46% of the household is piped from PDAM system, the middle class family is able to have access to purified water. Average monthly household expenditure is estimated to range in Rp. 968-1,452 thousand in Makassar as of 2004 (inflated by 7.36% per annum from the original data in 2002), and set as Rp. 1,210 thousand (average between the range).

Adding the double of the raw water base rate[5] of Rp. 39/m^3 at 2004 level to the average household water tariff of Rp. 1,279/m^3 (also inflated by 7.36% per annum from Rp. 1,191 of 2003 value), newly imposed tariff to household is expected to rise to Rp. 1,357/m^3.

While, average household is assumed to consume 26.5 m^3 per month (in 2004), therefore monthly spends some Rp. 36.0 thousand for drinking water. This amount of expenditure accounts for 2.9% of the average household expenditure in Makassar and is judged as affordable if the tolerable limits is set at 3.0%. Even if raw water rate is adjusted up to Rp. 46/m^3, water expenditure still stays within 3.0% of total household expenditure.

Charge and collection

Each Water Services Division shall be responsible for measuring and verification of raw water volume (m^3) at each intake (from the river). Measuring and verification is to be held among PDAMs (by each water treatment plant), Provincial PSDA and the corporation. Then, they will prepare and sign Water Abstraction Enactment (SP3AP) to confirm the intake volume of water.

Based on SP3AP, provincial revenue office, after deducting the portion of surface water tax and commission fee of 5% for payment collection, will issue Fee Enactment (SKI) to the corporation (Finance Bureau), that confirms the revenue amount. Upon the receipt of SKI, the corporation is to monthly submit SKI together with invoice to PDAMs.

[5] It is tentatively assumed that the financial loss due to 50% water conveyance loss at the side of PDAM be recovered through additional charge to the end-users, and that PDAM Makassar rely on the Jeneberang for all the water intake.

(2) Water supply to industry

Legal basis and approval of tariff

Industrial water fee, chargeable to any industrial users that directly intake water from the river, should be also introduced in addition to the existing surface water tax and separately from raw water fee. Provincial Regulation No.8, 1991 needs revised so that the corporation be also entitled to charge industrial water fee to the users according to intake volume (per m^3). Tariff is to be approved by the provincial government.

Comparison to the existing tariff of PJT

As already explained, the proposed tariff in the Jeneberang is derived as Rp. 143/m^3 for industrial unit located in Makassar and Rp. 66/m^3 in other area in 2004 price. Comparing to the present uniform rate of Rp. 80/m^3 in PJT I Brantas, a likely average rate (of Makassar and other area) derived for the Jeneberang are deemed as reasonable, since industrial establishments will be more actively located in the outside of Makassar in the future due to land use availability. For the time being, however, there will be only one industrial user (Takalar Sugar Factory, a unit of PT. Perkebunan Nusantara) outside of Makassar. Therefore, only the lower rate will be applied.

Charge and collection

Each Water Services Division shall be responsible for measuring and verification of water volume (m^3) at the intake point. Volume verification, invoicing and fee collection shall follow the same procedures as in the case of raw water supply to PDAMs on a monthly basis.

(3) Water supply to plantation and fishpond

Legal basis and approval of tariff

In addition to the surface water tax imposed to the plantation and fishpond users that directly intake water from the river, plantation and fishpond water fee payable to the corporation should be also introduced in compensation for water resource management. The same provincial regulation is subject to revision in order the corporation is also entitled to charge those water fees to the users according to irrigated area (per ha-year). Tariff is to be approved by the provincial government.

Comparison to the existing tariff of PJT

The tariff of Rp. 54,040/ha-year (for plantation) and Rp. 398,083/ha-year (for fishpond) in 2004 price is proposed in the Jeneberang by consulting to the difference of net-income per ha from irrigated paddy. Existing PJTs have not charged such fees nor proposed the tariffs. In the Jeneberang River basin, however, only the Takalar Sugar Factory currently intakes water into its own sugarcane plantation. Fishpond users are not clearly identified, though the scale is considered as minor. Therefore, fee charge for plantation use is judged as acceptable and realistic.

Charge and collection

Water Services Divisions shall be responsible for identifying and periodically measuring the irrigated area (ha) which directly intakes water from the Jeneberang, and for monthly invoicing to the water user. The corporation will be advised to prepare agreement for each intending users, which specifies irrigated area, applicable tariff, and terms of payment.

(4) Water utilization by PLN

Legal basis and approval of tariff

Like the existing PJTs, water utilization fee, chargeable to hydro power producers that use water discharge from reservoir, should be introduced in addition to the existing surface water tax. Provincial Regulation No.8, 1991 on surface and ground water utilization needs revised so that the corporation be also entitled to charge water utilization fee to the producers according to energy generated (per kWh). Tariff is to be approved by the Central Government, upon an agreement with PLN.

Comparison to the existing tariff of PJT

Base tariff for water utilization for energy generation is derived to be Rp. 8/kWh in 2004 price through the cost allocation. While, PJT Brantas is permitted to charge the rate of Rp. 25.1/kWh as of 2004 (Rp. 21.2kWh in 2003), but they had actually proposed Rp. 29.6/kWh based on its own calculation (cost allocation) method. A relatively large difference between the Jeneberang and Brantas is explained by the feature and objective of multi-purpose dam. Bili-Bili multi-purpose dam was primarily designed for flood control and irrigation, while placing hydro-generation as subordinate operation; i.e.discharge for energy generation is given the least priority. The hydropower has no specific storage volume in the reservoir, and hence share of O&M costs of Bili-Bili dam is minimal. This makes the base tariff assessed at a lower figure.

PLN's affordability to pay

Considering the total energy production (including purchase) of PLN Regional Office of South and Central Sulawesi, energy generated by the Bili-Bili hydro power accounts for only a minimum portion (77.2 GWh out of 2,355.3 GWh as of 2002). Accordingly, an imposition of water utilization tariff (supposing the similar level to PJT Brantas) for energy generation will not bring about any visible impacts on the selling prices to consumers.

Concerning PLN's affordability, additional expenditure incurred by payment of water utilization fee (also supposing the similar level to PJT Brantas, amounting to Rp. 1.9 billion) at Bili-Bili only accounts for less than 0.1% of total expenditure of the regional office (Rp. 1,720 billion) and 0.3% of Makassar sub-office (Rp. 639 billion as of 2002).

Charge and collection

Water Services Division in charge of Bili-Bili reservoir shall be responsible for confirmation of energy generation volume (kWh) upon the record prepared by PLN, and for monthly invoicing to its branch office.

L2.3 Public Service Revenue

Public service rendered by the corporation may include: i) flood control, ii) irrigation water supply (O&M for irrigation weir/intake facility), iii) flush water supply (for diluting the drainage channel in Makassar City), iv) river water quality monitoring (periodical sampling, laboratory analysis of river water and reporting to the regional authorities), v) watershed management (technical cooperation to the regional Dinas Forestry and Dinas PSDA).

Service cost for public services amounts to a little more than 56% of full-cost of the corporation. In other words, if only commercial service fees (for raw water supply and hydro power) are charged based on their base tariff (i.e. no public service costs are borne by government), recovery capacity against normal O&M cost only reaches around 39% (remaining 5% belongs to quasi-public service costs) (see also Table L2.2).

Among the public services, service costs for flood control and irrigation water are immense, accounting for around 92% of public service cost. Looking at the experience of the existing PJTs, however, they have difficulties in adequately financing such public services, because beneficiaries and the government have not borne necessary O&M expenditures.

Accordingly, growing attentions have been paid to the discussion on Public Service Obligation (PSO) for water resource management sector. Under PSO principle, if particular services are regarded as obligatory services by the government, the government concerned shall be responsible for financing such services.

In case of the Jeneberang as a national strategic river, the central government is strongly expected to recognize such public services (like flood control and O&M of irrigation facility) as obligation to the population, and secure sufficient budget from APBN to ensure the provision of such services on a sustainable manner. However, attentive progress has been not gained yet out of the discussion on PSO of the water resource management.

Concerning O&M of irrigation facility, the Law regarding Water Resources (No.7, 2004), Article 78-(3), Chapter X: Finance mentions that construction and O&M of primary and secondary irrigation system shall be financed under the responsibility of the central and regional governments according to their authorities. Under the law, the farmers as direct beneficiary will not be demanded to shoulder the service cost for irrigation facility O&M. Accordingly, the central government (if according to the authority over the Jeneberang River and its irrigation system) or regional government is requested to finance irrigation water service cost of the corporation on behalf of farmers.

L2.4 Other Government Support

(1) Compensation for Operational Deficits

This government support is also regarded as one form of PSOs, but not based on specific service. In this revenue plan, however, assistance for the initial working capital (in the form of non-interest loan) will be sought upon the establishment in place of support for operational deficit after the operation.

(2) Support for Construction and Major Rehabilitation Work

Like in the case of PJT Brantas and Solo, the Principal Project Office (Proyek Induk) can financially supports the corporation through indirectly subletting construction and major rehabilitation work. However, the proposed corporation will not have the capacity (in terms of available equipment and human resources) to execute such a sublet work for the time being. Furthermore, those sublet will have to be sublet again to the local contractor, being unable to mobilize own resources. Therefore, revenue support through sublet work will not be likely in the short term.

Furthermore, the proposed corporation will be able to propose to receive the direct APBN budget allocation for the construction and major rehabilitation of water resource facility from the central government. In this case, the budget to be flown into the corporation will not be treated as revenue.

L2.5 Summary and Adjusted Revenue Plan

Each revenue (both for commercial water and public services) to be entitled to the corporation is summarized as below.

Revenue item	Proposed Fee / Support	Responsible unit	Collection	Tariff Approver	Enabling legal frame
Commercial Services					
Municipal Water Supply	Water fee (a new fee is introduced in addition to the existing tax) per m^3 of supply measured at intake	Water Services Division	Prov. Revenue Office to collect through SP3AP / SKI procedure	Central Government and agreed by PDAM	New or revised legislation on Prov. Regulation No.8, 1991
Industrial Water Supply	Ditto, or per m^3 of pre-agreed intake quantity	Ditto	Ditto	Provincial Governor	Ditto
Plantation Water Supply	Water fee (a new fee is introduced in addition to the existing tax) per ha	Ditto	Water Services Division	Ditto	Ditto
Fishpond Water Supply	Water fee (a new fee is introduced in addition to the existing tax) per ha	Ditto	Ditto	Ditto	Ditto
Water Provision to Hydro Power	Water fee (a new fee is introduced in addition to the existing tax) per kWh of generation (recorded by PLN)	Ditto	Ditto	Central Government and agreed by PLN	Ditto
Non-water Services	See the section of non-water revenue plan				
Public Service Obligations (PSO)					
Flood Control (inc. flood plain & drought management)	Central and Regional Government budget support for the allocated cost required by the service	Water Services Division	Financed from central budget (or borne by commercial service beneficiary)	Central Government, based on annual budget request, where the actual cost demand is proposed	New Government Regulation on PSO
Irrigation Water Supply (O&M for irrigation facility)	Ditto	Ditto	Financed from central / regional budget		Ditto Also founded by Water Resources Law, Art. 78
Flush Water Supply (for the City canals)	Ditto	Ditto	Ditto	Ditto	New Government Regulation on PSO
River Water Quality Monitoring	Ditto	Sub-section of Environment under Technical Bureau	Ditto	Ditto	Ditto
Watershed Management	Ditto	Technical Bureau	Ditto	Ditto	Ditto
Compensation for operational deficits	Central Government budget support for the deficit as a result of operation	Administration & Finance Bureau	Ditto	Central Government	Ditto

Note: The corporation's rights to charge fee of "commercial services" shall be firstly authorized in the Minister's Decree, and further endorsed by Provincial legislations stated above. The rights to charge fee and budget (for PSOs) has been also addressed in the Draft Government Regulation on Corporatization of Water Resource Management: article 24 (subsidy) and 25 (fee).

Taking into account the discussions on the capacity of cost recovery, comparison to the existing PJTs, applicability of PSO concept, adjusted revenue plan (excluding non-water revenue), where the commercial service beneficiaries shall bear the cost of public service up to their affordable level, is suggested. However, the plan should be still according to the beneficiary-to-pay principle.

This may be applicable in particular to flood control service that benefits the urban and semi-urban area, where most of commercial service beneficiaries are found. This is strongly recommendable, also because the corporation becomes able to realize much wider scopes of O&M activity and strengthen self-financing capacity in the earlier stage.

When the commercial service beneficiaries (of drinking water and hydro power) are to bear the full-cost for flood control service (Rp. 2,224 million), resultant tariffs in 2004 price for raw water and hydro power are calculated as high as Rp. 58.9/m^3 and Rp. 17.2/kWh[6] respectively (see also Table L2.3). According to the affordability analysis, however, raw water tariff is estimated to exceed the affordable expenditure line (Rp. 46/m^3) of the average households. Therefore, this tariff needs to be subject of further adjustment after the financial simulation. Cost for irrigation water supply (O&M service for irrigation weir/intake facility) is assumed to be fully borne by the Central Government under PSO principle.

Revenue items to be covered	Adjusted revenue plan (government support and adjusted tariff regime)
Public Service Obligation (PSO)	
- Flood Control	Fully borne by commercial service beneficiaries (drinking water & hydropower)
- Irrigation Water Supply	Fully borne by the Central Government APBN on behalf of beneficial farmers : (Rp. 102,751/ha-year)
- Other public services (flush water, water quality monitoring, watershed management)	Fully borne by the Central Government APBN
Commercial Service	(in 2004 price)
- Municipal Water	Tariff : Rp. 58.9 / m^3
- Industrial Water (for Takalar Sugar)	Tariff : Rp. 66.0 / m^3
- Plantation Water (for Takalar Sugar)	Tariff : Rp. 50,040 / ha-year
- Water Provision to Hydro Power	Tariff : Rp. 17.2 / kWh

Note: Non-water revenue plan including revenues for quasi-public services is discussed in the next section.

[6] Cost of flood control service is allocated to each base tariff, according to the cost allocation ratio calculated for joint-facility. The ratio is 68.4% - raw water : 31.6% - hydro power.

L3 Major Expenditures

L3.1 Expenditures accounting

Expenditures are accounted for according to the accounting guideline. Accounting titles are O&M/Personnel/Traveling/General affairs/Marketing/Depreciation/ Public Campaign/HRD/Watershed conservation/Board of commissioner/R&D/ Public Relations/Capacity Development.

Personnel cost should be divided into direct and indirect for the purpose of calculation of O&M direct cost. Each cost projection for PJT Jeneberang is described in the Section L5.5.

Number of personnel is limited to avoid redundancy and by outsourcing through subcontract for security as example. PJT Jeneberang will start at 45 staff and gradually increase to 76 towards the year 2011. At starting year salary and allowance may be 80%, 90% in the 2nd year and 100% in the 3rd year, compared with the PJT I salary scale.

L3.2 Treatment of Tax, Pension and Insurance

(1) Tax

Corporate tax, personal income withholding tax, VAT and PBB (land and building tax) should be paid according to the relevant laws and regulations.

(2) Pension

Pension plan is stipulated in General Guideline of PJT I Salary System 2004. Fund contribution is 30% of basic salary plus family allowance but 20 % is company share. PJT Jeneberang will be a member of the plan.

(3) Insurance

Health, safety and insurance are treated according to PJT I manual MP/PJT/12. Permanent employees insurance is covered by PT. ASKES Health Insurance and non-permanent employees insurance is covered by JAMSOSTEK (Labor Social Insurance).

L4 Rules of Profit Appropriation and Dividend

L4.1 Regulation

GR. No.13/1998 stipulated as follows:

45% of net profit shall be allocated for:

1) General reserve (which shall be accumulated at least up to double amount of paid-in capital)
2) Social service and education
3) Production bonus
4) Donation to pension fund
5) Support and donation to small enterprises and others.

All net profit after subtracted by the above shall be deposited to National Development Fund. The amount and percentages of allocation in PJT I of the year 2002-2003 were as follows:

PJT1 Profit Distribution

(Unit: Rp. million)

Year	2002		2003	
1. Prior appropriation		% to Total		% to Total
Special Reserve	915	0.23	1,028	0.23
Small Enterprises & Others	99	0.02	111	0.02
2. Distribution after Prior appropriation		% to Sub-total		% to Sub-total
National Development Fund	1,628	0.55	1,828	0.55
General Reserve	63	0.02	71	0.02
Production Bonus	1,254	0.42	1,409	0.42
Social Service & Education	15	0.01	17	0.01
Sub Total 2	2,960	1.00	3,325	1.00
Total 1+ 2	3,974		4,464	

Source: PJT I annual report

L5 Profit and Loss Projection

L5.1 Assumption of Projection

Financial projection will be made by preparing profit and loss statement up to the year 2020 for the following 3 cases:

Case 1: Beneficiary-to-Pay Principle;
Case 2: A target of attaining PJT's self-financing ability within 5 years; and
Case 3: Tariff setting in consideration of affordability-to-pay of beneficiaries, especially that of municipal water supply recipients

Even under the case of beneficiary-to-pay principle (Case 1), PJT Jeneberang can not collect fee from farmers directly; therefore the government shall pay for irrigation O&M costs. If it is not paid by the government, accumulated loss would reach Rp.10 billion at maximum in the year 2014; thereafter, however, the operation turns to getting profit annually and accumulated loss will decrease.

Financial projection was based on estimates of water tariffs/revemues and various costs such as O&M work, personnel, traveling expenses, general affairs, marketing, depreciation, supervisory board meeting, HRD, R&D and public relations, etc. The estimates were made by referring to actual figures adopted in PJT I with proper adjustment to the local conditions.

The estimate was based on a 2004 constant price.

L5.2 Water revenue

Raw water supply fee from the dominant beneficiaries; PLN, PDAM and industry are projected as follows:

(1) PLN

Hydro electricity generation is projected as 77.174GWh/year through the projection period.

(2) PDAM

Production volume is projected according to the following estimation:

Water abstraction at intake

Unit:m^3/s

Year		2003	2010	2020
PDAM Makassar	(dry season 6 months)	1.97	2.30	4.14
	(rainy season 6 months)	1.47	1.80	3.64
PDAM Gowa	(12 months)	0.19	0.36	0.80

(3) Industry and Plantation

Takalar Sugar Factory is only one industry for revenue projection at present. Demand for drinking plantation water of the factory is projected as 380 m^3/day based on actual intake in 2003 and projected to increase at 3.45% p.a. following to the projected GRDP in the region including prospective industries.

Plantation by the factory used 14,400 m^3/day for 500 ha. in year 2003. Water demand is projected to be constant thereafter.

L5.3 Public Service Revenue

As mentioned in Section L5.1, irrigation water costs are substantial among the public services. According to the experiences of the existing PJTs, however, they have difficulties in financing for irrigation O&M expenditures. In case of the Jeneberang, the central government is strongly expected to recognize major public services (like flood control and O&M of irrigation facility) as essential PSO, and secure sufficient budget from APBN to ensure the provision of such services on a sustainable manner. Under the Law No.7/2004, the farmers as direct beneficiary will not be charged for the service cost for irrigation facility O&M. Accordingly, the central government is requested to finance irrigation water service cost on behalf of farmers. Irrigation O&M cost is calculated based on tariff per ha. The tariff was projected to cover O&M of weirs and allocated portion of O&M cost of Bili-Bili dam. Under the projection, the government payment for irrigation O&M and other public dervices are as follows:

(Unit: Rp.million)

Year	2007	2008	2009	2010	2011
Government Payment for Irrigation O&M	1,532	1,750	2,188	2,310	2,431
Total other PSOs	379	379	379	379	379
Total	1,911	2,129	2,564	2,689	2,810

PGPS salary cost was projected based on GR No.26/2001 on Civil Servant Salary Rule except Case 1 (see Section L5.1) in which the tariff was calculated including PNS salary cost for cost allocation.

L5.4 Non-water Revenues

(1) Tourism and recreation

Boat rental business at Long Storage

This plan will be commenced soon in 2005. Therefore, revenue will be realized right after the corporation is established, provided that the employee co-operative of JRBDP transfers the agreement. The employee co-operative (succeeded by the corporation) is assumed to contribute to initial fund requirement (Rp. 27.5 million in 2004 price) by 20%, and be entitled to share the equivalent ratio of the profit from the boat rental. Expenditures are to be internalized by the routine O&M of Water Services Division (until Non-water Business Unit is established).

Rp. million in 2004 price	2007	2008	2009	2010	2011
Revenue (profit shared)	Rp. 6.4	Rp. 6.5	Rp. 6.7	Rp. 6.9	Rp. 7.2
Expenditure	Internalized in the routine O&M cost of the corporation				

Recreation park in two-sister island (taman tirta)

Recreation park plan is assumed to be implemented during the expansion phase of the corporation (after 2012), following a preparatory step during the development phase (2009-2011), and to adopt public-private partnership. Through the profit-sharing scheme, the corporation will be entitled to receive 20% of the profit of the park operation as the corporation revenue. To share the profit, the corporation should bear a part of initial capital requirement, equivalent to 20% of capital cost (Rp. 446.6 million in 2004 price) or 10% with cash, and the rest with provision in kind during the expansion phase. Return on Investment for the corporation is calculated as 7.3%.

(2) Sand mining

Sand mining management

Mining volume (sand, gravel, river stone, silt, except for own dredging) at the establishment of the corporation in 2007 is estimated to be 643 thousand m^3 (266 and 368 thousand m^3 for sand and others respectively) in the corporation's working area, referring to the average mining volume during the last four years. Mining volume is also supposed to increase by 2.0 % per annum. However, it is estimated that mining service fee be not immediately introduced nor accepted at the same time of the corporation's establishment. Accordingly, revenue from sand mining management is supposed to be realized in 2008. With the mining service fee already proposed, revenue is estimated as below.

Rp. million in 2004 price	2007	2008	2009	2010	2011
Revenue (service fee)		Rp. 196.2	Rp. 206.1	Rp. 240.2	Rp. 275.7
Expenditure	Internalized in the routine O&M cost of the corporation				

Revenue will increase to Rp. 275.7 million in 2011 (in 2004 price) as fee payment gets enforced more tightly. Expenditures are to be internalized by the routine O&M of Water Services Division.

Own dredging and sales

It is targeted that the corporation annually dredge 300 thousand m^3 (360 thousand m^3 in case of PJT II in 2003) and sell as much as possible. It is assumed that 30% of the total dredging volume be top soil (for grounding work) with less salable value, compared to sand. Assuming that every dredging works are proceeded by profit-sharing scheme (sharing ratio between private sector and the corporation is assumed as 8 : 2) from 2010, revenue is estimated as below.

Rp. million in 2004 price	2007	2008	2009	2010	2011
Revenue (profit shared)				Rp. 106.4	Rp. 106.4
Expenditure					
- Permit acquisition cost				Rp. 28.0	Rp. 9.3
- Internal management cost	Internalized in the routine O&M cost of the corporation				

Reservoir Fishery Management

Due to the recent landslide, immediate introduction of the ground user fee is not expected until the breeding condition is restored. It is therefore assumed that possibly from 2009, around 0.35 ha (equivalent to 131 tons of fish production, the same level before landslide) be available to floating net fishery on a semiannual basis, and annually increased by 20 %. Given the tariff of the service fee (Rp. 2,000/m^2/year), revenue is estimated as below. Expenditures are to be internalized by the routine O&M of Water Services Division.

Rp. million in 2004 price	2007	2008	2009	2010	2011
Revenue (profit shared)			Rp. 7.0	Rp. 8.4	Rp. 10.1
Expenditure	Internalized in the routine O&M cost of the corporation				

Land use management

Considering a difficulty to immediately introduce and enforce land use charge payment, area subject to charging is targeted as 50% (equivalent to 10.9 ha) of the present farmland area (assuming less fertile, applicable rate of Rp. 70/m^2) in 2009. Revenue from non-agricultural land use is set as 50% of the annual revenue from farmland. Given annual increase of administrative area subject to land use charge by 5 %, total revenue is estimated as below. Expenditures are to be internalized by the routine O&M of Water Services Division.

Rp. million in 2004 price	2007	2008	2009	2010	2011
Revenue (profit shared)			Rp. 11.4	Rp. 12.0	Rp. 12.6
Expenditure	Internalized in the routine O&M cost of the corporation				

Wastewater monitoring

Preparation of the enabling legislation and enforcement of the fee payment may be awaited some years, and possibly realized in 2009 (but the fee payment being still partly enforced). With the base fee rate of Rp. 293.2 per discharge m^3 in 2007 (to be revised every three years by 20 %), revenue from this service is estimated as below. Required expenditures (i.e. total cost of sampling / analysis services, proportional to an increase of pollutant unit) is internalized by the O&M cost of Sub-Bureau of Environment.

Rp. million in 2004 price	2007	2008	2009	2010	2011
Revenue (profit shared)			Rp. 76.5	Rp. 95.9	Rp. 101.2
Expenditure	Internalized in the routine O&M cost of the corporation				

Further details of the financial projection of the above non-water revenues is presented in Table K4.2 to 4 in Supporting Report K.

L5.5 Expenditure

(1) Direct cost

O&M cost covers the O&M cost of various facilities and other river basin management costs. The cost was estimated based on findings from field reconnaissance and interview survey, and also taking account of actual status of river infrastructures.

Direct personnel cost is included in respective O&M costs according to accounting practice of PJT I.

(2) Indirect cost

Personnel cost includes salary, family allowance, pension, work allowance, performance bonus, tax, health allowance, religious allowance, uniform and extra meal.

Personnel will be recruited mainly from Proyek Induk (and possibly from Dinas PSDA) according to necessary jobs. Number of personnel and breakdown of personnel cost are listed in the Appendix L-1 attached to this Supporting Report. Personnel cost is projected to increase by 3% p.a.

Traveling cost is projected based on work area, transportation, accommodation and allowance by kind of duty travel. Details are listed in the Appendix L-2. Traveling cost is projected to increase by 3% p.a.

General affairs include office expenses such as electricity, water, telephone, facsimile, fuel, photocopy, stationary, computer supplies, guest receiving expenses, PBB, etc.

Marketing cost is assumed at 1% of revenue.

Depreciation was calculated based on the value and usable period of the owned assets and investment plan at straight line method according to accounting policy of PJT I. Initial mobilization cost is included as assets and depreciated in 5 years.

Public relations cost was estimated based on the frequency and methods of contact with stakeholders and campaign for public with reference to PJT I.

HRD costs are projected based on number of personnel and programs of education in PJT I and outside training institutions.

Watershed conservation cost includes labor cost, equipment, material supplies duty trip and contract works.

Supervisory board cost includes salary and duty travel for meeting. Supervisory board cost in projected to increase by 3% p.a.

R&D cost is projected based on personnel cost for business development studies, preparation of river basin management master plan and research relating to water resources management

Capacity development cost was projected based on the estimate in Supporting Report N.

L5.6 Result of Projection

Based on the revenue and cost projections, profit before/after tax was calculated according to tariff alternatives.

Tariff Alternatives

(Price at 2004)

	Unit	Case 1	Case 2	Case 3
PLN	Rp./kWh	17	14	25
PDAM	Rp./m^3	59	47	40
Industry	Rp./m^3	66	66	80

The results are as follows (Details please see attached Table L5.1~L5.3);

Profit before Tax

(Price at 2004)

	Unit	2007	2011	2015	2020
Case 1	Rp.million	616	825	3,133	4,749
Case 2	Rp.million	-215	59	2,126	3,446
Case 3	Rp.million	211	403	2,293	3,392

Recommendation of the Study team is to adopt Case 3 for the following reason;

1) Case 1 (Table L5.1): Tariff is set based on Beneficiary-to-Pay principle. The rate is ideal for full cost recovery. But it is not realistic under present situation because (1) PDAM tariff is beyond affordability-to-pay of average households, (2) It may be difficult to justify imposing full O&M cost of flood control on specific beneficiaries.

2) Case 2 (Table L5.2): Tariff is moderate. The rate is set with a target of attaining PJT's self-financing ability within 5 years. This concept is based on an internal reason of PJT Jeneberang; therefore it may be difficult to reach agreement with PDAM. On one hand, PLN tariff is too low in comparison with the current Brantas rate. PDAM tariff is over the limit of affordability-to-pay of households.

3) Case 3(Table L5.3): PJT Jeneberang can get profit after full cost recovery of O&M norms from the starting year. The tariff is set in consideration of beneficiary's affordability-to-pay, and current Brantas rate.

L6 5 years projection

5 years projection was made for the above Case 3 based on profit and loss statement at the current price with inflation rate of 7.36 p.a.

L6.1 Profit and Loss

The result of profit and loss calculation is as follows (Details are shown in Table L6.1);

(Unit:Rp.million)

Year	2007	2008	2009	2010	2011
Profit & Loss before Taxes	299	1,141	416	558	1,007

L6.2 Balance sheet projection

Balance sheet projection was made according to the accounting guideline of PJT I and their practice.

Assets to be owned are listed in Table L1.1.

Account receivable and accrual revenue of processed work but not invoiced are assumed at amounts corresponding revenue for 1.5 months and 1 month, respectively.

Inventory will be controlled at a minimum level, that is 10% of 1 month's O&M cost.

Fixed assets include the owned assets to be transferred from the central government, and initial investment which must be covered by borrowing of loan.

Account payable is assumed 15% of O&M cost.

Equity is central government's capital stake invested as capital in kind by way of assets transfer, and later, reserve and profit.

L6.3 Cash flow analysis

Cash flow analysis was made based on cash generation from operational activities, investment activities and financial activities. The result is presented in Table L6.3.

L6.4 Sensitivity analysis

The following cases were examined as sensitivity test of profit-loss calculation:

- Sensitivity 1: Water revenue is 75% in the first year and increases in stage to 100% in the fifth year

- Sensitivity 2: Water revenue is 50% in the first year and increases in stage to 100% in the fifth year; and
- Sensitivity 3: No payment of PSO for irrigation O&M and others

Year	2007	2008	2009	2010	2011	Total
Water Revenue75%in 1st year and increase to 100% in 5th year	-1,074	18	-401	113	1,007	-337
Water Revenue50%in 1st year and increase to 100% in 5th year	-2,447	-1,105	-1,217	-332	1,007	-4,095
No government payment for irrigation and other PSOs	-2,065	-1,688	-3,245	-3,559	-3,613	-14,170

L7 Fund Requirement

L7.1 Fresh money

Fresh money is needed for staring working capital to pay wages and to meet overhead in the amount of at least Rp.1.2 billion which represents 2 months of cost to be paid in the start-up phase of year 2007. Also, some Rp. 4.8 billion is needed for the expenditure of initial organizational set-up in 2006 (see Appendix L-3 for breakdown).

L7.2 Loan

A 7-year loan is needed in the amount of Rp.6 billon to cover the above costs. The loan will be repaid in 5 years after 2 years grace period. And, if PSO does not realize, additional loan is needed to cover the deficit.

L7.3 Inter-office account from PJT I Head Office

Whenever PJT Jeneberang needs cash, PJT I head office must supply it. The amount of such funding should be minimized. The cash position of PJT I becomes weak. During the late 1990s, average cash balance was about Rp.20 billion, whereas in 2000s average cash balance decreased to Rp.10 billion.

L8 Evaluation of Major Financial Ratio

Financial ratios were calculated and evaluated according to Decree of MSOE No.100/MBU/2002.

Major financial ratios in the 5 year plan is as follows (More details are shown in Table L8.1);

Major Financial Ratios

Item	Desirable condition	2007	2008	2009	2010	2011
		Value	Value	Value	Value	Value
Return On Equity (ROE)	15 %	7 %	23 %	8.4 %	11 %	19 %
Return On Investment (ROI)	18 %	17 %	24 %	20 %	23 %	31 %
Cash Ratio	35 %	229 %	178 %	158 %	171 %	191 %
Current Ratio	125 %	517 %	254 %	230 %	247 %	275 %
Collection Periods (CP)	60 days	13 days	12 days	12 days	12 days	12 days
Inventory Turn Over	60 days	0.4 days	0.4 days	0.6 days	0.6 days	0.5 days
Total Asset Turn Over (TATO)	120 %	79 %	85 %	114 %	143 %	176 %
Ratio Total Equity and Total	40 %	36 %	40 %	42 %	49 %	58 %

Under the condition that initial working capital is provided by loan or inter-office account from PJT I head office and the government payment for irrigation and other PSOs, every ratio is acceptable.

Tables

Table L1.1 List of Owned Assets Candidates

No.	Assets	Present Value Rp.
A	Land	734,762,000
1	Land in Barombong, Makassar	
2	Land in Tanjung Merdeka	
3	Land in Jl. M Emmy Saelan 109 A	
4	Land in Karunrung	
B	Building	2,548,923,000
1	Central Monitoring Office	
2	a. Type 90 house (Jl. B. Bili-Bili No. B2)	
	b. Type 90 house (Jl. B. Bili-Bili No. B3)	
3	a. Type 54 house (Jl. S. Jenelata No. C9)	
	b. Type 54 house (Jl. S. Jenelata No. C6)	
	c. Type 54 house (Jl. S. Jenelata No. C14)	
	d. Type 54 house (Jl. S. Jenelata No. C11)	
C	Heavy equipment, vehicles anf Office Equipment	154,483,000
1	Heavy Equipment	
	a. Dump Truck	
	b. Ordinary Truck	
	c. Excavator	
	d. Wheel Loader	
	e. Patrol Boat	
	f. Tug Boat	
	g. Trash Barge	
	h. Boat Trailer	
	i. Hydrological & Meteorological observation	
	j. Apparatus for soil & rock test	
	k. Apparatus for concrete test	
	l. Apparatus for road const. Test	
	m. Water quality sampler test	
	n. Pressure sensor type water level	
	o. Water depth measuring & recording equip.	
	p. Washing type air content test	
2	Vehicles	
	a. Station wagon	
	b. Jeep	
	c. Pick up	
	d. Motorcycle	
3	Office equipment	
	a. 1 biro desk	
	b. 1/2 biro desk	
	c. Chair	
	d. Chairs & Tables	
	e. Meeting tables and chairs	
	f. Filling cabinet	
	g. Pentium 2 computer	
	Total	3,438,168,000

Table L1.2 List of Managed Assets Candidates

RIVER			Sub Catchment Area		Length	Infrastructures	Completed	Investment (Initial)	Investment 2004
1st Order River	2nd Order River	3rd Order River	(km^2)	(%)	(km)		(year)	(mill. Rp)	(mill. Rp)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Jeneberang			175.01	25.50	85.50	Rubber Dam	1996	61,045	107,743
						Kampili Weir (17,480 ha)	2004	76,561	76,561
						Bissua Weir (3,850 ha)	2004	16,863	16,863
						Bili-Bili Weir (2,360 ha)	2004	10,116	10,116
						Bili-Bili Multipurpose Dam	1999	174,797	249,314
						Raw Water Transmission Main	1996	84,135	148,497
						Hydrological Gauging Station (6)	1997	1,500	2,466
						Sand Pocket Dam	1997	13,035	21,429
						Sand Pocket Dam No. 3	1997	5,887	9,678
						Sand Pocket Dam No. 2	1998	13,035	19,960
						Sand Pocket Dam No. 4	2000	14,725	19,563
						Sand Pocket Dam No. 5	2000	12,900	17,138
						Sabo Dam No. 4	2000	5,880	7,812
Long Storage			15.76	2.30	4.50	Flushing Gate and revetment	2001	11,158	13,807
						Intake Gate	1993	1,051	2,295
						Tidal Barrage and Gate	1993	11,917	26,028
	Jenelata/Sapaya		122.57	17.86	38.45	Hydrological Gauging Station (3)	1997	900	1,480
		Binanga Tokka	77.53	11.29	24.26				
	Salo Malino		85.89	12.51	18.67	Sabo Dam No. 6	2001	8,977	11,109
						Hydrological Gauging Station	1997	300	493
	Kausisi		37.50	5.46	18.91	Sabo Dam No. 8	2001	6,620	8,192
						Total		531,402	770,544

a. 1st, 2nd, and 3rd order river with a sub-catchment area more than or close to 10% of the total river basin area, or other significant features
b. Large dams and weirs irrigating > 500 ha of potential area
c. Other significant infrastructure and measuring stations (Kausisi)
d. Long Storage is considered to be part of the Jeneberang River
e. Garassi River is not selected as it is essentially an irrigation drainage channel to the mouth of the Jeneberang River
e. Garassi River is not selected as it is essentially an irrigation drainage channel to the mouth of the Jeneberang River
Dinas Cipta Karya as already instructed.

3. Hydrological Gauging Station in Jeneberang sub river basin consist of: Jonggoa, Kampili, Maccini Sombala, Bontojae and Bayang; in Jenelata/Sapaya sub river basin consist of: Jenelata, Limbunga, Mangempang and in Malino sub river basin only Malino.
4. Shaded figures are for selected rivers.

Table L2.1-1) Review of Benefit for Cost Allocation

Flood Control Benefit Review

Million Rp. (1998 price)	1993	1994	1995	1996	1997	1998	1999	2000	2001
Original	3,368	6,736	10,104	13,472	16,840	20,208	23,576	26,944	30,312
1.049 per annum x 6 years	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Reviewed	4,477	8,955	13,432	17,910	22,387	26,865	31,342	35,820	40,297

Original figure (as of 1992) is adjusted by six years' growth rate of per-capita GRDP (4.9% per annum in Makassar, main benefit area of flood control) to represent the value of 1998.
Original: Consulting Engineering Services for Detailed Design and Construction Supervision of Bili-Bili Irrigation Project, Final Design Report, Main Report, October 1999

Irrigation Benefit Review

	2004	2005	2006	2007	2008	2009
Million Rp. (1998 price)						
Original	51,576	77,364	90,258	103,152	128,940	143,267
Reviewed	41,404	62,106	72,457	82,808	103,511	115,012

Reviewd by reflecting a decline of paddy price.
Original: Consulting Engineering Services for Detailed Design and Construction Supervision of Bili-Bili Irrigation Project, Final Design Report, Main Report, October 1999

Hydro Power Benefit Review

		(1998 price)
Power Benefit	Installed capacity (KW)	16,300
	Power value/KW(US$)	700
	Capital recovery factor (12% - 25 years)	0.127
	Annuitaized capital cost(US$)	89.2
	O&M cost /KW (US$, 3% of capital cost)	21.0
	Annuitized capital + O&M cost/KW (US$)	110.2
	Annual power benefit (Million Rp.)	16,066
Energy Benefit	Generated energy	77,174,000
	Energy benefit (Rp./kWh)	427.0
	Annual energy benefit (Million Rp.)	32,957
	Total annual benefit (Million Rp.)	49,023

Estimation of benefit value follows alternative diesel method in "Basic Design Report of Engineering Services for Engineering Desing and Construction Supervision of Bili-Bili Hydroelectric Power Plant

Water Supply Benefit Review

Maximum guranteed discharge	4.1	m^3/second			
Above in annual volume	127.7	Million m^3/year			
Annual benefit (at maximum discharge)	61,857	Million Rp.	(1998 price)		
	2000	2004 (present)	2010	2018	Annuitized demand
Water demand volume (thousand m^3)	51,567	60,280	76,200	127,710	75,117
Annual growth of demand (%)		3.98%	3.98%	7.39%	

Water demand is assumed to increase geometrically for the above each period, and reach maximum guranteed discharge in 2018.

Actual operational record of PDAM Makassar (source: PDAM Makassar)

	1998	1999	2003
Water Sales Volume (m^3)	20,984,000	22,768,000	32,147,405
Water Sales Revenue	21,929,960,885	26,315,953,062	67,840,696,420
Average selling price per m^3	1,045.1	1,155.8	2,110.3
Average production cost per m^3	1,121.4	1,273.4	
Benefit value of raw water portion	484.4	519.1	

Unit benefit value of raw water = average selling price/m^3 - average production cost/m^3 x 0.5 (factor of raw water portion)
Estimation of benefit value follows "Final Report of Consulting Engineering Services for Comprehensive Water Management Plan Study for Maros-Jeneponto River Basin", based on updated PDAM data.

Table L2.1-2) Review of Benefit for Cost Allocation (Planned Stream of Benefits by Bili-Bill Multi-purpose Dam)

(Rp. Million in 1998 price)

	Completion	Flood Control	FC O&M	FC net-benefit	Water Supply	WS O&M	WS net-benefit	Hydro-power	HP O&M	HP net-benefit	Irrigation	IG O&M	IG net-benefit
1992													
1993													
1994													
1995													
1996	RWTM												
1997													
1998	Base year	0	0	0	0	0	0	0	0	0	0	0	0
1999	Dam	0	0	0	0	0	0	0	0	0	0	0	0
2000		35,820	1,724	34,096	24,977	1,511	23,466	0	0	0	0	0	0
2001		40,297	1,724	38,573	25,971	1,511	24,460	0	0	0	0	0	0
2002		40,297	1,724	38,573	27,005	1,511	25,494	0	0	0	0	0	0
2003		40,297	1,724	38,573	28,080	1,511	26,569	0	0	0	0	0	0
2004	Weir/HP	40,297	1,724	38,573	29,197	1,511	27,686	0	0	0	41,404	2,999	38,406
2005		40,297	1,724	38,573	30,359	1,511	28,848	49,023	5,138	43,884	62,106	4,498	57,608
2006		40,297	1,724	38,573	31,568	1,511	30,057	49,023	5,138	43,884	72,457	5,248	67,210
2007		40,297	1,724	38,573	32,824	1,511	31,313	49,023	5,138	43,884	82,808	5,997	76,811
2008		40,297	1,724	38,573	34,130	1,511	32,619	49,023	5,138	43,884	103,511	7,496	96,014
2009		40,297	7,958	32,340	35,489	1,511	33,978	49,023	5,138	43,884	115,012	8,329	106,683
2010		40,297	1,724	38,573	36,908	1,511	35,397	49,023	5,138	43,884	115,012	8,329	106,683
2011		40,297	1,724	38,573	39,636	1,511	38,125	49,023	5,138	43,884	115,012	8,329	106,683
2012		40,297	1,724	38,573	42,565	1,511	41,054	49,023	5,138	43,884	115,012	8,329	106,683
2013		40,297	1,724	38,573	45,710	1,511	44,199	49,023	5,138	43,884	115,012	8,329	106,683
2014		40,297	1,724	38,573	49,088	1,511	47,577	49,023	5,138	43,884	115,012	15,201	99,811
2015		40,297	1,724	38,573	52,716	1,511	51,205	49,023	5,138	43,884	115,012	8,329	106,683
2016		40,297	1,724	38,573	56,612	1,511	55,101	49,023	5,138	43,884	115,012	8,329	106,683
2017		40,297	1,724	38,573	60,795	1,511	59,284	49,023	5,138	43,884	115,012	8,329	106,683
2018		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2019		40,297	7,958	32,340	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2020		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2021		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2022		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2023		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2024		40,297	1,724	38,573	61,857	13,978	47,879	49,023	5,138	43,884	115,012	15,201	99,811
2025		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2026		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2027		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2028		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2029		40,297	57,828	-17,530	61,857	51,381	10,477	49,023	5,138	43,884	115,012	34,484	80,528
2030		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2031		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2032		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2033		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2034		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	15,201	99,811
2035		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2036		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2037		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2038		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2039		40,297	7,958	32,340	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2040		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2041		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2042		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2043		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2044		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	15,201	99,811
2045		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2046		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2047		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2048		40,297	1,724	38,573	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
2049		40,297	7,958	32,340	61,857	1,511	60,347	49,023	5,138	43,884	115,012	8,329	106,683
Total		2,010,377		1,843,150	2,663,069		2,525,188	2,206,025		1,974,801	5,077,779		4,656,392
NPV	(as of 1998)	263,592		248,501	240,872		228,958	183,668		164,417	399,244		368,173

12.0% Discount rate 0.120 Annuity factor (12% - 50 years)

Table L2.2 Calculation of Allocated Service Cost on Full-cost Recovery Principle

Justifiable Expenditure (Economic Benefit) Method
a) Cost allocation of joint-facility portion (dam / reservoir)

Planned Construction Cost (as of 1998) 467,509.4 Rp. Million

	Function	Flood Control	Water Supply	Irrigation	Hydro-power	Total
1)	Justifiable investment cost	248,501.2	228,957.6	368,173.2	164,417.1	1,010,049.2
2)	Specific facility investment cost	102,687.9	90,006.0	248,101.4	99,822.5	540,617.7
3)	Specific Benefit	145,813.3	138,951.6	120,071.8	64,594.7	469,431.5
4)	Separable cost	143,891.2	137,029.5	118,149.7	62,672.5	461,742.9
5)	Remaining benefit	1,922.1	1,922.1	1,922.1	1,922.1	7,688.5
6)	Proportional distribution of 5)	0.250	0.250	0.250	0.250	5,766.4
7)	Remaining joint-cost	1,441.6	1,441.6	1,441.6	1,441.6	-
8)	Total allocated cost	145,332.8	138,471.1	119,591.3	64,114.1	467,509.4
9)	Cost Allocation Ratio	0.311	0.296	0.256	0.137	1.000

b) Derivation of full-cost recovery rate (in 2004 price)

	O&M cost items	Reservor/Related	Riparian Structure	IG Intake Weir	Long Storage	RWTM	Rubber Dam	River Conservation	Flood Manag.	Drought Manag.	Quantity Manag.	Water Quality/Waste	Watershed Manag.	Direct Cost	%	Indirect Cost+Margin	Total
		1,231,000,000	428,000,000	593,000,000	351,000,000	228,000,000	86,000,000	334,000,000	278,000,000	267,000,000	259,000,000	373,300,000	285,000,000	4,713,300,000		4,274,714,286	8,988,014,286
Service	Flood Control	382,676,149	428,000,000					62,297,563	222,400,000				70,877,467	1,166,251,179	24.7%	1,057,728,253	2,223,979,432
Cost	Water Supply	364,608,583			280,800,000	228,000,000	86,000,000	59,356,263		107,387,684	104,170,075	223,980,000	67,531,078	1,521,833,684	32.3%	1,380,222,814	2,902,056,498
	Irrigation Water Supply	314,896,160		593,000,000				51,263,355		92,745,949	89,967,045	74,660,000	58,323,578	1,274,856,087	27.0%	1,156,227,171	2,431,083,258
	Hydro Power	168,819,108						27,482,818		49,722,069	48,232,269		31,267,877	325,524,141	6.9%	295,233,212	620,757,353
	Flush Water Supply				*70,200,000*					*17,144,298*	*16,630,611*			103,974,909	2.2%	94,299,754	198,274,663
	Water Quality Management											*37,640,000*		37,640,000	0.8%	34,137,493	71,777,493
	Waste Water Monitoring											*37,020,000*		37,020,000	0.8%	33,575,186	70,595,186
	Watershed Management												*57,000,000*	57,000,000	1.2%	51,695,991	108,695,991
	River Admin. Area Management							*66,800,000*	*55,600,000*					122,400,000	2.6%	111,010,339	233,410,339
	Sand Mining Management							*66,800,000*						66,800,000	1.4%	60,584,074	127,384,074
		1,231,000,000	428,000,000	593,000,000	351,000,000	228,000,000	86,000,000	334,000,000	278,000,000	267,000,000	259,000,000	373,300,000	285,000,000	4,713,300,000		4,274,714,286	8,988,014,286
Volume	Irrigation Area (ha)	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660			23,660	
	Flush Water Supply (m^3)	34,689,600	34,689,600	34,689,600	34,689,600	34,689,600	34,689,600	34,689,600	34,689,600	34,689,600	34,689,600	34,689,600	34,689,600			34,689,600	
	Water Supply (m^3)	75,117,472	75,117,472	75,117,472	75,117,472	75,117,472	75,117,472	75,117,472	75,117,472	75,117,472	75,117,472	75,117,472	75,117,472			75,117,472	
	Power Generation (kWh)	77,174,000	77,174,000	77,174,000	77,174,000	77,174,000	77,174,000	77,174,000	77,174,000	77,174,000	77,174,000	77,174,000	77,174,000			77,174,000	
Base tariff	Irrigation Water / ha	13,309.2	0.0	25,063.4	0.0	0.0	0.0	2,166.7	0.0	3,919.9	3,802.5	3,155.5	2,465.1	53,882.3		48,868.4	102,750.8
	Flush Water / m^3	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.5	0.5	0.0	0.0	3.0		2.7	5.7
	Raw (Municipal) Water / m^3	4.9	0.0	0.0	3.7	3.0	1.1	0.8	0.0	1.4	1.4	3.0	0.9	20.3		18.4	38.6
	Hydro Power / kWh	2.2	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.6	0.6	0.0	0.4	4.2		3.8	8.0

Explanation on O&M cost allocation approach
Facility O&M for dam, reservoir, sabo and related : according to allocation ratio of the joint-facility
Facility O&M for weir, riparian structure, water supply related : according to objective of each specific facility
River conservation : firstly allocated to river area and c-class mining management services with 20% of activity cost, and the rest allocated to flood control, irrigation, water supply, hydro power services according to allocation ratio of the joint-facility
Flood management : firstly allocated to river area management service with 20% of activity cost, and the rest allocated to flood control service
Drought / quantity management : firstly allocated to flush water service with its ratio of guranteed discharge volume (maintenance/flush water) against total discharge, and the rest to irrigation, water supply, hydro power services according to allocation ratio of the joint-facility
Water quality / waste water management : firstly allocated to river water quality and waste water management services with 20% of activity cost, and the rest assumingly allocated to irrigation and water supply services
Watershed management : firstly allocated to watershed management service with 20% of activity cost, and the rest to flood control, irrigation, water supply, hydro power services according to allocation ratio of the joint-facility

Source : Calculated by JICA Study Team, and reference to Concept for Calculation of Water Use Fee Draft, Secretariat Pokja RKSP, MSRI, February 2002
Note : Benefit value and construction data, as basis of joint-facility allocation are value in 1998 price.

Continued : Derivation of Water Supply Segments (Industry, Plantation, Fishpond Water)

a) Industrial Water : Average tariff ratio approach

For Makassar industry, based on PDAM Makassar average tariff (2003)

1) Ave. tariff (whole category)	2,110.3	Rp./m3
2) Ave. tariff (large-scale user)	7,807.5	Rp./m3
Ratio between 1) and 2)	3.70	times
To be derived by multiplying the above ratio with the base tariff of raw (municipal) water		

For other industry, based on PDAM Gowa average tariff (2004)

1) Ave. tariff (domestic)	1,648.3	Rp./m3
2) Ave. tariff (large-scale user)	2,808.3	Rp./m3
Ratio between 1) and 2)	1.70	times
To be derived by multiplying the above ratio with the base tariff of raw (municipal) water		

b) Irrigated Fishpond Water : Average net-income (per ha) raito approach

1) Net income of irrigated paddy	10,150,000	Rp./ha (2004)
2) Net income of irrigated fishpond	31,778,000	Rp./ha (2001)
Adjusted to 2004 price	39,323,672	Rp./ha (2004)
Ratio between 1) and 2)	3.87	times
To be derived by multiplying the above ratio with the base tariff of irrigation water		
3) Net income of irrigated plantation	5,338,200	Rp./ha (2004)
*Information on Takalar Sugar Factory		
Ratio between 1) and 3)	0.53	times
To be derived by multiplying the above ratio with the base tariff of irrigation water		

Result of Derivation

	In 2004 price	In 2007 price
Makassar Industry Water Rate / m^3	142.9	176.9
Other Industry Water Rate / m^3	65.8	81.5
Fishpond Water Rate / ha)	398,082.5	492,607.1
Plantation Water Rate / ha)	54,039.8	66,871.6

Table L2.3 Calculation of Burden by Commercial Service Beneficiaries to Finance Public Service

(in 2004 price)

Commercial service to bear public service costs	Base service costs / base tariff / volume	Case of full-cost recovery (with beneficiary to pay)	
Water Supply	2,902,056,498	4,422,191,284	6,083,885,712
Hydro Power	620,757,353	1,324,601,999	2,093,990,829
Water Supply Rate / m^3	38.6	58.9	81.0
Hydro Power Rate / kWh	8.0	17.2	27.1
Water Supply (m^3)	75,117,472	68.4%	Cost allocation ratio bewteen
Power Generation (kWh)	77,174,000	31.6%	water supply & hydropwer
Commercial service beneficiaries shall finance service costs of		flood control (FC) fully	FC and irrigation fully

Public service costs to be borne by commercial service beneficiaries	Base service costs	Ratio to be borne 100%	Ratio to be borne 100%
Service costs for flood control	2,223,979,432	2,223,979,432	2,223,979,432
Service costs for irrigation water supply	2,431,083,258		2,431,083,258
Total costs to be borne by commercial services	4,655,062,690	2,223,979,432	4,655,062,690

Table L5.1 PJT Jeneberang
Profit and Loss Projection 2007 - 2020 (at 2004 price without inflation factor)
Case 1: Beneficiary-to-Pay Principle

No.	I T E M	Unit	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
I.	**REVENUES**	**Rp. million**	**4,991**	**5,293**	**5,502**	**5,741**	**6,167**	**6,552**	**6,957**	**7,346**	**7,729**	**8,150**	**8,571**	**8,963**	**9,411**	**9,810**
1	**Revenues of Water Services**	**Rp. million**	**4,986**	**5,090**	**5,195**	**5,300**	**5,664**	**6,028**	**6,392**	**6,756**	**7,120**	**7,484**	**7,848**	**8,212**	**8,576**	**8,940**
a.	**Production**															
	Electricity	GWh	77	77	77	77	77	77	77	77	77	77	77	77	77	77
	Raw water for Drinking Water	thousand m^3	64,716	66,586	68,456	70,325	76,822	83,318	89,815	96,311	102,807	109,304	115,800	122,297	128,793	135,289
	Raw water for Industries	thousand m^3	159	164	170	176	182	188	194	201	208	215	223	230	238	246
	Raw water for Plantation	ha.	500	500	500	500	500	500	500	500	500	500	500	500	500	500
	Raw water for Irrigation	ha.	14,906	17,035	21,294	22,477	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660
b.	**Tariffs**															
	Electricity	Rp/kWh	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2
	Raw water for drinking water	Rp/m^3	58.9	58.9	58.9	58.9	58.9	58.9	58.9	58.9	58.9	58.9	58.9	58.9	58.9	58.9
	Raw water for Industries	Rp/m^3	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8
	Raw water for Plantation	Rp/ha	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040
	Raw water for Irrigation	Rp/ha	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751
c.	**Revenues of Water Service**															
	Electricity	Rp.million	1,327	1,327	1,327	1,327	1,327	1,327	1,327	1,327	1,327	1,327	1,327	1,327	1,327	1,327
	Raw water for drinking water	Rp.million	3,621	3,726	3,830	3,935	4,299	4,662	5,026	5,389	5,753	6,116	6,480	6,843	7,207	7,570
	Raw water for Industries	Rp.million	10	10	11	11	11	12	12	13	13	13	14	14	15	15
	Raw water for Plantation	Rp.million	27	27	27	27	27	27	27	27	27	27	27	27	27	27
2	**Income from Non Water Service**	**Rp.million**	**6**	**202**	**307**	**441**	**503**	**524**	**565**	**590**	**609**	**666**	**723**	**751**	**835**	**870**
	Tourism	Rp.million	6	6	6	6	7	7	7	15	17	20	22	24	25	25
	Land Lease	Rp.million	0	0	11	12	13	13	14	15	15	16	17	18	19	20
	Sand Mining	Rp.million	0	196	206	319	373	368	374	379	385	390	396	402	408	415
	Reservior Fishery	Rp.million	0	0	7	8	10	12	15	17	21	25	30	36	43	52
	Waste water monitoring service fee	Rp.million	0	0	77	96	101	124	157	164	171	215	258	271	340	359
II.	**COSTS**	**Rp.million**	**6,286**	**6,191**	**7,581**	**7,943**	**8,153**	**7,296**	**7,426**	**7,526**	**7,405**	**7,493**	**7,584**	**7,676**	**7,772**	**7,871**
	O&M	Rp.million	2,189	2,346	3,431	3,431	3,431	3,431	3,431	3,431	3,431	3,431	3,431	3,431	3,431	3,431
	Personnel	Rp.million	1,226	1,396	1,565	1,735	1,905	1,962	2,021	2,082	2,144	2,208	2,275	2,343	2,413	2,485
	Travelling	Rp.million	325	362	400	437	475	489	504	519	534	550	567	584	601	619
	General Affairs	Rp.million	228	264	300	336	372	372	372	372	372	372	372	372	372	372
	Marketing	Rp.million	50	53	55	57	62	66	70	73	77	82	86	90	94	98
	Depreciation	Rp.million	1,216	1,216	1,216	1,210	1,210	127	127	149	149	149	149	149	149	149
	Public Relations	Rp.million	50	50	50	50	50	50	50	50	50	50	50	50	50	51
	Human Resources Development	Rp.million	56	59	76	92	111	111	111	111	111	111	111	111	111	111
	Watershed conservation	Rp.million	0	57	143	285	285	285	285	285	285	285	285	285	285	285
	Board of Commissioner	Rp.million	85	88	90	93	96	99	102	105	108	111	114	118	121	125
	Research and Development	Rp.million	54	72	89	125	144	144	144	144	144	144	144	144	144	144
	Capacity Development	Rp.million	807	228	166	91	13	161	209	205	0	0	0	0	0	0
III.	**Profit & Loss of Operation**	**Rp.million**	**-1,295**	**-899**	**-2,079**	**-2,202**	**-1,986**	**-744**	**-468**	**-180**	**323**	**657**	**988**	**1,287**	**1,639**	**1,939**
IV.	**Other Revenues**	**Rp.million**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Bank Interest etc.	Rp.million														
V.	**Other Costs**	**Rp.million**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Bank Fee etc.	Rp.million	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VI.	**Profit and Loss from others source**	**Rp.million**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
VII.	**Government Allocation for Public Services**	**Rp.million**	**2,048**	**2,270**	**2,883**	**3,014**	**3,146**	**3,156**	**3,166**	**3,177**	**3,188**	**3,199**	**3,211**	**3,223**	**3,235**	**3,248**
	PGPS (public servant salary)*	Rp.million	137	141	316	326	336	346	356	367	378	389	401	413	425	438
	Government Payment for Irrigation O&M	Rp.million	1,532	1,750	2,188	2,310	2,431	2,431	2,431	2,431	2,431	2,431	2,431	2,431	2,431	2,431
	Total other PSOs	Rp.million	379	379	379	379	379	379	379	379	379	379	379	379	379	379
VIII.	**Profit & Loss before Taxes**	**Rp.million**	**616**	**1,231**	**488**	**487**	**825**	**2,066**	**2,342**	**2,630**	**3,133**	**3,467**	**3,798**	**4,097**	**4,449**	**4,749**
IX.	**Taxes**	Rp.million	167	352	129	129	230	602	685	772	923	1,023	1,122	1,212	1,317	1,407
X.	**Profit & Loss after Taxes**	**Rp.million**	**449**	**879**	**359**	**358**	**595**	**1,464**	**1,657**	**1,859**	**2,211**	**2,444**	**2,676**	**2,885**	**3,132**	**3,342**
XI.	**Accumulated Profit/Loss**		449	1,328	1,687	2,045	2,640	4,104	5,760	7,619	9,830	12,275	14,950	17,836	20,967	24,309

*Profit excludes PGPS because tariff includes PNS Salary

Table: L5.2 PJT Jeneberang
Profit and Loss Projection 2007 - 2020 (at 2004 price without inflation factor)
Case 2: Tariff setting with a target of attaining PJT's Self-financing ability within 5 years

No.	I T E M	Unit	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
I.	**REVENUES**	**Rp. million**	**4,013**	**4,294**	**4,483**	**4,701**	**5,055**	**5,368**	**5,702**	**6,018**	**6,330**	**6,678**	**7,028**	**7,347**	**7,724**	**8,051**
1	**Revenues of Water Services**	**Rp. million**	**4,007**	**4,092**	**4,176**	**4,260**	**4,552**	**4,844**	**5,136**	**5,428**	**5,720**	**6,013**	**6,305**	**6,597**	**6,889**	**7,181**
a.	**Production**															
	Electricity	GWh	77	77	77	77	77	77	77	77	77	77	77	77	77	77
	Raw water for Drinking Water	thousand m^3	64,716	66,586	68,456	70,325	76,822	83,318	89,815	96,311	102,807	109,304	115,800	122,297	128,793	135,289
	Raw water for Industries	thousand m^3	159	164	170	176	182	188	194	201	208	215	223	230	238	246
	Raw water for Plantation	ha.	500	500	500	500	500	500	500	500	500	500	500	500	500	500
	Raw water for Irrigation	ha.	14,906	17,035	21,294	22,477	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660
b.	**Tariffs**															
	Electricity	Rp/kWh	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
	Raw water for drinking water	Rp/m^3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3	47.3
	Raw water for Industries	Rp/m^3	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8
	Raw water for Plantation	Rp/ha	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040
	Raw water for Irrigation	Rp/ha	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751
c.	**Revenues of Water Service**															
	Electricity	Rp.million	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065	1,065
	Raw water for drinking water	Rp.million	2,905	2,989	3,073	3,157	3,449	3,740	4,032	4,324	4,615	4,907	5,199	5,490	5,782	6,074
	Raw water for Industries	Rp.million	10	10	11	11	11	12	12	13	13	13	14	14	15	15
	Raw water for Plantation	Rp.million	27	27	27	27	27	27	27	27	27	27	27	27	27	27
2	**Income from Non Water Service**	**Rp.million**	**6**	**202**	**307**	**441**	**503**	**524**	**566**	**590**	**609**	**666**	**723**	**751**	**835**	**870**
	Tourism	Rp.million	6	6	6	6	7	7	7	15	17	20	22	24	25	25
	Land Lease	Rp.million	0	0	11	12	13	13	14	15	15	16	17	18	19	20
	Sand Mining	Rp.million	0	196	206	319	373	368	374	379	385	390	396	402	408	415
	Reservior Fishery	Rp.million	0	0	7	8	10	12	15	17	21	25	30	36	43	52
	Waste water monitoring service fee	Rp.million	0	0	77	96	101	124	157	164	171	215	258	271	340	359
II.	**COSTS**	**Rp.million**	**6,276**	**6,181**	**7,571**	**7,932**	**8,142**	**7,285**	**7,413**	**7,512**	**7,391**	**7,478**	**7,568**	**7,660**	**7,755**	**7,853**
	O&M	Rp.million	2,189	2,346	3,431	3,431	3,431	3,431	3,431	3,431	3,431	3,431	3,431	3,431	3,431	3,431
	Personnel	Rp.million	1,226	1,396	1,565	1,735	1,905	1,962	2,021	2,082	2,144	2,208	2,275	2,343	2,413	2,485
	Travelling	Rp.million	325	362	400	437	475	489	504	519	534	550	567	584	601	619
	General Affairs	Rp.million	228	264	300	336	372	372	372	372	372	372	372	372	372	372
	Marketing	Rp.million	40	43	45	47	51	54	57	60	63	67	70	73	77	81
	Depreciation	Rp.million	1,216	1,216	1,216	1,210	1,210	127	127	149	149	149	149	149	149	149
	Public Relations	Rp.million	50	50	50	50	50	50	50	50	50	50	50	50	50	51
	Human Resources Development	Rp.million	56	59	76	92	111	111	111	111	111	111	111	111	111	111
	Watershed conservation	Rp.million	0	57	143	285	285	285	285	285	285	285	285	285	285	285
	Board of Commissioner	Rp.million	85	88	90	93	96	99	102	105	108	111	114	118	121	125
	Research and Development	Rp.million	54	72	89	125	144	144	144	144	144	144	144	144	144	144
	Capacity Development	Rp.million	807	228	166	91	13	161	209	205	0	0	0	0	0	0
III.	**Profit & Loss of Operation**	**Rp.million**	**-2,263**	**-1,887**	**-3,088**	**-3,231**	**-3,086**	**-1,917**	**-1,711**	**-1,494**	**-1,062**	**-800**	**-540**	**-313**	**-31**	**198**
IV.	**Other Revenues**	**Rp.million**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Bank Interest etc.	Rp.million														
V.	**Other Costs**	**Rp.million**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Bank Fee etc.	Rp.million	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VI.	**Profit and Loss from others source**	**Rp.million**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
VII.	**Government Allocation for Public Services**	**Rp.million**	**2,048**	**2,271**	**2,883**	**3,014**	**3,146**	**3,156**	**3,166**	**3,177**	**3,188**	**3,199**	**3,211**	**3,223**	**3,235**	**3,248**
	PGPS (public servant salary)	Rp.million	137	141	316	326	336	346	356	367	378	389	401	413	425	438
	Government Payment for Irrigation O&M	Rp.million	1,532	1,750	2,188	2,310	2,431	2,431	2,431	2,431	2,431	2,431	2,431	2,431	2,431	2,431
	Total other PSOs	Rp.million	379	379	379	379	379	379	379	379	379	379	379	379	379	379
VIII.	**Profit & Loss before Taxes**	**Rp.million**	**-215**	**383**	**-205**	**-216**	**59**	**1,239**	**1,455**	**1,683**	**2,126**	**2,399**	**2,670**	**2,910**	**3,204**	**3,446**
IX.	**Taxes**	Rp.million	0	98	0	0	6	354	419	487	620	702	784	856	944	1,016
X.	**Profit & Loss after Taxes**	**Rp.million**	**-215**	**286**	**-205**	**-216**	**53**	**885**	**1,036**	**1,196**	**1,506**	**1,697**	**1,887**	**2,055**	**2,260**	**2,430**
XI.	**Accumulated Profit/Loss**		-215	70	-134	-351	-298	587	1,623	2,819	4,324	6,021	7,908	9,963	12,223	14,652

Table L5.3 PJT Jeneberang
Profit and Loss Projection 2007 - 2020 (at 2004 price without inflation factor)
Case3: Tariff setting in consideration of Beneficiary's Affordability to Pay

No.	I T E M	Unit	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
I.	**REVENUES**	**Rp. million**	**4,443**	**4,711**	**4,888**	**5,093**	**5,403**	**5,671**	**5,960**	**6,232**	**6,498**	**6,802**	**7,107**	**7,382**	**7,713**	**7,996**
1	**Revenues of Water Services**	**Rp. million**	**4,438**	**4,509**	**4,581**	**4,652**	**4,899**	**5,147**	**5,394**	**5,642**	**5,889**	**6,136**	**6,384**	**6,631**	**6,879**	**7,126**
a.	**Production**															
	Electricity	GWh	77	77	77	77	77	77	77	77	77	77	77	77	77	77
	Raw water for Drinking Water	thousand m^3	64,716	66,586	68,456	70,325	76,822	83,318	89,815	96,311	102,807	109,304	115,800	122,297	128,793	135,289
	Raw water for Industries	thousand m^3	159	164	170	176	182	188	194	201	208	215	223	230	238	246
	Raw water for Plantation	ha.	500	500	500	500	500	500	500	500	500	500	500	500	500	500
	Raw water for Irrigation	ha.	14,906	17,035	21,294	22,477	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660	23,660
b.	**Tariffs**															
	Electricity	Rp/kWh	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1
	Raw water for drinking water	Rp/m^3	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
	Raw water for Industries	Rp/m^3	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
	Raw water for Plantation	Rp/ha	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040	54,040
	Raw water for Irrigation	Rp/ha	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751	102,751
c.	**Revenues of Water Service**															
	Electricity	Rp.million	1,939	1,939	1,939	1,939	1,939	1,939	1,939	1,939	1,939	1,939	1,939	1,939	1,939	1,939
	Raw water for drinking water	Rp.million	2,459	2,530	2,601	2,672	2,919	3,166	3,413	3,660	3,907	4,154	4,400	4,647	4,894	5,141
	Raw water for Industries	Rp.million	12	12	13	13	14	14	15	15	16	16	17	18	18	19
	Raw water for Plantation	Rp.million	27	27	27	27	27	27	27	27	27	27	27	27	27	27
2	**Income from Non Water Service**	**Rp.million**	**6**	**202**	**307**	**441**	**503**	**524**	**566**	**590**	**609**	**666**	**723**	**751**	**835**	**870**
	Tourism	Rp.million	6	6	6	6	7	7	7	15	17	20	22	24	25	25
	Land Lease	Rp.million	0	0	11	12	13	13	14	15	15	16	17	18	19	20
	Sand Mining	Rp.million	0	196	206	319	373	368	374	379	385	390	396	402	408	415
	Reservior Fishery	Rp.million	0	0	7	8	10	12	15	17	21	25	30	36	43	52
	Waste water monitoring service fee	Rp.million	0	0	77	96	101	124	157	164	171	215	258	271	340	359
II.	**COSTS**	**Rp.million**	**6,280**	**6,185**	**7,575**	**7,936**	**8,145**	**7,288**	**7,416**	**7,514**	**7,393**	**7,480**	**7,569**	**7,660**	**7,755**	**7,853**
	O&M	Rp.million	2,189	2,346	3,431	3,431	3,431	3,431	3,431	3,431	3,431	3,431	3,431	3,431	3,431	3,431
	Personnel	Rp.million	1,226	1,396	1,565	1,735	1,905	1,962	2,021	2,082	2,144	2,208	2,275	2,343	2,413	2,485
	Travelling	Rp.million	325	362	400	437	475	489	504	519	534	550	567	584	601	619
	General Affairs	Rp.million	228	264	300	336	372	372	372	372	372	372	372	372	372	372
	Marketing	Rp.million	44	47	49	51	54	57	60	62	65	68	71	74	77	80
	Depreciation	Rp.million	1,216	1,216	1,216	1,210	1,210	127	127	149	149	149	149	149	149	149
	Public Relations	Rp.million	50	50	50	50	50	50	50	50	50	50	50	50	50	51
	Human Resources Development	Rp.million	56	59	76	92	111	111	111	111	111	111	111	111	111	111
	Watershed conservation	Rp.million	0	57	143	285	285	285	285	285	285	285	285	285	285	285
	Board of Commissioner	Rp.million	85	88	90	93	96	99	102	105	108	111	114	118	121	125
	Research and Development	Rp.million	54	72	89	125	144	144	144	144	144	144	144	144	144	144
	Capacity Development	Rp.million	807	228	166	91	13	161	209	205	0	0	0	0	0	0
III.	**Profit & Loss of Operation**	**Rp.million**	**-1,837**	**-1,474**	**-2,687**	**-2,843**	**-2,743**	**-1,617**	**-1,456**	**-1,283**	**-895**	**-678**	**-462**	**-279**	**-42**	**144**
IV.	**Other Revenues**	**Rp.million**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Bank Interest etc.	Rp.million														
V.	**Other Costs**	**Rp.million**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Bank Fee etc.	Rp.million	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VI.	**Profit and Loss from others source**	**Rp.million**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
VII.	**Government Allocation for Public Services**	**Rp.million**	**2,048**	**2,271**	**2,883**	**3,014**	**3,146**	**3,156**	**3,166**	**3,177**	**3,188**	**3,199**	**3,211**	**3,223**	**3,235**	**3,248**
	PGPS (public servant salary)	Rp.million	137	141	316	326	336	346	356	367	378	389	401	413	425	438
	Government Payment for Irrigation O&M	Rp.million	1,532	1,750	2,188	2,310	2,431	2,431	2,431	2,431	2,431	2,431	2,431	2,431	2,431	2,431
	Total other PSOs	Rp.million	379	379	379	379	379	379	379	379	379	379	379	379	379	379
VIII.	**Profit & Loss before Taxes**	**Rp.million**	**211**	**797**	**196**	**172**	**403**	**1,538**	**1,710**	**1,894**	**2,293**	**2,521**	**2,749**	**2,944**	**3,193**	**3,392**
IX.	**Taxes**	Rp.million	46	222	41	34	103	444	496	551	670	739	807	866	941	1,000
X.	**Profit & Loss after Taxes**	**Rp.million**	**165**	**575**	**155**	**138**	**300**	**1,094**	**1,215**	**1,343**	**1,622**	**1,783**	**1,942**	**2,078**	**2,253**	**2,392**
XI.	**Accumulated Profit/Loss**		165	740	895	1,032	1,332	2,426	3,641	4,985	6,607	8,390	10,331	12,410	14,662	17,054

Table L6.1 PJT Jeneberang
Profit and Loss Projection 2007 - 2011 (current price)
Tariff setting in consideration of Beneficiary's Affordability to Pay

No.	I T E M	Unit	2007	2008	2009	2010	2011
I.	**REVENUES**	**Rp. million**	**5,499**	**6,194**	**6,841**	**7,708**	**8,706**
1	**Revenues of Water Services**	**Rp. million**	**5,491**	**5,991**	**6,533**	**7,124**	**8,055**
a.	**Production**						
	Electricity	GWh	77	77	77	77	77
	Raw water for Drinking Water	thousand m^3	64,716	66,586	68,456	70,325	76,822
	Raw water for Industries	thousand m^3	159	164	170	176	182
	Raw water for Plantation	ha.	500	500	500	500	500
	Raw water for Irrigation	ha.	14,906	17,035	21,294	22,477	23,660
b.	**Tariffs**						
	Electricity	Rp/kWh	31	33	36	38	41
	Raw water for drinking water	Rp/m^3	49	53	57	61	66
	Raw water for Industries	Rp/m^3	99	106	114	123	132
	Raw water for Plantation	Rp/ha	66,872	71,794	77,078	82,750	88,841
	Raw water for Irrigation	Rp/ha	127,149	136,507	146,554	157,341	168,921
c.	**Revenues of Water Service**						
	Electricity	Rp.million	2,400	2,577	2,766	2,970	3,188
	Raw water for drinking water	Rp.million	3,043	3,362	3,710	4,092	4,799
	Raw water for Industries	Rp.million	15	17	18	20	23
	Raw water for Plantation	Rp.million	33	36	39	41	44
2	**Income from Non Water Service**	**Rp.million**	**7**	**203**	**308**	**584**	**651**
	Tourism	Rp.million	7	7	7	10	9
	Land Lease	Rp.million	0	0	11	13	14
	Sand Mining	Rp.million	0	196	206	455	515
	Reservior Fishery	Rp.million	0	0	7	10	12
	Waste water monitoring service fee	Rp.million	0	0	77	96	101
II.	**COSTS**	**Rp.million**	**7,734**	**8,068**	**10,537**	**11,764**	**12,868**
	O&M	Rp.million	2,709	3,117	4,894	5,254	5,641
	Personnel	Rp.million	1,517	1,855	2,235	2,661	3,138
	Travelling	Rp.million	402	481	571	669	781
	General Affairs	Rp.million	282	351	428	515	612
	Marketing	Rp.million	55	62	68	77	87
	Depreciation	Rp.million	1,466	1,466	1,466	1,460	1,460
	Public Relations	Rp.million	62	66	71	77	82
	Human Resources Development	Rp.million	69	78	108	141	182
	Watershed conservation	Rp.million	0	76	204	436	469
	Board of Commissioner	Rp.million	105	117	128	142	158
	Research and Development	Rp.million	67	96	127	191	237
	Capacity Development	Rp.million	998	303	236	140	21
III.	**Profit & Loss of Operation**	**Rp.million**	**-2,235**	**-1,875**	**-3,696**	**-4,056**	**-4,162**
IV.	**Other Revenues**	**Rp.million**	**0**	**0**	**0**	**0**	**0**
	Bank Interest etc.	Rp.million					
V.	**Other Costs**	**Rp.million**	**0**	**0**	**0**	**0**	**0**
	Bank Fee etc.	Rp.million	0	0	0	0	0
VI.	**Profit and Loss from others source**	**Rp.million**	**0**	**0**	**0**	**0**	**0**
VII.	**Government Allocation for Public Services**	**Rp.million**	**2,534**	**3,016**	**4,112**	**4,614**	**5,169**
	PGPS (public servant salary)	Rp.million	170	187	451	497	549
	Government Payment for Irrigation O&M	Rp.million	1,895	2,325	3,121	3,537	3,997
	Total other PSOs	Rp.million	469	504	541	580	623
VIII.	**Profit & Loss before Taxes**	**Rp.million**	**299**	**1,141**	**416**	**558**	**1,007**
IX.	**Taxes**	Rp.million	72	325	107	150	285
X.	**Profit & Loss after Taxes**	**Rp.million**	**227**	**816**	**309**	**408**	**722**
XI.	**Accumulated Profit/Loss**		227	1,043	1,352	1,760	2,482
XIII.	**SENSITIVITY ANALYSIS**						
	Profit & Loss before Taxes						
1	Water Revenue75%in 1st year and increase to 100% in 5th year		-1,074	18	-401	113	1,007
2	Water Revenue50%in 1st year and increase to 100% in 5th year		-2,447	-1,105	-1,217	-332	1,007
3	No government payment for irrigation and other PSOs		-2,065	-1,688	-3,245	-3,559	-3,613

Table:L6.2 PJT Jeneberang
Balance Sheet Projection 2007 - 2011 (current price)
Tariff setting in consideration of Beneficiary's Affordability to Pay

Item	2007	2008	2009	2010	2011
ASSETS					
Current Assets					
Cash	5	5	5	5	5
Bank	792	2,039	2,816	3,239	3,390
Short-Time Deposit	0	0	0	0	0
Account Receivable	637	696	760	829	941
Allowance for Bad Debt	0	0	0	0	0
Advance	2	2	2	2	2
Accrued revenue	425	464	506	553	627
Prepaid Taxes	0	0	0	0	0
Inventory	22	26	38	41	44
Current Assets	**1,883**	**3,231**	**4,127**	**4,670**	**5,009**
Fixed Assets					
Land	735	735	735	735	735
Building	2,549	2,549	2,549	2,549	2,549
Machine Equipment	2,136	2,136	2,136	2,136	2,136
Office Equipment	1,333	1,333	1,333	1,333	1,333
	6,752	6,752	6,752	6,752	6,752
Accumulated Depreciation	-1,241	-2,574	-4,003	-4,765	-5,504
Fixed Assets	**5,511**	**4,179**	**2,749**	**1,987**	**1,248**
Other Assets					
Deferred Cost	0	0	0	0	0
Amortization	0	0	0	0	0
Other Assets	**0**	**0**	**0**	**0**	**0**
TOTAL ASSETS	**7,394**	**7,409**	**6,877**	**6,657**	**6,257**
LIABILITIES & EQUITY					
Current Liabilities					
Account Payable	405	466	693	744	798
Taxes Payable	0	0	0	0	0
Other short-term debt	0	663	663	663	663
Prepaid Revenue	0	0	0	0	0
Current Liabilities	**405**	**1,129**	**1,355**	**1,406**	**1,461**
Long-term debt to the third party	**3,314**	**2,651**	**1,988**	**1,326**	**663**
Equity					
Government Equity	3,438	3,438	3,438	3,438	3,438
General/Purpose Reserve	0	58	91	92	189
Retained profit - loss	0	0	0	0	0
Current year's profit - loss	237	133	4	395	506
Equity	**3,675**	**3,629**	**3,533**	**3,925**	**4,133**
TOTAL LIABILITIES & EQUITY	**7,394**	**7,409**	**6,877**	**6,657**	**6,257**

Table:L6.3 PJT Jeneberang
Cash flow Projection 2007 - 2011 (current price)
Tariff setting in consideration of Beneficiary's Affordability to Pay

Item	2007	2008	2009	2010	2011
CASH FLOW FROM OPERATING ACTIVITIES					
Profit & Loss before tax	314	165	4	539	698
Depreciation	1,241	1,333	1,429	762	739
Allowance for Bad Debt	0	0	0	0	0
Profit & Loss before working capital changes	1,555	1,497	1,433	1,301	1,437
Increase (decrease) from operating assets:					
- Account receivable	-1,063	-98	-107	-116	-186
- Inventory	-22	-3	-13	-3	-3
- Prepaid Taxes	0	0	0	0	0
Increase (decrease) from operating liabilities:					
- Account payable	405	724	227	51	55
- Taxes payable	0	0	0	0	0
- Taxes paid	-77	-32	0	-144	-192
Increase (decrease) deferred tax asset	0	0	0	0	0
Cash flow from operating activities	-758	591	107	-212	-327
Net Cash flow from operating activities	**797**	**2,088**	**1,540**	**1,089**	**1,110**
CASH FLOW FROM INVESTMENT ACTIVITIES					
Fixed Assets procurement	-6,752	0	0	0	0
Other Assets procurement	0	0	0	0	0
Net Cash flow from investment activities	**-6,752**	**0**	**0**	**0**	**0**
CASH FLOW OF FINANCING ACTIVITIES					
Profit Distribution	0	-179	-100	-3	-297
Received from Government as Gov. Equity	3,438	0	0	0	0
Gov. equity that status is not yet determined	0	0	0	0	0
Long-term debt to the third party	3,314	-663	-663	-663	-663
Retained profit	0	0	0	0	0
Reserve fund use	0	0	0	0	0
Net Cash flow of financing activities	**6,752**	**-842**	**-763**	**-666**	**-960**
Net increase (decrease) of cash & cash equivalent	**797**	**1,246**	**777**	**424**	**150**
Cash & cash equivalent at beginning	**0**	**797**	**2,044**	**2,821**	**3,244**
Cash & cash equivalent at end	**797**	**2,044**	**2,821**	**3,244**	**3,395**

Table: L8.1
Financial Ratio Analysis 2007 - 2011

No.	Item	Formulation	2007		2008		2009		2010		2011	
			Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
1	Return On Equity (ROE)	Profit After Tax / Equity x 100%	6.9 %	7.5	5.6 %	4	4.3 %	1	11.0 %	12	13.8 %	13.5
2	Return On Investment (ROI)	EBIT + Depreciation / Capital Employed x 100%	21.0 %	10	20.0 %	10	20.4 %	10	19.4 %	10	22.8 %	10
3	Cash Ratio	Cash + Bank + Time Deposit / Current Liabilities x 100%	196.9 %	3	178.6 %	3	199.6 %	3	214.6 %	3	216.8 %	3
4	Current Ratio	Current Assets / Current Liabilities x 100%	465.1 %	4	283.8 %	4	296.0 %	4	315.9 %	4	327.3 %	4
5	Collection Periods (CP)	Account Receivable / Revenue x 365 days	12.5 days	4	12.1 days	4	11.9 days	4	11.5 days	4	11.5 days	4
6	Inventory Turn Over	Inventory / Revenue x 365 days	0.4 days	4	0.4 days	4	0.6 days	4	0.6 days	4	0.5 days	4
7	Total Asset Turn Over (TATO)	Total Revenue / Capital Employed x 100%	101.8 %	3	115.7 %	3.5	146.4 %	4	173.1 %	4	207.6 %	4
8	Ratio Total Equity and Total Assets (TE/TA)	Total Equity / Total Assets x 100%	49.7 %	5.5	49.4 %	5.5	52.5 %	5	59.3 %	5	66.3 %	4.5
	Total Score			41.0		38.0		35.0		46.0		47.0

Appendix

Appendix L-1 Breakdown of Personnel Cost (1/2) - Year 2007

	Job Title	Technical &	Water Services Division I			Water Services Division II				Sum	PNS	on PN	Basic	Work	Family	Additional of	Sub	Tax	Pension	Sub Total	Performance	Tax	Total	Health	Total/	Total/	Religious	Total salary+	Total salary+
		Adminstrative	Div Off. an	SubDiv I-1	SubDiv I-2	Division (	SubDiv II-1	SubDiv II-2					Salary	Allowance	Allowance	salary	Tota of		Allowance		Allowance			Allowance	month	year	Allowance	allowance/year	allowance/year
		Support	General Aff	Dam O&M	Upstream O&M		Weir O&M	R. Dam/L.S.O&M	Downstream O&M							improvement	salary								per person	per person	per person	per person	
	Location of premises ---->	Proyek Induk	Bili-Bili Dam			Proyek Induk																							
1	Head of Operations Directorate	1								1	1	0													11,538,000	138,456,000		138,456,000	138,456,000
2a	Head of Technical Bureau	1								1	1	0	572,550	3,000,000	100,000	300,000	3,972,550	198,628	141,236	4,312,413	750,000	37,500	5,099,913	44,000	5,143,913	61,726,956	3,972,550	65,699,506	65,699,506
2b	Head of Adm. & Finance Bureau	1								1	1	0	572,550	3,000,000	100,000	300,000	3,972,550	198,628	141,236	4,312,413	750,000	37,500	5,099,913	44,000	5,143,913	61,726,956	3,972,550	65,699,506	65,699,506
2d	Head of Water Service Division		1			1				2	1	1	572,550	3,000,000	100,000	300,000	3,972,550	198,628	141,236	4,312,413	750,000	37,500	5,099,913	44,000	5,143,913	61,726,956	3,972,550	65,699,506	131,399,012
3a	Head of Programm Section	1								1	1	0	512,600	2,160,500	80,000	300,000	3,053,100	152,655	124,446	3,330,201	550,000	27,500	3,907,701	44,000	3,951,701	47,420,412	3,053,100	50,473,512	50,473,512
3d	Head of Finance Section	1								1	1	0	512,600	2,160,500	80,000	300,000	3,053,100	152,655	124,446	3,330,201	550,000	27,500	3,907,701	44,000	3,951,701	47,420,412	3,053,100	50,473,512	50,473,512
3e	Head of General Affairs Section	1	1							2	1	1	512,600	2,160,500	80,000	300,000	3,053,100	152,655	124,446	3,330,201	550,000	27,500	3,907,701	44,000	3,951,701	47,420,412	3,053,100	50,473,512	100,947,024
3f	Head of Sub-Division			1			1			2	2	0	512,600	2,160,500	80,000	300,000	3,053,100	152,655	124,446	3,330,201	550,000	27,500	3,907,701	44,000	3,951,701	47,420,412	3,053,100	50,473,512	100,947,024
4a	Engineering Staff	1								1	1	0	376,330	667,000	40,000	297,037	1,380,367	69,018	87,429	1,536,815	250,000	12,500	1,799,315	44,000	1,843,315	22,119,776	1,380,367	23,500,143	23,500,143
4b	Water Quality Analyst									0	0	0	376,330	667,000	40,000	297,037	1,380,367	69,018	87,429	1,536,815	250,000	12,500	1,799,315	44,000	1,843,315	22,119,776	1,380,367	23,500,143	0
4d	Administration Staff	2								2	0	2	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	24,427,994
4e	Finance/Accounting Staff	1								1	1	0	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	12,213,997
4f	Computer Engineer									0	0	0	290,315	541,000	60,000	297,917	1,189,232	59,462	73,566	1,322,260	200,000	10,000	1,532,260	44,000	1,576,260	18,915,117	1,189,232	20,104,349	0
4h	Structual Engineer									0	2	-2	290,315	541,000	60,000	297,917	1,189,232	59,462	73,566	1,322,260	200,000	10,000	1,532,260	44,000	1,576,260	18,915,117	1,189,232	20,104,349	0
4i	Telecommunication Engineer			1						1	0	1	290,315	541,000	60,000	297,917	1,189,232	59,462	73,566	1,322,260	200,000	10,000	1,532,260	44,000	1,576,260	18,915,117	1,189,232	20,104,349	20,104,349
4k	Geologist									0	0	0	290,315	541,000	60,000	297,917	1,189,232	59,462	73,566	1,322,260	200,000	10,000	1,532,260	44,000	1,576,260	18,915,117	1,189,232	20,104,349	0
4n	Mechanical/Electrical Engineer (Staff)	1		0			0			1	2	-1	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	12,213,997
5a	Field Inspector/Warning Crew			1				0		1	0	1	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	12,213,997
5b	Spillway Spv & Gate Operator			4			6	4		14	0	14	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	170,995,961
5c	Telecommunications									0	0	0	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	0
6a	Mechanics									0	0	0	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	0
6b	Computer Operator/Typist	1	1	1		1				4	0	4	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	48,855,989
6c	Office Boy/Girl	1								1	0	1	148,730	313,000	20,000	265,000	746,730	37,337	35,433	819,500	100,000	5,000	924,500	44,000	968,500	11,621,998	746,730	12,368,728	12,368,728
6d	Security	[2]	[3]							0	0	0	148,730	366,500	35,000	218,966	769,196	38,460	38,583	846,239	100,000	5,000	951,239	44,000	995,239	11,942,869	769,196	12,712,065	0
6e	Drivers	2	1	2		2	1			8	0	8	148,730	366,500	35,000	218,966	769,196	38,460	38,583	846,239	100,000	5,000	951,239	44,000	995,239	11,942,869	769,196	12,712,065	101,696,522
6f	Sampling Staff									0	0	0	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	0
6g	Drafters									0	0	0	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	0
	TOTAL	15	4	10	0	4	8	4	0	45	15	30																	**1,142,686,773**

1	Total Salary + allowance	1,142,686,773	**Uniform**	person	unit price	total
2	Overtime (asummed is 5% of 1)	57,134,339	- Board of Commisioner	1	600,000	600,000
3	Uniform	12,425,000	- Director	1	600,000	600,000
4	Extra fooding	13,500,000	- Head of Bureau/Division	3	325,000	975,000
			- Employee	41	250,000	10,250,000
	Total Personnel cost	**1,225,746,111**		46		**12,425,000**

Appendix L-1 Breakdown of Personnel Cost (2/2) - Year 2011

	Job Title	Technical &	Water Services Division I			Water Services Division II				Sum	PNS	on PN	Basic	Work	Family	Additional of	Sub	Tax	Pension	Sub Total	Performance	Tax	Total	Health	Total/	Total/	Religious	Total salary+	Total salary+
		Adminstrative	Div Off. an	SubDiv I-1	SubDiv I-2	Division (	SubDiv II-1	SubDiv II-2					Salary	Allowance	Allowance	salary	Tota of		Allowance		Allowance			Allowance	month	year	Allowance	allowance/year	allowance/year
		Support	General Aff	Dam O&M	Upstream O&M		Weir O&M	R. Dam/L.S.O&M	Downstream O&M							improvement	salary								Per Person	Per Person	Per Person	Per Person	
	Location of premises ---->	Proyek Induk	Bili-Bili Dam			Proyek Induk																							
1	Head of Operations Directorate	1								1	1	0													11,538,000	138,456,000	0	138,456,000	138,456,000
2a	Head of Technical Bureau	1								1	1	0	572,550	3,000,000	100,000	300,000	3,972,550	198,628	141,236	4,312,413	750,000	37,500	5,099,913	44,000	5,143,913	61,726,956	3,972,550	65,699,506	65,699,506
2b	Head of Adm. & Finance Bureau	1								1	1	0	572,550	3,000,000	100,000	300,000	3,972,550	198,628	141,236	4,312,413	750,000	37,500	5,099,913	44,000	5,143,913	61,726,956	3,972,550	65,699,506	65,699,506
2c	Legal Advisor	1								1	1	0	511,500	1,740,000	60,000	300,000	2,611,500	130,575	120,015	2,862,090	540,000	27,000	3,429,090	44,000	3,473,090	41,677,080	2,611,500	44,288,580	44,288,580
2d	Head of Water Service Division		1			1				2	2	0	572,550	3,000,000	100,000	300,000	3,972,550	198,628	141,236	4,312,413	750,000	37,500	5,099,913	44,000	5,143,913	61,726,956	3,972,550	65,699,506	131,399,012
3a	Head of Program Section	1								1	1	0	512,600	2,160,500	80,000	300,000	3,053,100	152,655	124,446	3,330,201	550,000	27,500	3,907,701	44,000	3,951,701	47,420,412	3,053,100	50,473,512	50,473,512
3b	Head of HR Section	1								1	1	0	512,600	2,160,500	80,000	300,000	3,053,100	152,655	124,446	3,330,201	550,000	27,500	3,907,701	44,000	3,951,701	47,420,412	3,053,100	50,473,512	50,473,512
3c	Head of OM & Environment Section	1								1	1	0	512,600	2,160,500	80,000	300,000	3,053,100	152,655	124,446	3,330,201	550,000	27,500	3,907,701	44,000	3,951,701	47,420,412	3,053,100	50,473,512	50,473,512
3d	Head of Finance Section	1								1	1	0	512,600	2,160,500	80,000	300,000	3,053,100	152,655	124,446	3,330,201	550,000	27,500	3,907,701	44,000	3,951,701	47,420,412	3,053,100	50,473,512	50,473,512
3e	Head of General Affairs Section	1	1							2	2	0	512,600	2,160,500	80,000	300,000	3,053,100	152,655	124,446	3,330,201	550,000	27,500	3,907,701	44,000	3,951,701	47,420,412	3,053,100	50,473,512	100,947,024
3f	Head of Sub-Division			1	1		1		1	4	4	0	512,600	2,160,500	80,000	300,000	3,053,100	152,655	124,446	3,330,201	550,000	27,500	3,907,701	44,000	3,951,701	47,420,412	3,053,100	50,473,512	201,894,048
4a	Engineering Staff (2)	1								1	3	-2	376,330	667,000	40,000	297,037	1,380,367	69,018	87,429	1,536,815	250,000	12,500	1,799,315	44,000	1,843,315	22,119,776	1,380,367	23,500,143	23,500,143
4b	Water Quality Analyst / Hydrologist	1		1					1	3	0	3	376,330	667,000	40,000	297,037	1,380,367	69,018	87,429	1,536,815	250,000	12,500	1,799,315	44,000	1,843,315	22,119,776	1,380,367	23,500,143	70,500,428
4c	Survey & Equipment Staff	1								1	1	0	290,315	541,000	60,000	297,917	1,189,232	59,462	73,566	1,322,260	200,000	10,000	1,532,260	44,000	1,576,260	18,915,117	1,189,232	20,104,349	20,104,349
4d	Administration Staff (2)	2								2	0	2	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	24,427,994
4e	Finance/Accounting Staff	1								1	1	0	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	12,213,997
4f	Computer Engineer			1						1	0	1	290,315	541,000	60,000	297,917	1,189,232	59,462	73,566	1,322,260	200,000	10,000	1,532,260	44,000	1,576,260	18,915,117	1,189,232	20,104,349	20,104,349
4g	Public Relations Coordinator	1								1	0	1	376,330	638,000	50,000	300,000	1,364,330	68,217	89,529	1,522,076	250,000	12,500	1,784,576	44,000	1,828,576	21,942,910	1,364,330	23,307,240	23,307,240
4h	Structural Engineer	1		0	0		0		0	1	3	-2	290,315	541,000	60,000	297,917	1,189,232	59,462	73,566	1,322,260	200,000	10,000	1,532,260	44,000	1,576,260	18,915,117	1,189,232	20,104,349	20,104,349
4i	Telecommunication Engineer			1						1	0	1	290,315	541,000	60,000	297,917	1,189,232	59,462	73,566	1,322,260	200,000	10,000	1,532,260	44,000	1,576,260	18,915,117	1,189,232	20,104,349	20,104,349
4j	Soil Mechanic/Engineer				0					1	0	1	290,315	541,000	60,000	297,917	1,189,232	59,462	73,566	1,322,260	200,000	10,000	1,532,260	44,000	1,576,260	18,915,117	1,189,232	20,104,349	20,104,349
4k	Geologist	1			0					0	0	0	290,315	541,000	60,000	297,917	1,189,232	59,462	73,566	1,322,260	200,000	10,000	1,532,260	44,000	1,576,260	18,915,117	1,189,232	20,104,349	0
4l	Reforestation Specialist **[[for Dinas Forestry]]**									0	0	0	290,315	541,000	60,000	297,917	1,189,232	59,462	73,566	1,322,260	200,000	10,000	1,532,260	44,000	1,576,260	18,915,117	1,189,232	20,104,349	0
4m	Irrigation Engineer (Staff)						1			1	0	1	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	12,213,997
4n	Mechanical/Electrical Engineer (Staff)	1		0			0	0		1	2	-1	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	12,213,997
4o	Hydraulic Engineer								1	1	1	0	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	12,213,997
5a	Field Inspector/Warning Crew			1	1			0	1	3	0	3	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	36,641,992
5b	Spillway Spv & Gate Operator			4			6	4		14	0	14	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	170,995,961
5c	Telecommunications	0								0	0	0	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	0
6a	Mechanics	0								0	0	0	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	0
6b	Computer Operator/Typist	2	1	1	1	1			1	7	0	7	148,730	313,000	20,000	265,000	746,730	37,337	35,433	819,500	100,000	5,000	924,500	44,000	968,500	11,621,998	746,730	12,368,728	86,581,093
6c	Office Boy/Girl	2								2	0	2	148,730	366,500	35,000	218,966	769,196	38,460	38,583	846,239	100,000	5,000	951,239	44,000	995,239	11,942,869	769,196	12,712,065	25,424,130
6d	Security **[[subcontracted]]**	[3]	[6]							0	0	0	148,730	366,500	35,000	218,966	769,196	38,460	38,583	846,239	100,000	5,000	951,239	44,000	995,239	11,942,869	769,196	12,712,065	0
6e	Drivers	3	2	3	3	3	2			16	0	16	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	195,423,955
6f	Sampling Staff	2								2	0	2	192,470	313,000	20,000	201,778	727,248	36,362	44,619	808,229	100,000	5,000	913,229	44,000	957,229	11,486,749	727,248	12,213,997	24,427,994
6g	Draftsman **[[replaced by computer engineer]]**									0	0	0	0	-	-	-	0	0	0	0	-	0	0	0	-	0	0	0	0	0
		28	5	13	6	5	10	4	5	76	27	49																	**1,780,886,389**

1	Total Salary + allowance	1,780,886,389	**Uniform**	person	unit price	total
2	Overtime (asummed is 5% of 1)	89,044,319	- Board of Commisioner	1	600,000	600,000
3	Uniform	20,250,000	- Director	1	600,000	600,000
4	Extra fooding	14,700,000	- Head of Bureau/Division	4	325,000	1,300,000
			- Employee	71	250,000	17,750,000
	Total Personnel cost	**1,904,880,708**		77		**20,250,000**

Board of Commissioner cost (1 person)

		unit	price	total
1	Salary	12	4,487,000	53,844,000
2	Duty travel (Makassar - Jakarta)	(round-trips and 1 day)		
	a. Transportation	12	1,700,000	20,400,000
	b. Hotel	12	500,000	6,000,000
	c. Daily allowance	24	200,000	4,800,000
				85,044,000

Appendix L-2 Breakdown of Travelling Cost

(X 1000 Rp)

I	First 2 years			Unit	
No.	Personnel/Destination	Personnel	Frequency	Price	Total
1	Head of Operations Directorate				
	a. Jakarta	1	12	3,100.00	37,200.00
	b. Head Office	1	18	2,400.00	43,200.00
	c. Working area	1	24	40	960
2	Head of Division				
	a. Jakarta	2	4	2,600.00	20,800.00
	b. Head Office	2	24	2,000.00	96,000.00
	c. Working area	2	24	30	1,440.00
	Subtotal	9			199,600.00
3	Head of Sub Division/Section				
	a. Jakarta	3	2	2,600.00	15,600.00
	b. Head Office	3	4	2,000.00	24,000.00
	c. Working area	3	36	30	3,240.00
4	Experts & Staff				
	a. Jakarta	4	1	2,000.00	8,000.00
	b. Head Office	8	4	1,600.00	51,200.00
	c. Working area	30	24	20	14,400.00
5	Driver				
	c. Working area		900	10	9,000.00
	Total per year				**325,040.00**

II	After 5th year			Unit	
No.	Personnel/Destinatio	Personnel	Frequency	Price	Total
1	Head of Operations Directorate				
	a. Jakarta	1	12	3,100.00	37,200.00
	b. Head Office	1	12	2,400.00	28,800.00
	c. Working area	1	24	40	960
2	Head of Division/Bureau				
	a. Jakarta	5	4	2,600.00	52,000.00
	b. Head Office	5	12	2,000.00	120,000.00
	c. Working area	5	24	30	3,600.00
	Subtotal	18			242,560.00
3	Head of Sub Division/Section				
	a. Jakarta	9	2	2,600.00	46,800.00
	b. Head Office	9	3	2,000.00	54,000.00
	c. Working area	9	36	30	9,720.00
4	Experts & Staff				
	a. Jakarta	9	1	2,000.00	18,000.00
	b. Head Office	19	2	1,600.00	60,800.00
	c. Working area	53	24	20	25,440.00
5	Driver				
	c. Working area		1,740.00	10	17,400.00
	Total per year				**474,720.00**

2	Travelling	Ticket	hotel	days	total
a.	Head of Operations Directorate				
	Makassar - Jakarta	1,700,000	500,000	2	3,100,000
	Makassar - Head offic	1,500,000	250,000	2	2,400,000
	Working area				40,000
b.	Head of Bureau/Division				
	Makassar - Jakarta	1,500,000	400,000	2	2,600,000
	Makassar - Head offic	1,200,000	250,000	2	2,000,000
	Working area				30,000
c.	Head of Sub Division/Section				
	Makassar - Jakarta	1,500,000	400,000	2	2,600,000
	Makassar - Head offic	1,200,000	250,000	2	2,000,000
	Working area				30,000
d.	Expert/Staff				
	Makassar - Jakarta	1,200,000	300,000	2	2,000,000
	Makassar - Head offic	1,000,000	200,000	2	1,600,000
	Working area				20,000
d.	Driver				
	Working area				10,000

Appendix L-3 Initial Mobilization Cost

	Description	Unit	Q'ty	Unit Price (1000Rp.)	Amount (1000Rp.)	Remarks
1	Direct Personnel Cost					
	(Personnel who will be assigned to Corporation)					
	(1) Director (1)	M/M	12	11,538	138,456	
	(2) Head of Technical Bureau (1)	M/M	12	5,475	65,700	
	(3) Head of Administration & Finance Bureau (1)	M/M	12	5,475	65,700	
	(4) Head of Water Service Division (2)	M/M	12	5,475	65,700	
	(5) Head of Finance Section (1)	M/M	9	4,206	37,855	
	(6) Head of General Affairs Section (1)	M/M	9	4,206	37,855	
	(7) Head of Program Section (1)	M/M	9	4,206	37,855	
	(8) Staff (7)	M/M	60	1,018	61,070	
	(Specialist for Establishment)					
	(9) Legal Advisor (1)	M/M	6	3,691	22,144	
	(10) Public Relations Coordinator (1)	M/M	6	1,942	11,654	
	(Supporting Staff)					
	(11) Drivers, securities and secretaries (5)	M/M	60	1,018	61,070	
	Sub-total				605,058	See Note below
2	Labor Cost					
	Temporary employment of labors for field survey	man/day	100	17	1,680	
	Sub-total				1,680	
3	Materials and Supplies					
	(1) Stationaries and office supplies	month	12	3,000	36,000	
	(2) Consumables	month	12	3,000	36,000	
	(3) Miscelleneous (20%)	LS			14,400	
	Sub-total				86,400	
4	Equipment Cost					
	(1) Vehicle running cost	car/day	48	100	4,800	4 cars x 12 months
	(2) Computer running cost	No./mo.	60	100	6,000	5 No. x 12 months
	(3) Miscelleneous (20%)	LS			2,160	
	Sub-total				12,960	
5	Duty Trip and Field Allowance					
	(1) Duty Trip					
	Duty trip to Jakarta					
	- Travel Cost	No.	10	1,500	15,000	
	- Perdiem and lodging	day	30	550	16,500	
	Duty trip to Malang					
	- Travel Cost	No.	20	1,200	24,000	
	- Perdiem and lodging	day	60	400	24,000	
	(2) Introductory Training in Malang					
	- Travel Cost	No.	30	1,200	36,000	10 managers+20 staff
	- Perdiem and lodging	day	700	400	280,000	10x10days+20x30days
	(3) Field Allowance					Work outside Makassa
	Field allowance for staff	M/D	1000	30	30,000	
	Field allowance for drivers	M/D	500	10	5,000	
	Lodging allowance	M/D	20	200	4,000	
	Miscellaneous (20%)				7,800	
	Sub-total				442,300	
6	Other Direct Costs					
	(1) Report printing cost	LS			10,000	
	(2) Leaflets for public relation	LS			10,000	
	(3) Office running cost (electricity, communicatio, etc.)	month	12	5,000	60,000	
	(4) Meeting and socialization cost	month	12	5,000	60,000	
	(5) Miscellaneous (20%)				28,000	
	Sub-total				168,000	

Appendix L-3 Initial Mobilization Cost

		Description	Unit	Q'ty	Unit Price (1000Rp.)	Amount (1000Rp.)	Remarks
7		Procurement of Works, Equipment and Supplies					
	(1)	Office set-up at PIPWS Emmy Salaen					
		- Repair and reform of building	LS			300,000	
		- Air conditioners	No.	10	4,000	40,000	
		- Office furnitures	LS			100,000	
		- Other various supplies (20%)				88,000	
		Sub-total				528,000	
	(2)	Procurement of equipment (purchase partly at beginning and partly at end of the year)					
		- Vehicles	No.	10	250,000	2,500,000	
		- Computers, type-1	No.	5	10,000	50,000	
		- Computers, type-2	No.	10	5,000	50,000	
		- Printers	No.	2	15,000	30,000	
		- Copy machines	No.	2	40,000	80,000	
		- Other miscellaneous equipment (10%)				271,000	
		Sub-total				2,981,000	
		Total				**4,825,398**	Incl. personnel cost
						4,220,340	Excl. personnel cost

Note: It is assumed that personnel cost during mobilization period would be born by the Government

Supporting Report M

HUMAN RESOURCES DEVELOPMENT

Supporting Report M

HUMAN RESOURCES DEVELOPMENT

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Supporting Report M

HUMAN RESOURCES DEVELOPMENT

M1 Introduction

This Supporting Report M summarizes existing human resource development (HRD) programs in Central and Regional Government, and the Jasa Tirta Corporations (PJTs). It also proposes (i) an HRD framework for PJT Jeneberang to deal with the routine training and development of PJT Jeneberang employees and (ii) the establishment of this function, whether in PJT Jeneberang or in the parent PJT I in Malang. It is not concerned with the initial capacity development of the Corporation as a whole, which is described in Supporting Report N.

M2 Existing HRD Programs

The Study Team did not find evidence of a coherent HRD program for permanent government employees (PNS) in the water resources (WR) sector. However, within the PJT Corporations the process for assessing staff and arranging staff training appears to be systematic and probably effective, and Kimpraswil runs a number of training courses in various aspects of water resources management (WRM). In addition, there is the core HRD program for Civil Servants (referred to in the next sub-section) which is thought by some to have little direct relevance to WRM. This section briefly surveys the present position. Also included is a summary of some HR aspects of the implementation of PJT I Bengawan Solo, because of its relevance to the Jeneberang corporatization.

M2.1 Central and Regional Government

The core HRD program (equivalent to Training and Education) for Civil Servants in Indonesia is specified in Government Regulation No. 101 of 2000. The Program comprises three sub-Programs: for Leadership, Functional Positions and Technical Positions. Each sub-Program has four levels or echelons from I to IV, which correspond broadly to structural positions in the Civil Service.

A quantitative assessment of this Program performed in 2001, found that:

(i) A massive variation in utilization of trainers (the lowest was 2%) existed between the 95 central and regional government agencies and State-owned enterprises (SOEs) reviewed;
(ii) Most education / training "interventions" involved more than 25 persons;
(iii) Many interventions did not have clear objectives and intended outcomes;
(iv) Only 1% of interventions focused on "training of trainers";
(v) Provincial training was focusing not on capacity building (technical and functional training) in the context of decentralization but on pre-service and structural training.

As already mentioned, this Program is seen by some to be not directly relevant to the work of regional WRM managers and technical staff: the reason may be item (v) above.

It is not known whether the position has improved since 2001. Lessons for PJT Jeneberang training include the need for: small classes, clear objectives and intended outcomes, a greater stress on training trainers, and more technical and functional education and training at the province level.

The low level of technical and functional education and training at provincial level is surprising when this type of training is, in general, the responsibility of sectoral ministries.

In the housing, water and urban / rural development sector, Kimpraswil held 299 training courses in 2003 for 24,042 employees of which 49 courses (16% of total) and 1,347 employees

(6% of total) were for the WR sector[1]. Purely in terms of numbers of organizational groups, the ratio of WR courses to total courses appears reasonable.

M2.2 PJT Corporations

(1) PJT I – Brantas

PJT I employs two methods of human resource development (HRD): in-house training and external courses. A combination is often used whereby a person who has been trained externally returns to train PJT I staff in-house.

Every year, each PJT I unit is said to review the training needs of its staff and to select individuals for specific types of training according to a standard procedure. Successful applicants are placed in a one-year program of internal and external training according to availability of courses and within budget limits. Such training can be given at any staff level from senior management down. Training facilities used can be in Malang, Surabaya, Jakarta and overseas, although most training is provided in Surabaya. About 200 staff (40% of total) are said to receive some sort of training, internal or external, every year.

(2) PJT I – Bengawan Solo

Senior staff for the Bengawan Solo directorate were selected and appointed from the Bengawan Solo River Basin Development Project (Proyek Induk Pengembangan Wilayah Sungai (PIPWS) Bengawan Solo), the project work of which is reducing. These people, after the necessary permission from DGWR had been obtained, are understood to have been selected by PJT I with input from the Ministry of State Owned Enterprises (MSOE). This joint selection process meant that PJT I did not get all the staff they wanted from those who applied to transfer, particularly in the upper echelons. (This situation should not be repeated in the case of the Jeneberang River basin. It is particularly important that the Director and heads of divisions and bureaus should be selected and appointed with the full agreement of the PJT I Board of Directors (BOD). In addition, it should be made clear to these senior staff that, even if appointed by top level Ministry officials, they are to work according to the responsibilities and authorities delegated by the PJT I BOD. If this is not the case in every detail, PJT I BOD cannot be held responsible for any weaknesses in the performance of PJT Jeneberang.)

The implementation of the Bengawan Solo Directorate is said by PJT I to have been difficult and time consuming for PJT I senior staff. Intensive training was needed at all levels: initially one month on-the-job (OTJ) training in Brantas basin for lower level staff, operating infrastructure for example, and two weeks OTJ training for middle level staff, plus additional time for induction. Considerable PJT I management time was spent in supervising activities in Bengawan Solo and in traveling.

[1] 29 of these courses were concerned with irrigation

The implementation of technical, financial and administrative systems and procedures proved a complex and onerous process. A PJT I Brantas accountant is currently working for PJT I Bengawan Solo and, according to PJT I, is likely to remain there.

Systems and procedures were transferred gradually over a period of two years according to carefully calculated priorities. All those to be transferred have now, it is understood, been transferred even though not yet fully applied.

The retraining of older staff, especially within the more competitive and cost conscious environment of a PJT, proved one of the more arduous tasks for the existing PJT I management. For Jeneberang and other new corporations, this experience should provide valuable lessons: in particular the need to appoint only staff of the appropriate age, caliber and motivation. If this requirement is not met, a huge and largely unnecessary burden is placed on the PJT responsible for training and development.

(3) PJT II

Each year every PJT II unit is said to review (through unit heads) the training needs of its staff and to select individuals for specific types of training according to a standard procedure. Successful applicants are placed in a one-year program of internal and external training according to availability of courses and within budget limits. Such training can be given at any staff level.

M3 HRD Framework Proposed for PJT Jeneberang

In this section a routine human resources development (HRD) framework for PJT Jeneberang is outlined. The maximum account has been taken of existing and suitable training and development programs in both the Civil Service and PJT I.

It is assumed that staff have already been selected and recruited according to the numbers and jobs required by present workload, and strictly according to individual job descriptions and employee specifications (see Table M2.1 for a proforma job description / employee specification). Each member of staff should be provided with a well prepared job description / employee specification. These will have been prepared by management well before start-up and should be regularly updated to take account of changes.

M3.1 Human Resources Development (HRD) Defined

HRD comprises both training and development and these are defined here.

Training, in both formal and ad hoc forms, should take place continually in any organization and involves everyone in management or supervisory positions. Training aims to improve specific knowledge or skills and will show benefits in the short term. Training may also be unconsciously given, for instance, by personal example.

Development, on the other hand, is a more fluid concept than training and has a longer term horizon. It emphasizes personal "growth" of employees and improvement of their "potential" to move towards promotions and preparation for (higher) management positions. Therefore development concentrates on general rather than specific skills, such as leadership skills, self-awareness, confidence, and writing skills. It may also include exposure to techniques of goal-setting, policy and procedure development, communication and motivation.

Development can be oriented to the individual ("personal development") or to groups of employees ("team development") to work together effectively in teams.

Continuous development, or training and development throughout working life is now needed to deal with continuous change experienced almost everywhere. Knowledge and skills acquired must be frequently updated to match changing needs.

M3.2 HRD Policy

A statement of policy on HRD for PJT Jeneberang will be needed[2]. Such a policy should include statements on:

[2] It is hoped that PJT I's present attitude to training and development of staff is not a reflection of the space devoted to it in the 2004-2006 Work Agreement between PJT I and the two staff unions. In this Agreement, there are four short uninformative clauses dealing with "Education, Advancement and Training/Skills". It is instructive to compare this entry with the space devoted to discipline, penalties and dismissal: some 5 pages or 10 times the quantity of text.

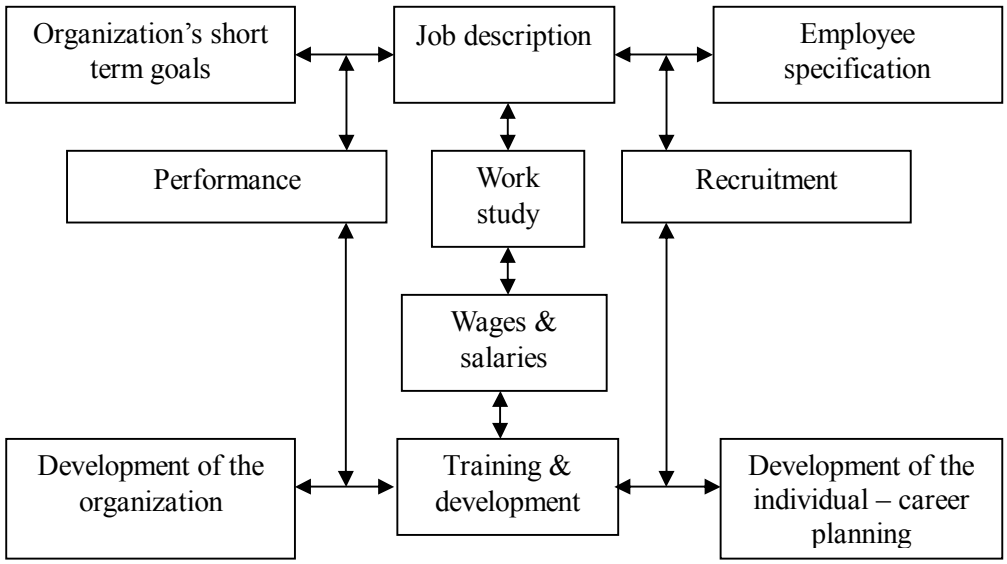
(i) Corporate commitment to continuous development of staff;
(ii) Self-development is a responsibility of every member of staff;
(iii) Corporate commitment to staff appraisal, to recognize and reward improved performance, and to use enhanced skills operationally;
(iv) Methods of communication of corporate aims and objectives to all staff;
(v) Agreed procedures for performance appraisal;
(vi) Options, procedures and processes for career development and progression;
(vii) Facilities provided for learning during work time, including paid or unpaid leave for this purpose.

Top management in PJT I and in PJT Jeneberang must be committed to HRD policy and should request and be given feedback on its implementation. The policy document and its implementation should be regularly discussed with workforce representatives.

As far as can be determined, PJT I has no such policy document. There are, however, some policy statements within the General Procedure for Training (QP/PJT/07) although not identified as such.

M3.3 Training, Development and HR Planning

The role of training and development in the objectives and plans of PJT Jeneberang within PJT I is roughly illustrated by the following diagram:



The diagram shows that HRD should be central to PJT Jeneberang's development especially in the early years. This has been well illustrated in the Bengawan Solo River basin over the past two years. Information required from those responsible for HR planning includes: staff numbers, qualifications, skill levels and locations. This is then related to details of the organization's future requirements to show needs for recruitment as well as training and

development planning. By including training in HR planning the lack of suitable staff to recruit from elsewhere can, to some extent, be overcome.

Training is directly linked to organizational development, promotion and career structure, succession planning, job evaluation and salary structure.

M3.4 Identifying Training Needs

Training needs can be *reactive* (e.g. to correct substandard performance) or *proactive* (to prepare employees for new or changed work). In retraining, the two types of needs can coexist.

Reactive training is the identification of existing weaknesses and reacting to remedy them. These weaknesses prevent the achievement of objectives and can be identified by various symptoms, such as output problems, poor quality control, high labor turnover, absenteeism, accidents, grievances, interpersonal conflict, customer complaints, ineffective use of staff specialists, poor supervision and management practice, misunderstood or unknown objectives, and others. (These symptoms may, of course, require solutions other than training.)

Proactive training is the preparation of employees to handle expected future changes, both inside and outside the organization. This is usually, but not always, a longer term matter, more oriented towards development. Changes that may require a proactive training response include: product type and demand (e.g. in PJT Jeneberang, the development of non-water business to generate more net revenue), work processes and procedures, technology, legislation, financial factors, political issues, and business expansion or contraction.

Alternatives to training should always be considered, such as better (more appropriate) recruitment, staff movement, counseling and job redesign.

Training needs of all employees should be regularly assessed (against job and career requirements), from their appointment onwards, using standard TNA procedure (outlined in the next section). Occasionally, a needs survey should be carried out for special purposes, e.g. to identify particular industrial relations or leadership problems.

Once training needs have been determined, one or more training programs should be identified each with a series of objectives. Objectives should be realistic, measurable and specific, and be communicated to trainees.

M3.5 Assessing Training Needs

To determine the training needs of employees[3], data must be collected on both the present position and the required position. Techniques for collecting such data include:

[3] At all levels in the organization.

(i) Formal or informal interviews with the employee or (if being done by a third person such as a HRD specialist) with the supervisor or his / her manager as well;
(ii) Observation of employees on-the-job training, if necessary using work study techniques and output produced;
(iii) Training and development needs questionnaires or surveys directed to employees themselves (self-assessment);
(iv) Analysis of critical incidents, accidents or breakdowns from records;
(v) Examining the job description / employee specification or other relevant documents to determine what is required of the employee;
(vi) Examining performance appraisal forms or other output documents to determine the actual performance of the employee, in specific areas if possible.

To assess the employee's training needs, the following steps should be taken:

(i) Forecast any changes in the job, e.g. its design, content, demands or technology;
(ii) From the data collected, determine the essential and desired knowledge, skills, behavior and attitudes for proper execution of the employee's job;
(iii) Assess the current situation, e.g. the actual levels of knowledge, skills, experience, attitudes and behavior;
(iv) Identify deficient areas in each of the areas in (iii) immediately above, and prioritize.

Where deficient areas are revealed by this process, the next step is to determine whether training is the most appropriate means of correcting them.

M3.6 Designing or Choosing Training Programs and Selecting Staff

Where possible, training needs would be met by established programs, either already in-house or externally provided. Staff should be selected for training according to agreed and objectively applied criteria, including an assessment for "trainability". Care is needed to ensure that internal and (especially) external training is responding to identified needs. Checklists and guidelines should be used when either designing or choosing programs or courses "off the shelf".

M3.7 Instruction Methods

Off-the-job or classroom training in-house should be undertaken (i) bearing in mind the five learning stages (taking in, holding on, storing, retrieving and using), (ii) according to well-established guidelines, and (iii) ensuring the use of techniques to motivate trainees, reinforce learning, and give feedback to trainees on their performance.

On-the-job training can be handled in several ways. The "on-the-job presentation" is more suitable when only a few employees are involved and tasks are relatively simple; employees can practice immediately in the trainer's presence and this promotes feedback and discussion.

Programmed instruction replaces a "live" trainer with a written set of instructions, programs and information modules, although a trainer may be present. The trainee then works through the written material and that is the training process. There are many variants for this widely used type of training, for example:

(i) With or without the presence of a trainer,
(ii) In groups of trainees or individually,
(iii) Audio-, video-, or computer-based training.

Careful preparation of material, pilot testing and adequate supervision of the training process are vital for success.

M3.8 Evaluating Training and Development

Training and development should be cost-effective: investment costs should be balanced by the benefits of improved performance. The implication for trainers is to devise objective measures of the results of training (increased productivity, better output quality, changes in behavior and so on). These should be established before course delivery and rigorously applied after training is complete.

M3.9 Training Administration

The quality of the trainer both as preparer of training materials and as presenter is the main determinant for a successful training module, course or program. Good personal and inter-personal qualities are also important. Trainers may be full time professionals or capable line managers or other staff co-opted for the course or program in hand: there are arguments for both arrangements. PJT I, which will be largely responsible for managing HRD in PJT Jeneberang, is understood to adopt the second arrangement. However, those part-time trainers who show aptitude tend to spend more of their time as trainers.

Supervisors and managers, even if not undertaking training themselves, would be involved in such tasks as: assessment of training needs of their staff, assisting with course selection and design, motivation and encouragement of employees to undergo training, evaluating results of training, and employee counseling. This implies that supervisors and managers should themselves be trained in these skills.

HRD planning and execution can only be effective if a functional HR (training and development) information system exists. The HR database (which would include comprehensive data on employees and education / training resources), must be accurate, up-to-date and able to provide information quickly when needed.

M3.10 Employee Development

The "development" of employees as defined in section M2.1 above is a complex subject and outside the scope of this report, though included in the title of this Supporting Report M. The

main feature of such development is that the impetus should originate from the person concerned rather than the organization. The role of management is therefore to encourage employees to develop themselves both in the job and outside it, providing information, appraisals, feedback, facilities and a "climate" that favors employee self-development.

M4 Existing Manuals and Guidelines for HRM in WRM Agencies Relevant to the Jeneberang River Basin

This section reviews existing manuals and guidelines for human resource management[4] (HRM) in agencies either operating now in the Jeneberang River basin or that will operate there as part of the PJT Jeneberang. This section focuses primarily on PJT I data, because this data is more relevant to the new corporation. Information on existing documentation of technical, financial and administrative systems and procedures is provided in Supporting Reports E (technical) and J (financial).

M4.1 Central Government

The foreign-funded Proyek Induk PWS Jeneberang, responsible for developing (and currently operating and maintaining) river infrastructure in the JRB, was set up under the jurisdiction of Central Government (Kimpraswil). Therefore the project follows central government systems and procedures, although currently South Sulawesi (SS) Dinas PSDA shares the management of the Project with Kimpraswil.

The "institutional" guidelines and manuals employed by Proyek Induk are said to be limited to:

(i) The Ministerial Decree 110/KPTS/D/2002 which lists main tasks for each subproject group[5] and the support groups responsible for planning, technical and administrative services. There are no job descriptions for individual managers and employees;
(ii) Two slim volumes explaining criteria and procedure for grading jobs in all Government projects;
(iii) Two volumes (Books I & II) titled "State Administration System in the Indonesian Republic". These apparently explain the national system of training and examining Government employees, and are said by some to have little practical relevance to the day-to-day tasks to be undertaken by JRBDP staff (but see comment in section M2.1 above).

M4.2 Regional Government

Taking the South Sulawesi Dinas PSDA as the representative WRM body at provincial level, the institutional and administrative (that is, non-technical and non-financial) work of the Dinas PSDA is said to be specified partially in various documents including:

(i) Governor's Decree No. 214/2001 establishing the Dinas PSDA;
(ii) Individual job descriptions based on the above decree are said to be established for most sub dinas and the Administration Division;

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[4] Human resource management (HRM) = human resource development (HRD) + personnel (or HR) administration.
[5] PPSA = Proyek Pengembangan & Pengelolaan Sumber Air (Project Development & Management): includes watershed management and water resource conservation.
PAB = Proyek Penyediaan Air Baku (Raw Water Supply)
PBPP = Proyek Pengendalian Banjir & Pengemanan Pantai (Flood Control & Coastal Protection)

(iii) Procurement procedure is specified in a separate President's Decree No. 80/2003 that applies to all Government agencies;
(iv) Inventory control is specified in the National Treasury Inventory System (IKMN) and is applied to all Government units;
(v) Forms used for other personnel or administrative tasks usually lack supporting manuals, for example, performance evaluation which is said to be done annually.

At kabupaten level, assuming Kabupaten Gowa to be typical, there are said to be no procedure guidelines or manuals for institutional and administrative systems and procedures. Relevant regional (provincial and kabupaten) regulations are said to be the main documented source of such information.

M4.3 PJT Corporations

(1) PJT I

While most organizational and human resource management (HRM) systems and procedures are fairly well documented in instructions, these are not normally organized into formal manuals.

The current position is analyzed in Table M3.1. This table shows:

(i) The normal subject areas for policies and procedures in the management of organization and human resources, together with the main content of each required procedure (in column 2);
(ii) The present availability of PJT I documents describing the procedure and the present information produced (e.g. present salary scales, terms of employment and so on) (in column 3);
(iii) The content of the PJT I documents identified in (ii) (in column 4);
(iv) Comment on the procedure document(s) and, in particular, whether or not a detailed written procedure exists suitable for staff training purposes (in column 5),
(v) A rough assessment of the effort required to transfer the documentation to the Jeneberang River basin (no change; relatively easy; relatively difficult; new document(s) required) (in column 6). Two figures are sometimes given for the assessment: the first assumes no improvement to existing PJT I documentation; the second estimates the work needed to upgrade documents, usually to include a detailed written procedure showing "how to" undertake the given task. If the decree, procedure or guideline will not be transferred to PJT Jeneberang, this also stated.

The Study Team considers that the documented procedures (ISO and non-ISO) included in Table M3.1 which will be transferred to PJT Jeneberang are sufficiently detailed to act as training aids, as long as they are supplemented with trainers in the early operational stages of PJT Jeneberang's start-up. Training should be given by classroom lectures, exercises and tests initially *before* operations formally begin, and by on-the-job training once PJT Jeneberang is operational. All routines that have to be frequently repeated should be specified by detailed

instructions and flow charts, and there should be a set of policy statements for each procedure, not the case at present.

Most instructions are given in PJT I Directors' Decrees, PJT I Regulations, procedure statements, and guidelines. There is one Internal Training Manual - Guide and Syllabus (Pedoman Pelatihan Internal) which lists a selection of subjects under different headings for training employees but contains no reference material to be actually delivered by the trainer. Individual trainers (who are normally line managers or supervisors acting as part-time trainers) are required to prepare their own material which may or may not be available for subsequent trainers to use.

Job descriptions and employee specifications (JDESs) have recently been prepared for every head of division, bureau, sub-division and section in PJT I, including PJT Bengawan Solo. These are not prepared according to normal practice, in the opinion of the Study Team, but can still be used as a guide by job holders as they contain some of the information needed. (A proforma job description and employee specification can be found in Table M2.1) However, apart from the unusual layout, the responsibilities listed in the JDESs are not sufficiently detailed, and there are no limits to financial and other authorities provided. Some financial limits for procurement are stated in a separate PJT I Directors' Decree, and other decrees state other authorities such as for signing documents, issuing technical and other statements. Finally, there should be a JDES for the PJT Jeneberang Operations Director (a draft JDES can be found in Table M2.2).

Other procedures, as PJT I has acknowledged, are not fully documented. These include:

(i) Personnel records and management information (more user-friendly guidance is needed than the operating instructions for the computerized system);
(ii) Criteria and procedure for outsourcing staff;
(iii) Processing (honorable) leavers (although this is referred to in the Work Agreement).
(iv) The systematic assessment of training needs.

In addition:

(v) As already mentioned, there should be more comprehensive training reference material than is provided in the Pedoman Pelatihan Internal. This would be a longer term project and would need detailed contributions from the relevant trainers;
(vi) Comprehensive written procedures could not be located for (a) staff planning and budgeting, (b) operating the salary and allowances system (although some procedures exist in the General Guideline on Salary System), (c) no specific procedure for preparation/maintenance of policies and procedures (although QP/PJT/02 specifies the control of documents in general), and (d) no specific procedure for maintenance of terms and conditions of employment;

A more exact statement of actions considered necessary, both for PJT Jeneberang and PJT I as a whole, appears in Section M4 below.

(2) PJT II

Organization structure and unit functions and tasks are specified in the relevant Directors' Decree, No. 1/425/KPTS/2001.

Manuals and more detailed work instructions are said to be available for most administrative systems and procedures, including human resource development. One or two work instruction samples in Indonesian language were shown to the Study Team and the format examined.

M5 Manuals and Guidelines Proposed for PJT Jeneberang

Section M3.3(1) above outlines and broadly assesses the organizational and HRM procedures that are currently documented in PJT I and identifies those that are not. It also makes the general point that existing written procedures could be used as training aids, but that none could be used on their own as stand alone training documents. They should be supplemented by some trainer support, at least in the early stages. These could be used in PJT Jeneberang with little or no modification.

M5.1 Transfer of Procedures to Jeneberang

It is estimated that the following organizational and HRM procedures will be progressively transferred to PJT Jeneberang during the last 6 months of 2006 and the first year after the start of operations at the beginning of 2007. They will be documented in PJT I Director Decrees, procedure statements and associated guidelines and manuals:

(i) Some staff planning and budgeting, to be performed by managers;
(ii) Staff recruitment and placement; processing leavers;
(iii) Recording / calculating work time for paying employees (Note that all job evaluation, grading, pay scale creation / operation, allowances / benefits operation, computation of monthly pay, and pay accounting, will be done in Malang, at least for the first two years);
(iv) Creating / maintaining personnel records and management information;
(v) Assessment of staff for training; identification / proposal of staff for training in PJT I or externally; on-the-job training;
(vi) Staff performance appraisal and recommendation for promotion;
(vii) Disciplining and recommending employees for dismissal;
(viii) Processing staff applications for holidays and special leave;
(ix) Outsourcing staff;
(x) Health and safety precautions (Note that health insurance will be arranged in Malang).

PJT Jeneberang's operations, accounting and administration will be monitored and evaluated from Malang (by the Internal Audit Unit). This will be done in PJT Jeneberang with the collaboration of the Head of Administration and Finance Bureau for non-technical matters, and Head of the Technical Bureau for technical matters.

M5.2 Recommendations Regarding Procedures to be Transferred

Of the above ten groups of procedures, the following are considered to need more comprehensive explanatory documentation (procedure descriptions and flow charts) than is currently available:

(ii) Processing leavers;
(iv) Creating and maintaining personnel records, and use of management information;
(v) Assessment and identification of staff for training; guidelines for on-the-job training;
(ix) Outsourcing staff.

There should be a set of policy statements for each documented procedure. Policy statements are guides to decision-making and should provide the background, general intention, context and rationale for the procedure.

Job descriptions and employee specifications (JDESs) for all posts identified in the PJT Jeneberang start-up organization (see Supporting Report I) should be prepared based on the proforma document in Table M2.1 and the draft JDES shown in Table M2.2.

In addition as mentioned above, more detailed training reference material is considered necessary for consistent quality and relevance in training delivery.

M5.3 PJT I Contract Team Response to Study Team Requests

The PJT I contract team have responded after being notified of the Study team's requests and suggestions, reproduced above in sections M3.3(1) and M4.2 above. The PJT I team's responses were that:

(i) The (very large) electronic file of the personnel record system, up to now, inaccessible, would reveal a missing procedure for non-technical users of the system (*Study team reaction: wait for missing procedure*);
(ii) Procedure for outsourcing personnel is adequately covered by two documents, Director Administration & Finance Letter No. KP.001/SPPH/DA/2003, and Director Administration & Finance Official Memo Number KP.047.1/MD/UM/DA/2003 *(Study team reaction: one written procedure is better than two other dissimilar documents which do not address the wider issue of criteria for outsourcing / subcontracting personnel);*
(iii) Termination of Work Relation for non-permanent personnel is regulated in the Work Agreement Letter (SPK) Article 3 on Work Relation *(Study team reaction: this needs to address all employee and if there is a procedure for recruitment, why not for leavers?)*.

The PJT I Team also made several commitments as follows:

(iv) To formulate upcoming training material for HR more systematically *(Study team reaction: not understood)*
(v) Internal Training Manual will be formulated in more detail referring to Positional Competence *(Study team reaction: PJT I should commit to providing detailed reference notes for each training session)*;
(vi) Existing job descriptions will be revised according to the Study team's suggestions;
(vii) Each procedure and manual guideline will be completed with a preface that explains the policy for the issuance of the procedure / manual;
(viii) Existing written procedures (staff planning and budgeting, salary and allowances (remuneration) system, preparation / maintenance of policies / procedures, periodic employee health condition medication) will be improved *(Study team reaction: Only the first of these is a priority item as the remainder are not being transferred to PJT Jeneberang)*.

All procedural instructions should be prepared in a standard format and should be placed in a loose leaf ring binder manual dedicated to HRM work. Similar binders would be needed for financial / administrative and technical procedures.

M6 Capacity Development

As part of a contract "to prepare a financial management system and related procedures" for PJT Jeneberang, PJT I delivered a 5-day course on "Institutional and Human Resources Management" at the beginning of November 2004[6]. The 12 participants were all employees of the PIPWS Jeneberang project which is expected to provide most, if not all, of the staff for PJT Jeneberang.

The course material included:

(i) The PJT I organization and its relationship with the Jeneberang River basin;
(ii) Corporate Regulations, the Joint Work Agreement with the two Staff Unions, and the standing of the Staff Unions within PJT I;
(iii) Employee status and its definition; establishment planning; employee recruitment; rights of the employee and PJT I;
(iv) Employee compensation: salary system; calculation of employee compensation; merit payment system; employee assessment;
(v) Career enhancement: career levels from recruitment to pension; education advancement; competence standard;
(vi) Employee training; training requirements and procedure;
(vii) Employee discipline: obligations and prohibitions; penalties;
(viii) Workers' Insurance;
(ix) Employee severance: types of, procedures for and compensation pay;
(x) Work safety and health.

This course seemed a useful introductory overview to the PJT I HRM system. It should be repeated about one year later to staff who have been selected for specific positions in PJT Jeneberang, after the legal establishment of PJT Jeneberang and at the beginning of a period of preparation for the start of operations.

More intensive training and development is scheduled for the second half of 2006, sufficiently close to the start of operations to be still familiar when PJT Jeneberang managers and staff begin to undertake actual work procedures. Some on-the-job training is also planned for the first quarter of 2007.

The objective of this training would be to educate the PJT Jeneberang managers and lone member of the HR Section in the basic skills, documentation and procedures of HRD. At the end of the class work and practical exercises, managers should have a detailed understanding of the all important aspects of HRD and their central role in it, be able to draft HRD policies (which they will do), outline training syllabuses and programs. At the end of the on-the-job training, the lone HR staff member should be able to undertake all the procedures required of

[6] Other 5-day courses given at the same were: "Financial Management and Accounting System General Ledger" (8 participants) and "Water Resources Management" (22 participants).

him / her, and should have a detailed knowledge of all external training establishments in South Sulawesi, elsewhere in Indonesia, and overseas. The main educational progressions and establishments should also be dealt with on this course.

Heads of divisions, bureaus, sub-divisions and sections, and the lone HR member should attend classroom lectures and practical exercises on such topics as:

(i) Definition and role of HRD personnel training (and development) and HRM; HRD policy;
(ii) Staff planning, recruitment, training and development system;
(iii) Identifying training needs; designing training programs and selecting staff; instruction methods;
(iv) Evaluating training and development; training administration and MIS.

The class work would last for 21 working days (45 calendar days) and could be in three tranches during the last quarter of 2006. The work should include the critical appraisal of existing documents and the development of improvements, including any recommended in this Supporting Report M, that have not been implemented.

In addition to the class work, a further 21 working days on-the-job training has been allocated after PJT Jeneberang starts operating in 2007.

The trainer would be a suitably qualified PJT I expert (or experts) retained for 75 calendar days in three tranches. It is recommended that he / she should be assisted by a suitably experienced academic from (say) Hasanuddin University, who could provide additional insights and maybe a wider experience.

More detail can be found in Supporting Report N.

Tables

Table M2.1 Possible Proforma Job Description / Employee Specification

Position:

Reports to:

Immediate subordinates:

Purpose of job:

Specific responsibilities:
[all main responsibilities - in sufficient detail for practical application]

Common management responsibilities:
- Development of subordinates
- Delegation of authority to subordinates to undertake their responsibilities [where not already specified]
- Coordination of supervised groups
- Cooperation with related groups
- Appraisal of subordinates' performance for training, promotion
- Use of advisers where necessary
- Communication with superiors and subordinates
- Development of improved processes and procedures
- Public / community relations
- Awareness of legal and social environment

Particular cooperation / coordination with:

Limits to authority [or any other limitation]:
It is assumed that each job holder has sufficient authority to perform their tasks. Where this not so, limits are specified. Such limits can include:
- Recruitment [up to what level – within budget / more than budget]
- Expenditure commitment [e.g procurement of goods and services – up to what amount: within budget / more than budget]
- Advance payment [up to what amount: within budget / more than budget]
- Signing documents
- Other

Job holder specification:
- Qualifications required:
- Experience required: [years, types of experience]
- Particular personal characteristics required:

Table M2.2 Job Description / Employee Specification for: PJT Jeneberang Operations Director

1. Position:	PJT Jeneberang Operations Director
2. Reports to:	PJT I Board of Directors
3. Immediate subordinates:	Head of Water Services Division I Head of Water Services Division II Head of Technical Bureau Head of Administration and Finance Bureau

4. Purpose of job:

(i) To improve river basin management (RBM) and level of O&M to the norm[1] in rivers selected for PJT Jeneberang.

(ii) To become self-financing by improving financial performance and developing all revenue sources.

(iii) To conserve river environment.

(iv) To develop an effective and efficient working environment to reduce costs and deliver planned levels of service.

(v) To develop and maintain the required relations with regional governments, customers, major stakeholders and the community a) in the Jeneberang River basin and b) in the service areas.

(vi) To develop private sector participation (PSP) where appropriate.

5. Specific responsibilities:

(i) Assisting Board of Directors (BOD) to formulate policy; disseminating policy to immediate subordinates and ensuring that it is carried out.

(ii) Planning, controlling, coordinating and supervising the activities of his / her immediate subordinates.

(iii) Promoting and encouraging among all his / her subordinates, the motivation to quality, efficiency and effectiveness.

(iv) Ensuring that all BOD decrees, procedures, instructions are disseminated and complied with.

(v) In the Water Services Divisions to:
- ensure that in each WS divison's working area: necessary O&M is performed, water is distributed to users, land and water use and C-class mining is commercialized and that the necessary technical recommendations are made;
- ensure that fees are collected;
- ensure that services are extended to the community.

(vi) In the Technical Bureau to:
- ensure preparation and controlled implementation of RKAP (Corporate Work Plan Budget) and RKOP (Corporate Work Plan Operations), including the necessary

[1] "Normal" annual O&M cost of river infrastructure is defined as the estimated required accumulated annual O&M cost of each facility and river, including management. This annual O&M cost is based on (i) field reconnaissance, (ii) interview survey and (iii) the actual status of river infrastructure.

investment plan to support a) O&M of WR infrastructure, b) river basin management, c) WR commercialization, and d) WR infrastructure rehabilitation;
- ensure conduct of surveys / investigations for O&M purposes;
- ensure design and implementation of necessary construction work;
- ensure that river water quality is monitored and controlled.

(vii) In the Administration and Finance Bureau to:
- ensure that cash flow is planned and controlled and that all transactions are properly recorded and accounted for;
- ensure that planning, budgeting, monitoring and controlling capital and routine expenditure and revenue is properly undertaken, and that the necessary financial reports are prepared and circulated;
- ensure that taxes are collected and paid;
- ensure that all HR administrative procedures are properly carried out and the necessary HR records are maintained;
- ensure that the remuneration system is properly operated and that performance assessments are correctly undertaken;
- ensure that all HRD procedures are correctly undertaken, and that TNAs are regularly carried out by managers;
- ensure that the various administrative services are properly delivered, namely: office, protocol, public relations, maintenance of buildings and other owned assets, health and safety, procurement, inventory and storage, and transport.
- ensure that an asset register is maintained

6. Common management responsibilities:

(i) Maintenance of organization structure, efficient staffing levels
(ii) Development of subordinates
(iii) Delegation of authority to subordinates to undertake their responsibilities [where not already specified]
(iv) Coordination of supervised groups
(v) Cooperation with related groups
(vi) Appraisal of immediate subordinates' performance for training, promotion
(vii) Use of advisers where necessary
(viii) Communication with superiors and subordinates
(ix) Development of improved processes and procedures
(x) Public / community relations
(xi) Being aware of and conforming to the legal and social environment

7. Particular cooperation / coordination with:

(i) Water Services Units of: South Sulawesi Provincial Government and relevant Kabupaten / Kota Governments
(ii) Proyek Induk PWS Jeneberang, PIRASS

8. Limits to authority[2]:

(i) Approval of revenue / expenditure / capital budgets: only by BOD decision.

(i) Recruitment of staff at any level: only by BOD decision.

(ii) Expenditure commitment (e.g procurement of goods and services): according to BOD Decree No. KP.046/KPTS/DA/2004.

(iv) Authority to give advance payments: not more than Rp 15 million.

(iii) Authority to give public statements on behalf of PJT I: according to BOD Decree No. KP.019/KPTS/DA/2002.

(iv) Authority to issue technical recommendations: according to BOD Decree No. KP.018/KPTS/DA/2002.

(iv) Signing authorities: according to BOD Decree No. KP.020/KPTS/DA/1999.

(v) Authority to deal with complaints from stakeholders / clients: according to BOD Decree No. KP.117/KPTS/DA/2003

(vi) [Other]

9. Job holder specification:

(i) Qualifications required:
- Education: S-1
- Stratum: A-c (?)

(ii) Experience required:
- Minimum 12 years (?)
- Minimum 3 years (?) as Head of Water Services Division, Technical Bureau or Administration and Finance Bureau, or in a comparable or more senior position elsewhere

(iii) Particular personal characteristics required:
- Proven managerial ability
- Minimum IQ of 105 (enough?)

(iv) Training
- Finance Management for Non-Finance Officials
- Strategic Planning
- Corporatization of Water Resources Management
- Quality Awareness
- Selecting Potential Employees
- Use of Computer with Standard Programs
- Additional general and personnel management training

[2] These limitations are understood to be some of those currently applicable to PJT I Operations Directors. This list should be supplemented when the final version is established. Regarding recruitment and expenditure, two levels are usual: one within budget limits and one exceeding budget limits.

Table M3.1 Required and Actual PJT I Policies And Procedures[1] For Organization And Human Resources Management[2]

No	Name and Content of Required Policy/Procedure	Availability of Relevant Documents[3] in PJT I	Content of Relevant Documents	Comment and Action Required / Recommended[4]	Ease of Transfer to Jeneberang[5]
1	Organizational Planning and Development: - based on initial and updated goals, objectives and strategies, structuring and charting the organization.	KP.039/KPTS/DA/02 KP.046/KPTS/DA/04 KP.018/KPTS/DA/02 KP.019/KPTS/DA/02 KP.020/KPTS/DA/99 KP.121/KPTS/DA/04 KP.122/KPTS/DA/04 KP.127/KPTS/DA/02 AP/PJT/01	Divisional organization Authority limits for procurement Authority to issue technical recommendations Authority to give public statements Signing authorities Divisional organization Subdivisional organization (Brantas) Subdivisional organization (Bengawan Solo) [latest decree] Vision, mission, list of BOD decrees on PJT I organization etc	No detailed written procedures for process	Will not be transferred
2	Job Analysis and Planning: - identifying job and skill needs. Structuring jobs. Preparing / maintaining job descriptions and employee specifications.	KP.138/KPTS/DA/2003 KP.222/KPTS/DA/2004 [signed Oct. 2004]	Contains 22 groups of summary job descriptions. Contains division/bureau, sub-division/section "job descriptions"[6].	No job description for Director (eg B/Solo Operations) Main comments on this document appear in this footnote[7] No detailed written procedures	Will not be transferred

[1] Entries on this table refer mainly to procedures. Related policies, if they exist, are to be found in BOD Decrees, not easily linked to procedures. Occasionally, policies are found in procedures (as QP/PJT/07).

[2] All procedures will apply to PJTI Jenberang; only some, as indicated, will be used or performed in PJTI Jeneberang.

[3] Included in this column are: PJT I Board of Directors Decrees (BODD - beginning KP.), ISO procedures (beginning QP/), non-ISO procedure (beginning MP/), guidelines *(pedoman)*, manuals (collections of guidelines / procedures / instructions), work agreements, significant contracts.

[4] Action required or recommended is emphasized with grey shaded text, only for procedures which will be transferred to PJT Jeneberang

[5] This column indicates very roughly the ease of transfer of PJT I documents to PJTI Jeneberang: 0 = no change; 1 = relatively easy; 2 = relatively difficult, 3 = new documents needed. Where two figures appear, the first refers to existing PJT I documents; the second to an improved or more detailed document (in particular setting out detailed written procedure for undertaking the task(s).

[6] "Competence Standard for Structural [i.e. management] Positions" (CSSP)

[7] 1) More detailed "Responsibilities" than the brief "Job Description" are needed to be useful. 2) Information under "Job Skills" should be listed under "Common Management Responsibilities". 3) Entries under "Specific Job Skill" are the same as those under "Job Description" and should not need repeating. 4) There are no authority limits, implying that the job holder has unlimited powers.

Table M3.1 Required and Actual PJT I Policies And Procedures[1] For Organization And Human Resources Management[2]

No	Name and Content of Required Policy/Procedure	Availability of Relevant Documents[3] in PJT I	Content of Relevant Documents	Comment and Action Required / Recommended[4]	Ease of Transfer to Jeneberang[5]
				for process.	
3	Staff Planning and Budgeting: - based on actual / planned workloads, determining staff numbers by job / grade and computing budgeted cost.	KP.129/KPTS/DA/2004 KP.045/KPTS/DA/2003 KP.100/KPTS/DA/03 [Related KPs exist for other units] QP/PJT/22 Guidelines	PJT I staff establishment PJT I staff establishment Employee establishment for Water Services Divns (Brantas) giving position title, numbers of required staff/title, education level needed and staff numbers for each level. Discussion (annual) with BOD of proposed employee establishment and inputting to RJP/RKAP	No detailed written procedures for process.	2 1 1 1 0
4	Recruitment and Leavers: - staff selection and appointment. Processing leavers	QP/PJT/06 Contract (staff) Letter from Division / Bureau Kep.57/PHI/PK/04	Planning, recruiting, posting staff Employee contract Request for staff by bureau / division chiefs (memo) Joint Work Agreement with Unions (2) on Terms and Conditions of Service. Short summary on various types of leaver.	Fairly good ISO procedure Detailed written procedure needed for staff leaving for honourable reasons although some information is available in Work Agreement	1 3 0 0 0
5	Pay and Benefits (Salary and Allowances); Payment System: - overall compensation policy. Evaluating and	KP.195/KPTS/DA/04 KP.138/KPTS/DA/03	Salary scales only "Guideline for Career Development": selection of staff for 'class' & 'grade' not really career development[9]. List of job titles & summary job	No BOD policy decree	Job evaluation, job grading, pay scales, allowances / benefits,

[8] Grading / class system seems too complex and duplicative. Text in both documents not always clear and could be simplified. Performance reward system complex and, in addition, subjective in many of its numerous components. The question must be asked: is the cost of administering such a reward scheme balanced by the benefits (especially for lower level staff)?? Layout of some tables could be improved, e.g. the basic salary structure (a very 'flat' structure offering unusually low incentive to move from one grade to the next higher grade).

[9] 'Career Development Guidelines' is a misnomer since most of this document consists of procedures for moving from one 'class' or 'grade' to the next higher (or lower).

Table M3.1 Required and Actual PJT I Policies And Procedures[1] For Organization And Human Resources Management[2]

No	Name and Content of Required Policy/Procedure	Availability of Relevant Documents[3] in PJT I	Content of Relevant Documents	Comment and Action Required / Recommended[4]	Ease of Transfer to Jeneberang[5]
	grading jobs. Operating and maintaining pay scales, pay reviews, probation, pension scheme. Allowances and benefits. Reimbursing travel and other expenses	KP.104/KPTS/DA/92 Kep.57/PHI/PK/04√ General Guideline on Salary System in PJTI, 2004[8] MP/PJT/05	descriptions. Pension contributions and list of names only. As Row No. 4 Recording / calculating work time for paying employees	No detailed written procedures for whole process. Some summary procedures exist in the General Guideline on Salary System. Minor modification of existing procedure may be required	computation of monthly pay, pay accounting, will not be transferred. 0/1
6	Personnel Records and Management Information: - preparing / maintaining employee records of personal details, service, attendance / absence, work performance, training & development, disciplinary action, etc. Providing staff information for management	Staff records available – computerized and in hard copy. Also technical instructions for inputting personal data to computerized database. Manual [only available in hard copy]	Personnel information available from database for management decisions on various issues. Describes operation of computerized system only	Written procedures required for HRM or other non-technical users of the system.	1 / 2
7	Career Management - Staff Training & Development: - Training Needs Analysis (TNA); selection of staff for training; selection of external courses, seminars, workshops, conferences etc; preparation of internal courses; delivery of on-the-job training; monitoring & evaluation of training given;	QP/PJT/07 [GR 101/2000 on Training Programme for Civil Servants] Pedoman Pelatihan Internal (Internal training manual – guide and syllabus) Career Development Guidelines (KP.138/…/2003)	General procedure for training [with some policy statements] Lists a selection of training topics and elapsed times for training employees [See Row No.5]	Should be expanded, to cover e.g. detailed TNA procedure and costing and budgeting. Provides no reference material for training. Training material is the responsibility of trainers. This decree is more about mechanics of 'class' and 'grade' adjustment than career development.	0 / 2 0 / 2 Will not be transferred

Table M3.1 Required and Actual PJT I Policies And Procedures[1] For Organization And Human Resources Management[2]

No	Name and Content of Required Policy/Procedure	Availability of Relevant Documents[3] in PJT I	Content of Relevant Documents	Comment and Action Required / Recommended[4]	Ease of Transfer to Jeneberang[5]
	training trainers; costing and budgeting for training and development	Kep.57/PHI/PK/04	[See Row No.4]	Very brief on HRD	0
8	Performance Appraisal and Promotion: Setting objectives / targets. Annual (or more frequent) interviews and performance assessment. Deciding and implementing promotions	General Guideline on Salary System in PJT I, 2004 Career Development Guidelines (KP.138/…/2003)	Some procedural guidelines on performance appraisal in Salaries Manual chap VI, clause 19 et seq. Some guidelines on promotion criteria	No separate manual on performance assessment and promotion. No separate BOD decree	0 / 2 1 / 2 Whole PA&P process has to be socialized
9	Discipline and Dismissal: - disciplining and dismissing employees for infringements of rules and regulations	MP/PJT/24 Kep.57/PHI/PK/04	General procedure for disciplinary sanctions. As Row No. 4.	Should have penalty points table (although the table is available in Work Agreement) No BOD Decree on this topic Good on discipline / dismissal.	0 / 1 0
10	Holidays and Special Leave: - applying for / granting / taking annual holiday, sick and maternity leave, study leave, etc	MP/PJT/13 Kep.57/PHI/PK/04	General procedure on applying for official leave As Row No. 4		0 0
11	Monitoring and Evaluation: - selected monitoring and evaluation of HRM decisions, processes and outcomes	Kep.32/PRT/1991 MP/PJT/14	Guideline for Implementing Internal Control in PJT I	[Why not ISO procedure?] No detail on M&E targets, frequency or methodology	Will not be transferred. PJTI J will be M&E'd from Malang
12	Outsourcing staff: - deciding and obtaining staff on contract	MD.047.1/UM/MD/DA/03 Outsourcing contract	Contract format and jobs that can be outsourced, subcontracted, etc. Contract	Detailed written procedures required for process.	0 / 2
13	Health and Safety and Insurance:	Kep.57/PHI/PK/04√ QP/PJT/12√	As Row No. 4 Procedure on handling safety and		0 0

Table M3.1 Required and Actual PJT I Policies And Procedures[1] For Organization And Human Resources Management[2]

No	Name and Content of Required Policy/Procedure	Availability of Relevant Documents[3] in PJT I	Content of Relevant Documents	Comment and Action Required / Recommended[4]	Ease of Transfer to Jeneberang[5]
	- actions and precautions to ensure the health and safety of employees in the workplace. Medical and accident insurance	519.1/13-08/0704 KP.009/BA/DA/2004 Idem (19.4)	health at work. ASKES [Govt. staff health insurance for permanent[10] employees] JAMSOSTEK [Non-permanent[11] staff health insurance]		Will not be transferred Will not be transferred
14	Preparation / Maintenance of HR Policies and Procedures	QP/PJT/02 AP/PJT/01	Document control only No procedure identified	No procedure identified	Will not be transferred
15	Preparation / Maintenance of Terms and Conditions of Employment			No procedure identified	Will not be transferred
16	Duty:[12] - duty travel rules and procedure of reimbursing travel expenses	MP/PJT/20 KP.164/KPTS/DA/03 KP.165/KPTS/DA/03	General procedure on overseas duty travel Stipulation on Duty Travel (guideline) Stipulation on Duty Travel (tariff)		1 1 1
17	Pension scheme:[13] -	SK104/KPTS/DA/92 *or* KP104/KPTS/DA/92 (?) KP.049/PK/DA/2000 JKW/016/KPG/2000 KP.050/PK/DA/2000 MLG/01/1407 451/13-08/0603 KP.40/PK/DA/2003	fund contribution and benefit Pension fund management system DPLK BNI [Permanent employees] Deposito BNI JAMSOSTEK [Outsourced employees(??)]	Includes amounts to be paid by PJT I and employee	Will not be transferred

Notes: 1. General minor fault on all flow charts: no document / attachment references.

[10] = Organic
[11] = Non-organic
[12] Covered by Financial Expert.
[13] It is agreed that pension scheme procedures should be ignored for PJTI Jeneberang, except in the calculation of staff costs.

Supporting Report N

CAPACITY DEVELOPMENT PROGRAM

Supporting Report N

CAPACITY DEVELOPMENT PROGRAM

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Appendix

Supporting Report N

CAPACITY DEVELOPMENT PROGRAM

N1 Introduction

Capacity Development Program is designed to be implemented after establishment of the PJT Jeneberang for strengthening the capacity of PJT Jeneberang.

Participatory approach[1] is applied for formulation of Capacity Development Program for which PCM (Project Cycle Management) workshops and stakeholder workshops were conducted to examine and understand the stakeholder needs for river basin management and needs for strengthening of capability of PJT Jeneberang.

Project Design Matrix (PDM) is formulated as a base for the Capacity Development Program, which is derived from PCM workshops conducted during the Phase1 of the Study. The PDM shows the objectives, activities inputs and other components of a program, together with their logical interrelationships. The structure of PDM is shown in the table below.

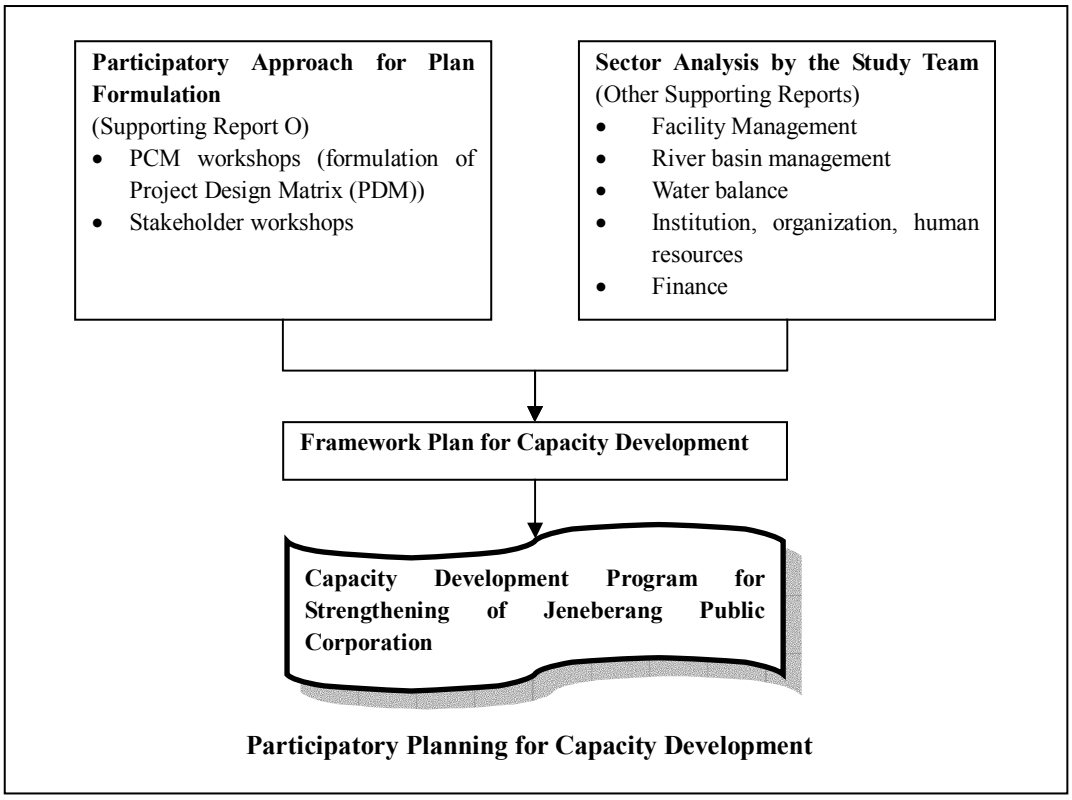
Structure of PDM

Components	Description
Overall Goal	Development effect, expected as a result of the achievement of the Project Purpose.
Project Purpose	Objective that the project should achieve within the project duration.
Outputs	Strategies for achieving the Project Purpose.
Activities	Specific actions taken to produce Outputs.
Inputs	Personnel, materials, equipment, facilities, and funds required by the project.
Objectively Verifiable Indicators	Standard for measuring project achievement.
Means of Verification	Data sources from which indicators are derived.
Important Assumption	Conditions important for project success, but that cannot be controlled by the project. Whether these conditions develop or not is not certain.
Pre conditions	Conditions that must be fulfilled before a project gets underway.

PDM prepared for the Capacity Development Program is updated by integrating the Study results and shown in Table N1.1.

Capacity Development Program formulation flow is shown in the figure below.

[1] Participatory approach and PCM workshop is described in Supporting Report O



Supporting Report N covers 1) Framework Plan of Capacity Development, 2) Capacity Development Program, 3) Implementation Organization for the Capacity Development Program, 4) Monitoring and Evaluation of the Capacity Development Program, and 5) Implementation Schedule.

N2 Framework Plan of Capacity Development

N2.1 Concept of the Capacity Development

Capacity Development Program is formulated for establishing a strong base for management capability and technical capability required for the initial stage of operation of PJT Jeneberang which aims to cover the components described below.

A framework plan of the capacity development is prepared based on the PDM. Capacity development is composed of four components namely 1) facility management/river basin management, 2) institutional and organizational management, 3) financial management, and 4) human resources development.

Facility management is a primary objective of the capacity development which is supported by institution/organizational management, financial management, institutional and human resources development as shown in Figure N2.1. Human resources development aims to strengthen components 1) to 3).

N2.2 Description of the Capacity Development Components

Description of the capacity development for each sector is summarized below.

(1) Facility Management/River Basin Management

Capacity development for facility management/river basin management aims to strengthen watershed management, water quality/quantity management, and flood/drought management through proper database management and facility O&M which are considered as major services of PJT Jeneberang. Capacity development for facility management covers following items.

- Monitoring and analysis of database (hydrological conditions, reservoir and dam conditions, facility inventory, land use, etc.) specified in the manual,
- Facility operation for flood/drought management, watershed management, and water quantity/quality management based on database analysis, which includes individual facility operation and co-operation among facilities such as Bili-Bili dam and the rubber dam,
- Facility maintenance specified in the manual (dam, river, sabo dam, sand pocket, intake structure, etc.), and
- Efficiency of watershed management, river area management, water quality management and facility O&M.

(2) Institutional and Organizational Management

Institutional and organizational management has three aspects: institution and legal matters, organization management, and administrative management. Institution and legal matters deal

with water laws, water right, regional autonomy which directly affect operation of the facility and need to be clarified for efficient river basin management. Capacity development for the institution and legal matters covers following items.

- Application of the new Water Law and other related laws and regulations to operation of PJT Jeneberang,
- Demarcation of facility O&M justified by the relevant laws and regulations,
- Ownership of assets (land, river, facility) justified by the relevant laws and regulations, and
- Water allocation based on the laws and regulations.

The organization management aspect covers the status and structure of PJT Jeneberang and covers following items.

- Organization structure, job description, authority, and line of command,
- Corporation rules related to organization management, and
- Public relations including client management and community participation.

Administrative management aspect covers general administration and managerial administration.

- General administration: business planning skills including non-water business.
- Managerial administration: quality management system, corporate management.

(3) Financial Management

A main focus of the financial management is adoption of the corporate accounting system. Regardless of the status of PJT Jeneberang, the Public Corporation is expected to have financial autonomy in which independent financial management is expected. Capacity development for financial management covers following items.

- Financial management based on corporate accounting,
- Balance sheet management (stock at the end of term),
- Profit and loss statement management (revenue and cost, flow during the term),
- Cash flow management (cash flow statement, cash from operation, cash from investment, cash from finance), and
- Tariff management/revenue collection.

(4) Human Resources Management

Human resources management shall support skill development of facility management (O&M), institutional and organizational management, and financial management by strengthening personnel management system and providing training. Capacity development for human resources covers HRD planning, recruitment, training and development system.

N3 Capacity Development Program

Capacity Development Program is prepared to match the requirements by the position and the sector, which are necessary for strengthening of the initial stage of operation of PJT Jeneberang. Some programs are designed for strengthening of management capability which targets Heads of Bureaus, Sections, Divisions, Sub-Division, and staff in administration & finance sections. Some programs are designed for strengthening of technical capability targeting technical staff and management staff.

Capacity Development Programs are categorized into four sectors as shown below.

(1) Facility Management/ River Basin Management
(2) Administrative Management
(3) Financial Management
(4) Institutions/Organization Management/Human Resources Management

Capacity Development Program is described in the profile sheets prepared for each program. The items in the profile sheet correspond to the structure of the PDM so that the project purpose, output, input can be clarified for each program. The sheet also shows how each Capacity Development Program can contribute to "sustainable river basin management" which is overall goal specified in the PDM. A list of items derived from the PDM is shown in the table below.

Items in the Profile Sheet

Components in PDM	Profile Sheet Items
Overall Goal	9. Contribution to Sustainable River Basin Management
Project Purpose	3. Objectives
Outputs	8. Outputs
Activities	5. Activities
Inputs	7. Inputs
Objectively Verifiable Indicators	13. Monitoring and Evaluation Indicators
Means of Verification	Described in 8. Outputs, 5. Activities, 13. Monitoring and Evaluation Indicators.
Important Assumption	Not included because this applies to Capacity Development as a whole.
Pre conditions	Not included because this applies to Capacity Development as a whole.

Items other than the information in the PDM necessary for clear understanding of the program are added to the sheet. Selected items from the sheet are shown in the text and complete profile sheets for all programs are shown in Appendix N1.

N3.1 Facility Management/River Basin Management

Capacity Development Program for facility management/river basin management covers (1) Monitoring and analysis of database (data collection and analysis) and (2) Facility operation and maintenance.

Capacity Development Program for Facility Management

No.	Program Name	Description	
(1)-1-1	Development of inventory of land use states in river area	Objective:	・ To identify the outward bound of river area to be managed by PJT Jeneberang ・ To identify the updated land use states in the river area
		Justification:	It is important for PJT Jeneberang to delineate its clear administration boundary and to know the updated land use states therein. The Program is, however, not urgently required, and could be implemented after 2009 (the year to commence the full-scale service of Corporation).
		Activities:	・ Aerial-photograph survey along river area. ・ Determination of outward bound of river area based on the results of aerial-photograph survey. ・ Development of base-map for inventory of updated land use based on the results of aerial-photograph survey. ・ Field survey on the updated land use states in river area. ・ Development of inventory of the updated land use states in river area. ・ Revision of updating system/procedures on inventory of land use states. ・ Indoor training on development of land use states.
		Target group:	・ Heads of Water Service Division I and II ・ Head of General Affairs Section under Water Service Division I ・ All staffs of Technical Bureau
		Cost:	Rp. 341.7 million
		Schedule:	2008 (2nd quarter) ~2010 (2nd quarter)
(1)-1-2	Development of inventory of facilities relevant to river management	Objective:	To identify the updated states of facilities relevant to river management
		Justification:	The information on the updated states facilities relevant to river management should be available as a base of the river management.
		Activities:	・ Updating of inventory of the facilities. ・ Development of updated spare-part list. ・ Revision of updating system/procedures on inventory of facilities. ・ Indoor lecture on development of inventory of facilities relevant to river management.
		Target group:	・ Heads of Water Service Division I & II ・ Head of Sub- Divisions I-1, II-1 & II-2 ・ All staffs of Technical Bureau
		Cost:	Rp. 49.8 million
		Schedule:	2006 (2nd half)~2008 (3rd quarter)
(1)-1-3	Hydrological data collection and analysis	Objective:	・ To improve knowledge of PJT Jeneberang on hydrological data collection and analysis ・ To improve accuracy of hydrological gauging data as the base for operation of the facilities
		Justification:	The relevant hydrological information should be the base of the river management.
		Activities:	・ Field training on river flow measurement. ・ Revision of updating system/procedures including monitoring database system and evaluation and feedback on hydrological data. ・ Indoor lecture on hydrological data collection and analysis.
		Target group:	・ Head of Water Service Division I ・ All staffs of Sub-division I-1
		Cost:	Rp.80.9 million
		Schedule:	2006 (3rd quarter)~2007
(1)-2-1	O&M of Bili-Bili Dam and Raw Water Transmission Main (RWTM)	Objective:	To improve the knowledge of PJT Jeneberang on the relevant operation and maintenance works and to improve the conditions of facilities.
		Justification:	PJT Jeneberang should acquire all necessary knowledge on O&M of the relevant facilities.

No.	Program Name	Description	
		Activities:	・ Field inspection on the updated states of facilities. ・ Updating of annual maintenance program. ・ Updating of annual supply plan of spare-part and other materials for operation and maintenance. ・ Indoor training for maintenance and operation of the facilities. ・ Field training for operation of the facilities.
		Target group:	・ Head of Water Service Division I ・ All staffs of Sub-division I-1
		Cost:	Rp. 53.7 million
		Schedule:	2006 (3rd quarter)~2008 (1st quarter)
(1)-2-2	Maintenance system for electrical equipment in Bili-Bili Dam	Objective:	To achieve the conduct of proper maintenance work for electrical equipment in Bili-Bili dam on a continuous basis.
		Justification:	Maintenance work provides increase in duration of life of the equipment and decrease equipment investment in the long run.
		Activities:	・ Preparation of annual maintenance plan of each electrical equipment including routine maintenance and calibration. ・ Preparation of annual plan of spare-parts and other materials for electrical equipment based on the maintenance program. ・ Training for maintenance and monitoring of electrical equipment from Manufacturer. ・ Reviewing to be improved effect of maintenance work.
		Target group:	・ Head of Water Service Division I ・ All staffs of Sub-division I-1
		Cost:	Rp. 16.8 million
		Schedule:	2007~2009
(1)-2-3	O&M for hydromechanical facility (Bili-Bili Dam site)	Objective:	To establish a long-term maintenance plan and to conduct proper O&M for hydromechanical facility at Bili-Bili dam site.
		Justification:	Long life of hydromechanical facility with suitable maintenance contributes to stable water supply.
		Activities:	・ Preparation of a long-term maintenance plan including routine maintenance, overhaul, budget management, and operation procedure. ・ Training on O&M of hydromechanical facilities including budget management. ・ Field training for O&M of hydromechanical facilities. ・ Periodical monitoring and feedback of hydromechanical facilities condition based on the plan.
		Target group:	・ Head of Water Service Division I ・ All staffs of Sub-division I-1
		Cost:	Rp. 29.8 million
		Schedule:	2007~2008
(1)-2-4	O&M for hydromechanical facility (Drainage gate at Jeneberang river)	Objective:	To establish a long-term maintenance plan and to conduct proper O&M for hydromechanical facility for drainage gate.
		Justification:	Prevention of inundation at river side housing area and long life of hydromechanical facility with suitable maintenance needs to be secured.
		Activities:	・ Preparation of long-term maintenance plan including routine maintenance, overhaul, budget management, and operation procedure. ・ Training on O&M of hydromechanical facilities including budget management. ・ Field training for O&M of hydromechanical facilities. ・ Periodical monitoring and feedback of hydromechanical facilities condition based on the plan.
		Target group:	・ Head of Water Service Division II ・ All staffs of Sub-division II-2
		Cost:	Rp. 29.3 million
		Schedule:	2006~2007

No.	Program Name	Description	
(1)-2-5	O&M of the existing 11 drainage gates along lower Jeneberang River	Objective:	・To improve the knowledge of PJT Jeneberang on the relevant operation and maintenance works ・ To improve the knowledge of the local residents as the gatekeepers the relevant operation and maintenance works
		Justification:	・ It is urgently required to establish the O&M system of the drainage gates. ・PJT Jeneberang should acquire all necessary knowledge on O&M of the relevant facilities.
		Activities:	・Entering of long-term contract with the local residents as the gatekeepers for drainage gates. ・Field inspection on the updated states of facilities. ・Establishment of emergency communication system between PJT Jeneberang and the gatekeepers. ・Establishment of annual maintenance program. ・Updating of annual supply plan of spare parts and other materials for operation and maintenance. ・Indoor training on gate operation and maintenance. ・Field training for gate operation and maintenance.
		Target group:	・ Heads of Technical Bureau and Water Service Division II ・ All staffs of Sub-division II-2 ・ Local residents to be the gatekeepers
		Cost:	Rp. 173.9 million
		Schedule:	2006~2007 (3rd quarter)
(1)-2-6	O&M of rubber dam and long storage	Objective:	・ To improve the knowledge of PJT Jeneberang on the relevant operation and maintenance works. ・ To improve the knowledge of the local resident as the gatekeepers the relevant operation and maintenance works.
		Justification:	・ PJT Jeneberang should acquire all necessary knowledge on O&M of the relevant facilities. ・ It is required to transfer the necessary knowledge on O&M works to the gatekeepers, who will be recruited from the local residents.
		Activities:	・ Field inspection on the updated states of facilities. ・ Establishment of emergency communication system between PJT Jeneberang and the gatekeepers for Long Storage. ・ Establishment of annual maintenance program. ・ Updating of annual supply plan of spare parts and other materials for operation and maintenance. ・ Indoor training on gate operation and maintenance ・ Field training for maintenance of facilities. ・ Field training for synchronized operation of Rubber Dam and Intake Gate of Long Storage. ・ Field training for synchronized operation of Flush Gate (Outlet Gate) of Long Storage and Control Gates of drainage channels in Makassar City for diluting stagnant water in the drainage channels.
		Target group:	・ Head of Water Service Division II ・ All staffs of Sub-division II-2 ・ Local resident as the present gatekeepers
		Cost:	Rp. 52.6 million
		Schedule:	2006 (2nd quarter)~2008 (1st quarter)
(1)-2-7	O&M of irrigation weirs	Objective:	To improve the knowledge of PJT Jeneberang on the relevant operation and maintenance works
		Justification:	PJT Jeneberang should acquire all necessary knowledge on O&M of the relevant facilities.

No.	Program Name	Description	
		Activities:	・ Field inspection on the updated states of facilities. ・ Establishment of emergency communication system among the relevant divisions of Public Corporation (i.e. Operation Director, Water Service Division I and Sub-division II-1). ・ Updating of annual maintenance program. ・ Updating of annual supply plan of spare-part and other materials for operation and maintenance. ・ Indoor training for maintenance and operation of the facilities. ・ Field training for operation of the facilities.
		Target group:	・ Head of Water Service Division II ・ All staffs of Sub-division II-1
		Cost:	Rp. 50.3 million
		Schedule:	2006 (2nd quarter)~2008 (1st quarter)

N3.2 River Basin Management

Capacity Development Program for river basin management covers: (1) Flood management, (2) Drought management, (3) Watershed management, and (4) Water quality monitoring and pollution control.

Capacity Development Program for River Basin Management

No.	Program Name	Description	
(2)-1-1	Flood plain management	Objective:	・ To establish the effective flood plain management system. ・ To improve the knowledge of PJT Jeneberang on flood plain management.
		Justification:	It is ideal for PJT Jeneberang to administrate the excessive land development in the flood plain at earliest possible period, but the priority of this program would be lower than the other programs.
		Activities:	・ Development and dissemination of flood risk map. ・ Development of inventory of assets in flood plain area. ・ Development of list of illegal dwellers in the flood high-water channel. ・ Updating of the land use states including the projected urban zoning plan in flood plain area. ・ Development of procedures to control the excessive land development in flood plain. ・ Indoor training on flood plain management.
		Target group:	・ Head of Water Service Division II ・ All staffs of General Affairs Section under Administration & Finance Bureau ・ All staffs of Technical Bureau
		Cost:	Rp. 53.8 million
		Schedule:	2012 (2nd quarter)~2014
(2)-1-2	Flood warning, fighting and evacuation	Objective:	・ To establish the flood warning, fighting and evacuation system ・ To improve the knowledge of PJT Jeneberang on flood warning, fighting and evacuation system
		Justification:	It is ideal for PJT Jeneberang to establish the flood warning, fighting and evacuation system to prepare the probable flood of more than 50-year return period but the priority of this program would be lower than the other programs.

No.	Program Name	Description	
		Activities:	・ Review and updating of the existing flood warning, evacuation and fighting program. ・ Development of emergency communication system among the relevant organizations. ・ Set-up of tools and materials for flood warning evacuation and fighting (such as handy talky, life jacket, flush light, rubber boat, plastic sand back and sand). ・ Set-up of joint organizations for flood fighting. ・ Indoor training on flood monitoring, warning and fighting. ・ Outdoor training on flood warning.
		Target group:	・ Heads of Water Service Division I and II ・ All staffs of Sub-division I-1 ・ All staffs of General Affairs Section under Administration & Finance Bureau ・ All staffs of Technical Bureau
		Cost:	Rp. 505.4 million
		Schedule:	2012 (3rd quarter)~2014 (3rd quarter)
(2)-2	Water quantity management	Objective:	・ To establish the water quantity management system for accomplishing stable water supply. ・ To improve knowledge of PJT Jeneberang on water quantity management system.
		Justification:	PJT Jeneberang should acquire the necessary knowledge on the water quality management, and it is urgently necessary to establish the consistent water distribution system for satisfying the clients' needs.
		Activities:	・ Updating of list of granted water users and water abstraction volume. ・ Installation of flow meters at major intake points. ・ Establishment of coordinating system for daily water distribution. ・ Indoor lecture on water quantity management.
		Target group:	・ Heads of Water Service Division I and II ・ All staffs of Sub-division I-1, II-1 and II-2 ・ All staffs of General Affairs Section under Administration & Finance Bureau ・ All staffs of Technical Bureau
		Cost:	Rp. 47.0 million
		Schedule:	2006 (3rd quarter)~2008 (3rd quarter)
(2)-3	Drought management	Objective:	・ To establish the drought management system ・ To improve the knowledge of PJT Jeneberang on drought management system
		Justification:	It is ideal for PJT Jeneberang to establish a drought management system to prepare the probable drought of more than 10-year return period but the priority of this program would be lower than others.
		Activities:	・ Establishment of coordinating system for reduction of water distribution during a drought period. ・ Enhancement of agreement of water users on priorities of water distribution during a drought period. ・ Strengthening of forecasting system for low river flow regime. ・ Indoor lectures on drought management.
		Target group:	・ Heads of Water Service Division I and II ・ All staffs of Sub-division I-1, II-1 and II-2 ・ All staffs of General Affairs Section under Administration & Finance Bureau ・ All staffs of Technical Bureau
		Cost:	Rp. 15.8 million
		Schedule:	2012 (3rd quarter)~2014 (2nd quarter)
(2)-4	Watershed management /Implementation of	Objective:	To accomplish the conduct of services relevant to watershed conservation and management. To acquaint with the basic know-how of providing the services.

No.	Program Name	Description	
	watershed management services	Justification:	Watershed conservation will benefit PJT Jeneberang in terms of sediment yield reduction and water resources conservation.
		Activities:	・ Training on basic know-how of providing services: practices of reforestation and forest management, practices of land use in slope area, such as terracing, embankment, contour fallowing, etc. ・ Training on the knowledge of engineering design and construction supervision of structural work, particularly for check dam and sabo dam. ・ Training on planning and procedures of the works. ・ Establishment of coordination mechanism with local government agencies for funding of the projects. ・ Formulation of stakeholder participation mechanism on watershed management by participatory approach. ・ OJT on watershed management based on the plan and procedure with support from PJT I.
		Target group:	・ Heads of Water Services Division I and Technical Bureau ・ All staff of Sub-Division I-2 ・Public Relations Coordinator ・ All staff of Program Section
		Cost:	Rp. 32.0 million
		Schedule:	2009 (3rd quarter)~2011
(2)-5-1	Water Quality Monitoring (WQM)	Objective:	To accomplish the conduct of WQM work on a continuous basis.
		Justification:	WQM provides essential data for management of river water quality.
		Activities:	・ Sampling water at 8 locations. ・ Supervise laboratory testing to be conducted at an outsourcing laboratory. ・ Compile the data and report to Bapedalda and Dinas PSDA every month. ・ Analyze the data and make recommendation if any corrective measure is necessary.
		Target group:	All staff of O&M & Environment Section
		Cost:	Rp. 17.6 million
		Schedule:	2007 (2nd quarter)~2008
(2)-5-2	Water Pollution Monitoring (WPM)	Objective:	To accomplish the conduct of WPM work on a continuous basis
		Justification:	WPM provides essential data for wastewater management by Bapedalda and can also be utilized for water services.
		Activities:	・Sampling wastewater at outlet of industrial factories. (see Supporting Report F for location) ・ Supervise laboratory testing to be conducted at an outsourcing laboratory. ・Compile the data and report to Bapedalda, Dinas PSDA, factories and other related institutions every 3 month. ・ Analyze the data and make recommendation if any corrective measure is necessary. ・ Provide collected information to the Public on website.
		Target group:	All staff of Environment Sub-Section
		Cost:	Rp. 21.0 million
		Schedule:	2007 (2nd quarter)~2008

N3.3 Institution/Organization Management/Human Resources Management

Capacity development for institution/organization management/human resources management covers sectors related organizational arrangement.

Capacity Development Program for Institution/Organization/Human Resources Management

No.	Program Name	Description	
(3)-1	Laws and regulations in the water sector	Objective:	To familiarize PJT Jeneberang management with the relevant (i) national laws, regulations and decrees, (ii) regional regulations, decrees, (iii) PJT I Directors' Decrees.
		Justification:	For better decision making, corporate management need to understand in some detail the legal and regulatory environment in which PJT Jeneberang is operating.
		Activities:	・Class-room lectures on relevant: - national laws, regulations, decrees; - provincial regulations and decrees; - kabupaten / kota regulations and decrees; - PJT I Directors' Decrees - applying to water and corporation sectors ・Periodic knowledge tests
		Target group:	・Operations Director ・Heads of Divisions I, II, Technical Bureau, Administration & Finance Bureau, Sub-Divisions I-1,II-1, II-2 ・All staff in Program Section, HR Section (acting head), Finance Section, General Affairs Section in A&F Bureau
		Cost:	Rp. 29.3 million
		Schedule:	2006 (2nd quarter)~ 2006 (4th quarter)
(3)-2	Organizational structuring & staffing, and HRA	Objective:	To educate selected senior personnel and those responsible in organizational structuring, job analysis, staff planning and budgeting, and personnel administration so that the staff can execute jobs properly.
		Justification:	Senior management and HRM (Human Resources Management) staff should know how to structure an organization, analyze tasks into jobs, prepare job descriptions / employee specifications, develop efficient manning levels, budget for these, and, in particular, HRM staff to undertake the basic HRA (Human Resources Administration) tasks in PJT Jeneberang.
		Activities:	・Formulation of HRA policies, procedures, and internal rules. ・Class-room lectures and practical exercises on: - Organizational planning and development; - Job analysis / planning; job descriptions / employee specs; - Staff planning / budgeting; - HRA policies and procedures on: recruitment; salary / allowances system and payment system; personnel records & MIS; performance appraisal / promotion/career development; discipline / dismissal; leave; outsourcing; document control; ・Routine tests ・Evaluation and feedback workshop
		Target group:	1. Staff of HR Section and Head of A&F Bureau for all topics. 2. Heads of Divisions and Bureaus for all except basic HRA tasks.
		Cost:	Rp. 86.4 million
		Schedule:	2006 (3rd quarter)~2007 (1st quarter)

No.	Program Name	Description	
(3)-3	Human Resources Development (HRD)	Objective:	To educate the HR Section and PJT Jeneberang managers in the basic skills, procedure and documentation of HRD.
		Justification:	HRD is a vital component of corporation activity and must be fully understood by both management and the HRD staff. The Program could also help to develop policies and training programs within PJT Jeneberang.
		Activities:	・Class-room lectures, discussion and practical projects on the following; - Definition and role of HRD (training & development) and HRM; - HRD policy; planning, recruitment, training and development system; - Identifying training needs; designing training programs & selecting staff; instruction methods; - Evaluating training and development; training administration and MIS; ・Formulation of development policy and training program. ・Routine knowledge testing ・Evaluation and feedback workshop
		Target group:	・Operations Director ・Heads of Divisions I, II, Technical and Administration & Financial Bureaus ・Heads of Sub-Divisions I-1,II-1, II-2 ・All staff in Program Section, HR Section (acting head), Finance Section, General Affairs Section in A&F Bureau
		Cost:	Rp. 79.4 million
		Schedule:	2006 (3rd quarter)~2007 (1st quarter)
(3)-4	Strengthening of public relations capability	Objective:	To strengthen operation capability by establishing public relations system and skills development aiming at customer satisfaction and stakeholder participation.
		Justification:	PJT Jeneberang is “a service oriented organization”, and the public relations plays an important part of the operation and needs to be strengthened.
		Activities:	・Establishment of PR system; information dissemination, claim/complaints resolution, socialization, presentation skills (leaflet, media), internal communication. ・Lecture on PR procedures. ・OJT at PLN and Telecom; learn how PR is managed in PLN and Telecom; how to deal with customers, how to promote participation. ・Monitoring and evaluation of the program.
		Target group:	・Public Relations Coordinator ・Head of Administration and Finance Bureau ・Heads of Water Service Division I, II.
		Cost:	Rp. 21.4 million
		Schedule:	2007 (3rd quarter)~2007

N3.4 Administrative Management

Capacity development for administrative management covers: 1) Business planning skill training, 2) Quality management system training, and 3) Corporate management.

Capacity Development Program for Administrative Management

No.	Program Name	Description	
(4)-1	Business planning skill training	Objective:	To familiarize with the basic skills, procedure, know-how and documentation of business planning, and to be able to elaborate planning document and business proposal.
		Justification:	Preparation of deliberate planning documents is recognized as one of the key factors in strengthening the corporate governance.
		Activities:	・Establishment of business planning, monitoring, feedback cycle. ・Class room lectures: internal/external factor analysis, vision and strategy building, program and goal planning, monitoring/evaluation planning and planning documentation. ・Actual planning work for the establishment year: annual work and budget plan (through OJT), documentation on review of the plan and actual execution. ・Evaluation and feedback plan and actual operation.
		Target group:	・All staff of Technical and Administration & Financial Bureaus ・Heads of Water Service Divisions I,II, Sub-Division I-1, II-1, II-2.
		Cost:	Rp. 63.0 million
		Schedule:	2006 (4th quarter)~2007
(4)-2	Quality management system training	Objective:	To learn Quality Management System (QMS) – quality policy and goals, work procedure and instruction, and document control – and acquire capability of preparing the certificate acquisition process after the operation.
		Justification:	Corporate management in accordance to QMS leads to standardization and continuous improvement of the work process/services of PJT Jeneberang.
		Activities:	・Guidance seminar for QMS (ISO) socialization. ・Training seminar for QMS (ISO). ・Preparatory work for ISO procedure and work instruction. ・Preparation for documentation of ISO system. ・Application for certificate of ISO system to be installed. ・Evaluation and feedback workshop.
		Target group:	All staff
		Cost:	Rp. 63.0 million
		Schedule:	2007 ~2008 (1st quarter)
(4)-3	Managerial administration capacity building program	Objective:	To establish management base of PJT Jeneberang with business mind.
		Justification:	Transition from government organization to public corporation requires changes in management style and mentality of management staff. New style of management and mentality for corporate management has to be adapted during the initial stage of operation.
		Activities:	Lecture and workshop based capacity development. ・Corporate management principle (entrepreneurship) ・Leadership skills required ・Decision making process ・Service mind
		Target group:	・Operations Director ・Heads of Technical and Administration & Finance Bureaus ・Heads of Divisions I, II ・Program Section Heads
		Cost:	Rp. 86.0 million
		Schedule:	2006 (4th quarter) ~2007 (1st quarter)

N3.5 Financial Management

Capacity development for financial management covers: 1) Financial administration, 2) Corporate accounting by ASGL (Accounting System General Ledger), and 3) Revenue collection.

Capacity Development Program for Financial Management

No.	Program Name	Description	
(5)-1	Financial administration capacity development program	Objective:	To strengthen the capacity of financial administration system and its operation by establishing the system and skill development.
		Justification:	Efficient financial administration is necessary for a sustainable corporation operation, which is expected to contributed to efficient facility O&M.
		Activities:	・Identify and prepare documents necessary for financial administration. ・Standardizing financial administration rules. ・Class-room lectures and practical exercises on documentation and procedures: - Corporate planning ; - Tariff making; - Financial analysis; - Reporting, B/S, P/L, Cash flow; - Salary / allowances system and tax payment system; - Cost calculation based on O&M activities; - Cost allocation and Budget control; - Negotiation skills (e.g. negotiation with clients concerning tariff); ・Routine tests ・Evaluation and feedback workshop
		Target group:	・Operations Director ・Heads of Bureaus, Divisions, Sections, Sub-Divisions ・Auditor
		Cost:	Rp.116.1million
		Schedule:	2006 (4th quarter)~2007
(5)-2	Corporate accounting by ASGL (Accounting System General Ledger)	Objective:	To develop skills for corporate accounting specialized in water resources management using ASGL.
		Justification:	Proper bookkeeping for outputs of daily, monthly, half yearly and annual reports is necessary for sustainable corporate management.
		Activities:	・Installation of computerized accounting system with the accounting program produced during the Study. ・Class-room lectures and practical exercises on: - ASGL operation; - Out put verification; - Operation procedure conducted manually and through program; - Evaluation of B/S, P/L, Cash flow statement and Financial ratios; - Assets management - Reporting ・Routine tests ・Evaluation and feedback workshop lecture and exercise of operation by instructor
		Target group:	・Heads of Technical and Administration & Finance Bureaus, Divisions I, II ・Heads of Sections and Sub-Divisions ・All staff of Finance Section (Other trainee will be selected as needed).

No.	Program Name	Description	
		Cost:	Rp.155.5 million excluding sub contract
		Schedule:	2006 (4th quarter)~2007
(5)-3	Revenue collection	Objective:	To establish and strengthen revenue collection procedure of the services provided by PJT Jeneberang.
		Justification:	A part of financial source of operation of PJT Jeneberang relays on the fees charged to services provided to clients such as PDAM, PLN, industries and plantation. In order to avoid any conflict with clients or miss-collection of fees for the services provided, revenue collection procedure has to be clarified and executed properly.
		Activities:	1. Establish a revenue collection system and procedures including, contract, metering, invoice, and payment. 2. Lecture on fees collection procedure: ・Contract preparation with clients; ・Invoice and payment procedure; ・Monitor water distributed to clients (meter reading, flow management); ・Monitoring of fee collection 3. OJT at PJT I ・Revenue collection procedure (invoice to payment)
		Target group:	・ Head of Administration & Finance Bureau ・ All staff of Finance Section and General Administration Section ・ All staff of Water Service Division II-1
		Cost:	Rp. 59.6 million
		Schedule:	2007

N4 Implementation Organization for the Capacity Development Program

N4.1 Basic Concept

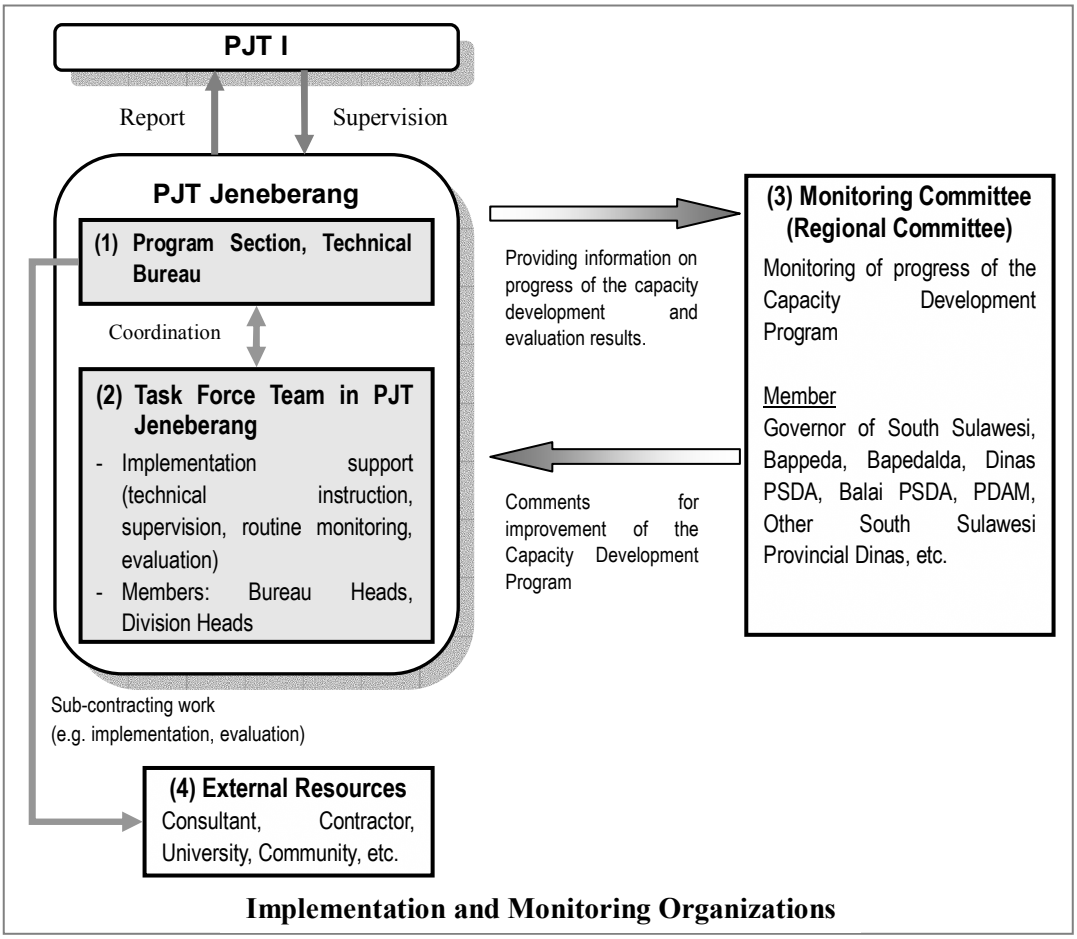
A basic concept of the implementation and the monitoring is that PJT Jeneberang initiates and takes full responsibility of implementation and monitoring. Some work can be sub-contracted to local consultants if proper budget arrangement is made. A system in which comments from the stakeholder can be integrated to the Capacity Development Program will be established since sustainable Jeneberang river basin management requires stakeholder participation.

N4.2 Implementation Organization

Several groups are involved in implementation and monitoring of the Capacity Development Program.

- **Program Section** in Technical Bureau of PJT Jeneberang takes sole responsibility of implementation supported by **Task Force Team** composed of Bureau Heads and Division Heads which provides technical assistance and supervised by PJT I.
- **Monitoring Committee**, composed of stakeholders, is responsible for monitor the implementation and provides advice if necessary.

Responsibilities and flow of implementation are shown in the figure below.



Implementation and Monitoring Organizations

(1) Program Section, Technical Bureau of PJT Jeneberang

Program Section will be responsible for managing the Capacity Development Program. Since the manpower is limited during the initial stage of operation, the task is added to the Section and manages the program with support of Task Force Team selected from the technical and administration sections of PJT Jeneberang. The Program Section shall also be responsible for managing monitoring and evaluation of the Capacity Development Program.

(2) Task Force Team in PJT Jeneberang

A Task Force Team will be formed in PJT Jeneberang to support implementation and is responsible for a technical aspect of implementation including providing instruction to a target group and supervising and monitoring the process. Since the Task Force members are required to have thorough knowledge of the Capacity Development Program, specialists to be included in the Task Force member are facility O&M, legislation/institution, organization management, finance and human resources. It is ideal to have Bureau Heads and Division Heads as a member of the Task Force Team.

(3) Monitoring Committee

Monitoring Committee will be established to provide an opportunity for the stakeholders to participate in the process of the capacity development. It is ideal for the Regional Committee to play the role because they are already familiar with the Capacity Development Program through participating in the Study. The member of the Regional Committee as shown below will continue as a member of the Monitoring Committee. Community groups or NGOs will be added if necessary.

Monitoring Committee Members (tentative)

1.	Governor of South Sulawesi
2.	South Sulawesi Provincial Bappeda
3.	Proyek Induk PWS Jeneberang (JRBDP)
4.	South Sulawesi Provincial Regional Research and Development Agency (Balitbangda)
5.	South Sulawesi Provincial Dinas PSDA
6.	Bureau of Economic Development, South Sulawesi Provincial Regional Secretariat
7.	Dinas Cipta Karya Makassar
8.	South Sulawesi Plantation Agency
9.	Mining and Energy Agency of Gowa Regency
10.	South Sulawesi Provincial Mining and Energy Agency
11.	UPTD of Balai PSDA, Jeneberang river basin
12.	PDAM Makassar
13.	Dinas PSDA of Gowa Regency
14.	South Sulawesi Provincial Agricultural Horticulture Agency
15.	South Sulawesi Provincial Tourism Agency
16.	South Sulawesi Provincial Forestry Agency
17.	PT. PLN of South and South east Sulawesi
18.	South Sulawesi Provincial Bapedalda
19.	PDAM of Gowa Regency
20.	Dinas KIMPRASWIL of Takalar Regency
21.	South Sulawesi Provincial Dinas PSDA
22.	Community group/NGO

(4) External resources

Some work of the capacity development can be sub-contracted to external resources such as a local consultant or a university if a proper budget arrangement is made. Evaluation of the program, for example, is suitable for sub-contracting work. Which work to be sub-contracted and which work to be conducted internally need to be discussed after the detail Capacity Development Program is formulated for implementation.

N4.3 Tasks for implementation

Three actions are needed for implementation of the program namely; implementation, monitoring and evaluation, and feedback. Tasks required for implementation and monitoring are summarized below. Detail of monitoring and evaluation procedure is described in Section N5.

(1) Implementation

- Formulate detail plan for implementation of each program (selection of trainer and trainee, procurement, schedule, etc.),
- Prepare a budget plan for implementation and monitoring, and send request to relevant agencies,
- Instruct and supervise the programs in the Capacity Development Program to the target group,
- Coordinate with relevant agencies or sections in PJT Jeneberang for implementation,
- Prepare Terms of Reference (TOR) for the work to be sub-contracted if necessary, and
- Keep close contact between the Program Section and the Task Force Member by holding routine meeting.

(2) Monitoring and evaluation

- Conduct monitoring routinely,
- Conduct mid-term, terminal, and ex-post evaluation, and
- Prepare a monitoring and evaluation report to be distributed to the Monitoring Committee and ask for comments

(3) Feedback

- Formulate improvement plan based on the monitoring and evaluation results and comments from the Monitoring Committee.

N5 Monitoring and Evaluation of the Capacity Development Program

Implementation of Capacity Development Program shall be monitored and evaluated by PJT Jeneberang during and after the implementation of the program. Monitoring and evaluation is important not only to understand the input and output, but also important for improvement of the program by integrating the monitoring and evaluation results. It is important to establish monitoring and evaluation system before implementation of the Capacity Development Program.

Monitoring and evaluation are conducted based on the information in the PDM and the profile sheets. The PDM shows a structure of the Capacity Development Program as a whole, and shows overall goal (Sustainable river basin management) and objectives at the sector level. Profile sheets shows detail information of each program and provide information needed for monitoring and evaluation.

N5.1 Monitoring

N5.1.1 Monitoring system

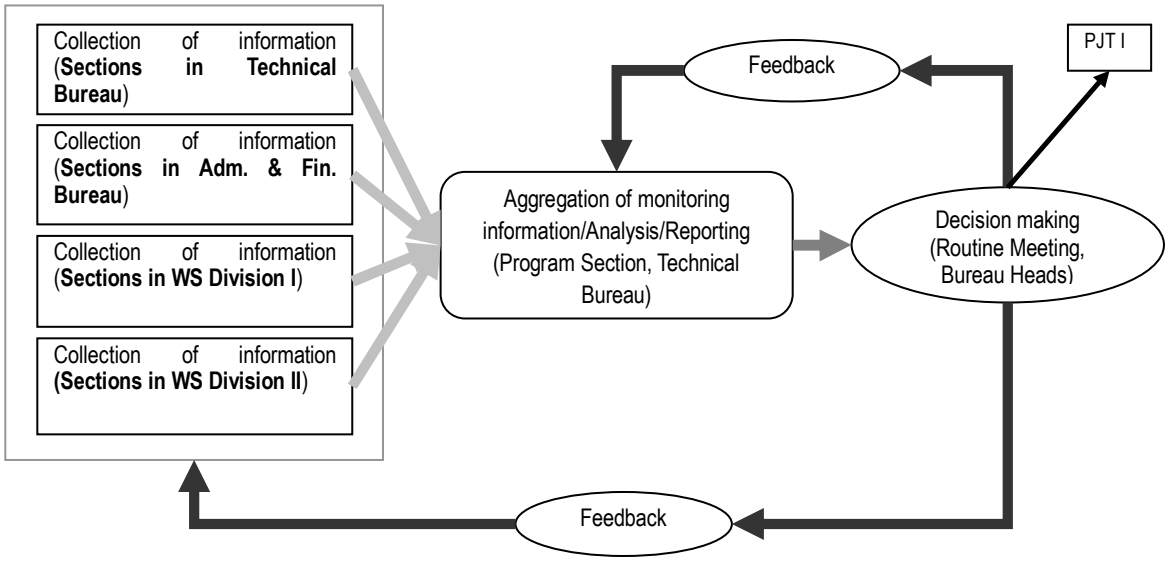
"Monitoring" is defined as ongoing process designed to periodically check if the program is being implemented according to the plan with expected results produced, modify the plan if necessary and provide feedback.

To carry out monitoring properly, it is essential to clearly define information for progress management and develop a monitoring system that allow such information system to be periodically collected, aggregated and assembled for the decision making. Monitoring shall be conducted internally, and all sections of PJT Jeneberang should be involved. The table below shows monitoring activities and responsible sections in PJT Jeneberang.

Monitoring and Responsible Section

Sections in PJT Jeneberang	Responsibilities
Bureau Heads (Technical Bureau & Administration & Finance Bureau) of PJT Jeneberang	・ Decision making and feedback ・ Modification of the program (if necessary) ・ Report to PJT I
Program Section, Technical Bureau of PJT Jeneberang	・ Aggregation of monitoring information ・ Reporting to Bureau Heads/Division Heads ・ Modification of the program (if necessary)
Each Section responsible for implementation of Capacity Development Program	・ Record keeping of the Capacity Development Program ・ Information collection (monitoring indicators)

Within this system there should be a mechanism whereby decisions based on monitoring results can be fed back to those who are responsible for capacity development or respective Bureaus or Sections in a timely manner. Following figure shows proposed information collection and feedback system for monitoring.



Monitoring Information Flow and Feedback

N5.1.2 Monitoring procedure

Monitoring is to understand a current condition of implementation against the plan specified in "Profile sheets for the Capacity Development Program" and shall be conducted at least every other month (six times a year) or ideally every month. Core monitoring items of the Capacity Development Program are shown below.

(1) Implementation of Activities

Progress in implementation of activities at the time of monitoring is checked with the plan of operations specified in the Profile Sheet. (Whether the program is implemented as planned or not, assessed as both item-wise and schedule-wise. How much is the progress?).

(2) Achievement of Outputs

Data for Output indicators is collected and progress in the achievement of Output is examined.

(3) Achievement of Objective

Data for Objective indicators is collected and progress in the achievement of the Project Purpose is examined.

(4) External factors

In addition to those indicated above, there are other items that should be monitored, which include external conditions of PJT Jeneberang such as legal, socio-economic or institutional framework, which may affect implementation.

(5) Search for the problem causes

If monitoring detects gap between the plan and the current status, or the existence of a problem, it is necessary to search for causes and determine measures for solving the problem.

(6) Feedback

Monitoring results shall be reported at a routine internal meeting of PJT Jeneberang (Division heads and Bureau heads) for review and decide whether any actions are needed to improve the program. When considering a modification of the plan, the five evaluation criteria should always be kept in mind. After the monitoring results are reviewed by the Bureau Heads, the results are fed back to respective sections in PJT Jeneberang and to PJT I. Monitoring results are important information source for evaluation and should be kept in the Program Section.

N5.2 Evaluation

N5.2.1 Evaluation System

"Evaluation" is defined as a process designated to judge the results of a completed or ongoing project in terms of five evaluation criteria (relevance, effectiveness, efficiency, impact, and sustainability) systematically and objectively, and to help improve the ongoing and other projects.

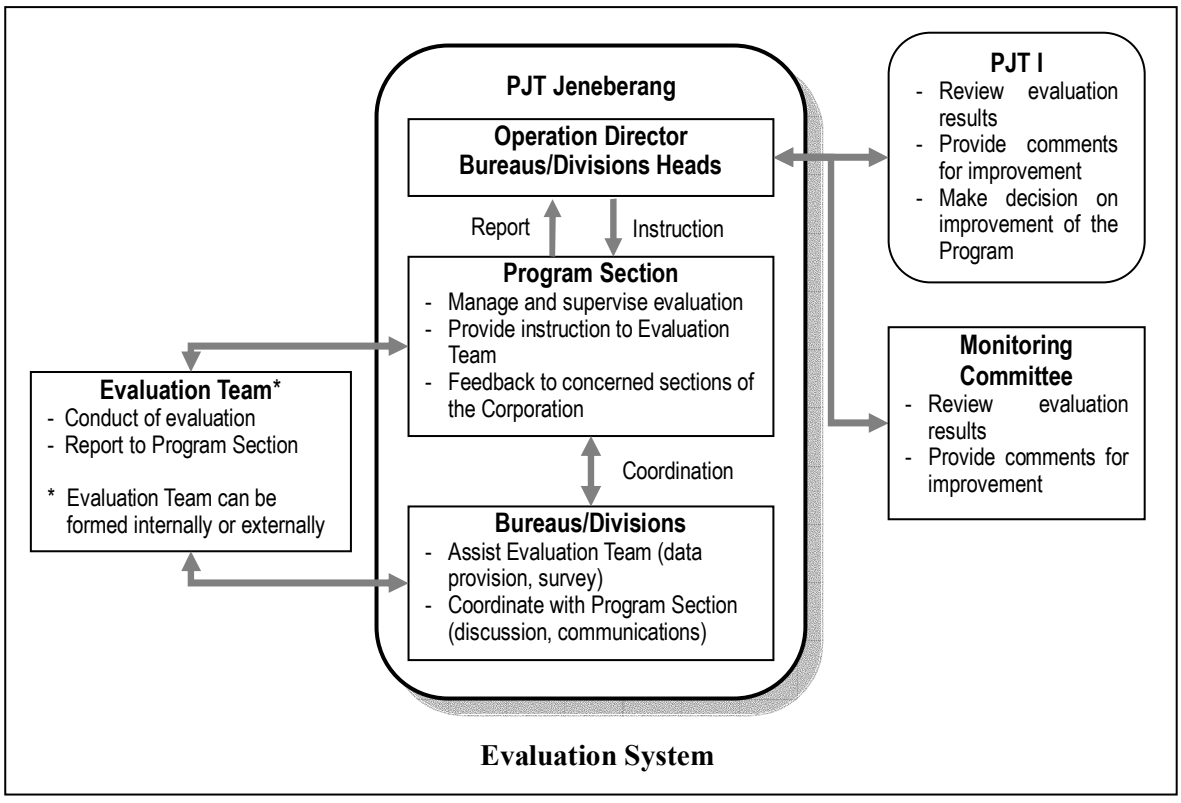
Evaluation requires extra work compared with the work for monitoring, so the evaluation system with clear task allocation and data to be collected needs to be established, and design evaluation procedure prior to conduct each evaluation. Evaluation can be conducted internally or externally depending on work load for evaluation and the availability of resources such as budget and human resources.

Unlike monitoring, which is conducted internally, evaluation may involve several organizations. Sections of PJT Jeneberang and other organizations involved in evaluation and their responsibilities are summarized in the table below.

Evaluation and Responsible Section

Section/Organizations Involved	Responsibilities
(1) PJT Jeneberang ・ Operation Director ・ Bureau Heads (Technical Bureau & Administration & Finance Bureau)	・ Decision making and feedback ・ Modification of the program (if necessary) ・ Report to Monitoring Committee and PJT I
(2) PJT Jeneberang Program Section, Technical Bureau	・ Function as secretariat of evaluation ・ Management and supervision of Evaluation Team ・ Information provision (monitoring results) ・ Reporting to Director/Bureau Heads/Division Heads ・ Modification of Capacity Development Program based on evaluation results and recommendation by Monitoring Committee (if necessary) ・ Feedback to concerned sections of the Corporation
(3) PJT Jeneberang Each Section responsible for implementation of Capacity Development Program	・ Information provision (indicators for monitoring)
(4) PJT I	・ Decision making and feedback on the Capacity Development Program ・ Review evaluation results ・ Provide recommendation for improvement of Capacity Development Program
(5) Evaluation Team (internal or external)	・ Conduct evaluation
(6) Monitoring Committee	・ Review evaluation results ・ Provide recommendation for improvement of Capacity Development Program

Following figure shows flow of tasks among organizations involved in evaluation.



Evaluation System

N5.2.2 Planning of Evaluation Process

In planning of evaluation, a basic direction of evaluation has to be clarified. The basic direction includes elements such as an evaluation purpose, evaluation methods consistent with the purpose, the evaluation team and time schedule. Items to be considered and planning design (sample) are shown in the table below.

Items to be Considered for Evaluation Planning

	Planning Items	Planning Design for CDP*
1	Evaluation purpose (Why the evaluation is being performed, what will be evaluated, who will use the evaluation results for what purpose and when.)	・ Checking the progress of Capacity Development Program and impact to the operation of PJT Jeneberang. ・ Director and Bureau heads/Division heads of PJT Jeneberang use the evaluation results for improving operation of PJT Jeneberang for sustainable river basin management. ・ May also be reported to PJT1 or Ministry of Pubic Works for budget request.
2	Evaluation method	・ Evaluation design (five evaluation criteria, indicators specified in Profile Sheet and PDM). ・ Evaluation process (data collection, analysis, recommendation).
3	Evaluation team	・ Formation of evaluation team. ・ Evaluation can be done internally or sub-contracted to consultants to secure fairness of the evaluation. ・ Team leader, data collection with support of the Corporation staff at operation sites.
4	Cost	Manpower, transport, allowance, meeting, reporting, etc.
5	Evaluation timing and duration	(1) Timing: 4 times i) Mid-term: half way through implementation of the CDP (4th quarter of 2006 & 2007) ii) Terminal: at the end of the CDP (2008) iii) Ex-Post: during the development phase of operation (2010 or 2011) (2) Duration Each evaluation requires 2 to 3 weeks to conduct.
6	Reporting and feedback	・ Report includes evaluation results and recommendations. ・ Evaluation results are reported to Monitoring Committee. ・ Feedback to Bureau Heads and Division Heads after finalizing the report.

* Planning design is a sample proposed by the Study Team and needs to be reconsidered when evaluation is conduced.

N5.2.3 Evaluation Procedure

Four steps are necessary to conduct evaluation.

Step 1 Review of PDM and profile sheet for evaluation

- Identify changes in the PDM and profile sheet and update the information in accordance with current situation.
- For evaluation, the project sheet is used to evaluate individual programs conducted, then based on the individual program evaluation, the PDM is used to evaluate overall progress the program, particularly overall goal and important assumption. Detail is discussed in the Section N5.2.4.

Step 2 Preparation of evaluation design

- Prepare evaluation questions (five evaluation criteria).
- Select data collection methods (literature survey, direct measurement, questionnaire, observation, focus group interview).
- Finalizing evaluation design.

Step 3 Data collection and sorting of results

- Collecting and analyzing information.
- Sorting inquiry results for five evaluation criteria.

Step 4 Conclusion of evaluation

- Draw overall conclusion.
- Making recommendations and drawing lessons.
- Presenting evaluation results to Monitoring Committee, PJT I
- Modify and improve the Capacity Development Program if necessary.
- Feedback to PJT Jeneberang.

N5.2.4 Evaluation Design for Capacity Development Program

Since the Capacity Development Program is composed of many sector programs, evaluation is conducted for each program based on the profile sheets, then the Capacity Development Program as a whole based on the results from the profile sheets and the PDM.

(1) Evaluation by profile sheets

Evaluation of sector programs are conducted based on the information in the profile sheets.

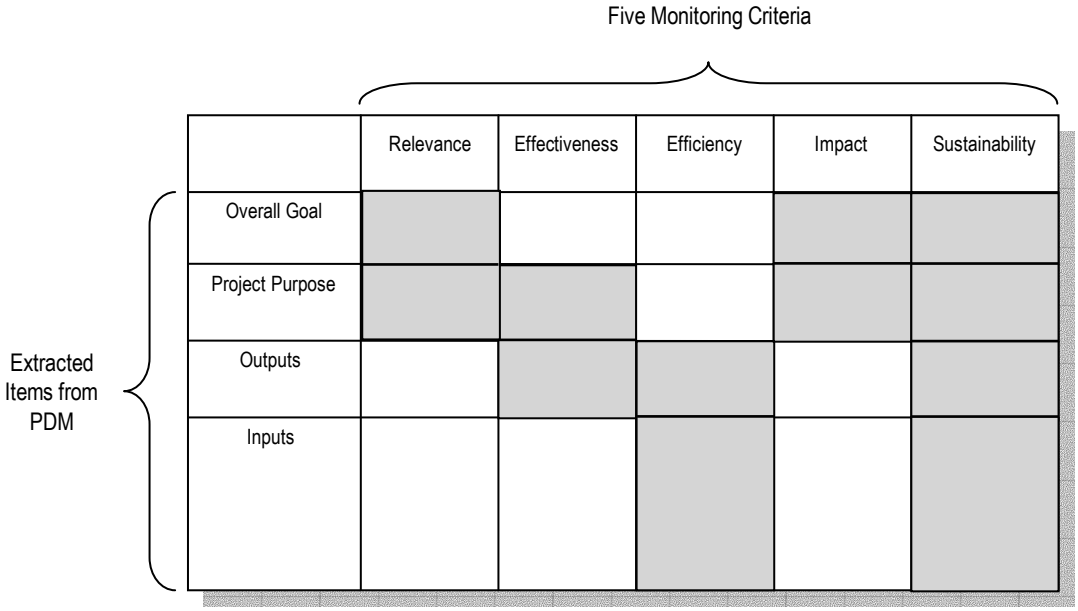
The profile sheet provides necessary information for evaluation, and selected items, 3) Objectives, 7) Inputs, 8) Outputs, 9) Contribution to Sustainable River Basin Management, are used for evaluation. The relationship between the items in the profile sheet and five evaluation criteria is shown below.

Profile Sheet	Evaluation Criteria				
	Relevance	**Effectiveness**	**Efficiency**	**Impact**	**Sustainability**
1. Sector					
2. Program Name					
3. Objectives					
4. Justification of the Program					
5. Activities					
6. Target Group					
7. Inputs					
8. Outputs					
9. Contribution to Sustainable River Basin Management					
10. Method of Capacity Development					
11. Qualification of Trainer					
12. Cost					
13. Monitoring and Evaluation Indicators					
14. Role/Responsibility of Relevant Agencies					
15. Remarks					
16. Plan of Operation					

(2) Evaluation by the PDM

The evaluation for the Capacity Development Program is conducted to judge the Program as a whole, particularly the Outputs set for each sector are contributing to achieve Project Purpose, "Capacity of PJT Jeneberang is strengthened, and watershed management, water quality/quantity management, flood/drought management, and river area management is properly conducted", and the Overall Goal, "Sustainable river basin management is achieved" is likely to be achieved or not. One of the important objectives is to point out additional programs necessary to achieve the Project Purpose.

The five evaluation criteria are usually used for evaluation; relevance, effectiveness, efficiency, impact, and sustainability, which are analyzed from the information in the PDM. The relationship between the five evaluation criteria and the PDM is shown in the figure below.



PDM and Five Criteria

Description and main consideration for each criterion are summarized in the table below.

Five Evaluation Criteria and Questions to be Asked

Criteria	Main considerations
Relevance	• Examine whether the "Project Purpose" and "Overall Goal" are meaningful as project objectives • *Have there been any changes in the policies of the river basin management?* • *If the "Project Purpose" is beginning to become incompatible with the policies of river basin management, what can be done to response?*
Effectiveness	• Effectiveness involves ascertainment of the extent to which the "Project Purpose" has been/is expected to be achieved via the outputs. • "Effectiveness" means the degree of achievement of the project purpose. • *Is the "Project Purpose" expected to be achieved by the end of the target year?* • *Are there any "Outputs" that need boosting to achieve the "Project Purpose"? Conversely, can any "Outputs" be cut back without jeopardizing the achievement of the "Project Purpose"?*
Efficiency	• Efficiency involves productivity of implementation process. Inquiry items include: the extent to which "Inputs" have been converted to "Outputs", the appropriateness of the quantities and quality of resources put in; and the means, methods and timings of input. • *Are the "Inputs" being utilized properly to produce "Outputs"?* • *How can Inputs be eliminated or minimized to produce the same "Outputs"?*
Impact	• Positive and negative effects of the implementation of the project, either direct or indirect, should be examined. • *Is the project producing any negative effects?* • *If so, how can they be minimized or dissolved?*
Sustainability	• Whether the benefits of the implementation of a project will continue after the discontinuation of assistance is examined. Self-reliance of the project. • *Is PJT Jeneberang being properly prepared (appropriate technology, capacity building of management ability, funding sources, etc.) to sustain the benefits of the program after the program ends?* • *If not, what can be done along these lines in the time left before the end of the program?*

(3) Indicators

Indicators for each program are listed in the profile sheet. Some indicators are automatically available when the Capacity Development Program is properly implemented, and some indicators may have to be created in addition to implementation of the Capacity Development Program. Monitoring results can also be utilized as means of verifying indicators. Prior to implementation of the Capacity Development Program, means of verification for each program has to be clarified. A list of indicators that can be applied in addition to the indicators listed in the profile sheets for evaluation is summarized in Table N6.1.

N6 Implementation Schedule

N6.1 Capacity Development Program Implementation Schedule

Capacity Development Program is planned to be implemented intensively for three years after establishment of PJT Jeneberang and is expected to start in 2006 and complete in 2008. For some programs, preparatory work starts prior to establishment, and some programs are implemented three years after the establishment of PJT Jeneberang when the condition such as budget and maturity of the operation is met. The implementation schedule may need to be adjusted if the establishment schedule of PJT Jeneberang changes. The implementation schedule of the Capacity Development Program is shown in Figure N6.1.

N6.2 Monitoring and Evaluation Schedule

Monitoring and evaluation plays an important role in implementation and should be implemented as a part of the Capacity Development Program.

Monitoring shall be conducted routinely and reported to PJT Jeneberang routine meeting planned to be conducted every month.

Evaluation shall be conducted several times during and after implementation of the Program. "Mid-Term Evaluation" is conducted twice during the implementation, "Terminal Evaluation" is conducted at the end of the implementation, and "Ex-Post Evaluation" is conducted during the development phase of PJT Jeneberang operation. Timing and objectives of each evaluation is summarized in the table below.

Timing and Objective of Evaluation

	Mid-term Evaluation	Terminal Evaluation	Ex-Post Evaluation
Timing*	(1) 1 year after the start of implementation (4^{th} quarter of 2006) (2) 2 years after the start of implementation (4^{th} quarter of 2007)	End of implementation (end of 2008)	A few years after completion of implementation (2011, during the Development Phase)
Objective	Make sure Capacity Development is conducted as planned, and make adjustment by modifying the program for improvement. Evaluation Criteria *Relevance, Effectiveness, Efficiency, Impact, Sustainability*	Make sure the Capacity Development is completed as planned and objectives are achieved and sustainable river basin management is likely to be achieved. Evaluation Criteria *Relevance, Effectiveness, Efficiency, Impact, Sustainability*	Make sure "Sustainable river basin management" is still achieved Evaluation Criteria *Relevance, Impact, Sustain*

Note: * the year shown is tentative and may change depending on the establishment schedule of PJT Jeneberang.

Tables

Table N1.1 PDM of Capacity Development for Jeneberang River Basin Management

Project：Capacity Development for Jeneberang River Basin Management　　Implementation Period：2006 ~2008　　Target group：PJT Jeneberang

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal Sustainable Jeneberang river basin management is achieved.	・The cost needed for basin management can be covered by the revenue. ・Make notable negative environmental impact in the basin zero (none).	・Accounting record prepared by the government. ・Quality control record of the government.	・GOI policy on Basin Management Company and Balai PSDA related to basin management doe not change. ・The Jeneberang Public Corporation keeps existing. ・Regional autonomy regulation does not change.
Project Purpose Capacity of PJT Jeneberang and Balai PSDA Jeneberang is strengthened, and watershed management, water quality/quantity management, flood/drought management, and river area management is properly executed.	・Provide 95% of raw water annually demanded that satisfied the quality required by users (provide safe, good quality, low cost raw water stably). ・The complaints from general public and clients is properly treated.	・Water balance (demand and supply) record of raw water. ・Claim record ・Media, news paper.	・Drastic social and economic changes such as drop in value of Rupiah followed by economic crisis which make beneficiaries unable to pay fees do not occur. ・Stakeholders understand and participate in the river basin management activities.
Outputs 1 Facility O&M and management capacity will improve by the staff conducting proper O&M of facilities based on improved manuals, improved database management and improved O&M equipment	① Indicator for capacity development in O&M of river facilities: **Water use management with accurate monitoring of conditions** (hydrological observation/database available, water allocation operation, water use permit, effective use of reservoir, drought management), **River facility O&M based on database and manual** (dams/reservoir management, intake management, river facility management, sabo and sand pocket management), **River management based on manual** (river course management, water quality management, flood control, land use/river use management, sand/gravel mining management), **Watershed conservation based on manual** (sediment control, land use control, forest conservation control, ecological conservation)	① Means of verification for O&M of river facilities: Hydrological database, water distribution operation record, water use permit application record, reservoir operation rule/operation record, minutes of meeting of water resources coordination committee, maintenance and repair record, water quality observation record, flood control work record, river management record, sand/gravel mining record, inspection/dam management record/facility management record, other work record, relevant manuals and guidelines	・Beneficiary pay principle for basin management and pollutant discharger pay principle do not change. ・Drastic social and economic changes such as drop in value of Rupiah followed by economic crisis which make beneficiaries unable to pay fees do not occur. ・Water demand does not decrease drastically. ・Stakeholders agree and follow the role and function of the Public Corporation and the stakeholders. ・Drastic natural conditions (rainfall, temperature, geography) change.
2 Organization operation and management capacity will improve by proper execution of jobs resulted from efficient organizational structure, proper understanding and implementation of laws and regulation related to internal and external affairs	② Indicator for capacity development in institutional/organizational management: **Organizational management strengthening** (structuring efficient organization, clarification of job description, authority, and line of command), **Management control** (activity of management board, decision making, trouble and claims), **Availability and understanding of institutional framework** (laws and regulations for river basin management, internal rules for organization management), **Public relations** (community organizations, accountability, community education/enlightenment, community service)	② Means of verification for institutional/organizational management: Number of laws and regulations enacted, number of rules established, minutes of meeting of internal meeting, training record, interviews, minute of meeting of board meeting	
3 Financial management capacity will improve by securing income sources and fee collection, and efficient financial management resulted from improved fee collection system, installation of corporate accounting system and staff skill development, and promotion of non-water businesses	③ Indicator for capacity development in financial management: **Availability of accounting system** (installation of corporate accounting system, guidelines/manuals related to finance statement, auditing), **Tariff collection improvement** (approval of water rate, water fee collection system, revenue from tariff), **Cash flow management** (revenue/expenditure control based on accounting system), **Asset management** (balance sheet, asset management), **Non-water businesses** (formulation and operation of non-water projects)	③ Means of verification for improvement of financial management: Number of laws and regulations enacted, number of rules established, regulations at provincial level, contract with clients including agreement of water use fee collection, fee collection record, internal document, financial document, accounting record, auditing record, asset ledger, minutes of meeting of internal meeting, pilot project activity record, relevant manuals and guidelines	
4 Human resources will be developed by improving management staff skills and improving personnel system resulted from staff training, more senior staff, improving skill of young staff, and improving staff assignment/promotion/recruitment	④ Indicators for capacity development for human resources: **Proper execution of education and training** (formulation of education and training programs, execution of education and training, verification of output of education and training), **Personnel management system** (system is established and implemented, recruitment, promotion, staff assignment, incentive)	④ Means of verification for human resources: Staff database (Number of staff by age, education, specialty, qualification, personnel management record), document related to personnel management system, number of education and training, staff training record, salary record, internal rules for personnel management	

Activities

1-1 Formulate facility operation and maintenance management plan
1-2 Formulate and distribute facility operation and maintenance guideline and manuals (database, operation, maintenance)
1-3 Establish data monitoring system (evaluation, reporting, feedback)
1-4 Formulate calibration plan of monitoring equipment
1-5 Formulate and conduct capacity development plan (training) related to facility operation and maintenance (data monitoring/analysis, operation, maintenance, calibration)
1-6 Monitor and evaluate the progress of capacity development and feedback to the plan and implementation

2-1 Formulate organization operation management plan (annual plan, activity report)
2-2 Analyze and formulate job description, organizational structure, line of command, staff requirement
2-3 Formulate organization operation management regulations and rules
2-4 Review and understand existing laws and regulations related to river basin management including Water Law, autonomy
2-5 Formulate and conduct capacity development plan (training) related to organization operation management plan for management and institutional aspects
2-6 Monitor and evaluate the progress of capacity development and feedback to the plan and implementation

3-1 Formulate security of revenue source for O&M management plan
3-2 Establish and install corporate accounting system (cost calculation, computer program, financial rules)
3-3 Prepare a contract with clients, tariff setting system and guideline
3-4 Promote of non-water businesses
3-5 Formulate and conduct capacity development plan related to financial management including job description, staff requirement, manuals, and training
3-6 Monitor and evaluate the progress of capacity development and feedback to the plan and implementation

4-1 Evaluate manpower and personnel system, execution and system of education and training
4-2 Introduce personnel management system including career development, personnel evaluation, recruitment, promotion, and personnel database
4-3 Formulate and conduct manpower and human resources development plan including management and technical skill development
4-4 Monitor and evaluate the progress of manpower and human resources development and feedback to the plan and implementation

Inputs

Japan/Foreign

Manpower
(1) JICA Study Team (monitoring and evaluation for Phase III)
(2) Experts

Materials
(1) Computers and other office equipment
(2) Computer soft (GIS)
(3) Financial management system (Administration management system)
(4) Manuals and guidelines

Indonesia

Manpower
Counterpart (Region)
(1) Public Corporation staff
(2) JRBDP staff who are likely to be transferred to the new corporation
(3) Balai PSDA Jeneberang Staff (limited to those responsible for Jeneberang River Basin Management)
(4) PJT 1 staff
Counterpart (Central)
・Staff of General Directorate of Water Resources Development, Ministry of Public Works
Capacity Development Monitoring Committee
・Composed of South Sulawesi government and Kabupaten government
Materials
・Office space, computer, hydrological observation equipment and other equipment necessary for basin management work
Local costs
・Project management and operation costs

・Staff who received training keeps working at PJT Jeneberang or Balai PSDA Jeneberang.
・Staff who received training keeps working at the same department or the section.
・Stakeholders agree and follow the role and function of PJT Jeneberang and the stakeholders.

Pre-conditions
・The concept of basin based water resources management (one basin one management) does not change.
・Government regulations (PP) necessary for establishment of the Public Corporation is drafted.
・Budget from regional government and central government is allocated for initial operation of the Jeneberang Public Corporation.
・Initial staff assignment is fixed.

Table N6.1 Indicators for Capacity Development

Sectors	Monitoring Indicators	Means of Verification
1 Capacity building for facility management (O&M)		
Water use management (monitoring & analysis of dam and reservoir conditions)		
Hydrology & meteorology observation	All observation, database accumulation, data analysis specified in operation manual is available	- List of observation & data specified in operation manual - Monitoring record (database)
Water allocation	Water is allocated based on the plan, analyzed database for dam conditions and manual	- Allocation record & contents - Facility operation manual & record - Monitoring record (database)
Water use permit	- Permit is issued based on relevant legislation - Application is not be kept without reason	- Laws and regulation - Number of permit/application stock
Effective use of reservoir	Operation is based on rule & database	Operation record and rule
Drought management	Quickly responded to drought management with effective operation and water allocation	Record of drought operation, water allocation
Facility management		
Dam/Reservoir	- Operation is based on the data of dam conditions, operation rule and water demand - Conduct maintenance work based on manual	- Operation manual, operation record, water demand volume - Number of maintenance/repair
Intake	- Operation is based on the data of dam conditions, operation rule and water demand - Conduct maintenance work based on manual	- Operation manual, operation record, water demand volume - Number of maintenance/repair
River infrastructure	- Operation is based on the data of dam conditions, operation rule and water demand - Conduct maintenance work based on manual	- Operation manual, operation record, water demand volume - Number of maintenance/repair
Sabo dam	- Conduct maintenance work based on manual	- Operation manual, operation record - Number of maintenance/repair
River management		
River course control	Repair maintenance of sand mining etc. is based on manual and permit	- Number of maintenance/repair - Manual, permit
Water quality control	Quality check & data sent to BAPEDALDA as specified in manual	- Number of quality observation times - Manual
Flood control	- Planning & implementation according to divided area - Facility operation is based on database of dam conditions and hydrological & meteorological data	- Operation manual and operation record - Number of maintenance/repair
River use control	Routine check on illegal use based on regulation is conducted	- Number of execution/non execution - Comparing record and permit
River area use control	Routine check on illegal use based on regulation is conducted	- Number of execution/non execution - Comparing record and permit
Sand mining control	Routine check on illegal mining based on regulation is conducted	- Number of execution/non execution - Comparing mining record and permit
Watershed conservation		
Sediment control	Sedimentation observation & problem finding is conducted as specified in manual	- Observation record - Manual
Basin land use control	- Routine check is conducted - Illegal use finding & report to regional forestry is conducted	- Manual - Check record
Forest maintenance	Appropriate cooperation with regional forestry department is established and executed	- Agreement with regional forestry department - Number of cooperation/contents
Ecological maintenance	Appropriate cooperation with regional BAPEDALDA is established and executed	- Agreement with BAPEDALDA - Number of cooperation/contents
2 Capacity building for institutional and organizational management		
Organizational management strengthening		
Structuring efficient organization	- Job description, authority, line of command is clear - Authority & duty is executed as defined in the corporation rules	- Corporation management rules - Job description and authority rule - Letters of transaction

Sectors	Monitoring Indicators	Means of Verification
Management control		
Management meeting	Hold meetings on rule & decision making	Record of meeting/measure taken
Decision making	Decision making is done at the appropriate level	Record of decision at each level and job description
Trouble and claims	Troubles and claims in organization/labor/ customer control is minimized	Record of trouble raised/settled
Legislation		
Organizational management regulation	Regulation needed for management is available and understood by responsible staff	Organization rules, staff knowledge test results
Laws and regulations related to river basin management	Relevant laws and regulations are available and understood by responsible person	Water laws, water right, water allocation, autonomy, property ownership, staff knowledge
Public relations		
Organizing residents	Resident participate in the basin management	Record of resident organizations and activities
Accountability	Necessary data and information is disclosed to public	Number of disclosure/publicity
Education/enlightenment	Resident awareness of water use/ conservation/flood control increases	Record of education/enlightenment
Community service	Contact point for consultation/claim from community is established	Record of consultation/claim settled
3 Capacity building for financial management		
Accounting system		
Accounting system	Corporate accounting system is installed and implemented	Financial statements, manual for accounting system, computer program
Financial /accounting rules	Manuals as proposed in the study is available and used	Manual, financial statement
Auditing	Audit by internal auditor as required	Auditing record/comments
Tariff collection		
Tariff approval	Tariff is approval by the responsible person	Approval documents
Tariff collection system	- Tariff collection system from PDAM/PLN/industry/government is established - Tariff is collected 100%	- Agreement record - Actual collection amount - Invoice and receipts - Income statement
Cash flow management		
Expense control	- All expenses are recorded - Income statement and cash flow is organized as instructed	Income statement/annual report/cash flow
Revenue management	- All revenues are recorded - Income statement and cash is organized as instructed	Income statement/annual report/cash flow
Asset management		
Balance sheet management	- Balance sheet is organized as instructed - Information on assets (residual value, depreciation) are recorded	Balance sheet, manual
Non-water businesses		
Formulation and operation of new business	Plan & start operation according to the study result	- Number of business in operation - Income statement for non-water business
4 Capacity building for human resources development		
Education and training		
Improvement of education & training system	Formation of education/training system according to the proposal	Comparing plan & execution
Implementation and evaluation of education & training	- Implementation as planed in the study - Evaluation system functions	- Number of execution/understanding grade/ willingness etc. - Evaluation record
Personnel management system		
Personnel management	- Personnel management system is established - Staff is assigned as required by the department and as requested by the staff - Recruitment, job rotation, lay off is conducted based on personnel evaluation - Incentive is provided	- Personnel evaluation, staff assignment record - Staff database - Recruit/rotation/promotion record

Figures

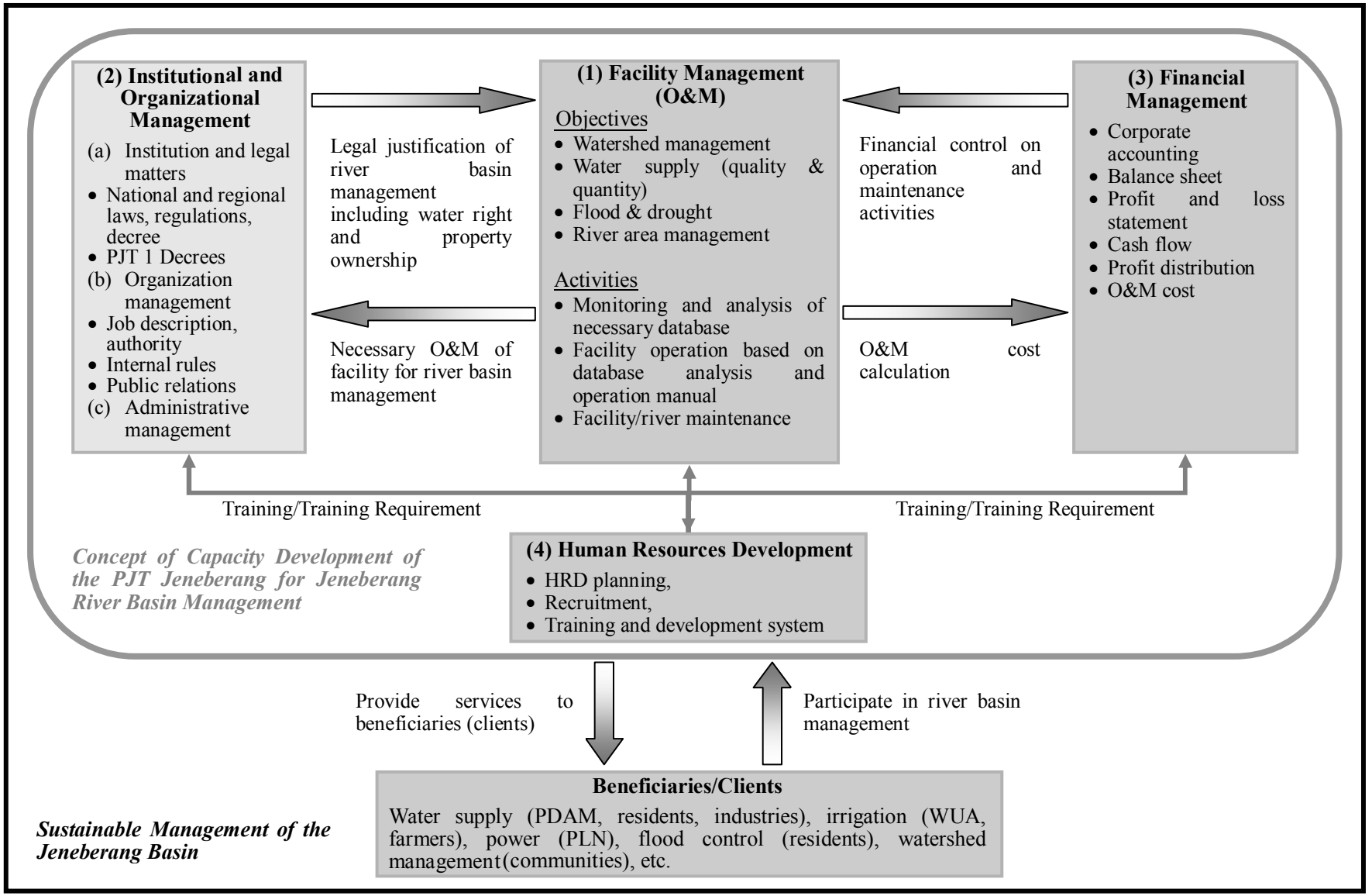


Figure N2.1 Concept of Capacity Development

	2006												2007												2008												2009				2010				2011			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	1	2	3	4	1	2	3	4	1	2	3	4
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	1	2	3	4	1	2	3	4

Start-up Phase

Development Phase

▼ Establishment of PJTJ

▼ Commencement of operation

	(1)	(2) Technical Bureau					(3) Administration & Finance Bureau								(4) Water Services Division I							(5) Water Services Division II				
		(2)-0	(2)-1	(2)-1	(2)-2	(2)-2	(3)-0	(3)-1	(3)-1	(3)-2	(3)-2	(3)-3	(3)-3	(3)-4	(3)-5	(4)-0	(4)-1	(4)-1	(4)-2	(4)-2	(4)-3	(4)-3	(5)-0	(5)-1	(5)-1	(5)-2	(5)-2
	PJT Jeneberang Operation Director	**Technical Bureau Head**	**Program Section (Head)**	Program Section (Staff)	**O&M and Environment Section (Head)**	O&M and Environment Section (Staff)	**Administration & Finance Bureau Head**	**General Affairs Section (Head)**	General Affairs Section (Staff)	**Finance Section (Head)**	Finance Section (Staff)	**Human Resources Section (Head)**	Human Resources Section (Staff)	Public Relations Coordinator	Legal Advisor	**Water Services Division I Head**	**General Affairs Section (Head)**	General Affairs Section (Staff)	**Sub-Division I-1 (Head)**	Sub-Division I-1 (Staff)	**Sub-Division I-2 (Head)**	Sub-Division I-2 (Staff)	**Water Services Division II Head**	**Sub-Division II-1 (Head)**	Sub-Division II-1 (Staff)	**Sub-Division II-2 (Head)**	Sub-Division II-2 (Staff)
I Capacity Development Program Implementation																											
(1) Facility management																											
(1)-1 Data collection and analysis																											
(1)-1-1 Development of inventory of land use states in river administration area		★	★	★	★	★										★	★						★				
(1)-1-2 Development of inventory of facilities relevant to river management		★	★	★	★	★										★			★				★	★		★	
(1)-1-3 Hydrological data collection and analysis																★			★	★							
(1)-2 Facility operation and maintenance																											
(1)-2-1 O&M of Bili-Bili Dam and Raw Water Transmission Main (RWTM)																★			★	★							
(1)-2-2 Maintenance system for electrical equipment at Bili-Bili dam																★			★	★							
(1)-2-3 O&M for hydromechanical facility (Bili-Bili dam site)																★			★	★							
(1)-2-4 O&M for hydromechanical facility (Drainage Gate at Jeneberang river)																							★			★	★
(1)-2-5 O&M of the existing eleven drainage gates along lower Jeneberang River		★																					★			★	★
(1)-2-6 O&M of Rubber dam and Long storage																							★			★	★
(1)-2-7 O&M of irrigation weirs																							★	★	★		
(2) River basin management																											
(2)-1 Flood management																											
(2)-1-1 Flood Plain management (2012~2014)		★	★	★	★	★		★	★														★				
(2)-1-2 Flood warning, fighting and evacuation (2012~2014)		★	★	★	★	★		★	★							★			★	★			★				
(2)-2 Water quantity management		★	★	★	★	★		★	★							★			★	★			★	★	★	★	★
(2)-3 Drought management (2012~2014)		★	★	★	★	★		★	★							★			★	★			★	★	★	★	★
(2)-4 Watershed management																											
(2)-4-1 Implementation of watershed management services		★	★	★										★		★					★	★					
(2)-5 Water quality and pollution monitoring																											
(2)-5-1 Water quality monitoring (WQM)					★	★																					
(2)-5-2 Water pollution control					★	★																					
(2)-5-3 Waste water management					★	★																					
(3) Institutions/Organization management/human resources management																											
(3)-1 Laws and regulations in the water sector	★	★	★	★			★	★	★	★	★	★	★			★			★				★	★		★	
(3)-2 Organizational structuring & staffing, and HRA		★					★					★	★			★							★				
(3)-3 Human resources development	★	★	★	★			★	★	★	★	★	★	★			★			★		★		★	★		★	
(3)-4 Strengthening of public relation capability							★							★		★							★				
(4) Administrative management																											
(4)-1 Business planning skill training (including non-water business)	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★			★		★		★	★		★	
(4)-2 Quality management system training (ISO)	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
(5)-3 Corporate management capacity development	★	★	★				★									★							★				
(5) Financial management																											
(5)-1 Financial administration capacity development program	★	★	★		★		★	★		★	★	★				★	★		★		★		★	★		★	
(5)-2 Corporate accounting by ASGL																											
(5)-3 Revenue collection										★	★												★	★	★		
Monitoring																											
Evaluation																											
II Inventive Capacity Development at PJT I																											
(1) Capacity development for technical sector	★															★	★		★		★		★	★		★	
(2) Capacity development for management sector	★	★					★									★							★				
III JICA Study Team																											
(1) Monitoring and evaluation of capacity development**																											

Mid-term Mid-term Termina Ex-Post

	2006												2007												2008												2009				2010				2011			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	1	2	3	4	1	2	3	4	1	2	3	4
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	1	2	3	4	1	2	3	4

** Activities to be conducted during the Phase III of the JICA Study

Figure N6.1 Capacity Development Implementation Schedule

Appendix

Profile Sheet of the Capacity Development Program

1. Sector	(1) Facility Management/Database and Analysis	
2. Program Name	(1)-1-1 Development of inventory of land use states in river administration area	
3. Objectives	・ To identify the outward bound of administration area of PJT Jeneberang ・ To identify the updated land use states in the administration area	
4. Justification of the Program	It is important for PJT Jeneberang to delineate its clear administration boundary and to know the updated land use states therein. The Program is, however, not urgently required, and could be implemented after 2009 (the year to commence the full-scale service of Corporation).	
5. Activities	・ Aerial-photograph survey along river administration area. ・ Determination of outward bound of river administration area based on the results of aerial-photograph survey. ・ Development of base-map for inventory of updated land use based on the results of aerial-photograph survey. ・ Field survey on the updated land use states in river administration area. ・ Development of inventory of the updated land use states in river administration area. ・ Revision of updating system/procedures on inventory of land use states. ・ Indoor training on development of land use states.	
6. Target Group	・ Heads of Water Service Division I and II ・ Head of General Affairs Section under Water Service Division I ・ All staffs of Technical Bureau	
7. Input	1) Manpower ・ Expert for Data Base from PJT1 (1.0M/M) ・ Land Use Expert from JRBDP (1.0M/M) ・ Aerial-photograph survey expert from JRBDP (1.0M/M) ・ Aerial-photograph Expert from private firm (1.0M/M)	2) Materials and Equipment ・ Equipment for aerial-photograph survey ・ GPS ・ Camera ・ PC with GIS system ・ Vehicles ・ O&M manual prepared by the JICA Study Team
8. Outputs	・Outward bound of administration area of PJT Jeneberang ・Updated land use states in administration area ・Renewal system of land use states in river administration area	
9 Contribution to Sustainable River Basin Management	Appropriate control of land use in the river administration area contributes to proper decision making on facility O&M and proper river basin management.	
10. Method of Capacity Development	・On-the-Job Training ・Indoor lecture	
11. Qualification of trainer	All of trainers should have the experience of more than 10 years in each of the special fields	
12. Cost	Rp. 341.2 million	
13. Monitoring and Evaluation Indicators	Availability of necessary data including: ・Base map of river administration area ・Inventory of the updated land use states in river administration area ・Number of indoor training and its record.	
14. Role / Responsibility of Relevant Agencies	PJT I	Supports all activities for this Program.
	JRBDP	Joins the indoor lecture, supplies the training material and further supervise the aerial-photo survey.
	Contractor	Undertakes the aerial-photographic survey
15. Remarks	This program is assumed to start in 2008	

16. Plan of Operation

Activities	*1st year(2008)*				*2nd year (2009)*				*3rd year (2010)*			
1) Aerial-photograph survey		P	A	A								
2) Development of base-map				P	A	A						
3) Development of inventory of land use states						P	X					
4) Revision of updating procedures of inventory							P	P	X			
5) Indoor training									X	X		

Note: CD: Capacity Development, P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(1) Facility Management/Database and Analysis	
2. Program Name	(1)-1-2 Development of inventory of facilities relevant to river management	
3. Objectives	To identify the updated states of facilities relevant to river management	
4. Justification of the Program	The information on the updated states facilities relevant to river management should be available as a base of the river management.	
5. Activities	・ Updating of inventory of the facilities. ・ Development of updated spare-part list. ・ Revision of updating system/procedures on inventory of facilities. ・ Indoor lecture on development of inventory of facilities relevant to river management.	
6. Target Group	・ Heads of Water Service Division I & II ・ Head of Sub- Divisions I-1, II-1 & II-2 ・ All staffs of Technical Bureau	
7. Input	1) Manpower (trainer) ・Expert for Data Base from PJT1 (2.0M/M) ・Structural engineer from JRBDP (6.0M/M) ・Mechanical expert from JRBDP (6.0M/M) ・Electrical expert from JRBDP (6.0M/M)	2) Materials and Equipment ・GPS ・Camera ・Computer with GIS system ・Vehicles ・O&M manual prepared by the JICA Study Team
8. Outputs	・Inventory of updated facilities related to river management ・Renewal system of list of facilities related to river management	
9 Contribution to Sustainable River Basin Management	Clarification of overall management assets provides information on river basin management and facilities O&M.	
10. Method of Capacity Development	・On-the-Job Training ・Indoor lecture	
11. Qualification of trainer	All of trainers should have the experience of more than 10 years in each of the special fields	
12. Cost	Rp. 49.8 million	
13. Monitoring and Evaluation Indicators	Availability of necessary data including ・Updated inventory of the facilities ・Updated spare-part list. ・Number of indoor lecture and its record.	
14. Role / Responsibility of Relevant Agencies	PJT1	Supports all activities for this Program.
	JRBDP	Joins OJT/indoor lecture, supplies the training materials and further supervise the aerial-photo survey.
15. Remarks		

16. Plan of Operation

Activities	*1st year (2006)*				*2nd year (2007)*				*3rd year (2008)*			
1) Updating of inventory of facilities			P	P	X							
2) Updating of spare-part list						X	X					
3) Revision of updating procedures on inventory of facilities							X	X	X			
4) Indoor lecture									X	X	X	

Note: CD: Capacity Development, P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(1) Facility Management/Database and Analysis	
2. Program Name	(1)-1-3 Hydrological data collection and analysis	
3. Objectives	・ To improve knowledge of PJT Jeneberang on hydrological data collection and analysis ・ To improve accuracy of hydrological gauging data as the base for operation of the facilities	
4. Justification of the Program	The relevant hydrological information should be the base of the river management.	
5. Activities	・ Field training on river flow measurement. ・ Revision of updating system/procedures including monitoring database system and evaluation and feedback on hydrological data. ・ Indoor lecture on hydrological data collection and analysis.	
6. Target Group	・ Head of Water Service Division I ・ All staffs of Sub-division I-1	
7. Input	1) Manpower (trainer) ・ Hydrologist from Dinas/Balai PSDA (6.0M/M) ・ Telecommunication expert from JRBDP (1.0M/M)	2) Materials and Equipment ・ Equipment for river flow measurement (current meter, boat, measuring tape, stop watch) ・ PC ・ Vehicles ・ O&M manuals prepared by Balai PSDA ・ O&M manual prepared by the JICA Study Team
8. Outputs	・ Updated H-Q rating curve ・ Renewal system of gauging data	
9 Contribution to Sustainable River Basin Management	Improvement of accuracy of hydrological gauging data is a base for operation of the facilities which is necessary for proper river basin management.	
10. Method of Capacity Development	・ On-the-Job Training ・ Indoor lecture	
11. Qualification of trainer	All of trainers should have the experience of more than 3 years in each of the special fields.	
12. Cost	Rp.80.9 million	
13. Monitoring and Evaluation Indicators	Availability of data including: ・ Number of Indoor training and its record ・ Number of field training ・ Number of H-Q rating curves ・ Updated system/procedures on hydrological data	
14. Role / Responsibility of Relevant Agencies	Dinas/Balai PSDA	Supports all activities for this Program.
	JRBDP	Joins OJT/indoor lecture, supplies the training materials and further supervise the aerial-photo survey
15. Remarks		

16. Plan of Operation

Activities	*1st year (2006)*				*2nd year (2007)*				*3rd year (2008)*			
1) Field training on river flow measurement			P	P	X	X						
2) Revision of updating procedures on hydrological data							X	X				
3) Indoor lecture on hydrological data collection and analysis					X	X						

Note: CD: Capacity Development, P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(1) Facility Management/Facility Operation & Maintenance	
2. Program Name	(1)-2-1 O&M of Bili-Bili Dam and Raw Water Transmission Main (RWTM)	
3. Objectives	To improve the knowledge of PJT Jeneberang on the relevant operation and maintenance works and to improve the conditions of facilities.	
4. Justification of the Program	PJT Jeneberang should acquire all necessary knowledge on O&M of the relevant facilities.	
5. Activities	・ Field inspection on the updated states of facilities. ・ Updating of annual maintenance program. ・ Updating of annual supply plan of spare-part and other materials for operation and maintenance. ・ Indoor training for maintenance and operation of the facilities. ・ Field training for operation of the facilities.	
6. Target Group	・ Head of Water Service Division I ・ All staffs of Sub-division I-1	
7. Input	1) Manpower (trainer) ・Dam expert from PJT1 (1.5 M/M) ・Gate Operator from JRBDP (2.0M/M) ・Mechanical expert for RWTM from JRBDP (2.0M/M)	2) Materials and Equipment ・PC and Projector ・Camera ・Vehicles ・O&M manuals prepared by JRBDP ・O&M manuals prepared by the JICA Study Team
8. Outputs	Transfer of knowledge on operation and maintenance of the relevant facilities to PJT Jeneberang.	
9 Contribution to Sustainable River Basin Management	Improved knowledge on facility O&M leads to sustenance of better function of facilities and longer period of durability of the facilities, which contributes to sustainable river basin management.	
10. Method of Capacity Development	・On-the-Job Training ・Indoor lecture	
11. Qualification of trainer	Dam expert from PJT1 should have the experience of more than 10 years in his special field, while others more than 3 years	
12. Cost	Rp. 53.7 million	
13. Monitoring and Evaluation Indicators	Availability of data including: ・Updated annual maintenance program ・Updated annual supply plan of spare-part and other materials ・Number of indoor training for maintenance and operation of the facilities and its record ・Number of field training and its record	
14. Role / Responsibility of Relevant Agencies	JRBDP	Supports all activities for this Program.
	PJT1	Joins OJT/indoor lecture, supplies the training materials
15. Remarks		

16. Plan of Operation

Activities	*1st year (2006)*				*2nd year (2007)*				*3rd year (2008)*			
1) Field inspection			A	A								
2) Updating of annual maintenance program				X	X							
3) Updating of annual supply plan of spare-part and other materials					X	X						
4) Indoor training						X	X	X	X			
5) Field training						X	X	X	X			

Note: CD: Capacity Development, P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(1) Facility Management/Facility Operation & Maintenance	
2. Program Name	(1)-2-2 Maintenance system for electrical equipment in Bili-Bili Dam	
3. Objectives	To achieve the conduct of proper maintenance work for electrical equipment in Bili-Bili dam on a continuous basis.	
4. Justification of the Program	Maintenance work provides increase in duration of life of the equipment and decrease equipment investment in the long run.	
5. Activities	・Preparation of annual maintenance plan of each electrical equipment including routine maintenance and calibration. ・Preparation of annual plan of spare-parts and other materials for electrical equipment based on the maintenance program. ・Training for maintenance and monitoring of electrical equipment from Manufacturer. ・Reviewing to be improved effect of maintenance work.	
6. Target Group	・Head of Water Service Division I ・All staffs of Sub-division I-1	
7. Input	1) Manpower ・Trainer from Manufacturer:0.5 M/M	2) Materials and Equipment ・Measuring equipment
8. Outputs	Establish a maintenance system, with improvement of knowledge and ability of concerned staff	
9 Contribution to Sustainable River Basin Management	Proper maintenance work for electrical equipment is an important part of facility O&M, and stable operation of telemetry and dam control equipment make possible for continuous supervision of river basin.	
10. Method of Capacity Development	・Confirmation of purpose and method of each maintenance ・OJT through conducting actual maintenance work ・Making log sheet and utilization of log sheet	
11. Qualification of trainer	Electrical engineer having field experience of more than 3 years	
12. Cost	Rp. 16.8 million (only direct cost relevant to CDP, excl. personnel cost of trainees)	
13. Monitoring and Evaluation Indicators	No. of times of maintenance work actually accomplished, against the scheduled work quantity (19 times/year= (((1 time/1 month +1 time/3 month + 1 time/6 month + 1 time/12 month) x 12 months)	
14. Role / Responsibility of Relevant Agencies	JRBDP:	Support the Corporation's activity
	Manufacture:	Transfer technology to carry out maintenance work for electrical equipment
15. Remarks	No external training is required.	

16. Plan of Operation

Activities	*1st year (2007)*				*2nd year (2008)*				*3rd year(2009)*			
1) Establishment of maintenance system through discussion among concerned agencies	A	A										
2) Confirmation of purpose of each maintenance item		P	P									
3) OJT through conducting actual maintenance work		P	P									
4) Making log sheet and utilization of log sheet		X	X	X	X	X	X	X	X	X	X	X

Note: P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(1) Facility Management/Facility Operation & Maintenance	
2. Program Name	(1)-2-3 Operation and maintenance for hydromechanical facility (Bili-Bili Dam Site)	
3. Objectives	To establish a long term maintenance plan and to conduct proper O&M for hydromechanical facility at Bili-Bili dam site.	
4. Justification of the Program	Long life of hydromechanical facility with suitable maintenance contributes to stable water supply.	
5. Activities	・Preparation of long term maintenance plan including routine maintenance, overhaul, budget management, and operation procedure. ・Training on O&M of hydromechanical facilities including budget management. ・Field training for O&M of hydromechanical facilities. ・Periodical monitoring and feedback of hydromechanical facilities condition based on the plan.	
6. Target Group	・Head of Water Service Division I ・All staffs of Sub-division I-1	
7. Input	1) Manpower ・Trainer from PJT I or others: 1.0 M/M	2) Materials and Equipment ・O&M Manual ・Textbook for O&M training ・Monitoring Sheet
8. Outputs	Establishment of long term maintenance plan and execution of maintenance	
9 Contribution to Sustainable River Basin Management	Proper O&M for hydromechanical facility at Bili-Bili dam keeps the facility in good condition and contributes to stable water supply, which is one of important sectors of river basin management.	
10. Method of Capacity Development	・Training by PJT I staff or other expert of objective facility ・OJT through the daily operation and maintenance ・Training with feedback from monitoring	
11. Qualification of trainer	Hydromechanical facility specialists having field experience of more than 3 years	
12. Cost	Rp. 29.8million (only direct cost relevant to CDP, excl. personnel cost of trainees and actual maintenance cost)	
13. Monitoring and Evaluation Indicators	Facility condition and O&M record based on the monitoring sheet	
14. Role / Responsibility of Relevant Agencies	JRBDP (PPSA)	Support the Corporation's activity
15. Remarks	None	

16. Plan of Operation

Activities	*1st year (2007)*				*2nd year (2008)*				*3rd year(2009)*			
1) Preparation of long term maintenance plan	A	A										
2) Training of maintenance plan and method including budget management		P	X	X								
3) Field training of planed maintenance including budget management				X	X							
4) Periodical monitoring of objective facilities condition					X	X	X	X				

Note: P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(1) Facility Management/Facility Operation & Maintenance	
2. Program Name	(1)-2 -4 Operation and maintenance of hydromechanical facility （Drainage Gate at Jeneberang River)	
3. Objectives	To establish a long term maintenance plan and to conduct proper O&M for hydromechanical facility for drainage gate.	
4. Justification of the Program	Prevention of inundation at river side housing area together with long life of hydromechanical facility with reduced cost and proper maintenance needs to be secured.	
5. Activities	・Preparation of long term maintenance plan including routine maintenance, overhaul, budget management, and operation procedure. ・Training on O&M of hydromechanical facilities including budget management. ・Field training for O&M of hydromechanical facilities. ・Periodical monitoring and feedback of hydromechanical facilities condition based on the plan.	
6. Target Group	・Head of Water Service Division II ・All staffs of Sub-division II-2	
7. Input	1) Manpower ・Trainer from PJT I or others : 1.0 M/M	2) Materials and Equipment ・O&M Manual ・Textbook for O&M training ・Monitoring Sheet
8. Outputs	Establishment of O&M organization and method with the improved staff capacity	
9 Contribution to Sustainable River Basin Management	Prevention from flood damage at river side housing area with suitable gate operation is one of sectors in river basin management.	
10. Method of Capacity Development	・Education by PJT I staff or expert of objective facility ・OJT through the daily operation and maintenance ・Training with feedback from monitoring	
11. Qualification of trainer	Hydromechanical facility specialists having field experience of more than 3 years	
12. Cost	Rp. 29.3 million (only direct cost relevant to CDP, excl. personnel cost of trainees and actual maintenance cost)	
13. Monitoring and Evaluation Indicators	Facility condition and O&M record based on the monitoring sheet	
14. Role / Responsibility of Relevant Agencies	JRBDP (PPSA)	Support the Corporation's activity
15. Remarks	None	

16. Plan of Operation

Activities	*1st year (2007)*				*2nd year (2008)*				*3rd year(2009)*			
1) Establishment of organization for O&M thorough discussion among concerned agency	A	A										
2) Examination of educational method for O&M		P										
3) Execution of planed education for O&M			X	X								
4) Periodical monitoring of objective facilities condition					X	X	X	X				

Note: P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(1) Facility Management/Facility Operation & Maintenance
2. Program Name	(1)-2-5 O&M of the existing eleven drainage gates along lower Jeneberang River
3. Objectives	・To improve the knowledge of PJT Jeneberang on the relevant operation and maintenance works ・To improve the knowledge of the local resident as the gatekeepers the relevant operation and maintenance works
4. Justification of the Program	・It is urgently required to establish the O&M system of the drainage gates. ・PJT Jeneberang should acquire all necessary knowledge on O&M of the relevant facilities.
5. Activities	・Entering of long-term contract with the local residents as the gatekeepers for drainage gates. ・Field inspection on the updated states of facilities. ・Establishment of emergency communication system between PJT Jeneberang and the gatekeepers. ・Establishment of annual maintenance program. ・Updating of annual supply plan of spare-part and other materials for operation and maintenance. ・Indoor training on gate operation and maintenance. ・Field training for gate operation and maintenance.
6. Target Group	・Heads of Technical Bureau and Water Service Division II ・All staffs of Sub-division II-2 ・Local residents to be the gatekeepers
7. Input	1) Manpower (trainer) ・Hydrologist from Dinas/Balai PSDA (2.0M/M) ・Mechanical Expert from JRBDP (2.0 M/M) ・Gate operator from JRBDP (2.0M/M) 2) Materials and Equipment ・PC and Projector ・Handy talky ・Camera ・Vehicles ・O&M manuals prepared by JRBDP ・O&M manuals prepared by the JICA Study Team
8. Outputs	Establishment of operation and maintenance system for drainage gate
9 Contribution to Sustainable River Basin Management	Improved knowledge and O&M system of the drainage gates leads to sustenance of better function of facilities, longer period of durability of the facilities, which contributes to sustainable river basin management.
10. Method of Capacity Development	・On-the-Job Training ・Indoor lecture
11. Qualification of trainer	All of trainers should have the experience of more than 3 years in each of the special fields
12. Cost	Rp. 173.9 million
13. Monitoring and Evaluation Indicators	Availability of data including: ・Contract with the local residents for operation and maintenance of drainage gates ・Establishment of emergency communication system ・Establishment of annual maintenance program ・Updated annual supply plan of spare-part and other materials for operation and maintenance ・Number of indoor and field training and its record
14. Role / Responsibility of Relevant Agencies	JRBDP: Supports all activities for this Program Dinas/Balai PSDA: Joins OJT/indoor lecture and supplies the training materials. Local residents: Joins OJT/indoor lecture as the trainees
15. Remarks	

16. Plan of Operation : The execution of the Program is urgently required.

Activities	*1st year (2006)*				*2nd yea r(2007)*				*3rd yea r(2008)*			
1) Contract with the local residents as the gatekeepers	P	P	X									
2) Field inspection			P	A								
3) Establishment of emergency communication system				P	X							
4) Establishment of annual maintenance program					P	X						
5) Updating of annual supply plan of spare-part and other materials						P	X					
6) Indoor training				X	X							
7) Field training				X	X							

Note: CD: Capacity Development, P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(1) Facility Management/Facility Operation & Maintenance
2. Program Name	(1)-2-6 O&M of rubber dam and long storage
3. Objectives	・To improve the knowledge of PJT Jeneberang on the relevant operation and maintenance works. ・To improve the knowledge of the local resident as the gatekeepers the relevant operation and maintenance works.
4. Justification of the Program	・PJT Jeneberang should acquire all necessary knowledge on O&M of the relevant facilities. ・It is required to transfer the necessary knowledge on O&M works to the gatekeepers, who are entrusted to the local residents.
5. Activities	・Field inspection on the updated states of facilities. ・Establishment of emergency communication system between PJT Jeneberang and the gatekeepers for Long Storage. ・Establishment of annual maintenance program. ・Updating of annual supply plan of spare-part and other materials for operation and maintenance. ・Indoor training on gate operation and maintenance ・Field training for maintenance of facilities. ・Field training for synchronized operation of Rubber Dam and Intake Gate of Long Storage. ・Field training for synchronized operation of Flush Gate (Outlet Gate) of Long Storage and Control Gates of drainage channels in Makassar City for diluting stagnant water in the drainage channels.
6. Target Group	・Head of Water Service Division II ・All staffs of Sub-division II-2 ・Local resident as the present gatekeepers
7. Input	1) Manpower (trainer) ・Hydrologist from Dinas/Balai PSDA (4.0 M/M) ・Mechanical Expert for Rubber Dam from JRBDP (1.0 M/M) ・Gate operator for Rubber Dam from JRBDP (1.0M/M) 2) Materials and Equipment ・PC and Projector ・Handy talky ・Vehicles O&M manuals prepared by JRBDP ・PC and Projector ・O&M manuals prepared by the JICA Study Team
8. Outputs	Transfer of knowledge on operation and maintenance of the relevant facilities to PJT Jeneberang
9 Contribution to Sustainable River Basin Management	Improved knowledge on facility O&M leads to sustenance of better function of facilities, longer period of durability of the facilities, which contributes to sustainable river basin management.
10. Method of Capacity Development	・On-the-Job Training ・Indoor lecture
11. Qualification of trainer	All of trainers should have the experience of more than 3 years in each of the special fields
12. Cost	Rp. 52.6 million
13. Monitoring and Evaluation Indicators	・Emergency communication system between PJT Jeneberang and the gatekeepers for Long Storage ・Updated annual maintenance program ・Updated annual supply plan of spare-part and other materials ・Number of indoor and field training and its record
14. Role / Responsibility of Relevant Agencies	JRBDP: Supports all activities for this Program Dinas/Balai PSDA: Joins OJT/indoor lecture and supplies the training materials Local residents: Joins OJT/indoor lecture as the trainees
15. Remarks	

16. Plan of Operation

Activities	*1st year (2006)*				*2nd year (2007)*				*3rd year (2008)*			
1) Field inspection		A	A									
2) Establishment of emergency communication system			P	X								
3) Establishment of annual maintenance program					P	X	X					
4) Updating of annual supply plan of spare-part/materials							P	X	X			
5) Indoor training							X	X				
6) Field training for maintenance of facilities								X	X			

Note: CD: Capacity Development, P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(1) Facility Management/Facility Operation & Maintenance	
2. Program Name	(1)-2-7 O&M of irrigation weirs	
3. Objectives	To improve the knowledge of PJT Jeneberang on the relevant operation and maintenance works and O&M is properly done.	
4. Justification of the Program	PJT Jeneberang should acquire all necessary knowledge on O&M of the relevant facilities for maintaining proper level of O&M.	
5. Activities	・Field inspection on the updated states of facilities. ・Establishment of emergency communication system among the relevant divisions of PJT Jeneberang (i.e. Operation Director, Water Service Division I and Sub-division II-1). ・Updating of annual maintenance program. ・Updating of annual supply plan of spare-part and other materials for operation and maintenance. ・Indoor training for maintenance and operation of the facilities. ・Field training for operation of the facilities.	
6. Target Group	・Head of Water Service Division II ・All staffs of Sub-division II-1	
7. Input	1) Manpower (trainer) ・Mechanical expert from PIRASS (2.0M/M) ・Gate operator from PJT 1 (3.0M/M) ・Irrigation engineer from PIRASS (1.0M/M)	2) Materials and Equipment ・PC and Projector ・Camera ・Vehicles ・O&M manuals prepared by PIRASS ・O&M manuals prepared by the JICA Study Team
8. Outputs	Transfer of knowledge on operation and maintenance of the relevant facilities to PJT Jeneberang	
9 Contribution to Sustainable River Basin Management	Improved knowledge on O&M leads to sustenance of better function of facilities, longer period of durability of the facilities, which contributes to sustainable river basin management.	
10. Method of Capacity Development	・On-the-Job Training ・Indoor lecture	
11. Qualification of trainer	Dam expert from PJT1 should have the experience of more than 5 years in his special field, while others from PIRASS should be those involved to Bili-Bili Irrigation Project	
12. Cost	Rp. 50.3 million	
13. Monitoring and Evaluation Indicators	・Updated annual maintenance program ・Updated annual supply plan of spare-part and other materials ・Number of Indoor training for maintenance and operation of the facilities ・Number of field training and its record	
14. Role / Responsibility of Relevant Agencies	PIRASS	Supports all activities for this Program
	PJT1	Joins OJT/indoor lecture and supplies the training materials
15. Remarks		

16. Plan of Operation

Activities	*1st year (2006)*				*2nd year (2007)*				*3rd year(2008)*			
1) Field inspection		A	A									
2) Establishment of emergency communication system			P	X								
3) Updating of annual maintenance program				P	X	X						
4) Updating of annual supply plan of spare-part and other materials						P	X	X				
5) Indoor training								X	X			
6) Field training								X	X			

Note: CD: Capacity Development, P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(2) River Basin Management/Flood management	
2. Program Name	(2)-1-1 Flood plain management	
3. Objectives	・ To establish the effective flood plain management system. ・ To improve the knowledge of PJT Jeneberang on flood plain management.	
4. Justification of the Program	It is ideal for PJT Jeneberang to administrate the excessive land use in the flood plain, but the priority of this program would be lower than others.	
5. Activities	・ Development and dissemination of flood risk map. ・ Development of inventory of assets in flood plain area. ・ Development of list of illegal dwellers in the flood high-water channel. ・ Updating of the land use states including the projected urban zoning plan in flood plain area. ・ Development of procedures to control the excessive land development in flood plain. ・ Indoor training on flood plain management.	
6. Target Group	・ Head of Water Service Division II ・ All staffs of General Affairs Section under Administration & Finance Bureau ・ All staffs of Technical Bureau	
7. Input	1) Manpower (trainer) ・Flood management expert from PJTI (2.0M/M) ・Urban planner from Makassar City Council (0.5M/M) ・Hydrologist from Dinas/Balai PSDA (1.0M/M) ・Head of local communities (0.5M/M)	2) Materials and Equipment ・PC with GIS system ・Land use map ・Urban plan ・PC and Projector ・Road map
8. Outputs	・Establishment and dissemination of flood risk map ・Development of procedures to control the excessive land development in flood plain	
9 Contribution to Sustainable River Basin Management	Flood damage potential is reduced.	
10. Method of Capacity Development	・On-the-Job Training ・Indoor lecture	
11. Qualification of trainer	Expert from PJT I should have the experience of more than 10 years in his special field, while others more than 3 years	
12. Cost	Rp. 53.8 million	
13. Monitoring and Evaluation Indicators	Availability of data including: ・Newly developed flood risk map ・Inventory of assets in flood plain area ・List of illegal dwellers in the flood high-water channel ・Updated land use states in flood plain area ・Newly developed procedures to control the excessive land development in flood plain ・Number of indoor training and its record	
14. Role / Responsibility of Relevant Agencies	PJT I	PJT I supports all activities for this Program
	Makassar City	Supports updating of the present and projected urban zoning in flood plain area
	Dinas/Balai PSDA	Joins OJT/indoor lecture, supplies the training materials.
	Head of local communities in Makassar City	Joins OJT/indoor lecture as the trainees
15. Remarks		

16. Plan of Operation This program is assumed to start in 2012

Activities	*1st year (2012)*				*2nd year (2013)*				*3rd year (2014)*			
1) Development/dissemination of flood risk map		P	X	X								
2) Development of inventory of assets in flood plain area				P	X	X	X					
3) Development of list of illegal dwellers in the flood high-water channel							P	X	X			
4) Updating of the land use states in flood plain area									P	X	X	X
5) Development of procedures to control the excessive land development									P	P	X	X
6) Indoor training on flood plain management										X	X	X

Note: CD: Capacity Development, P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(2) River Basin Management/Flood management	
2. Program Name	(2)-1-2 Flood warning, fighting and evacuation	
3. Objectives	・ To establish the flood warning, fighting and evacuation system ・ To improve the knowledge of PJT Jeneberang on flood warning, fighting and evacuation system	
4. Justification of the Program	It is ideal for PJT Jeneberang to establish the flood warning, fighting and evacuation system to prepare the probable flood of more than 50-year return period but the priority of this program would be lower than others.	
5. Activities	・ Review and updating of the existing flood warning, evacuation and fighting program. ・ Development of emergency communication system among the relevant organizations. ・ Set-up of tools and materials for flood warning evacuation and fighting (such as handy talky, life jacket, flush light, rubber boat, plastic sand back and sand). ・ Set-up of joint organizations for flood fighting. ・ Indoor training on flood monitoring, warning and fighting. ・ Outdoor training on flood warning.	
6. Target Group	・ Heads of Water Service Division I and II ・ All staffs of Sub-division I-1 ・ All staffs of General Affairs Section under Administration & Finance Bureau ・ All staffs of Technical Bureau	
7. Input	1) Manpower (trainer) ・Expert of flood forecasting and warning system from PJT I (2.0M/M) ・Hydrologist from Dinas/Balai PSDA (2.0M/M)	2) Materials and Equipment ・Tools for flood warning evacuation and fighting (such as handy talky, life jacket, flush light, rubber boat) ・Materials for flood warning evacuation and fighting (such as plastic sand back and sand) ・PC and Projector ・Vehicles ・Guidelines prepared by PJT I ・O&M manuals prepared by the JICA Study Team
8. Outputs	Establishment of Flood warning, fighting and evacuation system	
9 Contribution to Sustainable River Basin Management	Damage against a probable flood of more than 50-year return period is reduced.	
10. Method of Capacity Development	・On-the-Job Training ・Indoor lecture	
11. Qualification of trainer	Expert from PJT I should have the experience of more than 10 years in his special field, while expert from JRBDP more than 3 years.	
12. Cost	Rp. 505.4 million	
13. Monitoring and Evaluation Indicators	・Updating flood warning, evacuation and fighting program ・Emergency communication system among the relevant organizations ・Tools and materials for flood warning evacuation ・Joint organizations for flood fighting ・Number of indoor and outdoor training	
14. Role / Responsibility of Relevant Agencies	PJT I	Supports all activities for this Program
	Makassar City	Supports all activities for this Program
	Dinas/Balai PSDA	Joins OJT/indoor lecture and supplies the training materials.
	Head of local communities in Makassar City	Joins OJT/indoor lecture as the trainees
15. Remarks		

16. Plan of Operation This program is assumed to start after 2012

Activities	*1st year (2012)*				*2nd year(2013)*				*3rd year(2014)*			
1) Updating of the existing program			P	P	X							
2) Development of emergency communication system						X	X	X				
3) Set-up of tools and materials for flood fighting								P	X	X		
4) Set-up of joint organizations for flood fighting					P	P	X	X				
5) Indoor training									X	X	X	
6) Outdoor training									X	X	X	

Note: CD: Capacity Development, P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(2) River Basin Management	
2. Program Name	(2)-2 Water quantity management	
3. Objectives	・ To establish the water quantity management system for stabilizing water supply. ・ To improve knowledge of PJT Jeneberang on water quantity management system.	
4. Justification of the Program	PJT Jeneberang should acquire the necessary knowledge on the water quality management, and it is urgently necessary to establish the consistent water distribution system for satisfying the clients' needs.	
5. Activities	・ Updating of list of granted water users and water abstraction volume. ・ Installation of flow meters at major intake points. ・ Establishment of coordinating system for daily water distribution. ・ Indoor lecture on water quantity management.	
6. Target Group	・ Heads of Water Service Division I and II ・ All staffs of Sub-division I-1, II-1 and II-2 ・ All staffs of General Affairs Section under Administration & Finance Bureau ・ All staffs of Technical Bureau	
7. Input	1) Manpower (trainer) ・ Water quantity management expert from PJTI(2.0M/M) ・ Municipal water supply expert from PDAM (1/0M/M) ・ Irrigation expert from Dinas/Balai PSDA (1.0M/M)	2) Materials and Equipment ・ PC and Projector ・ Vehicles ・ Guidelines prepared by PJTI ・ O&M manuals prepared by the JICA Study Team
8. Outputs	Establishment of the definitive system/procedures for water allocation and water distribution	
9 Contribution to Sustainable River Basin Management	Fair and effective water allocation and water distribution is achieved.	
10. Method of Capacity Development	・ On-the-Job Training ・ Indoor lecture	
11. Qualification of trainer	Expert from PJTI should have the experience of more than 10 years in his special field, while other expert more than 3 years	
12. Cost	Rp. 47.0 million	
13. Monitoring and Evaluation Indicators	・ Updated list of granted water users and water abstraction volume ・ Flow meters installed at major intake points ・ Coordinating system for daily water distribution ・ Number of indoor lecture	
14. Role / Responsibility of Relevant Agencies	PJTI	Supports all activities for this Program
	PDAM	Supports all activities relevant to this program
	Dinas/Balai PSDA	Joins OJT/indoor lecture, supplies the training materials and supports all relevant activities to this Program.
15. Remarks		

16. Plan of Operation

Activities	*1st year (2006)*				*2nd year (2007)*				*3rd year(2008)*			
1) Updating of list of granted water users and water abstraction volume			P	P	X							
2) Installation of flow meters				P	P	X	X	X				
3) Establishment of coordinating system								X	X			
4) Indoor lecture								X	X	X		

Note: CD: Capacity Development, P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(2) River Basin Management	
2. Program Name	(2)-3 Drought management	
3. Objectives	・ To establish the drought management system ・ To improve the knowledge of PJT Jeneberang on drought management system	
4. Justification of the Program	It is ideal for PJT Jeneberang to drought management system to prepare the probable drought of more than 10-year return period but the priority of this program would be lower than others.	
5. Activities	・ Establishment of coordinating system for reduction of water distribution during a drought period. ・ Enhancement of agreement of water users on priorities of water distribution during a drought period. ・ Strengthening of forecasting system for low river flow regime. ・ Indoor lectures on drought management.	
6. Target Group	・ Heads of Water Service Division I and II ・ All staffs of Sub-division I-1, II-1 and II-2 ・ All staffs of General Affairs Section under Administration & Finance Bureau ・ All staffs of Technical Bureau	
7. Input	1) Manpower (trainer) ・Expert for Drought management from PJT1 (3.0M/M) ・Irrigation expert from Dinas/Balai PSDA (2.0M/M)	2) Materials and Equipment ・PC and Projector ・Vehicles ・Guidelines prepared by PJT1 ・O&M manuals prepared by the JICA Study Team
8. Outputs	Establishment of the definitive system/procedures for drought management	
9 Contribution to Sustainable River Basin Management	・Fair and effective water distribution during a drought period is achieved. ・Minimizing of loss of irrigation product due to drought.	
10. Method of Capacity Development	・On-the-Job Training ・Indoor lecture	
11. Qualification of trainer	Expert from PJT1 should have the experience of more than 10 years in his special field, while expert from Dinas/Balai PSDA more than 3 years	
12. Cost	Rp. 15.8 million	
13. Monitoring and Evaluation Indicators	・Establishment Coordinating system for drought management ・Agreement of water users on priorities of water distribution during a drought period ・Strengthened forecasting system for low river flow regime ・Number of Indoor lectures	
14. Role / Responsibility of Relevant Agencies	PJT1	Supports all activities for this Program
	Dinas/Balai PSDA	Supports all activities relevant to this program
15. Remarks	**This program is assumed to start in 2012**	

16. Plan of Operation

Activities	*1st year (2012)*				*2nd year (2013)*				*3rd year (2014)*			
1) Establishment of coordinating system			P	X								
2) Enhancement of agreement of water users on drought management plan				P	X	X	X					
3) Strengthening of forecasting system for low river flow regime							P	X	X			
4) Indoor lectures								X	X	X		

Note: CD: Capacity Development, P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(2) River Basin Management
2. Program Name	(2)-4 Watershed Management/Implementation of watershed management services
3. Objectives	・To accomplish the conduct of services relevant to watershed conservation and management. ・To acquaint with the basic know-how of providing the services.
4. Justification of the Program	Watershed conservation will benefit PJT Jeneberang in terms of sediment yield reduction and water resources conservation.
5. Activities	・Training on basic know-how of providing services: practices of reforestation and forest management, practices of land use in slope area, such as terracing, embankment, contour fallowing, etc. ・Training on the knowledge of engineering design and construction supervision of structural work, particularly for checking sabo dam. ・Training on planning and procedures. ・Establishment of coordination mechanism with local government agencies for funding of the projects. ・Formulation of stakeholder participation mechanism on watershed management by participatory approach. ・OJT on watershed management based on the plan and procedure with support of PJT I.
6. Target Group	・Heads of Water Services Division I and Technical Bureau ・All staff of Sub-Division I-2 ・Public Relations Coordinator ・All staff of Program Section
7. Input	1) Manpower (trainer) ・Forest management expert: 0.5 M/M ・Sabo work expert: 0.5 M/M ・Hydrologist: 0.5 M/M 2) Materials and Equipment ・Maps and satellite images ・Vehicles for field survey ・CAD design tools, etc
8. Outputs	・Acquisition of knowledge of watershed conservation and sediment yield reduction measures ・Improvement of implementation capability
9 Contribution to Sustainable River Basin Management	Reduction of sediment yield from upper basin which increases water holding capacity of the basin and contributes to stable water supply and flood reduction.
10. Method of Capacity Development	・Lecture by PJT I experts based on their experience and learning thru site visits ・Lecture of design and supervision principles by PJT I based on DGWR/PJT I design manual and learning thru OJT ・Learning thru OJT in actual implementation of the services with guidance by PJT I expert
11. Qualification of trainer	Forest management expert and Sabo work experts having experience of more than 3 years
12. Cost	Rp. 32.0 million
13. Monitoring and Evaluation Indicators	・No. of lectures held for initial transfer of knowledge ・No. of implementation projects formulated and implemented
14. Role / Responsibility of Relevant Agencies	JRBDP : Support the Corporation's activity Dinas PSDA: Implement structural measures with design and supervision assistance by PJT J Dinas Forestry / Dina Plantation: Implement the proposed reforestation, forest management and land use practice improvement projects Community: Participate in projects in accordance with agreement with Dinas and PJT J
15. Remarks	Implementation of this CDP is only possible in 2010-2011 period after PJT J would have a sufficient financial capability of providing fund for the proposed projects

16. Plan of Operation

Activities	*1st year (2009)*				*2nd year(2010)*				*3rd year(2011)*			
1) Initial lectures and site visit			P	P	X							
2) OJT thru conducting the services						X	X	X				
3) Implement the projects						A	A	A	A	A	A	A

Note: CD: Capacity Development, P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(2) River Basin Management/Water Quality Monitoring and Pollution Control	
2. Program Name	(2)-5-1 Water Quality Monitoring (WQM)	
3. Objectives	To accomplish the conduct of WQM work on a continuous basis.	
4. Justification of the Program	WQM provides essential data for management of river water quality.	
5. Activities	・Sampling water at 8 locations. ・Supervise laboratory testing to be conducted at an outsourcing laboratory. ・Compile the data and report to Bapedalda and Dinas PSDA every month. ・Analyze the data and make recommendation if any corrective measure is necessary.	
6. Target Group	All staff of O&M & Environment Section	
7. Input	1) Manpower ・Trainer from PJT I: 0.5 M/M ・Trainer from Bapedalda: 0.5 M/M	2) Materials and Equipment ・Water samplers ・Portable WQ testing kit ・Vehicles for field sampling
8. Outputs	Establish a WQM system, with improvement of knowledge and ability of concerned staff.	
9 Contribution to Sustainable River Basin Management	Conservation of river water quality by executing appropriate measures for water quality control (control of river maintenance discharge, supply of flushing water, control of wastewater disposal, etc.)	
10. Method of Capacity Development	・Initial lecture by PJT I & Bapedalda ・OJT thru conducting actual field sampling, laboratory test and data analysis ・Reference manual: PJT I Procedures QP/PJT/42, QP/PJT/43, QP/PJT/57 and QI/PJT/31; BWRM manual for Jratunseluna	
11. Qualification of trainer	Water quality specialists having field and laboratory experience of more than 3 years	
12. Cost	Rp. 17.6 million (only direct cost relevant to CDP, excl. personnel cost of trainees)	
13. Monitoring and Evaluation Indicators	No. of times of WQM work actually accomplished, against the scheduled work quantity (96 times/year= (1 time/month x 12 months x 8 locations)	
14. Role / Responsibility of Relevant Agencies	JRBDP:	Support the Corporation's activity
	Dinas PSDA:	Receive reports and compile in Provincial data management system
	Bapedalda:	Receive reports, and implement corrective measures as required. Also, provide other PROKASHI data to Corporation
	Others	Testing laboratory (either one of laboratories owned by Balai Industry, Balai Health, UNHAS and Bapedalda) on contract basis
15. Remarks	No external training is required.	

16. Plan of Operation

Activities	*1st year (2006)*				*2nd year (2007)*				*3rd year(2008)*			
1) Establishment of WQM system through discussion among concerned agencies						A	A					
2) Procurement of equipment							A	A				
3) Initial lectures by trainers (intermittent)								P	X			
3) Conduct of WQM with OJT									X	X	X	X

Note: P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(2) River Basin Management/Water Quality Monitoring and Pollution Control	
2. Program Name	(2)-5-2 Water Pollution Monitoring (WPM)	
3. Objectives	To accomplish the conduct of WPM work on a continuous basis	
4. Justification of the Program	WPM provides essential data for wastewater management by Bapedalda and can also be utilized for water services.	
5. Activities	・Sampling wastewater at outlet of industrial factories. (see Supporting Report F for location) ・Supervise laboratory testing to be conducted at an outsourcing laboratory. ・Compile the data and report to Bapedalda, Dinas PSDA, factories and other related institutions every 3 month. ・Analyze the data and make recommendation if any corrective measure is necessary. ・Provide collected information to the Public on their website.	
6. Target Group	All staff of Environment Sub-Section	
7. Input	1) Manpower ・Trainer from PJT I: 0.5 M/M ・Trainer from Bapedalda: 0.5 M/M	2) Materials and Equipment ・Water samplers ・Portable WQ testing kit ・Vehicles for field sampling
8. Outputs	・Establish a WPM system, with improvement of knowledge and ability of concerned staff ・Review and establish database for existing inventory map of pollution source ・Prepare periodic monitoring report on present pollution conditions to BAPEDALDA	
9 Contribution to Sustainable River Basin Management	・Conservation of river water quality by proposing appropriate measures for water pollution control (control of river maintenance discharge, supply of flushing water, control of wastewater disposal, etc.) ・Contribute water pollution control activity by BAPEDALDA.	
10. Method of Capacity Development	・Initial lecture by PJT I & Bapedalda ・OJT through conducting actual field sampling, laboratory test and data analysis ・Reference manual: PJT I Procedures QP/PJT/42, QP/PJT/43, QP/PJT/57 and QI/PJT/31; BWRM manual for Jratunseluna	
11. Qualification of trainer	Water quality specialists having field and laboratory experience of more than 3 years	
12. Cost	Rp. 21.0 million (only direct cost relevant to CDP, excl. personnel cost of trainees)	
13. Monitoring and Evaluation Indicators	No. of times of WPM work actually accomplished, against the scheduled work quantity (64 times/year= (1 time/3months x 12 months x 16 factories)	
14. Role/ Responsibility of Relevant Agencies	JRBDP:	Support the Corporation's activity
	Dinas PSDA:	Receive reports and compile in Provincial data management system
	Bapedalda:	- Receive reports, and implement corrective measures as required. - Issuing license on industrial effluent to factories in accordance with technical guidance provided by the Corporation
	Others	Testing laboratory (either one of laboratories owned by Balai Industry, Balai Health, UNHAS and Bapedalda) on contract basis
15. Remarks	No external training is required.	

16. Plan of Operation

Activities	*1st year (2006)*				*2nd year (2007)*				*3rd year(2008)*			
1) Establishment of WPM system/inventory map of pollutant source through discussion among concerned agencies						A	A					
2) Conduct of WPM with OJT								X	X			
3) Reporting to BAPEDALDA								X	X	X	X	X

Note: 1) P: Preparation for CDP, X: Execution of CDP, A: Associated activities
2) Initial Lecture by PJT-I Staff will be given in another CDP; 2-4-1 "Water Quality Monitoring"

Profile Sheet of the Capacity Development Program

1. Sector	(3) Institutions/Organization Management/Human Resources Management	
2. Program Name	(3)-1 Laws and regulations in the water sector	
3. Objective	To familiarize PJT Jeneberang management with the relevant (i) national laws, regulations and decrees, (ii) regional regulations, decrees, (iii) PJT I Directors' Decrees.	
4. Justification of the Program	For better decision making, corporate management need to understand in some detail the legal and regulatory environment in which PJT Jeneberang is operating.	
5. Activities	・Class-room lectures on relevant: - national laws, regulations, decrees; - provincial regulations and decrees; - kabupaten / kota regulations and decrees; - PJT I Directors' Decrees - applying to water and corporation sectors ・Periodic knowledge tests	
6. Target Group	・Operations Director ・Heads of Divisions I, II, Technical Bureau, Administration & Finance Bureau, Sub-Divisions I-1,II-1, II-2 ・All staff in Program Section, HR Section (acting head), Finance Section, General Affairs Section in A&F Bureau	
7. Input	1. Manpower ・Trainer from PJT I : 1.0 M/M (0.5 M/M for material preparation)	2. Materials and Equipment ・Texts / summaries of legislation ・Overhead / computerized material to present ・Projector (part time) ・Access to library of relevant legislation
8. Outputs	Application of better knowledge of legal environment to management of PJT Jeneberang and Jeneberang River basin.	
9 Contribution to Sustainable River Basin Management	Acquisition of such knowledge will contribute to better understanding of national and regional responsibilities and relationships. This will make for better management of Jeneberang River basin overall.	
10. Method of Capacity Development	The same as 5. Periodic knowledge tests should assess participants' ability to apply the acquired information	
11. Qualification of trainer	PJT I staff members who have extensive knowledge of the relevant legal products and the use to be made of them	
12. Cost	Rp. 29.3 million	
13. Monitoring and Evaluation Indicators	Acquisition of knowledge on application of legal knowledge through periodical test.	
14. Role / Responsibility of Relevant Agencies	PJT I	Provision of trainer(s) and legal documents
	JRBDP	Provision of legal documents
15. Remarks	External training can be provided, according to necessity.	

16. Plan of Operation

Activities	*1st year (2005)*				*2nd year (2006)*				*3rd year(2007)*			
1) Material preparation						P						
2) Class-room lectures							X	X				
3) Knowledge testing							X	X				

Note: P: Preparation for CDP, X: Execution of CDP

Profile Sheet of the Capacity Development Program

1. Sector	(3) Institutions/Organization Management/Human Resources Management	
2. Program Name	(3)-2 Organizational structuring & staffing, and HRA[1]	
3. Objective	To educate selected senior personnel and those responsible in organizational structuring, job analysis, staff planning and budgeting, and personnel administration so that the staff can execute jobs properly.	
4. Justification of the Program	Senior management and HRM (Human Resources Management) staff should know how to structure an organization, analyze tasks into jobs, prepare job descriptions / employee specifications, develop efficient manning levels, budget for these, and, in particular, HRM staff to undertake the basic HRA (Human Resources Administration) tasks in PJT Jeneberang.	
5. Activities	・Formulation of HRA policies, procedures, and internal rules. ・Class-room lectures and practical exercises on: - Organizational planning and development; - Job analysis / planning; job descriptions / employee specs; - Staff planning / budgeting; - HRA policies and procedures on: recruitment; salary / allowances system and payment system; personnel records & MIS; performance appraisal / promotion/career development; discipline / dismissal; leave; outsourcing; document control; ・Routine tests ・Evaluation and feedback workshop (If possible, some OJT should be provided on test procedures.)	
6. Target Group	1. Staff of HR Section and Head of A&F Bureau for all topics. 2. Heads of Divisions and Bureaus for all except basic HRA tasks.	
7. Input	1. Manpower - Trainer from PJT I: 3.0 M/M (0.5 M/M prep) - Expert from UNHAS[2]: 0.5 M/M	2. Materials and Equipment - Text and visual aids - Projector
8. Outputs	Knowledgeable senior staff in these topics; draft job descriptions / employee specifications for all unspecified jobs; HRA staff able to perform HRA tasks	
9 Contribution to Sustainable River Basin Management	This program will provide (i) essential organizational skills for senior management in PJT Jeneberang and (ii) practical skills for HRA staff to perform basic HRA tasks. This will make for better execution of tasks and better management of PJT Jeneberang which will contribute to sustainable river basin management.	
10. Method of Capacity Development	The same as 5. Reference: Table M3.1 in the DFR	
11. Qualification of trainer	PJT I staff member(s) who have in depth knowledge of, and experience in the above subjects. The UNHAS expert is to provide additional expertise	
12. Cost	Rp. 86.4 million	
13. Monitoring and Evaluation Indicators	Performance on routine tests, practical exercises and the final evaluation workshop.	
14. Role / Responsibility of Relevant Agencies	PJT I	Provision of trainer(s), materials and equipment
	Hasanuddin University (or similar)	Provision of additional expertise and presentational ideas. Some training assistance
15. Remarks	External training resource is desirable to provide additional expertise in this important area	

16. Plan of Operation

Activities	*1st year (2005)*				*2nd year (2006)*				*3rd year(2007)*			
1) Material preparation							P					
2) Class-room lectures, practical work, tests								X				
3) Actual org and HRA work (OJT)									X			
4) Evaluation / feedback workshop								A				

Note: P: Preparation for CDP, X: Execution of CDP, A: Associated activities

[1] Human Resources Administration (or personnel administration) is Human Resources Management (HRM) less Human Resources Development (HRD) which is dealt with elsewhere.

[2] Or similar institution

Profile Sheet of the Capacity Development Program

1. Sector	(3) Institutions/Organization Management/Human Resources Management	
2. Program Name	(3)-3 Human Resources Development (HRD)[3]	
3. Objective	To educate the HR Section and PJT Jeneberang managers in the basic skills, procedure and documentation of HRD.	
4. Justification of the Program	HRD is a vital component of corporation activity and must be fully understood by both management and the HRD staff. The Program could also help to develop policies and training programs within PJT Jeneberang.	
5. Activities	・Class-room lectures, discussion and practical projects on the following; - Definition and role of HRD (training & development) and HRM; - HRD policy; planning, recruitment, training and development system; - Identifying training needs; designing training programs & selecting staff; instruction methods; - Evaluating training and development; training administration and MIS; ・Formulation of development policy and training program. ・Routine knowledge testing ・Evaluation and feedback workshop	
6. Target Group	・Operations Director ・Heads of Divisions I, II, Technical and Administration & Financial Bureaus ・Heads of Sub-Divisions I-1,II-1, II-2 ・All staff in Program Section, HR Section (acting head), Finance Section, General Affairs Section in A&F Bureau	
7. Input	1. Manpower - PJT I trainer: 2.5 M/M (0.5 M/M prepn) - Expert from UNHAS: 0.5 M/M	2. Materials and Equipment - Text and visual aids - Projector
8. Outputs	Understanding by participants of main aspects of HRD; draft HRD policies (PJT I does not yet have such a stated policy); outline training programs and syllabuses for main sectors under PJT J	
9 Contribution to Sustainable River Basin Management	Competent application of this program will help to ensure that employees at all levels are trained and developed in the skills they need to undertake for management of PJT I and for sustainable Jeneberang river basin management.	
10. Method of Capacity Development	The same as 5.	
11. Qualification of trainer	PJT I staff member(s) who has had extensive experience in the application of HRD programs. Some external more academic expertise is desirable from, say, Hasanuddin University	
12. Cost	Rp. 79.4 million	
13. Monitoring and Evaluation Indicators	Quality and quantity of participants' output during lectures, discussion groups, routine knowledge testing and the evaluation and feedback workshop. Performance on-the-job.	
14. Role / Responsibility of Relevant Agencies	PJT I	Provision of trainer(s), materials and equipment
	Hasanuddin University (or similar)	Provision of additional expertise and presentational ideas. Some training assistance
15. Remarks	External training resource is desirable to provide additional expertise in this vital area	

16. Plan of Operation

Activities	*1st year (2005)*				*2nd year (2006)*				*3rd year(2007)*			
1) Material preparation							P					
2) Class-room lectures, discussion, project work, tests								X				
3) Actual HRD work (OJT)									X			
4) Evaluation / feedback workshop								A				

Note: P: Preparation for CDP, X: Execution of CDP, A: Associated activities

[3] This program is solely to (re)educate selected PJT J managers and HRM staff in the components and content of HRD, and is not part of the wider capacity development program (CDP)

Profile Sheet of the Capacity Development Program

1. Sector	(3) Institutions/Organizational Management/Human Resources Management	
2. Program Name	(3)-4 Strengthening of public relations capability	
3. Objectives	To strengthen operation capability by establishing public relations system and skills development aiming at customer satisfaction and stakeholder participation.	
4. Justification of the Program	PJT Jeneberang is "a service oriented organization", and the public relations plays an important part of the operation by securing customer satisfaction and promoting stakeholder participation and needs to be strengthened.	
5. Activities	・Establishment of PR system; information dissemination, claim/complaints resolution, socialization, presentation skills (leaflet, media), internal communication. ・Lecture on PR procedures. ・OJT at PLN and Telecom; learn how PR is managed in PLN and Telecom; how to deal with customers, how to promote participation. ・Monitoring and evaluation of the program.	
6. Target Group	・Public Relations Coordinator ・Head of Administration and Finance Bureau ・Heads of Water Service Division I, II	
7. Input	1) Manpower - Trainer from PLN: 0.5 M/M (including OJT at PLN) - Trainer from Telecom: 0.5 M/M (including OJT at Telecom)	2) Materials and Equipment - Lecture material - OJT location
8. Outputs	Establish a PR system, with strengthening of knowledge and capability of concerned staff.	
9 Contribution to Sustainable River Basin Management	Proper PR management improves customer satisfaction and promotes stakeholder participation, which contributes to strengthening of operation of PJT Jeneberang and sustainable river basin management.	
10. Method of Capacity Development	・Initial lecture by PLN and Telecom staff on PR. ・OJT at PR section of PLN and Telecom.	
11. Qualification of trainer	Public Relations specialists having practical experiences in the private sector for public utility services (PLN and Telecom are candidate).	
12. Cost	Rp. 21.4 million	
13. Monitoring and Evaluation Indicators	・Existence of PR system and guideline. ・Certificate of completion of OJT by PLN and Telecom.	
14. Role / Responsibility of Relevant Agencies	PLN:	Providing lecture and OJT
	Telecom:	Providing lecture and OJT
15. Remarks	It is ideal to select a trainer from PLN and Telecom which have experiences of dealing with clients and stakeholders.	

16. Plan of Operation

Activities	*1st year (2006)*				*2nd year (2007)*				*3rd year(2008)*			
1) Establishment of PR system							P					
2) Lecture on PR							X					
3) OJT at PLN and Telecom								X				
4) Monitoring and evaluation								X				

Note: P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(4) Administrative Management	
2. Program Name	(4)-1 Business planning skill training	
3. Objective	To be familiarize with the basic skills, procedure, know-how and documentation of business planning, and to be able to elaborate planning document and business proposal.	
4. Justification of the Program	Preparation of deliberate planning documents is recognized as one of the key factors in strengthening the corporate governance.	
5. Activities	・Establishment of business planning, monitoring, feedback cycle. ・Class room lectures: internal/external factor analysis, vision and strategy building, program and goal planning, monitoring/evaluation planning and planning documentation. ・Actual planning work for the establishment year: annual work and budget plan (through OJT), documentation on review of the plan and actual execution. ・Evaluation and feedback plan and actual operation.	
6. Target Group	・All staff of Technical and Administration & Financial Bureaus ・Heads of Water Service Divisions I,II, Sub-Division I-1, II-1, II-2.	
7. Input	1. Manpower - Trainer from PJT I : 2.0 M/M	2. Materials and Equipment - Text - Stationary and calculator
8. Outputs	Planning Documents (annual work / budget, operational plan), or any kinds of business proposal on non-water service, and the better knowledge	
9 Contribution to Sustainable River Basin Management	Acquisition of such a skill will strengthen effective corporate management which contributes to quality improvement of the corporate plan (i.e. river basin management plan)	
10. Method of Capacity Development	The same as 5. Reference: PJT I Procedures QP/PJT/16, 22, 23, 43 on planning	
11. Qualification of trainer	PJT I staff who has long been in charge of preparing and supervising planning work, and compiling.	
12. Cost	Rp. 63.0 million	
13. Monitoring and Evaluation Indicators	Quality and timeliness of planning documents (judged by trainer) Number and quality of business proposal (judged by trainer) Acquisition of knowledge on planning skill (periodical test)	
14. Role / Responsibility of Relevant Agencies	PJT I	
15. Remarks	External training can be provided, according to necessity.	

16. Plan of Operation

Activities	*1st year (2006)*				*2nd year (2007)*				*3rd year(2008)*			
1) Establishment of business planning system				X								
2) Class-room lectures				P	X							
3) Actual planning work (OJT)						X						
4) Evaluation / feedback workshop							A					

Note: P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(4) Administrative Management	
2. Program Name	(4)-2 Quality management system training	
3. Objective	To learn about Quality Management System (QMS) – quality policy and goals, work procedure and instruction, and document control – and acquire capability of preparing the certificate acquisition process after the operation.	
4. Justification of the Program	Corporate management in accordance to QMS leads to standardization and continuous improvement of the work process/services of PJT Jeneberang.	
5. Activities	・ Guidance seminar for QMS (ISO) socialization. ・ Training seminar for QMS (ISO). ・ Preparatory work for ISO procedure and work instruction. ・ Preparation for documentation of ISO system. ・ Application for certificate of ISO system to be installed. ・ Evaluation and feedback workshop.	
6. Target Group	All staff	
7. Input	1. Manpower - Trainer from PJT I : 2.0 M/M	2. Materials and Equipment - Text - QMS documents in PJT I
8. Outputs	・ Installation and certification of appropriate ISO series. ・ The better knowledge on QMS and procedures and work instruction prepared for the corporation	
9 Contribution to Sustainable River Basin Management	Understanding of QMS will contribute to enhancement of familiarity to job description and process, and ultimately performance of river basin management in the future.	
10. Method of Capacity Development	The same as 5. Reference: PJT I Procedures AP/PJT/01 Quality Management Guideline	
11. Qualification of trainer	PJT I staff who has long been in charge of preparing and maintaining QMS, or any QMS consultants sourced from the external training institutions.	
12. Cost	Rp. 63.0 million	
13. Monitoring and Evaluation Indicators	・ Progress of procedure and work instruction preparation (judged by trainer) ・ Understanding level on QMS and documents concerned with own bureau and division's job (periodical test) ・ ISO certificate	
14. Role / Responsibility of Relevant Agencies	PJT I	Assistance of establishment of ISO system.
15. Remarks	External training can be provided, according to necessity.	

4) **Plan of Operation**

Activities	*1st year (2006)*				*2nd year (2007)*				*3rd year(2008)*			
1) Material preparation				P	P							
2) Guidance seminar for socialization					X							
3) Training seminar					X	X						
4) Preparation of procedure / instruction						X	X	X				
5) Evaluation and feedback seminar								A				

Note: P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(4) Administrative Management	
2. Program Name	(4)-3 Managerial administration capacity building program	
3. Objectives	To establish management base of PJT Jeneberang with business mind.	
4. Justification of the Program	Transition from government organization to public corporation requires change in management style and mentality of management staff. New style of management and mentality for corporate management has to be adapted during the initial stage of operation.	
5. Activities	Lecture and workshop based capacity development. ・Corporate management principle (entrepreneurship) ・Leadership skills required ・Decision making process ・Service mind	
6. Target Group	・Operations Director ・Heads of Technical and Administration & Finance Bureaus ・Heads of Divisions I, II ・Program Section Heads	
7. Input (including financial source)	1) Manpower PJT I&II management staff	2) Materials and Equipment GRNo93/1999,Job-description, KEP100,2,3/MBU/2002 Decree of Kimpraswil for Managed assets
8. Outputs	The first year's O&M and business plan, appropriate organization and staff, and staff training plan	
9 Contribution to Sustainable River Basin Management	A strong organization is based on staff's awareness on company management, not only in technical sector, but also in administration. Awareness raising of company management contributes to effective organization management which is essential for river basin management.	
10. Method of Capacity Development	Lectures and itemization of tasks for company management with implementation schedule	
11. Qualification of trainer	Management expert of O&M corporation, Corporate management specialist.	
12. Cost	Rp. 86.0 million	
13. Role / Responsibility of Relevant Agencies	JRBDP:	Recruit qualified staff, Budget allotment
	DINAS:	Recruit qualified staff
	Contractor:	PJT I&II
	Others:	PU, Hasanuddin University, S. Sulawesi Gov.

14. Plan of Operation

Activities	*2006*				*2007*				*2008*			
1) Concept of assets management, Quality assurance				X	X	X						
2) Concept of running company					X	X						
3) Public and Inter-agency relation ship					X	X						
4) Leadership skill					X	X						
5) Performance evaluation							A					

Note: P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(5) Financial Management	
2. Program Name	(5)-1 Financial administration capacity development program	
3. Objectives	To strengthen capacity of financial administration system and its operation by establishing the system and skill development.	
4. Justification of the Program	Efficient financial administration is necessary for a sustainable corporation operation, which is expected to contributed to efficient facility O&M.	
5. Activities	・Identify and prepare documents necessary for financial administration. ・Standardizing financial administration rules. ・Class-room lectures and practical exercises on documentation and procedures: - Corporate planning ; - Tariff making; - Financial analysis; - Reporting, B/S, P/L, Cash flow; - Salary / allowances system and tax payment system; - Cost calculation based on O&M activities; - Cost allocation and Budget control; - Negotiation skills (e.g. negotiation with clients concerning tariff); ・Routine tests ・Evaluation and feedback workshop	
6. Target Group	・Operations Director ・Heads of Bureaus, Divisions, Sections, Sub-Divisions ・Auditor	
7. Input (including financial source)	1) Manpower: - MPW 1M/D - Dinas PSDA 1M/D - PJT I management staffs 3 M/M - Training institution for negotiation skill 3M/D	2) Materials and Equipment Guidelines, Manuals, PJT I annual reports, 5 year plan and annual work plan
8. Outputs	New corporation's financial plan and evaluation know-how	
9 Contribution to Sustainable River Basin Management	This program provides the corporate management with (1) financial management technology and (2) strategic corporate planning know-how.	
10. Method of Capacity Development	Lectures and simulation of financial plan of the new corporation	
11. Qualification of trainer	Expert at financial administration for River basin organization	
12. Cost	Rp.116.1 million	
13. Role / Responsibility of Relevant Agencies	Proyek INDUK:	Recruit qualified staff and training
	DINAS:	Recruit qualified staff and training
	Contractor:	PJT I
	Others	MPW
	JICA Study Team:	Material arrangement, lecture and planning assistance

14. Plan of Operation

Activities	*2006*				*2007*				*2008*			
1) Study of Guideline, Manuals including ISO				X		X		X		X		
2) Study of annual reports of PJT I&II and evaluation				X		X						
3) Management accounting: Cost management(O&M Personnel), Budget planning				X		X				X		X
4) 5 year planning: Simulation				X				X	X			
5) Monitoring and Training if necessary						X		X		X		X

Note: P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(5) Financial Management	
2. Program Name	(5)-2 Corporate accounting by ASGL	
3. Objectives	To develop skills for corporate accounting specialized in water resources management using ASGL.	
4. Justification of the Program	Proper bookkeeping for outputs of daily, monthly, half yearly and annual reports is necessary for sustainable corporate management.	
5. Activities	・Installation of computerized accounting system with the accounting program produced during the Study. ・ Class-room lectures and practical exercises on: - ASGL operation; - Out put verification; - Operation procedure conducted manually and through program; - Evaluation of B/S, P/L, Cash flow statement and Financial ratios; - Assets management - Reporting ・Routine tests ・Evaluation and feedback workshop Lecture and exercise of operation by instructor	
6. Target Group	・Heads of Technical and Administration & Finance Bureaus, Divisions I, II ・Heads of Sections and Sub-Divisions ・All staff of Finance Section (Other trainee will be selected as needed).	
7. Input (including financial source)	1) Manpower: PJT I Brantas trainers under Sub-contract (1.2M/M) and OJT(6M/M)	2) Materials and Equipment Slide, Annual reports of PJT I, ASGL Computer System
8. Outputs	B/S, P/L, Cash flow statement, financial analysis and computer system operation skill	
9 Contribution to Sustainable River Basin Management	This program provides the accounting staff with (1) accounting technology and (2) accurate accounting and on time reporting know-how.	
10. Method of Capacity Development	Lecture by JICA team and exercise assisted by PJT Brantas expert. Training computer operation at PJT I Brantas office	
11. Qualification of trainer	Accounting expert with ASGL knowledge	
12. Cost	Rp.155.5million excluding sub contract	
13. Role / Responsibility of Relevant Agencies	Proyek INDUK:	Recruit qualified staff for accounting
	DINAS:	Recruit qualified staff for accounting
	Contractor:	PJT I Brantas
	Others:	None
	JICA Study Team:	Lecture, Training assistance, Monitoring and feedback

14. Plan of Operation

Activities	*2005*				*2006*				*2007*			
1) Financial accounting: P/L,B/S, Cash flow, Financial Analysis				X		X		X		X		X
2) Computer operation: ASGL operation				X				X	X	X	X	X
3) Assets management: Inventory, Depreciation				X								
4) Monitoring and Training if necessary						X		X		X		X

Note: P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Profile Sheet of the Capacity Development Program

1. Sector	(5) Financial Management	
2. Program Name	(5)-3 Revenue Collection	
3. Objectives	To establish and strengthen revenue collection procedure of the services provided by PJT Jeneberang.	
4. Justification of the Program	A part of financial sources of operation of PJT Jeneberang relies on the fees charged to services provided to clients such as PDAM and PLN. In order to avoid any conflict with clients or miss-collection of fees for the services provided, revenue collection procedure has to be clarified and executed properly.	
5. Activities	1. Establish a revenue collection system and procedures including, contract, metering, invoice, and payment. 2. Lecture on fees collection procedure: ・Contract preparation with clients; ・Invoice and payment procedure; ・Monitor water distributed to clients (meter reading, flow management); ・Monitoring of fee collection 3. OJT at PJT I for selected staff ・Revenue collection procedure (invoice to payment)	
6. Target Group	・Head of Administration & Finance Bureau ・All staff of Finance Section and General Administration Section ・All staff of Water Service Division II-1	
7. Input (including financial source)	1) Manpower: Trainer from PJT I: 4 M/M (including for OJT)	2) Materials and Equipment Text and visual aids
8. Outputs	Revenue collection system, responsible staff acquire revenue collection skills.	
9 Contribution to Sustainable River Basin Management	Securing cash flow of PJT J by securing revenue collection enables proper operation which contributes to sustainable river basin management.	
10. Method of Capacity Development	Lecture and OJT	
11. Qualification of trainer	PJT I staff who has experiences in revenue collection PLN or PDAM staff from accounting section or fee collection section.	
12. Cost	Rp. 59.6 million	
13. Monitoring and Evaluation Indicators	Revenue collection ratio (invoice and receipt issues) Existence of revenue collection system	
14. Role / Responsibility of Relevant Agencies	PJT I	Provide technical training to PJT J staff
	PLN	Cooperate in revenue collection procedure
	PDAM	Cooperate in revenue collection procedure

15. Plan of Operation

Activities	*2006*				*2007*				*2008*			
1) Establishment of revenue collection system					P	X						
2) Lecture on fees collection procedure					P	X						
3) OJT at PJT I					P	X	X	X				
4)												

Note: P: Preparation for CDP, X: Execution of CDP, A: Associated activities

Supporting Report O

PCM WORKSHOPS AND STAKEHOLDER WORKSHOPS

Supporting Report O

PCM WORKSHOPS AND STAKEHOLDER WORKSHOPS

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Supporting Report O

PCM WORKSHOPS AND STAKEHOLDER WORKSHOPS

O1 Method of Participatory Approach

Participatory approach, in which a series of workshops were conducted with participation of stakeholders including JRBDP, Dinas, Balai, beneficiaries and clients, was applied for assessing the intention of stakeholders and for plan formulation. Workshops are utilized as an opportunity for the JICA Study Team and counterpart to provide information on river basin management and the concept of PJT Jeneberang to stakeholders, and the stakeholders and the JICA Study Team to express and exchange ideas about river basin management. Several types of workshops were conducted as shown below.

O1.1 Project Cycle Management (PCM) Workshop

A series of PCM workshops were conducted to identify the issues and measures for river basin management. Target group of the workshop is organizations that are directly responsible for river basin management including JRBDP, Dinas PSDA, Balai PSDA Jeneberang.

Outline of PCM Workshop

Objective	Problem analysis and project formulation (Project Design Matrix preparation) for river basin management.
Participants	JRBDP, Dias PSDA, Balai PSDA Jeneberang
Outputs/Remarks	- Problem tree, objective tree, project selection, Project Design Matrix (PDM) for facility O&M, organization and institution, financial management, human resources. - Ideas for non-water business. - PDM for Jeneberang River basin management.

O1.2 Stakeholder Workshops

A series of stakeholder workshops were conducted to exchange ideas about the roles of stakeholders, stakeholder participation, and expectation to PJT Jeneberang. Stakeholder workshops are designed to target specific stakeholders so that the discussion can focus on specific issues related to the stakeholders.

(1) Stakeholder Workshop targeting future clients of PJT Jeneberang

The objective of the workshop is to discuss the role of stakeholders and expectation to PJT Jeneberang for river basin management by targeting the future clients of PJT Jeneberang, which include PDAM, PLN, and Water Users Association (P3A).

Outline of the Stakeholder Workshop

Objective	Identification of the role of stakeholder in river basin management and expectation for PJT Jeneberang by the future clients.
Participants	PDAM, PLN, and Water Users Association (P3A).
Outputs/Remarks	- Role of stakeholders in Jeneberang River basin management. - Expectation to PJT Jeneberang.

(2) Stakeholder Workshop targeting all stakeholders in Jeneberang River basin

The objective of the workshop is to provide information on river basin management and discuss a variety of issues related to river basin management including "tariff charge to the services", "role of stakeholders in river basin management", and "consideration for upper stream area".

Outline of the Stakeholder Workshop

Objective	- Information dissemination about river basin management and a concept of PJT Jeneberang. - Identification of the role of stakeholder, pay for services, upper stream area support.
Participants	Regional committee members, Kabupaten, Kecamatan, Desa, NGO, Universities (Total of 55 participants).
Outputs/Remarks	- Stakeholders generally agree establishment of PJT Jeneberang. - It was the first workshop where information on river basin management and PJT Jeneberang was provided to stakeholders.

(3) Stakeholder Workshops for selected areas of the Jeneberang River basin

Since interpretation of river basin management is different depending on the areas of the river basin, stakeholder workshops were conducted in upper stream area (Malino), in Bili Bili dam area, and in downstream area (irrigation area, water users association).

The workshop focuses particularly on the stakeholders' intention on stakeholder participation in river basin management, and one of the aims of the workshop is awareness raising by formulating *'Slogan'* for river basin management.

Outline of the Stakeholder Workshop

Objective	Stakeholder' intention on participation to river basin management and formulation of *'Slogan'*.
Participants	Local governments, community groups, teachers, NGO
Outputs/Remarks	- Stakeholder participation in river basin management. - 'Slogan' for river basin management.

O2 PCM Workshops

O2.1 Objective of PCM workshop

Project Cycle Management (PCM) Workshop was held as a program of participatory approach for formulating the framework of Capacity Development Program.

Since establishment of PJT Jeneberang is a new concept for those who have been engaging in river basin management, PCM workshops are utilized not only for the stakeholders to discuss the issues of river basin management, but also utilized to provide information from the Study Team to stakeholders concerning the establishment of PJT Jeneberang.

Objectives of PCM workshop are set as shown below.

- Provide an opportunity to initiate discussion concerning river basin management and establishment of PJT Jeneberang,
- Provide an opportunity to share the information and ideas among stakeholders,
- Raise awareness of importance of river basin management by PJT Jeneberang,
- Provide information concerning establishment of PJT Jeneberang from the Study Team to counterpart and other concerned staff as a part of technology transfer, and
- Prepare PDM as a base of the capacity development program.

O2.2 Method of PCM Workshop Execution

(1) Project Cycle Management (PCM)

PCM is a method of managing the entire cycle of a development project from "Planning", "Implementation", to "Evaluation" by means of a project format called Project Design Matrix (PDM). PCM method comprises Participatory Planning (PP) and Monitoring and Evaluation (M&E). Participatory Planning is the target of the Study, which consists of an analysis stage (Stakeholders Analysis, Problems Analysis, Objectives Analysis, Project Selection) and a planning stage (Project Selection, Project Design Matrix (PDM), Plan of Operations (PO)). Steps of Participatory Planning are illustrated in Figure O2.1.

PCM workshops were conducted separately for an analysis stage and for a planning stage, and the different workshop design was applied depending on the objective of the workshops.

(2) Analysis stage

- PCM workshops for an analysis stage were conducted for general issues and for specific sectors related to river basin management and establishment of PJT Jeneberang.
- Objective of workshop for general issues is to discuss river basin management in general with a focus on Stakeholders Analysis. Two workshops were conducted to discuss

general issues: a practice workshop with JRBDP staff and a workshop at Regional Committee. Outputs of the workshop are Stakeholders Analysis and Problem Tree.

- Sector workshops for an analysis stage were designed to discuss specific issues for the selected sectors: 1) facility O&M, 2) human resources management, 3) financial management, 4) institutions and legal issue, and 5) non-water business. Participants are selected from departments or organizations related to the selected sectors. Outputs of the workshop are Problem Tree, Objectives Tree, and Project Selection.
- A workshop for non-water business was designed to provide a chance for free discussion among stakeholders about non-water business potentials rather than formulating a Problem Tree and an Objectives Tree. An output of the workshop is a list of non-water business opportunities.

Following table shows the workshop schedule for an analysis stage.

PCM workshop for Analysis Stage

Date	Topic	Participants
February 5	The Jeneberang River basin management (general issue) (practice)	JRBDP
February 10	The Jeneberang River basin management (general issue)	Regional committee member
February 12	Facility O&M	JRBDP, Dinas PSDA, Balai PSDA
February 17	Human resources management	JRBDP, Dinas PSDA, Balai PSDA
February 18	Financial management	JRBDP, Dinas PSDA, Balai PSDA
February 19	Institutions and legal issue	JRBDP, Dinas PSDA, Balai PSDA
February 25	Non-water business	JRBDP, Dinas PSDA, Balai PSDA

(3) Planning stage

A workshop for the planning stage is conducted based on the results of analysis stage with focus on formulation of Project Design Matrix (PDM) and was conducted on March 3 and 4 for all sectors discussed during the analysis stage. Participants are selected mainly from JRBDP and a few staff from Dinas PSDA and Balai PSDA.

O2.3 PCM Workshop Results of Analysis Stage

O2.3.1 General issues concerning the Jeneberang River basin management

PCM workshops for general issues concerning river basin management were conducted twice: a practice workshop prior to conduct workshops and a workshop at Regional Committee targeting wider stakeholders.

(1) Practice workshop with JRBDP

The objective of the practice workshop is to introduce PCM to counterpart prior to conduct a series of workshops so that they can be familiar with the concept of PCM and can take

leadership in the workshops to be conducted. The outline of the result is shown in the table below.

Outline of the Workshop

Stakeholders analysis	Stakeholders of the Jeneberang River basin management are grouped into 1) Regulation (decision making), 2) Water users, **3) Operator (directly responsible)**, 4) Operator (supporting group), 5) Watcher, 6) Fund source, 7) Security
Core problem	No maintenance for existing facilities
Direct causes	Mechanical equipment is limited, coordination among institutions are not smooth, and some plans are not accurate
Participants	JRBDP

Note; bold letters represent target group

(a) Stakeholders Analysis

Stakeholders Analysis was conducted to identify organizations or groups involved in river basin management. Among the stakeholders, operator (directly responsible), which includes Dinas PSDA, Balai PSDA Jeneberang, JRBDP, and consultants, was selected as a target group of the capacity development. The result of Stakeholders Analysis is shown in Figure O2.2.

(b) Problems Analysis

A core problem was identified as "No maintenance for existing facilities" which is caused by limited mechanical equipment, inefficient coordination among institutions, and inaccurate plans. The Problem Tree formulated in the workshop is not complete due to time constraints, so the Problem Tree contains only the issues raised by the participants. The Problem Tree is shown in Figure O2.3.

(2) Workshop at Regional Committee

Another workshop for general issues was conducted during the Regional Committee meeting in which stakeholders related to river basin management gathered at a same time and a same place.

The objective of the workshop is to introduce PCM workshop to stakeholders and conduct a PCM workshop, which focuses on Stakeholders Analysis and Problems Analysis. Topic discussed was "the Jeneberang River basin management".

Because of a large number of participants, they are divided into two groups for discussion. The results of the workshop are summarized below.

(a) Group A

Stakeholders Analysis

Operator (service provider), which includes Balai PSDA Jeneberang and JRBDP, was selected as a target group of the capacity development. The result of Stakeholders Analysis is shown in Figure O2.4.

Problems Analysis

A core problem was identified as "Coordination among related organizations in river basin management is lacking" which is caused by lack of management skill, lack of communication, lack of water management skills, and limited fund. The Problem Tree is shown in Figure O2.5.

The outline of the workshop is shown in the table below.

Outline of the Workshop

Stakeholders analysis	Stakeholders of Jeneberang River basin management are grouped into 1) Regulation maker, 2) Beneficiaries (water users), **3) Operator (service provider)**, 4) Policy maker, 5) Observer 6) Support of service provider
Core problem	Coordination among related organizations for river basin management is lacking
Direct causes	Management skill is lacking, communication of understanding of importance of water management is lacking, skilled staff in water management is lacking, and alternative funding source is limited
Participants	JRBDP, Dinas (WRM service, Infrastructure service), Balai PSDA, BAPPEDA, BAPENAS, Kabupaten, PLN, PDAM

Note; bold letters represent target group

(b) Group B

Stakeholders Analysis

Management group, which includes Dinas PSDA Province, Dinas PSDA Kabupaten, Balai PSDA Jeneberang, Dinas Forestry (Gowa), Dinas Plantation (Gowa), Dinas Irrigation and Swamp, was selected as a target group. The result of Stakeholders Analysis is shown in Figure O2.6.

Problems Analysis

A core problem was identified as "Human resources (difficult to find qualified staff) is lacking" which is caused by lack of manual or criteria, lack of qualified human resources, and limited fund. The Problem Tree is shown in Figure O2.7.

The outline of the result of the workshop is shown in the table below.

Outline of the Workshop

Stakeholders analysis	Stakeholders of the Jeneberang River basin management are grouped into 1) Supporting group, 2) Regulator, 3) Monitoring group, **4) Management group**, 5) Water user group (indirect beneficiaries), 6) Water user group (direct beneficiaries)
Core problem	Human resources are lacking (difficult to find qualified staff)
Direct causes	Manual/criteria of management does not exist, quality of human resources is lacking, quality of human resources is low, initial fund is limited
Participants	JRBDP, Dinas (WRM service, Infrastructure service) PSDA, Balai PSDA, BAPPEDA, BAPENAS, Kabupaten, PLN, PDAM

Note; bold letters represent target group

O2.3.2 Facility O&M

A PCM workshop for facility O&M was conducted to discuss the issues of operations and maintenance of facilities, particularly for dam related facilities. The outline of the result is shown in the table below.

Outline of the Workshop

Core problem	Decision of management staff is not proper
Direct causes	Skill of management staff is low, monitoring data is not accurate
Project selection	- Human resources improvement approach - Reporting system improvement approach
Participants	JRBDP, Dinas PSDA (particularly from project sites), Balai PSDA

(1) Problems Analysis

A core problem was identified as "Decision of management staff is not proper" which is caused by low skill of management staff and inefficient data monitoring and processing procedure. Lack of database system, lack of reporting system, and bad condition of monitoring equipment are the causes of inaccurate data. The core problem is causing lack of community participation which causes illegal settlements and illegal sand mining. The core problem is also causing inefficient O&M which causes damage of facilities. The Problem Tree is shown in Figure O2.8.

(2) Project Selection

Two approaches were selected from the Objectives Tree. First approach is "Human resources improvement approach" in which skill development of management staff and skill development of O&M staff are included. Second approach is "Report system improvement approach" in which organization of database management system, maintenance of monitoring equipment, and understanding of manual are included. The Project Selection is shown in Figure O2.9.

O2.3.3 Human resources management

A PCM workshop for human resources management was conducted to discuss the issues of manpower policy, training, and skills. The outline of the result is shown in the table below.

Outline of the Workshop

Core problem	Skill is lacking (management skill)
Direct causes	Personnel system (promotion) is not systematic, number of skilled staff is not enough
Project selection	- Organization structure improvement approach - Capacity development approach
Participants	Administration section of JRBDP, Dinas PSDA, Balai PSDA

(1) Problems Analysis

A core problem was identified as "Skill is lacking (management staff)", which includes skills of river basin management, entrepreneurship, and management task, which is caused by inefficient promotion system and lack of number of skilled management staff. Insufficient training, lack of coordination with PJT I, lack of utilization of experienced staff are identified as causes related to the core problem. The Problem Tree is shown in Figure O2.10.

(2) Project Selection

Two approaches were selected from the Objectives Tree. First approach is "Organization structure improvement approach" in which improvement of promotion system and clarification of organization status are included. Second approach is "Capacity development approach" in which coordination with PJT I, provision of management training, and utilization of experienced senior staff are included. The Project Selection is shown in Figure O2.11.

O2.3.4 Financial management

A PCM workshop for financial management was conducted to discuss the issues of operation and cost recovery, new revenue source, and accounting (budget) control. The outline of the result is shown in the table below.

Outline of the Workshop

Core problem	Revenue and cost are not balanced
Direct causes	Revenue is not enough, financial management process is slow
Project selection	- Fund raising and empowerment approach - Financial information system improvement approach - Human resources development approach
Participants	Administration and financial section of JRBDP, Dinas PSDA, Balai PSDA

(1) Problems Analysis

A core problem was identified as "Revenue and cost is not balanced", which is caused by limited revenue source and inefficient accounting system. Changes of government policy on

financial management, inefficient transaction process, and lack of skill of financial management are identified as causes related to the core problem. The Problem Tree is shown in Figure O2.12.

Since financial management is different from government organization and public corporation, participants had hard time thinking the logic of financial management.

(2) Project Selection

Three approaches were selected from the Objectives Tree. First approach is "Fund raising and empowerment approach" in which securing the payment from clients and searching for new income sources are included. Second approach is "Financial information system improvement approach" in which improvement of accounting system including financial control, book keeping, and guideline is proposed. Third approach is "Human resources development approach" in which provision of training, clarification of job description, proper assignment of staff, provision of manual are included. The Project Selection is shown in Figure O2.13.

O2.3.5 Institutions and legal issue

A PCM workshop for institutions, laws and regulations was conducted to discuss the issues of institutions involved and legislation. The outline of the result is shown in the table below.

Outline of the Workshop

Core problem	Job is not properly executed
Direct causes	Staff assignment is not suitable (assignment, recruitment), organization and job description is not clear, regulations are not clear
Project selection	- Human resources management approach - Dissemination of laws and regulation approach
Participants	Administration and legal section of JRBDP, Dinas PSDA, Balai PSDA

(1) Problems Analysis

A core problem was identified as "Job is not properly executed" which is caused by improper staff assignment, unclear job description, unsuitable organizational structure, inefficient execution of rules, and lack of equipment. Problem Tree is shown in Figure O2.14.

Since the objective and responsibility of PJT Jeneberang are not decided, yet, participants have hard time thinking about problems concerning institution and legal issues.

(2) Project Selection

Three approaches were selected from the Objectives Tree. First approach is "Human resources management approach" in which transparent staff assignment and recruitment are included. Second approach is "Dissemination of laws and regulations approach" in which clarification of job description and line of command, clarification of appropriate organization structure, and proper execution of rules are included. Third approach is "Equipment provision management

approach" in which proper provision of equipment is proposed. Project Selection is shown in Figure O2.15.

O2.3.6 Non-water business

A workshop was conducted to discuss new business potentials of PJT Jeneberang. The objective of the workshop is to initiate discussion about non-water business and to provide an opportunity to raise awareness of importance of non-water business for PJT Jeneberang.

Stakeholders Analysis, which identifies the beneficiaries of river basin management, was used for a base of the discussion. The workshop was designed to find out how the beneficiaries can be involved in revenue activities of PJT Jeneberang by identifying 1) revenue generating activity, 2) end-users/target market, 3) support the activity (potential partners), 4) potential revenue source, and 5) legal and technical constraints.

Revenue generating activities raised by participants can be categorized into 1) tourism, 2) wood processing, 3) agriculture, 4) real estate, 5) fishery industry, 6) sand mining, 7) water transport, and 8) water sales. Revenue sources are products sales, asset lease, service tax, and service fees. The results of the discussion are summarized in the table below. The output of the workshop is shown in Table O2.1.

Non-Water Business Ideas

Activities	Resources (assets)	Revenue sources
Tourism (Restaurant, Entertainment, Parking)	Water front area, Forest, Land, Water	Building lease, Food and drink tax, Souvenir sales, Performance ticket sales
Wood processing (handicraft, furniture)	Forest	Handicraft sales, Furniture sales
Real estate (houses, recreation facility, landscape, land lease)	Land, Water front area	House rent, Land lease,
Water transport	River	Entrance fees, Service tariff, Boat rental
Agriculture (seed supply, fertilizer production, consultation)	Forest, Land	Fertilizer sales, Consultation fees
Fishery industry (fish growing, fish processing)	River, Reservoir, Land	Fish products sales
Sand mining	River, Reservoir, Land	Sales revenue, Taxes, Tool lease, Land lease
Water sales (PDAM, PLN, mineral water, farmers)	Water	Water sales revenue, Irrigation water tax

O2.4 PCM Workshop Results for Planning Stage (formulation of sector PDM)

Based on the result of the sector workshops at analysis stage, Project Design Matrix (PDM) was formulated. A workshop for formulation of PDM was conducted for two consecutive days (March 3, 4). Since project formulation is a new experience for most of JRBDP staff, PDM was formulated with the support of the Study Team.

Since the objective of the capacity development program is to achieve "sustainable river basin management by strengthening capacity of PJT Jeneberang", projects selected at sector workshops are considered as components or sub-projects of the capacity development program. All project approaches selected at the analysis stage are reviewed, and regrouped to cover four aspects of the capacity development program: 1) O&M of infrastructure, 2) Organization operation management, 3) Financial management, and 4) Human resources development.

Following six sub-projects were selected as components of the capacity development program and PDM was prepared for each sub-projects. The PDM formulated is shown in Table O2.2.

(1) O&M of infrastructure

PDM 1 Monitoring and operation of facility O&M and reporting system improvement project

(2) Organization operation management

PDM 2 Organization strengthening project

(3) Financial management

PDM 3 Fund raising (non-water business) and empowerment project
PDM 4 Financial information system improvement project

(4) Human Resources Development

PDM 5 Management skill strengthening project
PDM 6 Personnel management system improvement project

Overall goal of six PDM is set as "Sustainable river basin management is achieved", that means, project purposes of each PDM shall lead to sustainable river basin management.

O2.5 Formulation of Project Design Matrix (PDM)

A comprehensive PDM for the Jeneberang River basin management is prepared based on the six sector PDM.

These PDM are updated by integrating the new findings and issues identified by the Study Team and are combined into one PDM to illustrate the capacity development for river basin management as a whole.

"Overall goal" is identified as "Sustainable Jeneberang River basin management is achieved."

"Project purpose" is identified as "Capacity of PJT Jeneberang and Balai PSDA Jeneberang is strengthened, and watershed management, water quality/quantity management, flood/drought management, and river area management is properly executed," which can be achieved by four

"outputs" which are categorized by four sectors namely, 1) facility O&M, 2) institutional and organizational management, 3) financial management, and 4) human resources development.

Narrative summary of the updated PDM is shown below, and a comprehensive PDM is shown in Table O2.3. The PDM is considered as a base of the capacity development program.

Narrative Summary
Overall Goal Sustainable Jeneberang River basin management is achieved
Project Purpose Capacity of PJT Jeneberang and Balai PSDA Jeneberang is strengthened, and watershed management, water quality/quantity management, flood/drought management, and river area management is properly executed.
Outputs 1 Facility O&M and management capacity will improve by management staff making proper decision on facility O&M resulted from improved manual, improved database management and improved O&M equipment 2 Organization operation and management capacity will improve by proper execution of jobs resulted from efficient organizational structure, proper understanding and implementation of laws and regulation related to internal and external affairs 3 Financial management capacity will improve by securing income sources and fee collection, and efficient financial management resulted from improved fee collection system, installation of corporate accounting system and staff skill development, and promotion of non-water businesses 4 Human resources will be developed by improving management staff skills and improving personnel system resulted from staff training, more senior staff, improving skill of young staff, and improving staff assignment/promotion/recruitment

O2.6 Remarks from PCM Workshop

(1) General

- PCM workshop is an effective tool for participatory planning.
- Writing and visualizing the items discussed make participants more aware of the issues, and discussion becomes more constructive.
- Participants gradually learned how to conduct PCM workshop and discussion became more active and effective as they experience the workshop.

(2) Technical issues

- Participants had hard time thinking about problems related to establishment of PJT Jeneberang because framework of PJT Jeneberang is not decided yet including staff assignment, and little information is provided to them.

- PCM workshop is a good opportunity for all participants to communicate and to discuss the opinions about PJT Jeneberang and a good chance for them to get more knowledge about PJT Jeneberang. At least in Phase 1 of the Study, they understand how different the management of a public corporation with a government institution.
- Participants are surprised by the basic thinking of financial management. Most of them do not understand the financial principle and the task of financial management, so they had a hard time constructing logic of financial management.
- Development of management skill is considered as an important aspect of capacity development. Particularly the capability of management staff (president director and directors) affects the success of initial operation of PJT Jeneberang.
- Participants expect a technical support from PJT I for establishment and operation of PJT Jeneberang.

(3) Reaction from participants concerning the PCM workshop

- Participants feel PCM workshop is interesting and useful for project formulation; however, since the staff of PJT Jeneberang is not announced yet, some participants have doubts about conducing workshop at this stage.
- Participants realized that PCM is useful for their everyday work.

O3 Stakeholder Workshops

Stakeholder workshops were conducted to provide information concerning river basin management to stakeholders including clients, local governments and communities within the river basin and to provide an opportunity for the stakeholders to speak and discus their roles and how they can participate in river basin management. A workshop style is adapted so that participants are able to express freely about their ideas. Total of five workshops were conducted with different target groups and different objectives. Target groups and objectives of the workshops are summarized below.

List of Stakeholder Workshops Conducted

Workshops	Objectives
Workshop (1) (Future clients of PJT Jeneberang)	To understand the intention of main clients of PJT Jeneberang concerning their roles and expectation to PJT Jeneberang.
Workshop (2) (Stakeholder, general audience)	To provide information on river basin management and the role of PJT Jeneberang to the stakeholders, and discuss the stakeholders' role in river basin management.
Workshop (3)~(5) (Stakeholder, focus group by areas)	Workshop (3) Malino (upper stream) Workshop (4) Bili Bili (middle stream) Workshop (5) Gowa (down stream) Areas of community participation in river basin management. How to participate in river basin management. Slogan for river basin management.

O3.1 Stakeholder Workshop (1) targeting the Future Clients of PJT Jeneberang

(1) Workshop summary

The stakeholder workshop, targeting the future clients, was conducted to identify roles and activities of stakeholders in river basin management and expectation to PJT Jeneberang. Participants are selected from main clients of PJT Jeneberang including PDAM, PLN, and Water Users Associations. The workshop was organized to provide an opportunity for the participants to discuss freely about river basin management.

Outline of the Workshop

Date	July 15, 2004
Place	JRBDP Meeting Room
Participants	PDAM Makassar, PLN, Water Users Association (Gowa), Dinas Gowa, Balai Jeneberang, JRBDP
Topics	- The roles and activities of stakeholders in river basin management - Activities to be responsibilities of PJT Jeneberang - Expectation to PJT Jeneberang
Methodology	- Participants are asked to write their opinions on a card - Free discussion among the participants based on the cards - Summarize the expectation to PJT Jeneberang by the stakeholder

Findings	Participants identified many activities for river basin management including water quality & quantity, facility O&M, legal issue, environmental conservation, capacity building, and coordination among agencies. Participants' expectation to PJT Jeneberang is high, and the participants are aware of stakeholder involvement for river basin management is important.

(2) Roles and Activities in the Jeneberang River Basin Management

The present situation of roles and activities in the Jeneberang River basin management are identified for PDAM, PLN, Water Users Association, Community and Dinas, and the activities to be managed by the PJT Jeneberang are also identified. Most stakeholders are already involved in river basin management, particularly in the field of watershed conservation. PDAM is involved in water quality related activities as well as environmental conservation activities such as organizing campaign and events. PLN is involved in watershed conservation activities such as reforestation. Community is also involved in conservation of the upstream area.

Among the stakeholders, Dinas plays a major role in river basin management which includes raw water control, legal enforcement, coordination among relevant agencies, watershed conservation, O&M of facilities, and most of which are considered as responsibility of PJT Jeneberang.

A list of activities is shown in the box below (* sign shows the activities that are proposed to be managed by PJT Jeneberang after the Corporation is established).

(i) PDAM

- Pay raw water retribution.
- Pay raw water tax.
- Conduct research on raw water (turbidity).*
- Searching additional raw water source during dry season.*
- Install instruction/warning sign to keep cleanliness/environment conservation.*
- Participate in moral movement "save the forest".
- Environmental conservation campaign via TV (in the form of theatrical performance).*
- Conduct a student speech contest in Makassar with a topic "environmental conservation".
- PDAM has conducted repair on raw water canal runs from dam to intake which is not responsibility of PDAM.

(ii) PLN

- Pay raw water retribution.
- Regular monitoring on river discharge.
- Regular monitoring on rainfall.
- Request for condition/elevation of discharge.
- Preparing panel for discharge monitoring.
- Allocation of community development budget for an environmental program.
- Participate/assist in reforestation activities in the upstream area.

(iii) Water Users Association (P3A)

- Maintenance of canals.*

- Control of water gates.*
- Construction of tertiary canals.
- Irrigation service that satisfies the farmers.
- Control farmers and brick producers near irrigation channels/rivers.
- Plan cropping pattern and livestock for effective water use.
- WUA empowerment.
- Construct road for tractors to avoid damage of irrigation channels.
- Financial condition of WUA still requires restructuring/rearrangement.

(iv) Community

- Conservation in the upstream area (forest area).*
- Assist in the forest conservation.
- Law enforcement for river polluters.*
- Clarifying law and its enforcement.
- Monitoring of planned trees (control illegal cutting).
- Contribution from beneficiaries (community) is to be in accordance with the financial capability of the relevant region.
- Dissemination/guidance to communities in the river basin area.*
- Control of community/private owned enterprise the river basin area.*

(v) Dinas

- Maintenance of Pappa river.
- Control and provide quality and quantity of raw water (meet the standard).*
- Quantity and continuity of raw water.*
- O&M of raw water transmission pipes.*
- Conduct echo-sounding measurement.*
- Conduct river morphology measurement.
- Control discharge for PLN purpose.*
- Continuous control of discharge (water balance), calculating inflow and outflow.*
- Monthly monitoring of river condition.*
- Monitoring sedimentation at upstream of dam.*
- Inventory of river structure.*
- Monitoring of equipped instruments along the river.*
- Establish flood waning system.*
- Flood control should be anticipated from early stage.*
- Mechanism of water utilization: there should be a flow chart describing from beneficiaries to institutions/agencies.
- Define demarcation of responsibility of Public Corporation.*
- Need for a regional regulation that regulates river demarcation and utilization of the river basin.
- There should be a strict sanction/penalty for violation and damage in upstream and downstream area
- Conduct monitoring on water quality.*
- Each relevant regency/municipality should be assigned cost sharing for O&M of river and regulated with a provincial regulation.
- Determine the amount of tariff to be contributed by the community based on annual cost projection.
- Increase coordination with relevant agencies.*
- Coordination with relevant agencies must be conducted, especially management of C-class mining in the river course.
- Conduct reforestation in the upstream area.*
- Determine clear rules/regulations and standard pricing.
- Inventory of river corridor areas that have been acquired so that the area is not used for settlement.*
- Install sign boards to forbid cutting trees and conduct conservation in green belt areas.*
- Conduct campaign on the danger of landside in upstream.*
- Inventory of miners.
- Amendment of laws related to PSDA.

- Allocation of the benefit of river basin management.*
- Aerial satellite information for public.*
- Public Corporation should recruit from local human resources selectively and objectively.*
- Public Corporation should be managed as a provincially owned enterprise with technical guidance from experts.
- Institutional development in river basin management.*
- Establish/existence of a section/institution that is in charge of receiving complaints from PDAM.
- Prepare spatial plan for the river basin.
- Public Corporation must give social and economic contributions to regional government (kabupaten) and surrounding communities.*
- Water users association requires development in practical technical sector.

(vi) Others

- Change the way of thinking from bureaucratic mind to business mind.*
- Install waste water treatment plant to prevent domestic and industrial waste from directly being dumped into river.*

(3) Expectation to PJT Jeneberang

Based on the present activities for the Jeneberang river basin management and the responsibility of PJT Jeneberang, the expectation to PJT Jeneberang was discussed. Stakeholder expectation to PJT Jeneberang is high because activities of PJT Jeneberang directly affect the operation of the stakeholders, and an organization that is specialized in river basin management is needed for clarifying the responsibility of river basin management. The expectation raised by the participants is listed in the box below.

Expectation to PJT Jeneberang

- Sufficient water supply (water level) for PLN.
- Quality and quantity raw water (turbidity & salt intrusion) supply.
- Provide sufficient and continuous water that meets the quality standard.
- Maintenance of raw water transmission pipes.
- Monitor the intake facilities for raw water supply for PDAM Makassar.
- Development and improvement of future water resources facilities and infrastructure.
- Conservation of watershed for flood management.
- Guidance/training for WUA and WUA Federation.
- Issuance of new regulations related to Public Corporation.
- Conduct of UKL/UPL (Environmental Impact Assessment monitoring) for Hydro power generation plant in Bili Bili.

The expectation can be categorized into 1) supply of sufficient quality and quantity of water, 2) execution of proper O&M, 3) provision of proper legislation.

O3.2 Stakeholder Workshop (2) targeting Stakeholders Role in River Basin management)

(1) Workshop summary

The stakeholder workshop was conducted at the end of the Phase I period for the purpose of providing information on river basin management and the function of PJT Jeneberang to

stakeholders and discussing the role of stakeholders. Contents of the workshop are summarized in the table below.

Outline of the Workshop

Date	July 27, 2004
Place	Meeting room at the hotel in Makassar
Participants	Regional committee members, Kabupaten, Kecamatan, Desa, NGO, Universities (Total of 55 participants)
Topics	(1) Provision of information (a) River basin management by PJTI - River basin management activities - O&M cost - Coordination with stakeholders (b) Interim result of the Study (Study Team) - Present condition of Jeneberang River basin management and management plan - Function of PJT Jeneberang (2) Group discussion (facilitator: counterpart) (a) Tariff charge for the services (types of services, payer, method of payment) (b) Roles of stakeholders in river basin management (PDAM, PLN, Water users association, regional government, residents (NGO), factories) (c) Consideration for the upper stream area (living condition improvement, economic development, institutional strengthening, environmental conservation, education & training)
Methodology	(1) Provision of information Presentation by PJTI and the Study Team (2) Group discussion - Facilitators are selected from counterpart - Participants are asked to write their opinions on a card - Free discussion among the participants based on the cards
Findings	The workshop was the first official stakeholder meeting in which the information on river basin management and the concept of PJT Jeneberang was provided to stakeholders. After the stakeholders understand river basin management and the concept of PJT Jeneberang, they generally agree the establishment of the Corporation and show willingness of participating in river basin management activities.

(2) Comments to the information provided

(a) Comments to river basin management by PJT I

- O&M cost that is responsibility of PJT I, Community participation (information provision, support to community, participation of water users association), non-water business, tariff setting, demarcation among the Central government and the local government after the regional autonomy.

(b) Comments to the Study Team

- Impact of Bawakaraeng land slide: volume of sand and method of sand control.
- Water supply control during the drought period (rule curve, dissemination, water supply reduction order)

(c) Comments to Jeneberang River basin management

- The benefit of dam construction to the dam region is small (water users are concentrated in the down stream area), and dam region is not receiving enough attention.
- Kabupaten Gowa approves establishment of PJT Jeneberang and wishes to establish a coordination system between Gowa and the Corporation. Consider "Law No. 22 Regional Autonomy". Gowa has authority in river basin management (Bontoparang village head)

(3) Summary of group discussion

The workshop was the first workshop for the stakeholders to discuss the Jeneberang River basin management, activities of PJT Jeneberang, and necessity of community participation. The topics raised and discussed during the discussion time are summarized below.

(a) Tariff charge to the services

- Services related to river basin management, responsible payers, method of payment.
- Tourism as a new business for PJT Jeneberang (Entrance fee to tourism facilities, tariff charge to fishermen, tariff charge to sand mining operators).
- Increased awareness of importance of PJT Jeneberang and importance of charge for the services.

(b) Role of stakeholders in river basin management

- Function and activities of PDAM, PLN, Water Users Association, regional government, and communities.
- Importance of the community participation (residents, local government) for river basin management activities.

Activities for River Basin Management

Stakeholders	Roles
Residents & NGO	・ NGO participation in river basin management. ・ Increase support by residents. ・ Consideration of river basin management method. ・ Sand mining in the upper stream area. ・ Forest conservation.
Local government (Kecatamatn, Desa)	・ Environmental conservation in upper stream area (including water quality management). ・ Information dissemination to residents concerning environmental conservation. ・ Sand mining management (license). ・ Coordination among concerned agencies. ・ Land/agricultural management for environmental conservation.
Water Users Association (WUA)	・ Participation of WUA for river basin management activities. ・ Support to river basin management activities (conservation of river area, conservation of forest area located above the reservoir). ・ Self-management of pump in down stream (including cost management). ・ Continuous water supply by ISF frame. ・ Awareness raising of facility management for WUA. ・ Regular meeting with beneficiaries of irrigation water.
PDAM	・ Support for information dissemination for pollution. ・ Sign board for solid waste disposal. ・ Tariff charge for environmental conservation. ・ Securing water quality for water supply.
PLN	・ Tariff charge for receiving water continuously. ・ Tree planting. ・ Water flow management.
Factories	・ Tariff charge for industrial waste management. ・ Installation of sewage treatment plant. ・ Installation of trash containers for factories

(c) Consideration for upper stream area

- Categorize the necessary support for upper stream area: agriculture activity support, living environment, environmental conservation, economic activities, and education.
- Initial discussion focuses on watershed conservation, then the importance and possibility of balancing the river basin conservation and the economic promotion activities was discussed.
- Capacity building for economic activities is considered important support.

List of Comments

Sector	Items
Agriculture activity support	・ R&D for crop, animal husbandry, and fishery. ・ Paddy conservation. ・ Capacity building for residents. ・ Securing land for field crop. ・ Establishment of fishermen's association.
Living environment	・ Water supply development. ・ O&M of tertiary canal and drainage canal. ・ Relocation site for Bawakaraeng disaster affected residents (100 households) .
Environmental conservation	・ Forest conservation. ・ Control of illegal logging. ・ Land use control in the residential area. ・ Spatial plan in upper stream area of the Jeneberang River basin. ・ Tree planting by community participation. ・ Community enlightenment program for promotion of facility maintenance and community participation. ・ Slope area cultivation. ・ Pilot plantation.
Economic activities	・ Designation of tourism area (resort, hotel, restaurant, park). ・ Land tax raise (the fund for community enlightenment in upper stream area). ・ Vegetable, fruits, livestock, fishery business. ・ Seed business. ・ Small industry (handicraft, souvenir). ・ Traditional restaurant.
Education	・ Capacity building for fishermen's association. ・ Textile training. ・ Groundwater use. ・ Vocational school. ・ Community enlightenment, capacity building. ・ School education program for dams in Jeneberang area.

O3.3 Stakeholder Workshop (3) (Malino)

(1) Workshop summary

A stakeholder workshop was conducted in Malino (Kecamatan Tinggi Moncong) with 42 participants. The objective of the workshop is to provide information on river basin management to the people in the upper stream area and discuss what and how they can participate in river basin management. Outline of the workshop are summarized in the table below.

Outline of the Workshop

Date	November 6, 2004
Place	Meeting room at the Kecamatan Tinggi Moncong
Participants	Local governments (Kecamatan, Desa, Kerurahan), community organizations, school teachers, NGOs (Total of 42 participants)
Topics	(1) Provision of information on river basin management by JRBDP staff (2) Group discussion (facilitator: NGO) (a) Stakeholder participation in river basin management (b) Formulation of slogan for river basin management
Findings	(1) Stakeholder participation in river basin management ・ Forest conservation (tree planting, protection, education) are the major interest of the participants. ・ Revival of local custom for reforestation efforts (this region had a custom of planting trees for special occasion such as wedding). ・ Participants are well aware of importance of forest conservation for water resources conservation and show willingness to contribute for forest conservation through education, planting trees, land conservation. ・ Other areas of participation are identified as tourism, health, infrastructure, fishery, women empowerment. (2) Slogan for river basin management ・ "One piece of land, one tree" ・ "Your green is my crystal water" ・ "Plant the fruits seed you eat to shade Jeneberang" ・ "The redness of *Spatudea* * flowers reflects clear water of Jeneberang"

Note: * *Spatudea*: a kind of plant grown in Malino area.

(2) Discussion results

Participants are divided into three groups for discussion and NGO facilitated the discussion. Topics of discussion are 1) areas of participation, 2) method of participation, and 3) incentives/benefit of participation. Forest management is the main concern for the participants. Summary of discussion results are shown in the table below.

Summary of Discussion Results

	Area of Participation	Method of Participation	Incentive/Benefit
1	Forest management (conservation, reforestation)	- Plant trees (along river side, surrounding spring water). - Plant trees for special occasion, campaign (wedding, new born baby, one life one tree). - Plant seeding (fruits trees, *Spatudea*). - Not cutting trees. - Fence the surrounding of protected forest. - Create terraced land cultivation. - Participatory forest management. - Anticipate occurrence of forest fire (cigarette, etc.).	- Preserved continuity of the forest. - Preserved water supply. - Availability of wood for industry. - Increased local income. - Community may not damage forest. - Community empowerment. - Fertile land. - Land rehabilitation along river corridors.
2	Education	- Education on environment. - Maximize potentials of local water resources. - Provide training for drop out teenagers on reforestation and green campaign. - Dissemination of importance of forest conservation awareness.	- Students/community understand the benefit of watershed conservation.
3	Infrastructure	- River dredging. - Construction of dykes in danger prone area. - Construction of irrigation networks for paddy in the river side. - Rehabilitation of weir/small dam, canal, rivers. - Rehabilitation of road surrounding Jeneberang river.	- Reduce sediment flow and decrease disaster. - Prevention of landslide. - Conservation and agriculture at the same time. - Smooth/storage river flow. - Optimize the benefit of agriculture products.
4	Tourism	- Increase tourism facilities.	-
5	Fishery	- Provide employment opportunity.	- Increase in food production. - Increase in community income. - Utilization of community income.
6	Health	- Improve river hygiene. - Manage waste disposal.	-
7	Law enforcement	- Punish water polluter. - Provide regulation against forest cut. - Tribal punishment for forest damagers (outcast from the community).	-
8	Women empowerment	- Involvement of women in environmental activities.	-

(3) Slogan

Based on the discussion results, participants are asked to prepare “slogan” on which they can act. Most slogans are related to forest conservation. The slogan proposed by the participants is summarized in the table below.

Slogan for River Basin Management

Slogan	Explanation by Participants
SEJENGKAL TANAH SEBATANG POHON (ONE PIECE OF LAND, ONE TREE)	The forest is currently in serious condition, especially in the upper stream area. There should be a responsive action from stakeholders.
HIJAUMU BENINGKU (YOUR GREEN IS MY CRYSTAL WATER)	If the forest is well preserved, the surrounding area will surely be green. And if it is green, you can also be sure that water will be crystal clear and thereby give contribution to the community at large.
TANAM BIJI BUAH YANG ANDA MAKAN UNTUK TEDUHKAN JENEBERANG (PLANT THE SEED OF FRUITS YOU EAT TO SHADE JENEBERANG)	We urge you to plant the seeds of fruits and vegetables that you eat. Around us are variety of fruits and vegetables and most have seeds. We should replant these seeds. Because this is a community campaign, a special waste basket should be available to collect these seeds. The waste basket shall then be brought to a special place where they will be cultivated into seedlings and redistributed for planting.
MERAHNYA SEPATUDEA SEIRING JERNIHNYA JENEBERANG (THE REDNESS OF SPATUDEA FLOWER REFLECTS CLEAR WATER OF JENEBERANG)	*Spatudea* is a special flower tree that grows numerously in Tinggimoncong. It is beautiful but do not give direct economic benefit to the community. It does, however, have great propensity in storing water. It is for this reason that *Spatudea* should be planted in the surroundings of Jeneberang River. People will not be interested in cutting it down or making use of it for specific purposes and thereby it will be left undamaged and consequently will have great potential storing water and preventing erosion.

O3.4 Stakeholder Workshop (4) (Bili-Bili)

(1) Workshop summary

A stakeholder workshop was conducted in Bili-Bili area (Kecamatan Manuju, Kecamatan Parangloe) with 35 participants. The objective of the workshop is to provide the information on river basin management to the people in Bili-Bili area and discuss what and how they can participate in river basin management. Outline of the workshop are summarized in the table below.

Outline of the Workshop

Date	November 11, 2004
Place	Meeting room at the Bili-Bili dam control office
Participants	Local governments (Kecamatan, Desa, Kerurahan), community organizations, school teachers, NGOs (Total of 35 participants)
Topics	(1) Provision of information about river basin management by JRBDP staff (2) Group discussion (facilitator: NGO) (a) Stakeholder participation in river basin management (b) Formulation of slogan for river basin management
Findings	(1) Stakeholder participation in river basin management ・ Forest management including planting trees, law enforcement. ・ Bili-Bili dam reservoir management including excavation, solid waste management, planting vegetation. ・ Benefits of the reservoir existence to the surrounding communities and utilization of the reservoir for the benefit of the community. ・ Promotion of economic activities including fishery, tourism and mining ・ Community empowerment. (2) Slogan for river basin management ・ "Conserve Bili-Bili Reservoir" ・ "Forest is my hope. River is my life"

(2) Discussion results

Participants are divided into two groups for discussion and NGO facilitated the discussion. Topics of discussion are 1) areas of participation, 2) method of participation, and 3) incentive/benefit of participation. Summary of discussion results are shown in the table below. Economic activities and community empowerment are the main concern for the participants.

Summary of Discussion Results

	Area of Participation	Method of Participation	Incentive/Benefit
1	Forest management	・Plant trees. ・Control cutting of trees. ・Classify c-class mining area and forest area.	・Reduce environmental pollution and water contamination. ・Forest is preserved with a strong local culture base. ・Prevent erosion, flood, drought and landslide.
2	Reservoir management	・Plant trees and increase vegetation along Jeneberang River. ・Protecting the river by disposing garbage in the right place. ・Keep the river surrounding environment clean.	・Prevent erosion, flood, drought and landslide. ・Dam protection ・Keep the river side clean and protect biota. ・Reduce environmental pollution and water contamination.
3	Promotion of economic activities	・Fishery development. ・Motivate community to produce handicrafts/souvenirs made from local materials. ・Provide tourism places (camp area). ・Planting commodity crops through community organization involvement.	・Create job opportunity. ・Increase in income. ・Prevent negative impact to community. ・Community involvement. ・Provide business opportunity for community in fishery and agriculture sector.
4	Community empowerment	・Teach living environment concept to elementary school students. ・Conduct drawing contest with certain theme (flood, landslide) to children. ・Socialization. ・Training.	・Students are aware of importance of living environment. ・Children understand hazard of flood/landslide. ・Obtain certain/specific skills.
5	Law enforcement	・Support/assist policy by giving information on illegal logging. ・Give penalty for illegal logging.	・Bili-Bili reservoir is preserved.

(3) Slogan

Since the Bili-Bili dam and reservoir area located below their residence and directly related to their lives, the slogan aims to link their lives and the river.

Slogan for River Basin Management

Slogan	Explanation by Participants
LESTARIKAN WADUK BILI-BILI (CONSERVE BILI-BILI RESERVOIR)	Bili-Bili reservoir is pride of the people of Gowa Regency, so local people should maintain, protect and conserve the reservoir from any damage. People should also utilize the reservoir for the benefit of the community.
HUTAN HARAPANKU, SUNGAI KEHIDUPANKU (FOREST IS MY HOPE, RIVER IS MY LIFE)	This slogan aims to stop illegal logging. It is also expected that the slogan will raise community awareness for forest conservation.

O3.5 Stakeholder Workshop (5) (downstream, WUA)

(1) Workshop Summary

A stakeholder workshop was conducted in downstream area (Tanabangka) with 31 participants. The objective of the workshop is to provide the information on river basin management to the people in the down stream area and discuss what and how they can participate in river basin management. Outline of the workshop are summarized in the table below.

Outline of the Workshop

Date	November 23, 2004
Place	Community hall in Tanabangka
Participants	Water Users Association members, farmers, NGOs (Total of 31 participants)
Topics	(1) Provision of information about river basin management by JRBDP staff (2) Group discussion (facilitator: NGO) (a) Stakeholder participation in river basin management (b) Formulation of slogan for river basin management
Findings	(1) Stakeholder participation in river basin management ・ Operation and maintenance of irrigation channels is the main concern of the participants, which directly affects the production of crops and wellbeing of farmers. ・ O&M includes cleaning, water allocation, proper use of channels and facilities. ・ Strengthening of O&M by mutual cooperation, empowerment of WUA, legal enforcement are discussed. ・ Importance of paying ISF for all water uses including paddy and fishpond and pay for WUA fund to be used for rehabilitation of canals are discussed. ・ Participant also show willingness for canal rehabilitation by themselves. (2) Slogan for river basin management ・ "Irrigation channels are mutual ownership" ・ "Stop illegal off-take and tree planting on dykes" ・ "Let's work together to clear irrigation channels"

(2) Discussion results

Discussion is focused on how to manage irrigation facilities properly for control of water flow and eventually increases agricultural production. Management of facilities can be done by strengthening of regulations, mutual cooperation of WUAs and farmers, canal rehabilitation, and empowerment.

Summary of Discussion Results

	Area of Participation	Method of Participation	Incentive/Benefit
1	Control by strengthening regulations	・Government issues regulations in order to regulate the community in not throwing garbage into irrigation canals ・Anybody who throws garbage into the water canals shall be sanctioned/penalized ・In order to decrease damage of irrigation canals, it should be agreed to enforce penalties to disobedient WUA members ・Collect fees from WUA at every planting season ・Make fund allocation for WUAs ・Teach discipline to our children on the importance of environmental cleanliness ・Prohibit brick making/production at the edge of canals. ・Sand mining at river need to be control by the government	・The community and individuals may become aware of the importance of cleanliness ・Farmer's production increase in every planting season ・Irrigation water in secondary and tertiary canals flow smoothly and continues to be preserved ・The financial aspect of WUAs is managed well
2	Mutual cooperation on O&M of irrigation facilities	・At every planting season, WUAs agree to do mutual cooperation works in cleansing and rehabilitating secondary and tertiary irrigation canals ・The Binabbasa WUA usually conduct mutual cooperation works twice every season ・Members of WUAs should not arrogantly execute illegal off-take from irrigation canals ・WUA members work together in cleansing water canals at every planting season ・Close all illegal off-takes in secondary canals ・Extract/free deposits that are flowed in by the current such as sand etc. ・Increase participation of government and youth ・Make garbage hole in every household adjacent to irrigation canal and do not throw garbage for smooth water flow. ・Pay ISF for any activities that use water from irrigation; not only for paddy but also for fishpond.	・To simplify canal rehabilitation works ・Water flows smoothly and reach paddy fields quicker ・Water is managed well for the purpose of increasing production ・Water flows smoothly to the farmers paddy fields ・The community's awareness in canal maintenance or irrigation scheme cleanliness increases ・The future generation becomes aware of the importance of environmental conservation specifically in water resource sector
3	Canal Rehabilitation	・Secondary canals must be widened in order that water flows smoothly into the Tanabangka Village ・Water usually flows slowly to the Tanabangka Village because the secondary canal is narrow ・Farmers construct tertiary canals ・Every WUA members makes a small water way in each of their paddy fields ・Canal rehabilitation be conducted periodically ・Repair/improvement of irrigation canals by using WUA fund.	・If water flows smoothly, the farmers will be very happy ・Empowerment of Women ・Quicken water flow into paddy fields ・Water debit does not decrease when it arrives in tertiary gates

	Area of Participation	Method of Participation	Incentive/Benefit
4	Empowerment	・There should be a Sub-WUA in every WUA ・Women be included as WUA management board	

(3) Slogan

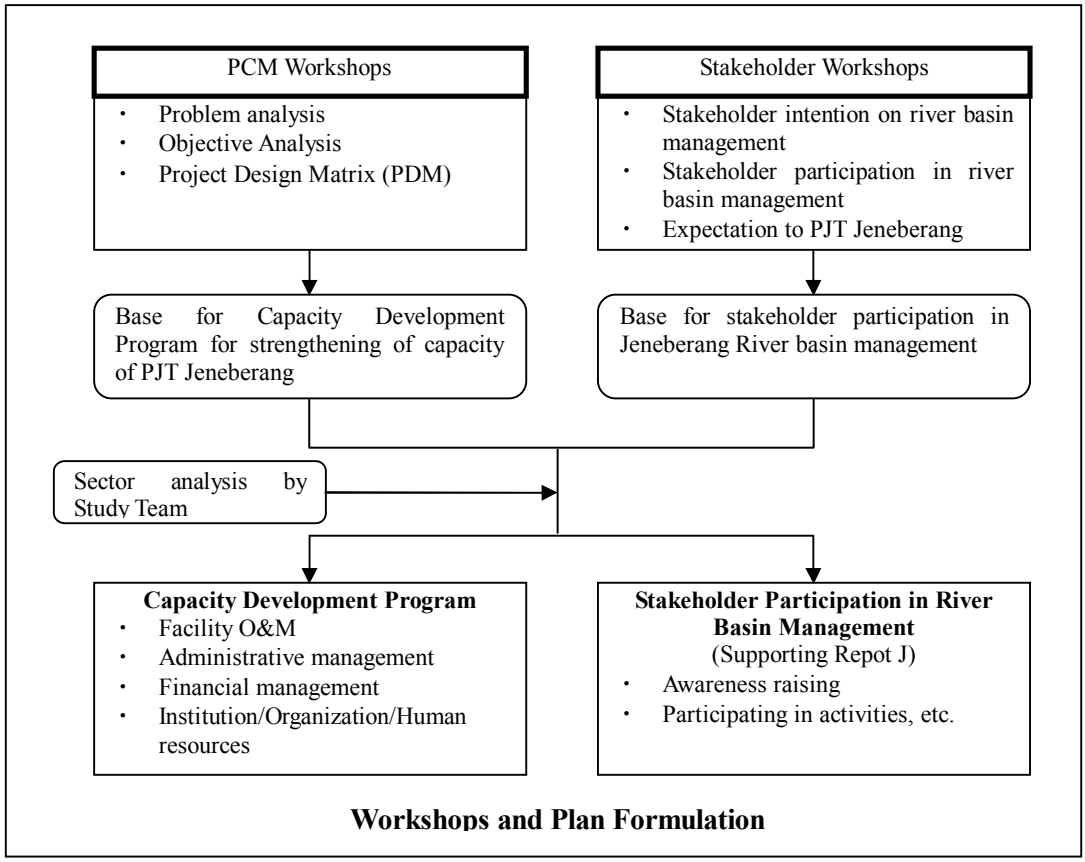
Based on the discussion results, participants are asked to prepare "slogan" on which they can act. Most slogans are intended to improve the condition of irrigation channels through proper management by WUA and farmers.

Slogan for River Basin Management

Slogan	Explanation by Participants
SALURAN AIR ADALAH MILIK BERSAMA (IRRIGATION CHANNELS ARE MUTUAL OWNERSHIP)	・We all are a community of farmers who care about irrigational matters. We have a sense of ownership and thereby a sense of responsibility in the preservation of irrigation schemes. ・Because there is a sense of ownership, there should be a regulation in order to control irrigational matters and that irrigation water may be managed properly and used appropriately. The communities shall be bound to these regulations. ・Not only farmers and/or WUAs should participate actively in irrigational matters. All elements of the community, including Government personnel and youth, should be included in irrigational activities.
STOP BOBOLAN DAN PENANAMAN POHON DISALURAN (STOP ILLEGAL OFFTAKE AND TREE PLANTING ON DYKES)	・All crops in dykes must be cleared to avoid channels destruction. ・Whoever commits illegal off-take must be imposed penalty of minimum 5 millions Rp. This is to prevent occurrence of similar action.
MAEKI ABBULOBATANG ANNANGKASI AGANG JE'NE (LET'S WORK TOGETHER TO CLEAR IRRIGATION CHANNELS)	・To keep the fluency of water flow we need to conduct socialization by asking community to clear irrigation channels/tertiary channels. ・Construct special road so that tractors or farmers may get through paddy fields. ・After conducting mutual cooperation (*kerja bakti*), report to WUA head how many people get involved. ・If water flows well, harvest will be good. ・All WUA members shall be pro active.

O4 Utilization of Workshop Results for Plan Formulation

Workshop results are utilized as inputs for Capacity Development Program and for Stakeholder Participation in River Basin Management. Following chart shows the workshops and plan formulation process.



Workshops and Plan Formulation

Results of PCM workshops are utilized mainly as inputs for Capacity Development Program. PCM workshops identify the sectors needed to be strengthened through problems analysis, objectives analysis and project selection. The PDM shows the objectives, activities, inputs and other components of the Capacity Development Program together with their logical interrelationships, from which Profile Sheet for Capacity Development Program is formulated.

Results of stakeholder workshops are utilized for formulation of stakeholder management which is one of tasks for public relations of PJT Jeneberang. Some ideas for stakeholder participation are taken from the results of stakeholder workshops.

Tables

Table O2.1 Results of Workshop for Non-Water Business Potentials (1/2)

Stakeholder	Water users association	PDAM	Sand miner
Activity	Provide irrigation water, Dissemination of water management	Provide/sell raw water	Sand & stone mining, machine/crusher rental, land lease
End user/Market	Water users association	Housing, industry, hotel, shopping mall, store, port, airport	Gowa, Takalar, Makassar, developer, concrete factory, contractor
Supporter	Province, District	Regional government, PDAM	1)Mining company, 2)Dinas Mining
Potential revenue source	Irrigation water tax	Tax, collection from end users	1)tax/retribution, selling materials 2)leasing tools, land lease
Constraints	Water law, low ability of farmers	Formulation of regional regulation, users can not afford to pay, fund for investment	Regulation, location far from customer, local miners not active in upstream are of Bili Bili, illegal land owner, illegal miners

Stakeholder	Restaurant/tourism	DINAS Fishery / fishermen	Water transportation business/DINAS Transportation, cooperation
Activity	Provide local and international food, parking area, entertainment, art festivals	Fish growing, fish hatchery, food processing, fishing	Transporting people and goods, boat rental
End user/Market	Visitors, local community, home deliveries	Restaurant, public/general community	Local who needs travel, tourists, fishermen, sand miners, businessmen
Supporter	DINAS Tourism, DINAS Health, local government, public/general communities, bank	Market, transportation vehicle, time	Boats, speed boats, boat captain, mechanical service, office, storage, regulation
Potential revenue source	Building lease/restaurant, food and drink tax, souvenirs sales, tickets for performance	Fish products sales	Tickets to enter location, transportation tariff, services, boat rental fees
Constraints	Marketing, environment, culture, religious norm, regulation, capital	Flood, theft, natural condition	Weir, dams, water fall, shallow water, river port, waste, fish cage, human resources

Table O2.1 Results of Workshop for Non-Water Business Potentials (2/2)

Stakeholder	PLN	Industry and trade service	Bottling water company (local company/private company)
Activity	Energy product	Wood (white teak wood) processing	Mineral water production
End user/Market	Community	Carpenter, community	Community
Supporter	Bank	Handicraft	Bank, Aqua, Ades
Potential revenue source	Electricity sales	Handicraft sales, tickets	Water sales
Constraints	Capital, tax	Capital, equipment	Capital, marketing, business license

Stakeholder	Agriculture		
Activity	Land rental, seed supply	Manure production	Consultation
End user/Market	Farmers, community, silk industry, plantation	farmers	Farmers, university
Supporter	Desa office	Traders, cooperatives, market	expert
Potential revenue source	Land lease fee	Fertilizer sales	Consultation fees
Constraints	Regulation, land status conflict	Investment capital	Lack of expert

Stakeholder	Agriculture		Real estate
Activity	Wood processing	Collection forest	Construction of houses, recreation facility, sports facility, landscaping
End user/Market	Furniture company	Tourist	Local community
Supporter	Handicraft	DINAS Tourism, travel agency	Real estate
Potential revenue source	Handicraft sales	Ticket sales	House rent
Constraints	Market, capital	Marketing	Regional regulation, environmental assessment

Table O2.2 Project Design Matrix (1/6)

PDM 1: Project name: Monitoring and operation of facility O&M and reporting system improvement project (Facility O&M) Target group: O&M staff of the Corporation

Narrative Summary	Objective Verification Indicators	Means of Verification	Important Assumption
Overall Goal: Sustainable river basin management is achieved by improving operation and management capability of the Public Corporation	- quality water is available to beneficiaries - operation cost is covered by revenues - negative impact to environment is zero - no complaints from public	- operation record, operation manual, operation plan, letter, financial statement - media, newspaper	- Public Corporation keeps existing - Autonomy regulation does not change
Project Purpose: Management staff make proper decision on O&M of facilities	- quality water is available to beneficiaries (allocation of water) - no complaints from public (clients)	- operation record, operation manual, operation plan, letter - media, newspaper	- Socio economic conditions do not change drastically - Natural conditions do not change drastically - Other sub-projects are implemented
Outputs: 1 O&M activities follow the manual and O&M will improve 2 Database management is well organized (Data is accurate and complete) 3 Dam condition is measured (equipment always works properly, prevent break down)	1 Responsible staff follows procedure in manual 2 Data monitoring is conducted as required in guideline and manual, all data is available as required 3 Calibration is conducted as required in manual, all equipment works or repair plan is available	1 training record, manual 2 monitoring record, database, manual 3 calibration plan and record, manual, training record	- Skill of management staff is strengthened - Management staff have good response
Activities: 1-1 Prepare simple operation manual 1-2 Provide (distribute) operation manual (improved, extra copies) 1-3 Provide training for operation based on manual 2-1 Establish monitoring database system 2-2 Clarifying monitoring and reporting procedure including evaluation and feedback 3-1 Prepare calibration plan of monitoring equipment 3-2 Provide training on monitoring equipment maintenance	Inputs: Manpower River engineer, Structural engineer, Mechanical/Electrical engineer, Sabo engineer, PJT1 staff Equipment/supply Survey equipment, boat, vehicle, computer, other equipment		- Staff received training stay at assigned position Pre-conditions - Preparatory committee for establishment of public corporation starts functioning - Framework of the Public Corporation is prepared - Initial staff assignment is fixed

Table O2.2 Project Design Matrix (2/6)

PDM 2: Project name: Organization strengthening project (Organization operation management) Target group: Staff of the Corporation

Narrative Summary	Objective Verification Indicators	Means of Verification	Important Assumption
Overall Goal: Sustainable river basin management is achieved by improving operation and management capability of the Public Corporation	- quality water is available to beneficiaries - operation cost is covered by revenues - negative impact to environment is zero - no complaints from public	- operation record, operation manual, operation plan, letter, financial statement - media, newspaper	- Public Corporation keeps existing - Autonomy regulation does not change
Project Purpose: Jobs are properly executed (Staff follow job description)	- activity plan is executed 100% - employees do not complain	- annual business (activity) plan, annual report, accounting record - number of demonstration - mass media	- Socio economic conditions do not change drastically - Natural conditions do not change drastically - Other sub-projects are implemented
Outputs: 1 Organization structure is suitable with current needs 2 Internal regulations are implemented properly	1 Staff execute tasks according to job description, breaking rules decreases 2 regulations are available, existence of necessary documents	1 job description, organization structure, annual report 2 regulations, annual report, plan of operation	- Stakeholders agree with the function of the Corporation - Human resources development is implemented
Activities: 1-1 Formulate of necessary legislation (legal documents) 1-2 Analyze (formulate) job description, organizational structure and line of command 1-3 Preparing staffing requirement 1-4 Coordinate among departments in the Corporation 1-5 Provide training for job description and function of Corporation 2-1 Review existing regulations (rules) based on article of corporation 2-2 Prepare regulations (rules) necessary for Corporation management 2-3 Prepare annual plan, activity report 2-4 Provide training on regulations (rules)	Inputs: Manpower Management staff of the Corporation (President director, Directors) Human resources expert Equipment/supply		- Principle of Water Law does not change - Regulators (regional government, central government) support execution of regulations Pre-conditions - Preparatory committee for establishment of public corporation starts functioning - Framework of the Public Corporation is prepared - Initial management staff assignment is fixed

Table O2.2 Project Design Matrix (3/6)

PDM 3: Project name: Fund raising (new business) and empowerment project (Financial management) Target group: Promotion, Finance, Collection Section of Corporation

Narrative Summary	Objective Verification Indicators	Means of Verification	Important Assumption
Overall Goal: Sustainable river basin management is achieved by improving operation and management capability of the Public Corporation	- quality water is available to beneficiaries (allocation of water) - negative impact to environment is zero - no complaints from public	- operation record, operation manual, operation plan, letter, financial statement - media, newspaper	- Public Corporation keep existing - Autonomy regulation does not change
Project Purpose: Income sources are available	increases in revenue by 30%	- profit/loss statement (income statement) - cash flow statement - financial plan and results	- Socio economic conditions do not change drastically - Natural conditions do not change drastically - Other sub-projects are implemented
Outputs: 1 Regular payment is made on time 2 New business is running well	1 number of invoice, number of payment 2 30% increase in activity, number of new business realized, number of contract agreed.	1 invoice record, receipt, bank deposit record 2 contract with partners, minutes of meeting, profit/loss statement	- Socio economic conditions that affect new business do not change
Activities: 1-1 Prepare contract with clients 1-2 Provide tariff setting system and guideline 1-3 Monitor water distributed to clients 1-4 Provide invoice and payment procedure 2-1 Review condition of assets including equipment 2-2 Promotion of Jeneberang resources 2-3 Form coordination system with beneficiaries (potential clients or partner) 2-4 Prepare regulation among related organizations concerning with water use and new business 2-5 Provide training on contract preparation (by different type of contract)	Inputs: Manpower Business consultant (entrepreneur) Equipment/supply		- Clients or partner follow the contract - New regulations are approved by relevant organizations (Province, KIMPRASWIL, etc.) Pre-conditions - Preparatory committee for establishment of public corporation starts functioning - Framework of the Public Corporation is prepared - Initial staff assignment is fixed

Table O2.2 Project Design Matrix (4/6)

PDM 4: Project name: Financial information system improvement project (Financial management) Target group: Finance Section of the Corporation

Narrative Summary	Objective Verification Indicators	Means of Verification	Important Assumption
Overall Goal: Sustainable river basin management is achieved by improving operation and management capability of the Public Corporation	- quality water is available to beneficiaries - operation cost is covered by revenues - negative impact to environment is zero - no complaints from public	- operation record, operation manual, operation plan, letter, financial statement - media, newspaper	- Public Corporation keep existing - Autonomy regulation does not change
Project Purpose: Financial management is conducted efficiently	- all financial transactions are recorded properly	financial statement (Profit/loss statement, balance sheet, cash flow, statement, ledger), manual	- Socio economic conditions do not change drastically - Natural conditions do not change drastically - Other sub-projects are implemented
Outputs: 1 Corporate accounting system is installed and implemented 2 Staff acquire financial management knowledge	1 90% of monthly report is on time 2 number of training provided, 90% of staff understand and implement financial rules	1 monthly report, regulation approval record 2 training record	- Staff received training stay at the assigned position - Operation costs do not rise drastically - Condition of revenue generation activities does not change drastically
Activities: 1-1 Introducing cost calculation method based on O&M activities 1-2 Formulate accounting system including computer program 1-3 Prepare standardized financial rules 2-1 Prepare job description for financial management 2-2 Prepare staff requirement 2-3 Provide manual for financial management 2-4 Prepare training plan based on job description 2-5 Provide training	Inputs: Manpower Accountant (accounting specialist) Equipment/supply Computers, a payment slip		- Accounting system is approved by relevant agencies (Ministry of Finance, KMPRASWIL) Pre-conditions - Preparatory committee for establishment of public corporation starts functioning, - Framework of the Public Corporation is prepared - Initial staff assignment is fixed

Table O2.2 Project Design Matrix (5/6)

PDM 5: Project name: Management skill strengthening project (Human resources development) Target group: Staff of the Corporation

Narrative Summary	Objective Verification Indicators	Means of Verification	Important Assumption
Overall Goal: Sustainable river basin management is achieved by improving operation and management capability of the Public Corporation	- quality water is available to beneficiaries - operation cost is covered by revenues - negative impact to environment is zero - no complaints from public	- operation record, operation manual, operation plan, letter, financial statement - media, newspaper	- Public Corporation keep existing - Autonomy regulation does not change
Project Purpose: Management staff are concerned for execution of work	job executed and job description match	job description, organizational structure, required number of management staff, personnel data	- Socio economic conditions do not change drastically - Natural conditions do not change drastically - Other sub-projects are implemented
Outputs: 1 Formal coordination with PJT is conducted 2 Management staff acquire management skills 3 Number of experienced senior staff is available 4 Young staff acquire management skills	1 agreement is prepared, number of meeting, 2 number of training provided 3 number of senior staff recruited, change in regulation 4 number of training provided	1 agreement, minutes of meeting 2 training record, personnel data 3 recruitment record, change in regulation, personnel data 4 training record, personnel data	- Management staff stay at assigned position
Activities: 1-1 Establish committee for coordination of PJT1 and Jeneberang Public Corporation 2-1 Prepare management skill training plan and record 2-2 Produce training material for management training (management, entrepreneurship, river basin management) 2-3 Provide management skill development training 3-1 Regulations on personnel rule are reviewed 3-2 Provide criteria for recruitment of senior staff 4-1 Produce training material for management skills for young staff 4-2 Provide management training to young staff	Inputs: Manpower Human resources development expert Equipment/supply Training material (text)		- PJT1 supports operation of the Public Corporation Pre-conditions - Preparatory committee for establishment of public corporation starts functioning - Framework of the Public Corporation is prepared - Initial staff assignment is fixed

Table O2.2 Project Design Matrix (6/6)

PDM 6: Project name: Personnel management system improvement project (Human resources development) Target group: Staff of the Corporation

Narrative Summary	Objective Verification Indicators	Means of Verification	Important Assumption
Overall Goal: Sustainable river basin management is achieved by improving operation and management capability of the Public Corporation	- quality water is available to beneficiaries - operation cost is covered by revenues - negative impact to environment is zero - no complaints from public	- operation record, operation manual, operation plan, letter, - financial statement - media, newspaper	- Public Corporation keep existing - Autonomy regulation does not change
Project Purpose: Appropriate staff are assigned to cover all tasks required (responsible) by the Public Corporation	- planned staff is assigned and actual staff assignment match	- personnel database, job description, personnel plan	- Socio economic conditions do not change drastically - Natural conditions do not change drastically - Other sub-projects are implemented
Outputs: 1 Staff assignment and promotion is executed based on capability of staff and job description 2 Recruitment is transparent	1 promotion process is traceable, staff assignment is traceable 2 recruitment process follows the rule	1 staff evaluation record, qualifying test result, personnel database 2 evaluation record, recruitment criteria	- Other sections cooperate (support) in execution of personnel management system
Activities: 1-1 Introducing career opportunity and promotion system 1-2 Promotion criteria are implemented 1-3 Introducing personnel evaluation system 1-4 Introducing personnel database system 2-1 Establishing recruitment criteria 2-2 Establishing recruitment process 2-3 Introducing personnel database system	Inputs: Manpower Human resources development expert Equipment/supply Computer		- Clear job description is provided Pre-conditions - Preparatory committee for establishment of public corporation starts functioning - Framework of the Public Corporation is prepared - Initial staff assignment is fixed

Table O2.3 PDM of Capacity Development for Jeneberang River Basin Management

Project：Capacity Development for Jeneberang River Basin Management　　Implementation Period：2006 ~2008　　Target group：PJT Jeneberang

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal Sustainable Jeneberang river basin management is achieved.	・The cost needed for basin management can be covered by the revenue. ・Make notable negative environmental impact in the basin zero (none).	・Accounting record prepared by the government. ・Quality control record of the government.	・GOI policy on Basin Management Company and Balai PSDA related to basin management doe not change. ・The Jeneberang Public Corporation keeps existing. ・Regional autonomy regulation does not change.
Project Purpose Capacity of PJT Jeneberang and Balai PSDA Jeneberang is strengthened, and watershed management, water quality/quantity management, flood/drought management, and river area management is properly executed.	・Provide 95% of raw water annually demanded that satisfied the quality required by users (provide safe, good quality, low cost raw water stably). ・The complaints from general public and clients is properly treated.	・Water balance (demand and supply) record of raw water. ・Claim record ・Media, news paper.	・Drastic social and economic changes such as drop in value of Rupiah followed by economic crisis which make beneficiaries unable to pay fees do not occur. ・Stakeholders understand and participate in the river basin management activities.
Outputs 1 Facility O&M and management capacity will improve by the staff conducting proper O&M of facilities based on improved manuals, improved database management and improved O&M equipment	① Indicator for capacity development in O&M of river facilities: **Water use management with accurate monitoring of conditions** (hydrological observation/database available, water allocation operation, water use permit, effective use of reservoir, drought management), **River facility O&M based on database and manual** (dams/reservoir management, intake management, river facility management, sabo and sand pocket management), **River management based on manual** (river course management, water quality management, flood control, land use/river use management, sand/gravel mining management), **Watershed conservation based on manual** (sediment control, land use control, forest conservation control, ecological conservation)	① Means of verification for O&M of river facilities: Hydrological database, water distribution operation record, water use permit application record, reservoir operation rule/operation record, minutes of meeting of water resources coordination committee, maintenance and repair record, water quality observation record, flood control work record, river management record, sand/gravel mining record, inspection/dam management record/facility management record, other work record, relevant manuals and guidelines	・Beneficiary pay principle for basin management and pollutant discharger pay principle do not change. ・Drastic social and economic changes such as drop in value of Rupiah followed by economic crisis which make beneficiaries unable to pay fees do not occur. ・Water demand does not decrease drastically. ・Stakeholders agree and follow the role and function of the Public Corporation and the stakeholders. ・Drastic natural conditions (rainfall, temperature, geography) change.
2 Organization operation and management capacity will improve by proper execution of jobs resulted from efficient organizational structure, proper understanding and implementation of laws and regulation related to internal and external affairs	② Indicator for capacity development in institutional/organizational management: **Organizational management strengthening** (structuring efficient organization, clarification of job description, authority, and line of command), **Management control** (activity of management board, decision making, trouble and claims), **Availability and understanding of institutional framework** (laws and regulations for river basin management, internal rules for organization management), **Public relations** (community organizations, accountability, community education/enlightenment, community service)	② Means of verification for institutional/organizational management: Number of laws and regulations enacted, number of rules established, minutes of meeting of internal meeting, training record, interviews, minute of meeting of board meeting	
3 Financial management capacity will improve by securing income sources and fee collection, and efficient financial management resulted from improved fee collection system, installation of corporate accounting system and staff skill development, and promotion of non-water businesses	③ Indicator for capacity development in financial management: **Availability of accounting system** (installation of corporate accounting system, guidelines/manuals related to finance statement, auditing), **Tariff collection improvement** (approval of water rate, water fee collection system, revenue from tariff), **Cash flow management** (revenue/expenditure control based on accounting system), **Asset management** (balance sheet, asset management), **Non-water businesses** (formulation and operation of non-water projects)	③ Means of verification for improvement of financial management: Number of laws and regulations enacted, number of rules established, regulations at provincial level, contract with clients including agreement of water use fee collection, fee collection record, internal document, financial document, accounting record, auditing record, asset ledger, minutes of meeting of internal meeting, pilot project activity record, relevant manuals and guidelines	
4 Human resources will be developed by improving management staff skills and improving personnel system resulted from staff training, more senior staff, improving skill of young staff, and improving staff assignment/promotion/recruitment	④ Indicators for capacity development for human resources: **Proper execution of education and training** (formulation of education and training programs, execution of education and training, verification of output of education and training), **Personnel management system** (system is established and implemented, recruitment, promotion, staff assignment, incentive)	④ Means of verification for human resources: Staff database (Number of staff by age, education, specialty, qualification, personnel management record), document related to personnel management system, number of education and training, staff training record, salary record, internal rules for personnel management	

Activities

1-1 Formulate facility operation and maintenance management plan
1-2 Formulate and distribute facility operation and maintenance guideline and manuals (database, operation, maintenance)
1-3 Establish data monitoring system (evaluation, reporting, feedback)
1-4 Formulate calibration plan of monitoring equipment
1-5 Formulate and conduct capacity development plan (training) related to facility operation and maintenance (data monitoring/analysis, operation, maintenance, calibration)
1-6 Monitor and evaluate the progress of capacity development and feedback to the plan and implementation

2-1 Formulate organization operation management plan (annual plan, activity report)
2-2 Analyze and formulate job description, organizational structure, line of command, staff requirement
2-3 Formulate organization operation management regulations and rules
2-4 Review and understand existing laws and regulations related to river basin management including Water Law, autonomy
2-5 Formulate and conduct capacity development plan (training) related to organization operation management plan for management and institutional aspects
2-6 Monitor and evaluate the progress of capacity development and feedback to the plan and implementation

3-1 Formulate security of revenue source for O&M management plan
3-2 Establish and install corporate accounting system (cost calculation, computer program, financial rules)
3-3 Prepare a contract with clients, tariff setting system and guideline
3-4 Promote of non-water businesses
3-5 Formulate and conduct capacity development plan related to financial management including job description, staff requirement, manuals, and training
3-6 Monitor and evaluate the progress of capacity development and feedback to the plan and implementation

4-1 Evaluate manpower and personnel system, execution and system of education and training
4-2 Introduce personnel management system including career development, personnel evaluation, recruitment, promotion, and personnel database
4-3 Formulate and conduct manpower and human resources development plan including management and technical skill development
4-4 Monitor and evaluate the progress of manpower and human resources development and feedback to the plan and implementation

Inputs

Japan/Foreign

Manpower
(1) JICA Study Team (monitoring and evaluation for Phase III)
(2) Experts

Materials
(1) Computers and other office equipment
(2) Computer soft (GIS)
(3) Financial management system (Administration management system)
(4) Manuals and guidelines

Indonesia

Manpower
Counterpart (Region)
(1) Public Corporation staff
(2) JRBDP staff who are likely to be transferred to the new corporation
(3) Balai PSDA Jeneberang Staff (limited to those responsible for Jeneberang River Basin Management)
(4) PJT 1 staff
Counterpart (Central)
・Staff of General Directorate of Water Resources Development, Ministry of Public Works
Capacity Development Monitoring Committee
・Composed of South Sulawesi government and Kabupaten government
Materials
・Office space, computer, hydrological observation equipment and other equipment necessary for basin management work
Local costs
・Project management and operation costs

・Staff who received training keeps working at PJT Jeneberang or Balai PSDA Jeneberang.
・Staff who received training keeps working at the same department or the section.
・Stakeholders agree and follow the role and function of PJT Jeneberang and the stakeholders.

Pre-conditions
・The concept of basin based water resources management (one basin one management) does not change.
・Government regulations (PP) necessary for establishment of the Public Corporation is drafted.
・Budget from regional government and central government is allocated for initial operation of the Jeneberang Public Corporation.
・Initial staff assignment is fixed.

Figures

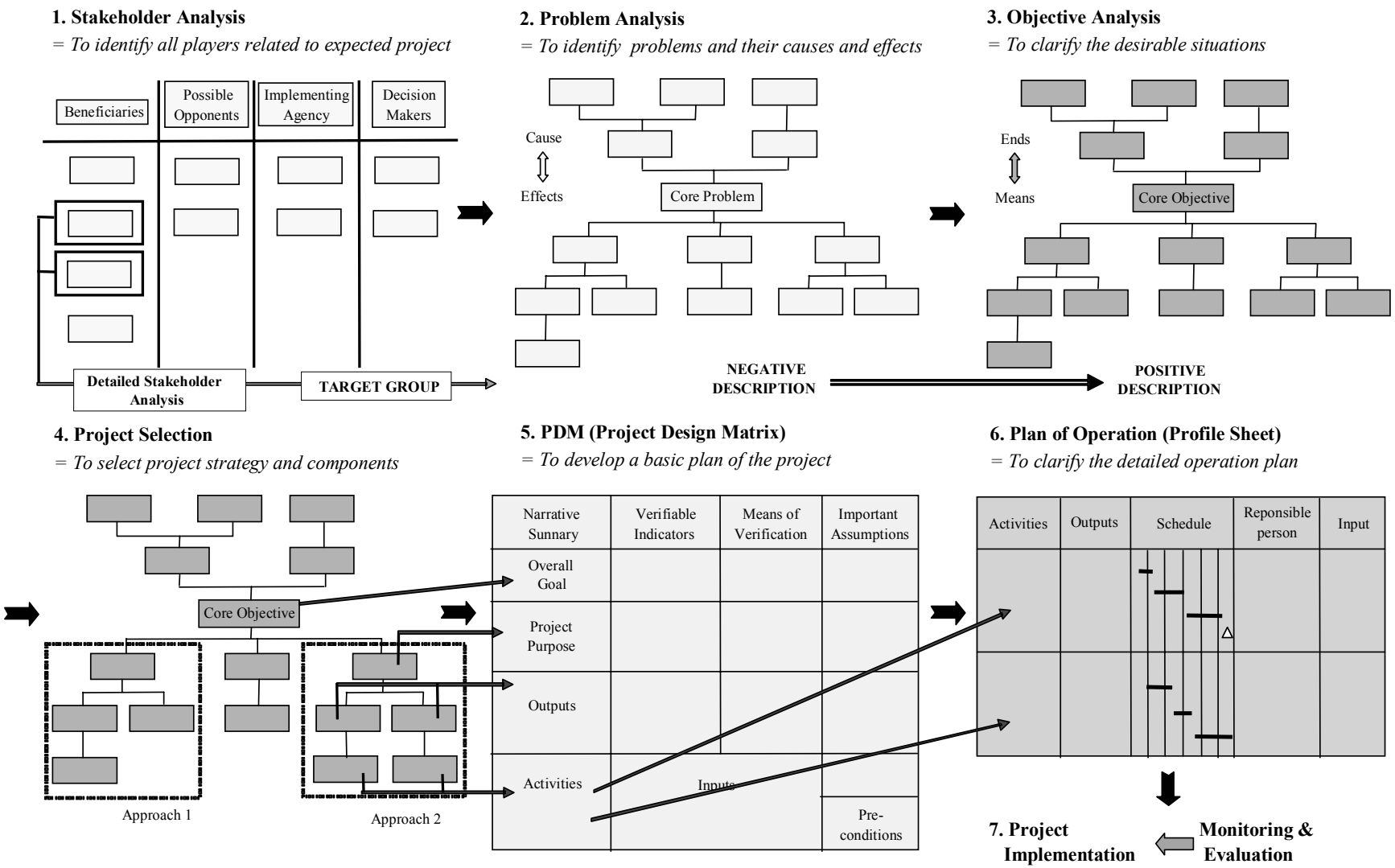


Figure O2.1 Steps of Participatory Planning

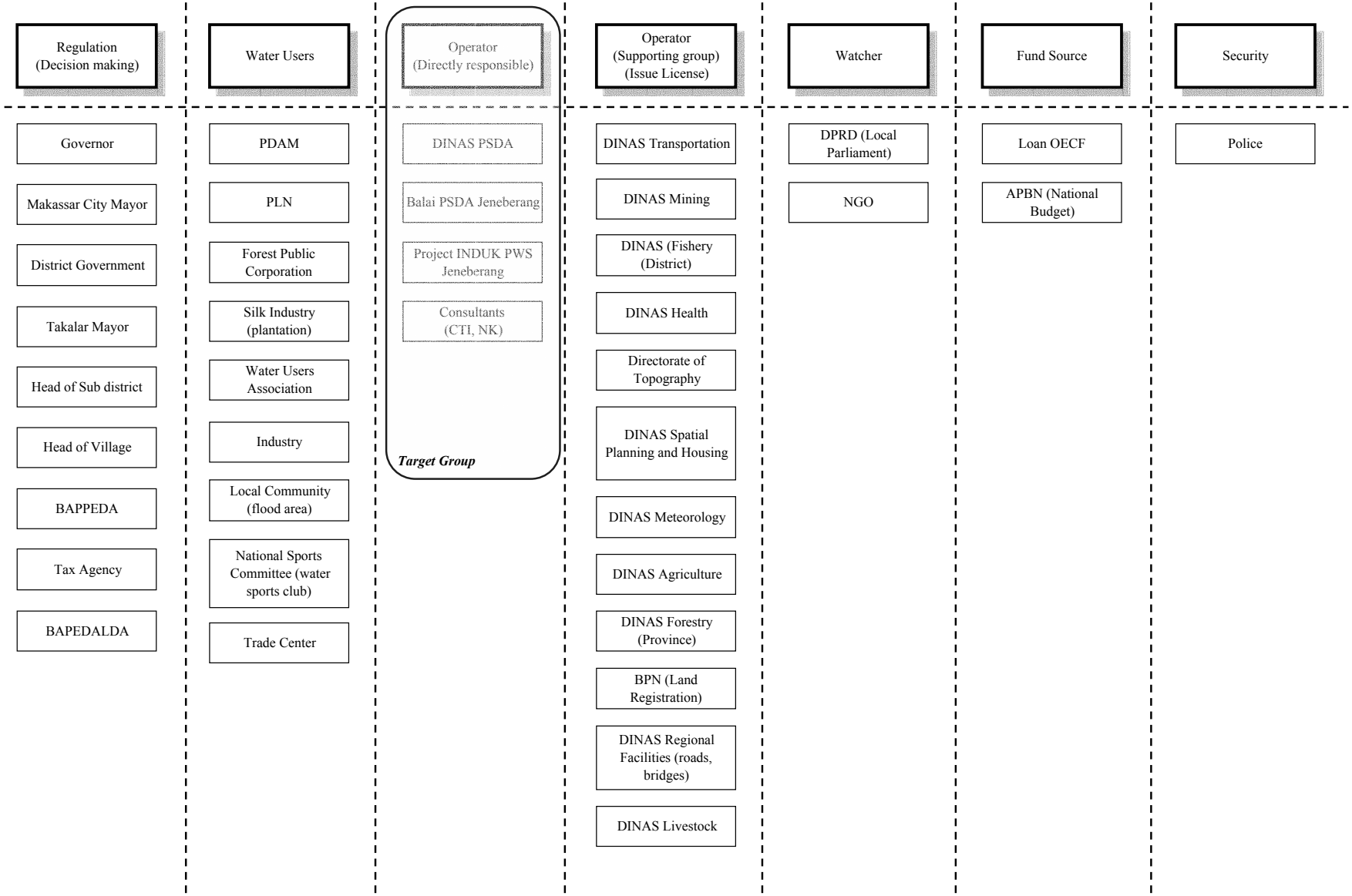


Figure O2.2 Stakeholders Analysis/Practice Workshop with JRBDP

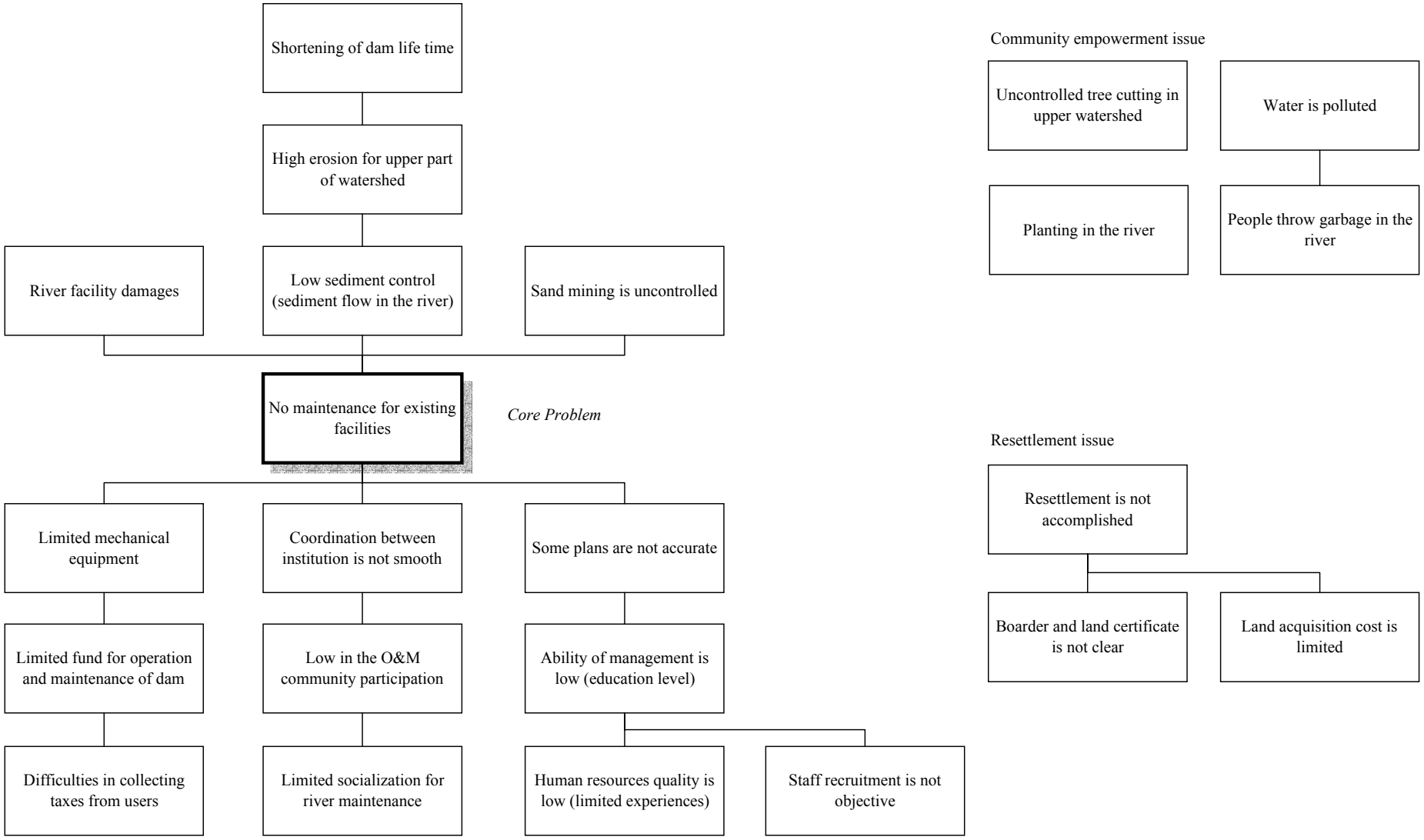


Figure O2.3 Problem Tree (incomplete)/Practice Workshop with JRBDP

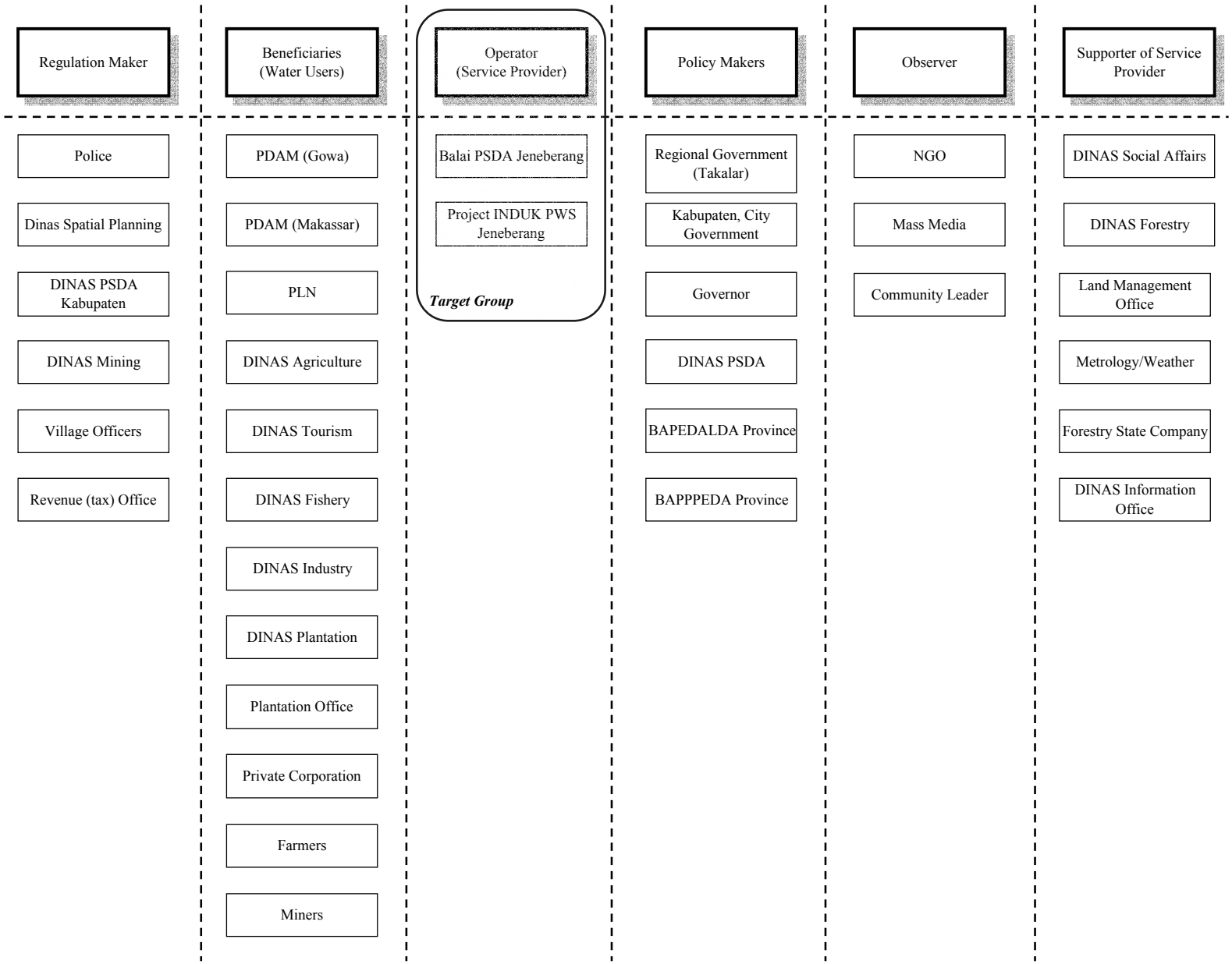


Figure O2.4 Stakeholders Analysis/Regional Committee, Group A

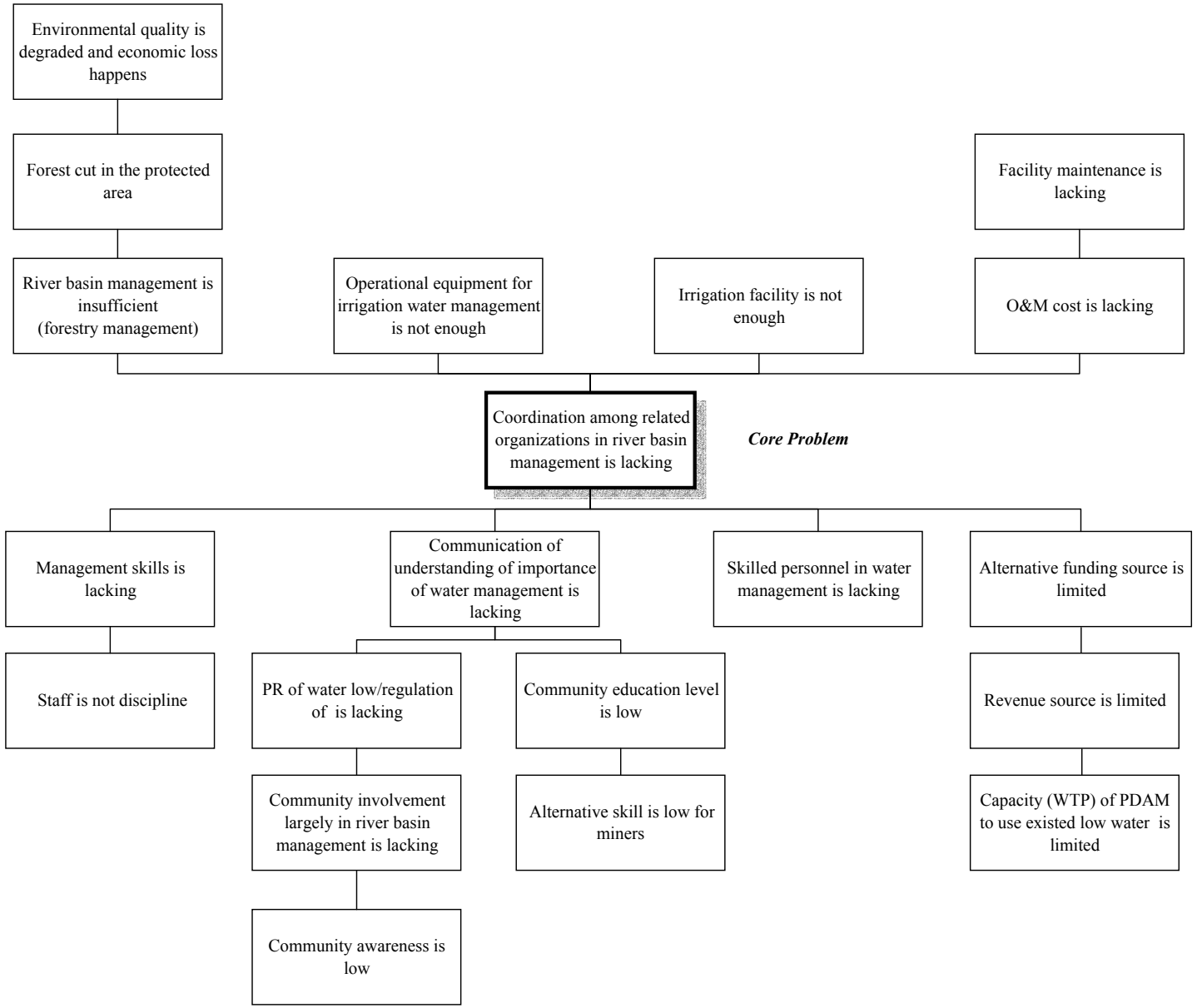


Figure O2.5 Problem Tree/Regional Committee, Group A

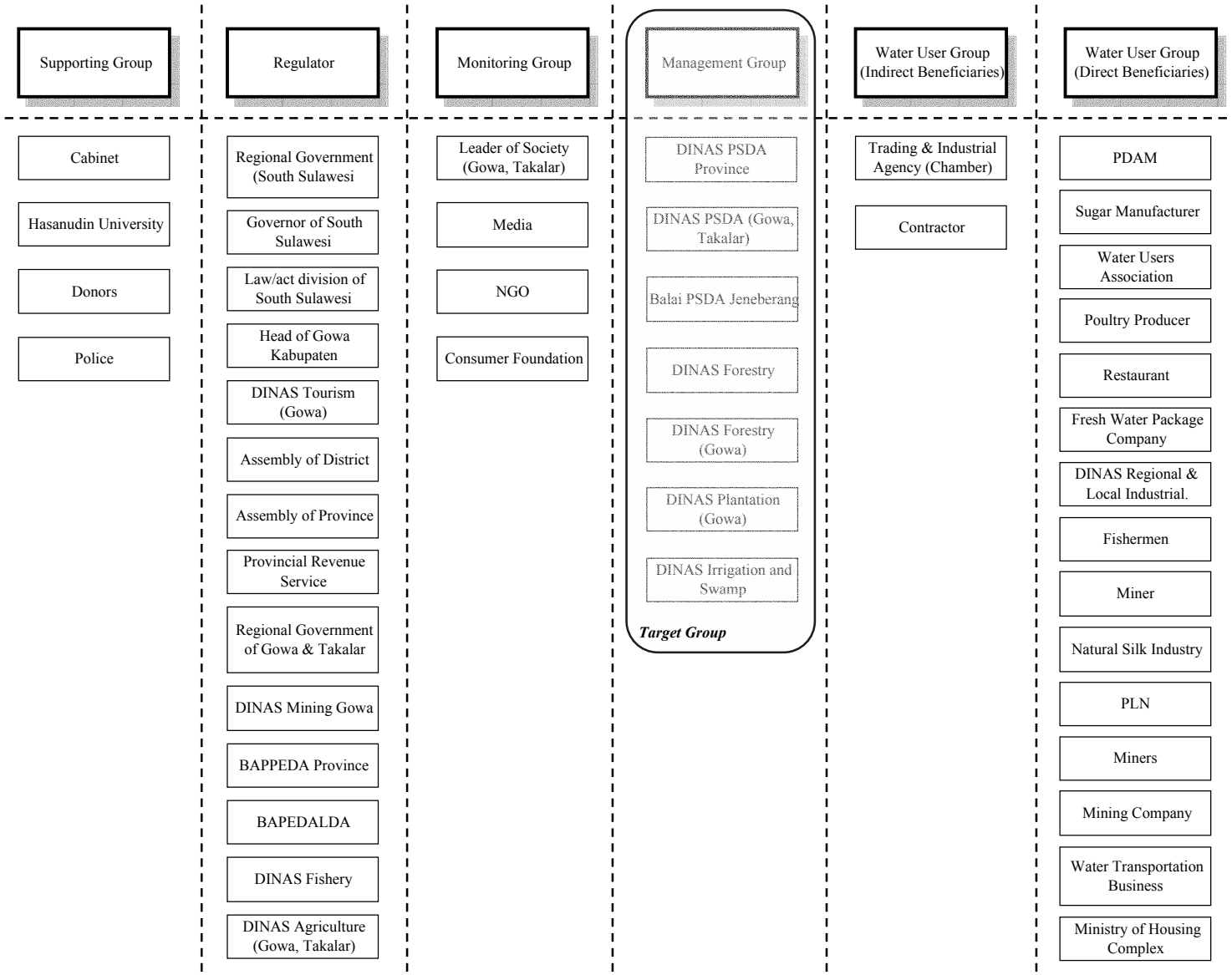


Figure O2.6 Stakeholders Analysis/Regional Committee, Group B

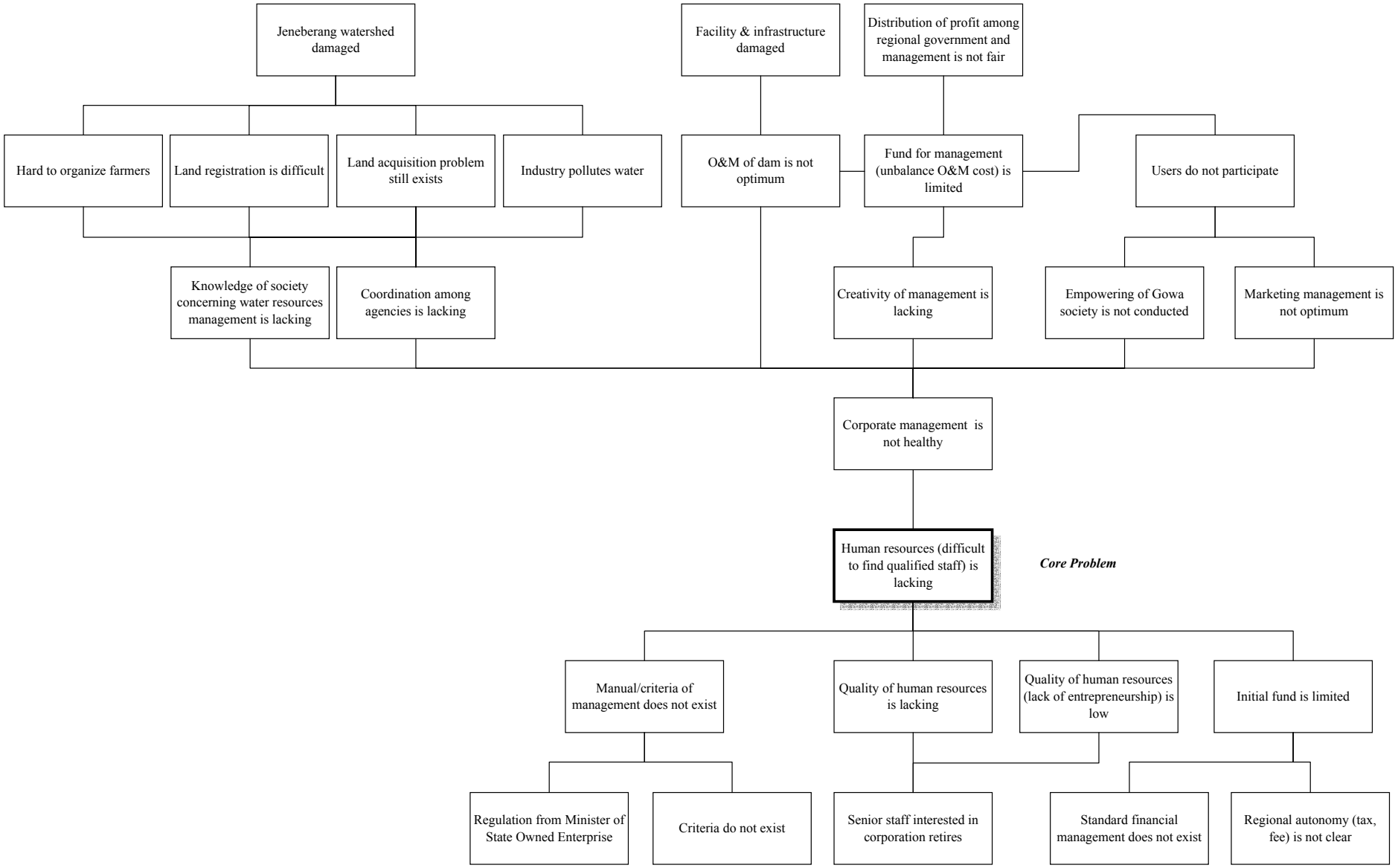


Figure O2.7 Problem Tree/Regional Committee, Group B

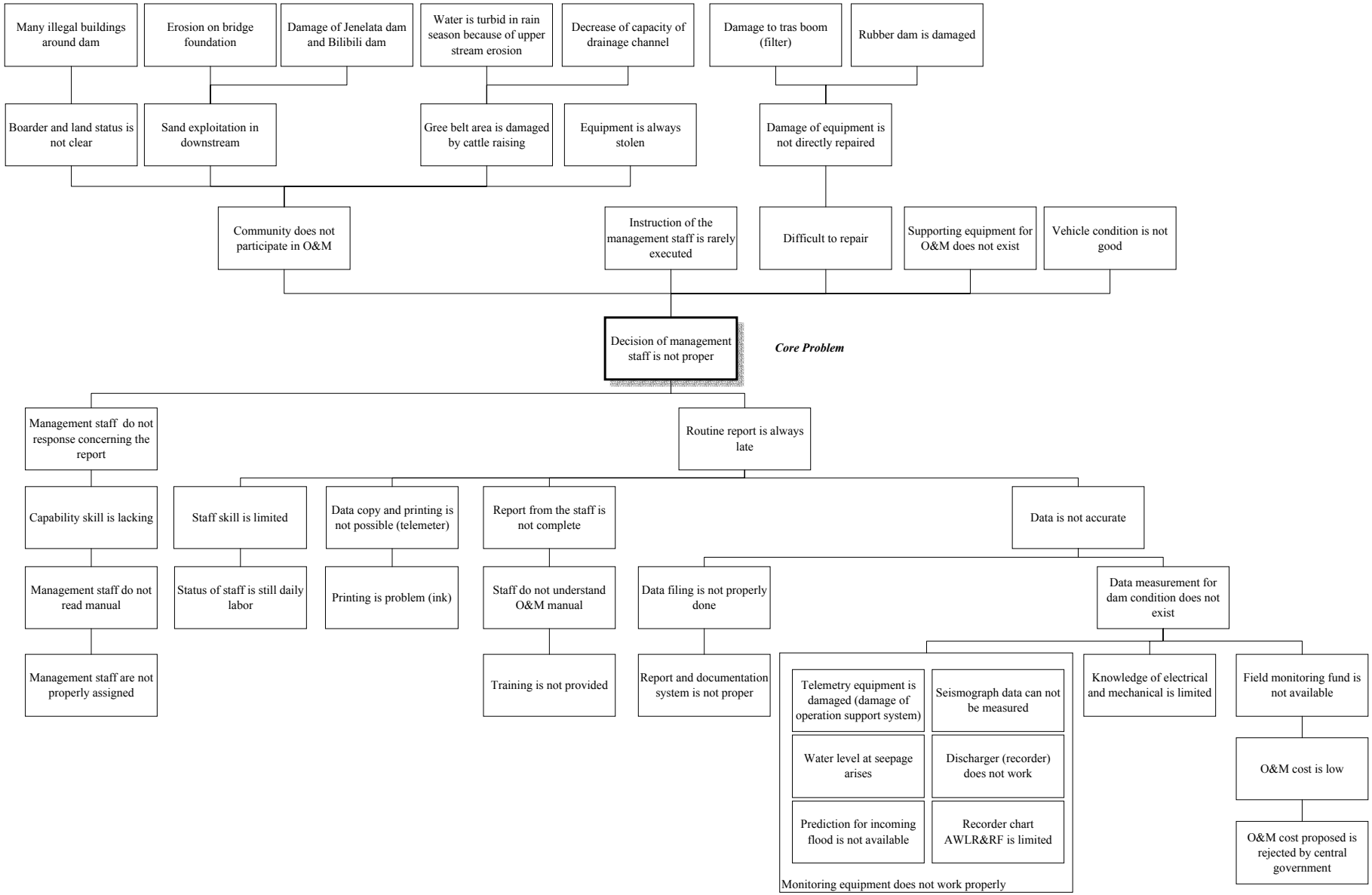


Figure O2.8 Problem Tree/Facility O&M

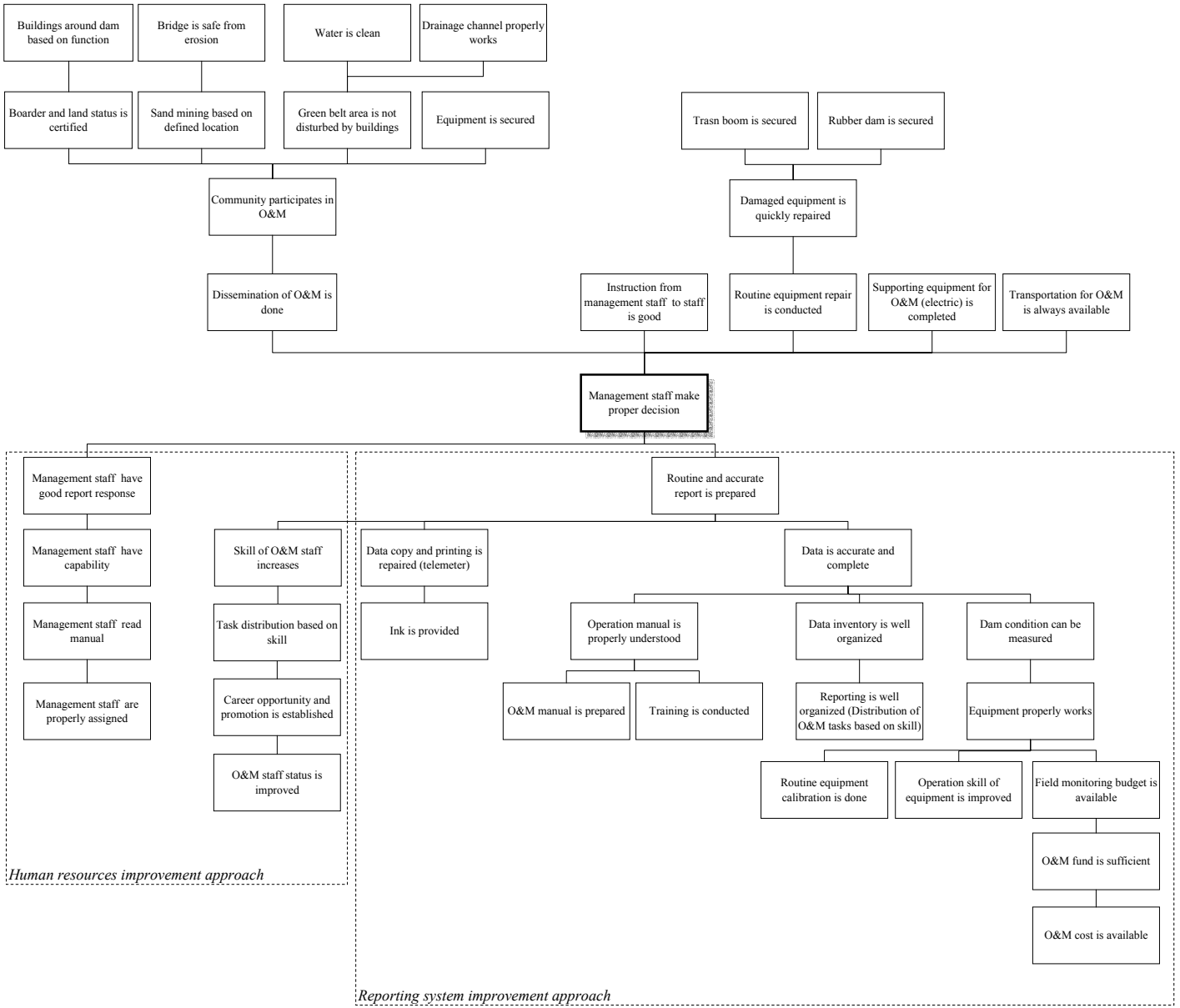


Figure O2.9 Project Selection/Facility O&M

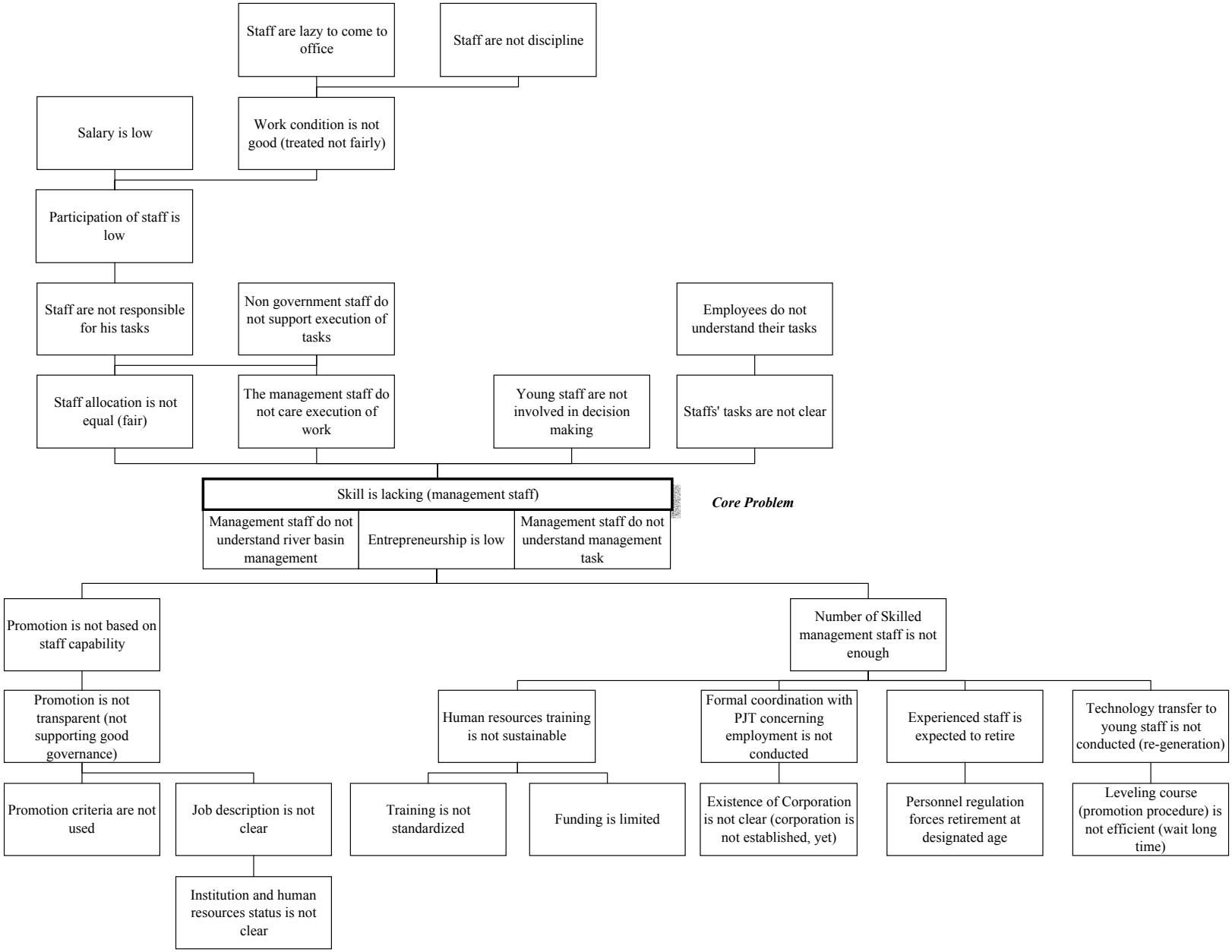


Figure O2.10 Problem Tree/Human Resources Management

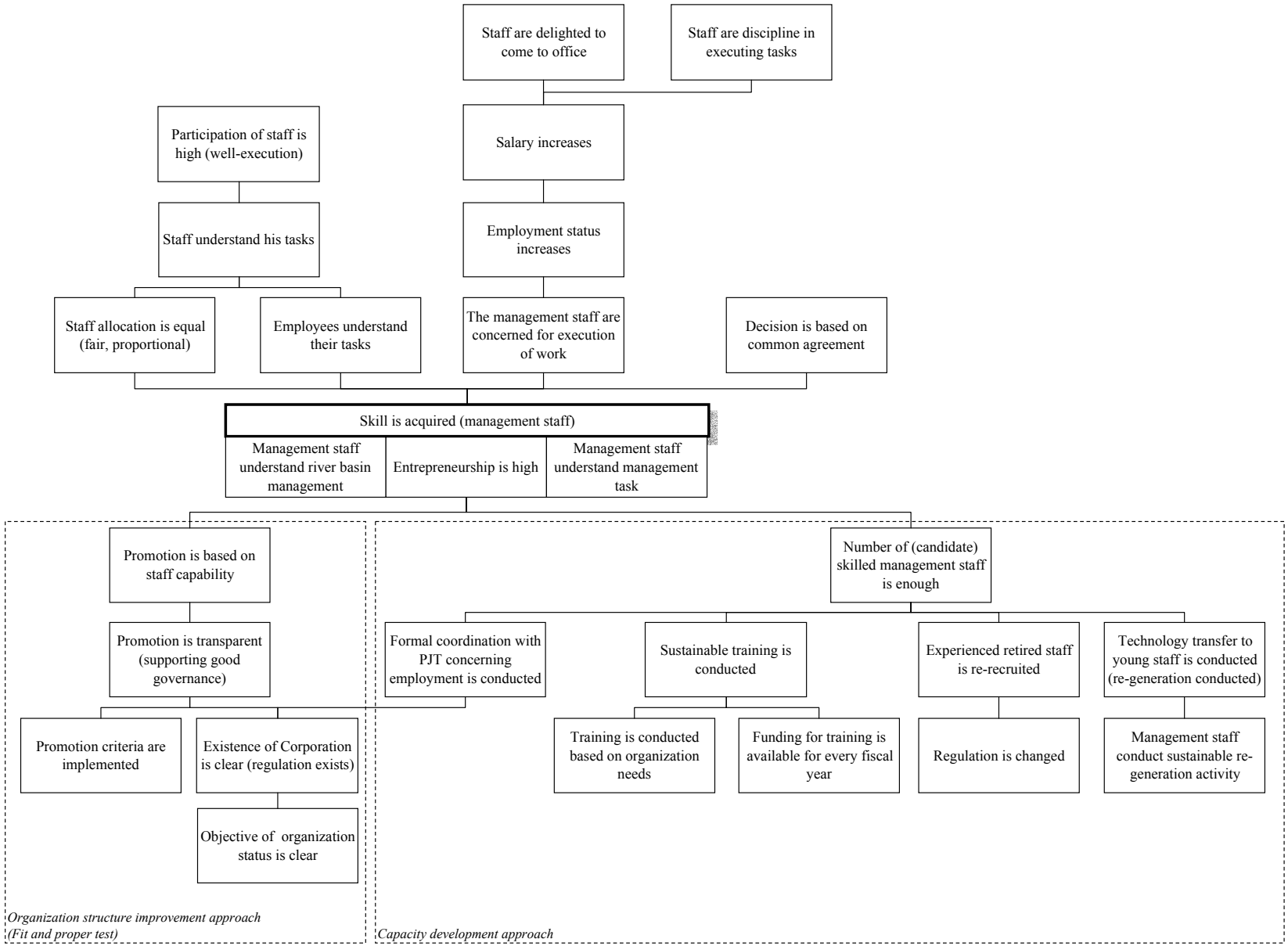


Figure O2.11 Project Selection/Human Resources Management

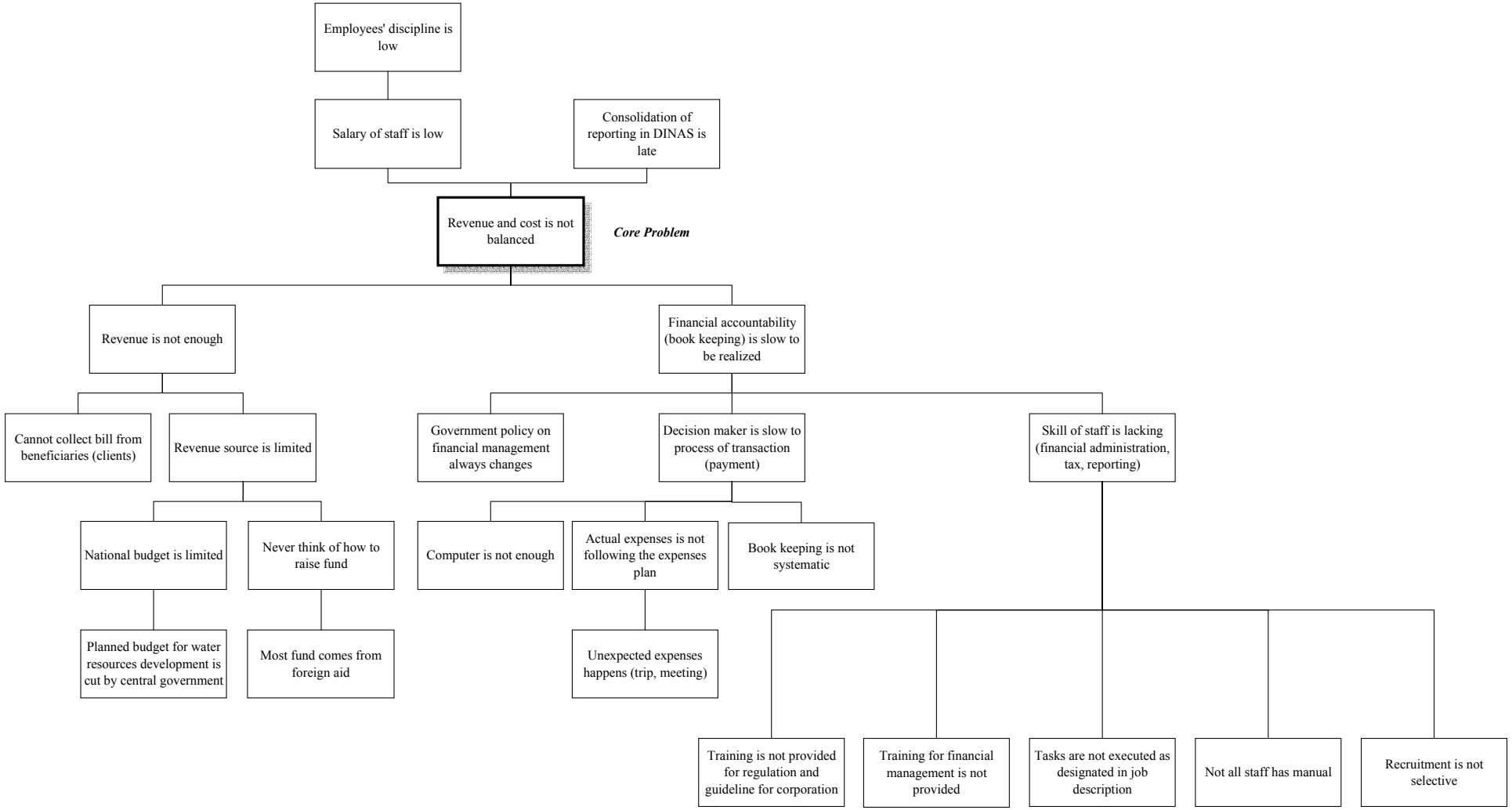


Figure O2.12 Problem Tree/Financial Management

Figure O2.13 Project Selection/Financial Management

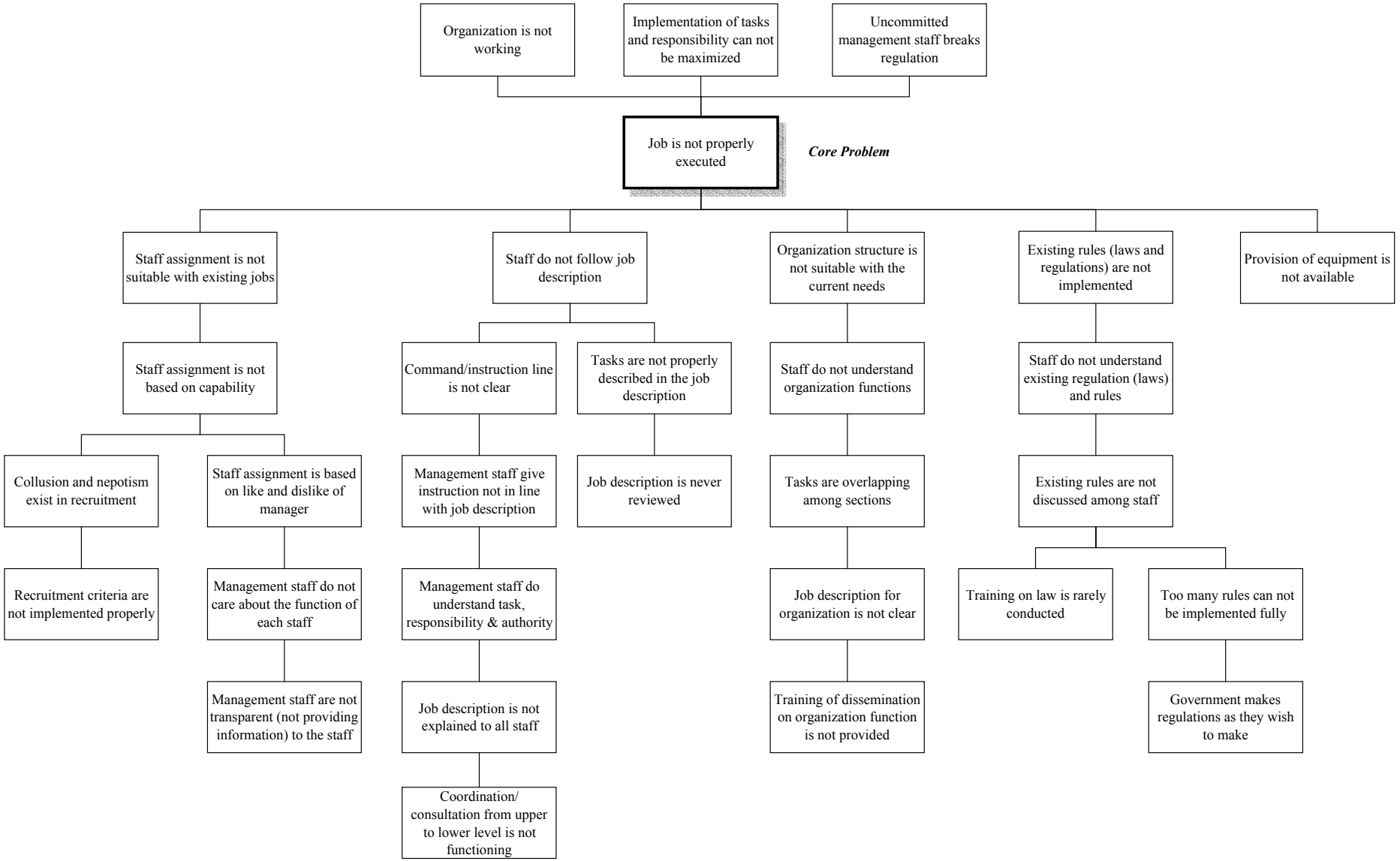


Figure O2.14 Problem Tree/Institutions and Legal Issues

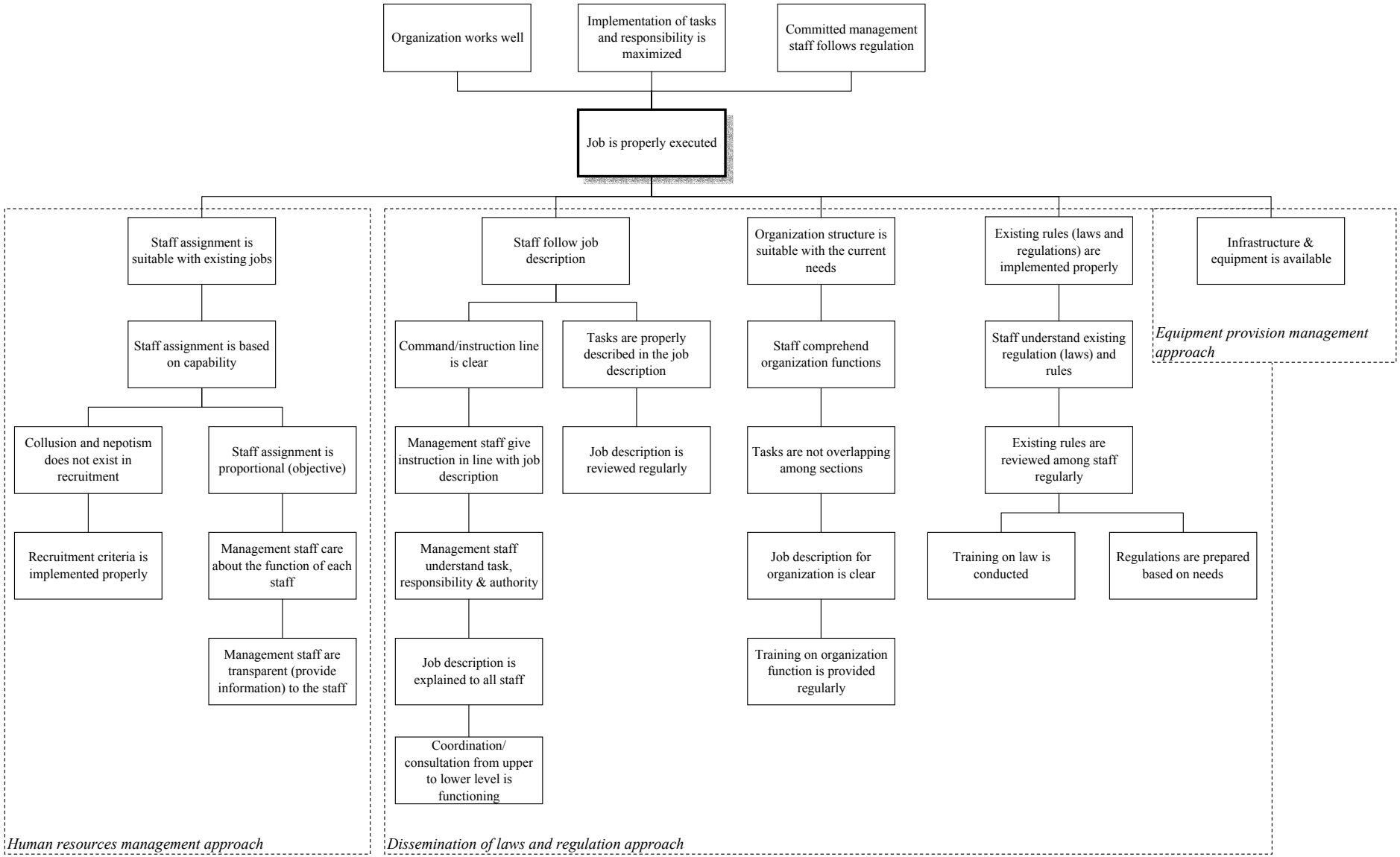


Figure O2.15 Project Selection/Institutions and Legal Issues

Supporting Report P

RIVER BASIN MANAGEMENT IN OTHER BASINS AND REVIEW OF OTHER STUDIES

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RIVER BASIN MANAGEMENT IN OTHER BASINS AND REVIEW OF OTHER STUDIES

P1 River Basin Management in Brantas and Citarum Basins

P1.1 General

The Study Team visited PJT I office in Malang and PJT II office in Purwakarta in the beginning of March 2004, with main objective of gathering the information regarding current practices of managing the corporations. Descriptions given herein are based on the information collected during the visit. Supplemental information made available in the subsequent period is described in other Supporting Reports E to N.

Amongst many items of information given from PJTs, the following were major items of lessons learnt for reflection in the planning of the Jeneberang River basin management:

(i) In both PJTs, total revenue is still not sufficient to cover full cost of required O&M works assigned to the corporations. This is due mainly to inadequate raw water fee rates because of incapability to pay by water users, coupled with non-revenue from irrigation services and other services for unspecified beneficiaries, such as water quality monitoring, flood management, and watershed management. Similar circumstance may be inevitable for new Jeneberang Corporation.

(ii) Both the PJTs recognize that deterioration of basin environments has been progressing, represented by degradation of river water quality and excessive yield of sediments, both of which are caused by improper human behaviors fully or partially. A problem identified was the absence of regulatory counteractions including law enforcement on illegal effluent discharge and improper land use activities.

(iii) Both the PJTs have various technical and procedural manuals for conducting the assigned river basin management and corporate management. The manuals are said to have been improved step-by-step to comply with the actual requirements in the basin through accumulation of experiences over years. This process must be assumed for the case of Jeneberang basin as well.

(iv) Both the PJTs are exerting an effort for developing their human resources by means of education and on-the-job training. This effort is particularly important in the case of new Jeneberang Corporation.

Table P1.1 summarizes the principal features of organizational and functional structures of the two PJTs. Owing to limited time of stay in each PJT, information contained in the table is still incomplete subject to further refinement in later stage.

P1.2 River Basin Management Aspect

PJT I and PJT II currently undertake the river basin management within the following working areas:

Working Area of PJT I and PJT II

Item	PJT-I	PJT-II
Name of Objective river basin	Brantas and Bengawan Solo	Citarum and Ciliwung-Cisadane
Extent of catchment area	32,125 km^2	12,000 km^2
Number of rivers managed	64	74

Both of PJT I and PJT II currently undertake the comprehensive river basin management in the above working area including (1) management of water resources development facilities, (2) management for water allocation, (3) water quality management, (4) flood control management, and (5) river environmental management. However, the major concerns of PJT I and PJT II are deemed to be oriented to the different aspects of river basin management.

PJT II directly undertakes management of hydropower generation and irrigation, which includes management for all primary, secondary and the tertiary canals. On the other hand, PJT I takes a role to supply the raw water but management of hydropower plant as well as irrigation facilities (except intake weirs on the river) are made by PLN and Balai PSDA, respectively. PJT I also takes an important role for control of negative impact such as flood, sediment runoff and water pollution. Thus, the principal scope of river basin management by PJT I is oriented to more comprehensive river basin management, while that by PJT II is to increment of efficiency and effectiveness of the existing production infrastructures for hydropower generation and irrigation.

The major issues for river basin management in the Jeneberang River basin would be placed on the raw water supply rather than management of hydropower generation and irrigation. From this viewpoint, the actual guidelines, procedures and/or manuals used for river basin management by PJT I will serve more as a reference for management by the public corporation in the Jeneberang River basin.

P1.2.1 Procedures and Job Instructions for River Basin Management

PJT I has prepared the basic procedures and job instructions certified by ISO 9001 for the river basin management. The procedures and job instructions contain 66 items of categories, out of which the following 15 items are related to river basin management:

(1) Management of River Facilities

- General procedures for management of infrastructure,
- Procedures for inspection for sediment in dam reservoir,
- Planning procedures for technical maintenance, and
- Procedures for O&M of equipment,

(2) Water Allocation

- Planning procedures for water allocation.

(3) Flood Management

- General procedures of flood control, and
- Job instruction for O&M of flood forecasting and warning system (FFWS) equipment.

(4) Water Quality Management

- Procedures for monitoring of water quality,
- Procedures for daily water quality control,
- Procedures for water quality analysis in laboratory,
- Job instruction for cleaning of waterweeds and garbage in dam reservoir, and
- Job instruction for water sampling for water quality test.

(5) Hydrological Measurement and Gauging

- General procedures for monitoring and measurements,
- Procedures for compiling and monitoring of hydrological data,
- Job instruction for water level gauge,
- Job instruction for current velocity and river discharge measurement, and
- Job instruction for measurement of reservoir cross-section.

Among the above items, those of items (2) to (5) have not been furnished nor used in the current practice of the Jeneberang River basin, and could be useful as the reference for preparation of O&M manuals for the corporation of the Jeneberang River basin.

P1.2.2 Management of Water Resources Development Facilities

Both of PJT I and PJT II operate and maintain a full variety of water resources development facilities including dam reservoirs, diversion weirs, intake facilities, check dams, and river structures such as groundsill, groyne and levee. Among others, PJT 1 operates eight (8) dam reservoirs as represented by Sutami (Karangkates) dam reservoir (storage capacity of 232.5 million m^3) in the Brantas River basin and Wonogiri dam reservoir (storage capacity of 440 million m^3) in the Bengawan Solo River basin. These dams supply raw water of about 390 million m^3 for municipal use. In the PJT II working area, there exist three (3) major dam reservoirs, namely: Jatiluhur (storage capacity of 3 billion m^3), Cirata (2.2 billion m^3) and Saguling (1 billion m^3), where the latter two are operated by PLN. These dam reservoirs contribute the hydropower generation of 1,888 MW in installed capacity.

O&M manuals written in Indonesian for all the major water resources development facilities have been prepared and updated through several revisions. The revisions are based on the difficulties encountered and the countermeasures taken in the actual O&M works, which would

serve as references for O&M of water resources facilities in the Jeneberang River basin. The following are enumerated as the actual difficulties and countermeasures in O&M works by PJT I:

(1) The check dams in the downstream of Mt. Kelud in the Brantas River basin were filled up by lahars flow from the mountain. In order to cope with the problem, the dredging work was undertaken and, at the same time, a by-pass of lahars flow has been constructed.
(2) Due to the above lahars flow from Mt. Kelud, a considerable volume of sediment has also accumulated in the reservoirs of Wlingi Dam and Lodoyo Dam (after-bay of Wlingi Dam). According to PJT I, it is virtually difficult to restore the reservoir capacity, although dredging of works was undertaken.
(3) Reservoir operation of Sengguruh Dam located on the mainstream of the Brantas River is seriously affected by overgrowth of water hyacinth during the dry season. Removal of hyacinth by manpower was adopted only as the practical solution for this issue.
(4) The water quality of drainage channels in Surabaya City is seriously deteriorated due to dumping of solid waste and inflow of non-treated wastewater. PJT I monitors the water quality of the drainage channel as well as effluent from the principal point pollutant sources. At the same time, the river maintenance flow is provided to drainage channel to flush the solid waste and polluted water. In spite of these activities by PJT I, this water quality issue has not been substantially solved yet.

P1.2.3 Management for Water Allocation

In accordance with the basic procedures as described in the above subsection P1.2.1, PJT I prepares the draft of Annual Operation Plan for water allocation at the ends of every dry and rainy seasons. PJT II also prepares the similar Annual Operation Plan, but it is not based on the written basic procedure.

PJT I simulates the water supply capacity of water source facilities based on the updated water requirement in the year and the gauging record on the reservoir water levels and dam inflow discharges in the last six months. Based on the results of simulation, PJT I prepares a water allocation plan, which is submitted to PTPA and Dinas PSDA, and finally approved by Vice Governor.

In the drought year, the water demand is not fully supplied and curtailed to a certain level in accordance with the water allocation plan. In fact, the Brantas River basin has been suffered from the critical drought and water demand has not been fully supplied for these five (5) years.

The priorities of water supply in a drought year are given, in accordance with the "Gov. Law No. 11 in 1974"[1], to the following water uses: (1) first priority for domestic & municipal water use, (2) second priority for water use for agriculture, animal husbandry, plantation, fishery, and (3) third priority for water use for energy, industry, mining, navigation, recreation.

[1] This law was recently replaced by new water resources law No.7/2004 legislated in March 2004

P1.2.4 Flood Management

In accordance with the basic procedures as described in the above subsection P1.2.1, PJT I prepares the "Annual Emergency Action Plan for Flood" once a year and submits to Dinas PSDA, Kabupatens and Committee for Flood Fighting chaired by Governor at the end of every dry season. The plan contains the following items, which are updated every year and used for flood evacuation and flood fighting:

(1) Areas and residents in danger of flood, which are identified through inspection of the river structures as well as land use in the floodplain,
(2) Available communication measures to the residents in danger of flood,
(3) Procedures for flood forecasting and issuance of flood warning, and
(4) Procedures for flood evacuation and flood fighting.

P1.2.5 Water Quality Management

Both of PJT I and II sample river water and analyze the water quality at their own laboratory. They also monitor the water quality of effluent from factories and collect monitoring fee from the factories. Based on the results of water quality monitoring, PJT I and II implement improvement works of water quality through releasing the river maintenance flow and/or de-clogging of solids wastes accumulated in the river channels. Nevertheless, they do not possess any legal authority of enforcement to control the effluent from the factories regarded as the point pollutant sources.

P1.3 Legal, Institutional and Human Resources Development Aspects

The two Perum Jasa Tirta (PJT) Corporations were established with three main objectives in mind: 1) to improve the quality and efficiency of river basin O&M (rivers and river infrastructure) after construction of major basin infrastructure (usually dams), 2) to relieve the financial burden on central and local governments by recovering O&M costs initially and, in time, investment costs as well, and 3) to respond to the community's demand for better service and more involvement in river basin management. The overall theme was, and still is, "One basin, one integrated plan, one integrated management." The objectives have been partially achieved to date.

It is important to learn from the achievements and problems of both enterprises as a means of optimizing the performance of corporatized water resources management (WRM) in the Jeneberang River basin.

This part of Section P1.3 examines the major items of laws and regulations, organization and human resource development in the two corporations as an aid to designing and implementing the Jeneberang River Basin Corporation.

P1.3.1 PJT I (Brantas River basin)

(1) Background

Following the example of PJT II (then POJ[2]) in the Citarum River basin, GOI issued Government Regulation No.5/1990 to establish the Jasa Tirta Public Corporation in the Brantas River basin, again as a Perum and BUMN. Its main objective was stated to be operation and maintenance of water resources infrastructure in the Brantas basin, including the many completed dams and other structures for controlling downstream flooding. In 1999, by Government Regulation No. 93/1999, the PJT Corporation became PJT I, because it was the first PJT although not the first river basin management corporation (RBMC).

The Brantas River has a basin area of about 12,000 km^2, a length of 320 km and is the second most developed basin in Indonesia. The working area of PJT I in the Brantas river basin is the Brantas River and its 39 tributaries and sub-basins. It extends over one province, East Java, and 17 Kabupaten (District)/Kota (City). In this river basin there has been a total infrastructure investment of about Rp. 7.4 trillion at 2000 prices and exchange rates. For this investment, benefits[3] have included: irrigation for 345,000 ha of paddy, of which 80,000 ha is direct from main Brantas River (2.5 billion m^3/year); electricity (about 1.0 billion kWh/year); water supply to industry (about 130 million m^3/year); and domestic water supply (about 200 million m^3/year).

[2] Perum Otorita Jatiluhur
[3] Extracted from paper titled "Evaluation for Corporate Implementation in Perum Jasa Tirta I" by Tjoek Walujo Subianto, August 2002

PJT I is currently carrying out the full range of water resource management activities expected of an in-stream RBMC, that is:

(i) Watershed management,
(ii) Water quantity management,
(iii) Water quality management,
(iv) Flood management,
(v) River environment management,
(vi) Water resources infrastructure management,
(vii) Research and development.

Unlike PJT II, PJT I does not manage irrigation or the hydropower plant, but only supplies water for consumption or energy.

In addition, the corporation manages a series of non-water operations, in order to generate revenue to supplement inadequate water resource income. These non-water activities include tourism, sand mining, equipment hiring, and consultancy, and together account for some 20% of total PJT I revenue[4] (see section P1.4 for more financial information).

(2) Legal Aspects

The latest current enabling legislation (excluding internal decrees and dealing with Brantas River basin), consists of 14 items including a Government Regulation, a Presidential Decree, a Ministerial Regulation and Decree, Provincial Governor Decrees and Provincial Regulations**.** The most important of these are:

(i) Government Regulation No. 93/1999 on Public Corporation of PJT I;
(ii) Presidential Decree No. 58/1990 on the Assignment of Jasa Tirta Public Corporation (Perum) as an authorised corporation to collect and receive fees for operation and maintenance of water resources infrastructure;
(iii) Kimpraswil Decree No. 342/KPTS/M/2002 authorising PJT I to collect and receive fees for operation and maintenance of water resources infrastructure;
(iv) Seven decrees from the East Java Governor on various aspects of PJT I's work in water resources management and fee collection in the Brantas River basin.

All are listed and briefly described in Table P1.2. A number of the current items will have to be amended under the new water law and its subsidiary regulations, once these become effective (see Supporting Report H for details).

(3) Institutional Aspects

The organization structure for PJT I is charted in Figure P1.1 and consists of a Board of five executive Directors including the President Director. Three other directors head up

[4] For the year 2003.

Directorates responsible for Technical Affairs, Brantas River Operations, and Administration and Financial Affairs. In addition, a recently appointed Director for Bengawan Solo Operations is responsible for water resources management in that river basin (see P1.3.2 below).

Technical Affairs

The Technical Affairs Director, through three bureaus, has control of research and technical development, planning and controlling, and quality management. The main tasks of these bureaus are as follows:

(i) In research and development: a) conducting R&D in its technical area, b) performing feasibility studies on development of working area and new business;
(ii) In planning and controlling: a) coordinating technical planning, b) coordinating and controlling annual work plan, and contract administration;
(iii) In quality management: a) developing and guiding implementation of quality management system as required by the ISO 9001 standard, c) preparing program of dam operation, flood alert and evaluation of water and environment quality, d) management of data and analytical laboratory.

Operations

The Director of Operations for Brantas River, through five water resource service divisions, manages water resources in the Brantas River. These divisions, through subdivisions at various locations throughout the river basin, undertake the following tasks:

(i) Formulating and implementing the O&M program of water resources infrastructure (including dam security);
(ii) Exploiting resources within their own area to obtain additional income.

A sixth division – also reporting to the Brantas River Operations Director - manages the non-water commercial activities of PJT I. These include tourism, consultancy, equipment hiring and C-class mining within the river area. Some tourist management functions are undertaken by the water resource divisions responsible for the areas concerned. For example, Water Resources Division II has some responsibility for the Selorejo tourist resort which lies within this division's area of jurisdiction.

Administration and Finance

The Administration and Finance Director is responsible for the work of two bureaus: Human Resources Development (HRD) and General Affairs Bureau, and Finance Bureau, and Internal Audit Section.

The HRD and General Affairs Bureau undertakes the following main tasks:

(i) Controlling working facilities, equipment, materials and personnel;

(ii) Personnel education and training;
(iii) Organizational development;
(iv) Security guidance.

The Finance Bureau undertakes the following main tasks:

(i) Financial management/administration of PJT I;
(ii) Analysis and evaluation/realization of investment policy and projects;
(iii) Budget allocation and utilization;
(iv) Tariff analysis and policy.

The Internal Audit Section assists the President Director in the inspection of internal finance, company operation (including the quality audit) and management control, and proposes improvements according to regulations.

In addition, five advisors under this director, support the following individuals and functions: President Director, Public Relations, Law, and Management.

Manuals and guidelines for administrative and personnel procedures

While most non-technical and non-financial systems and procedures are said to be well documented in instructions, these are not normally organized into formal manuals. The documents were not available for inspection by the Study Team so that no evaluation could be made at this stage (March 2004). However, PJT I management considered that only relatively small changes to existing instructions would be needed for Jeneberang corporation, although a significant administrative effort would be required to prepare the necessary documentation. If, as seems likely from very recent directorate-level decisions in Kimpraswil, the new corporation becomes an extension of PJT I, the latter will be required to provide free documentation of systems and procedures, as well as free training and support, as was the case with the Bengawan Solo River basin.

Procedures for HRD are also documented but again not normally in formal manuals. This applies, for example, to the annual review of HRD requirements for each employee, the selection and request for training from the management of the unit concerned, and the final decision by personnel management and Director Administration and Finance on type and location of training for selected employees. However, there are small manuals that, for example, list suitable training subjects for different groups of lower level staff. These contain no course text, merely the subject matter to be covered. The trainer has to prepare, in theory, course material anew for each course delivery.

Staffing for PJT I Brantas and Bengawan Solo

Total PJT I staffing is, in March 2004, about 482 in the Brantas River basin and about 46 in the Bengawan Solo River basin. As these figures should be of considerable relevance to management of the Jeneberang River basin, they are analyzed briefly at this point.

Firstly, PJT I has five classes of employee: organic (permanent – 60% of the PJT I Brantas total); semi-permanent who become permanent after 8 years employment (18% of PJT I Brantas total); non-permanent who are appointed for a limited time up to 2 years and then renewed for another year if required (17% of PJT I Brantas total); annual contract (3% of PJT I Brantas total); and "outsourced" – people who can be appointed and terminated on any short term basis (2% of PJT I Brantas total). In addition, some non-routine O&M work is outsourced on a job-by-job basis. The magnitude of this activity is unknown.

Secondly, PJT I Bengawan Solo has 46 staff employed in three of the above categories: permanent (57% of PJT I Bengawan Solo total); non-permanent (39% of the total); and annual contract (4% of the total). As in the Brantas River basin, an unknown amount of work is performed through short term job-by-job contracts using contractors. Generally, non-routine O&M work is subcontracted with some routine work as well. The PJT I management estimates that the Bengawan Solo total staffing should rise to 60 next year, with a long term total expected of about 150. This is much less than the 247 estimated for the O&M of 25 rivers in the 2000 O&M Management Plan. PJT I management admits that O&M coverage is by no means complete: all functions are being carried out but not yet on all items of infrastructure or at the required frequency.

(4) Human Resource Development Aspects

PJT I employs two methods of human resource development (HRD): in-house training and external courses. A combination is often used whereby a person who has been trained externally returns to train PJT I staff in-house.

Each year, every PJT I unit is said to review the training needs of its staff and to select individuals for specific types of training according to a standard procedure. Successful applicants are placed in a one-year program of internal and external training according to availability of courses and within budget limits. Such training can be given at any staff level from senior management down. Training facilities used can be in Malang, Surabaya, Jakarta and overseas, although most training is provided in Surabaya. About 200 staff (40% of total) are said to receive some sort of training, internal or external, every year.

(5) Issues

(i) A number of environmental problems are reported[5] including: worsening watershed management (consequence: upstream deforestation and soil erosion); increasing settlement in prohibited areas (e.g. river corridors); increasing river pollution leading to deteriorating river water quality. These problems have a common cause: lack of enforcement of existing legislation by those regional agencies with the necessary authority. They are referred to here because lack of enforcement is both a management and a legal matter, and must be addressed if the law is not to become further abused and the environment even more degraded than it is now.

(ii) Because PJT I's basin management responsibilities are limited to *in-stream* functions, other *off-stream* functions are not properly managed in the river basin context. This is important in view of heavy erosion in upper catchment areas which is causing sedimentation in dams and irrigation canals.

(iv) Lack of enforcement of regulations regarding pollution of river water and use of river and canal corridors. This may well be the most serious weakness in present river basin management. Neither PJT I nor Bapedalda have sufficient authority to take enforcement action from the results of extensive water quality monitoring in the Brantas River basin. PROKASIH (essentially a water monitoring program) has been running for more than 10 years with little if any beneficial effect on water quality which steadily deteriorates due to increasing pollution load.

P1.3.2 PJT I (Bengawan Solo River basin)

(1) Background

The Bengawan Solo River basin was incorporated into PJT I as a Directorate reporting to the President Director by Presidential Decree No. 129/2000 after extensive investigation and discussion. The river basin is an additional working area for PJT 1 which began operations in 2002. The working area is the Bengawan Solo River and 24 named tributaries. It extends over two provinces, East and Central Java, and 11 Kabupaten/Kota. The agreement to establish the Directorate was made on 21 November 2001 between Central and East Java Province more than a year after the enabling Presidential Decree. This additional large river basin, 20,000 km^2 in area, is managed as a separate directorate of PJT I, an extension rather than a branch of PJT I, which was one of the organizational options originally proposed.

Operation and maintenance is carried out under the technical guidance of PJT I Brantas for rivers and related infrastructures as managed assets and so off PJT I's balance sheet. Therefore depreciation cost for managed assets will not be incurred. The Bengawan Solo Directorate (as in the case of the Brantas River basin) does not manage the Wonogiri Hydropower Plant (PLTA) or irrigation O&M but only provides raw water.

[5] Extracted from a paper titled "Evaluation for Corporate Implementation in Perum Jasa Tirta I" by Tjoek Walujo Subianto, August 2002. There are, however, many other published and unpublished references to these problems.

(2) Legal Aspects

In addition to Presidential Decree No. 129/2000, 24 other items of legislation (from government regulations down to internal directors' decrees) were prepared and enacted to permit PJT I Bengewan Solo to become fully operational. Chief among these were:

(i) GR No. 45/2002 on Additional Capital of Indonesian Republic into PJT I Capital;
(ii) Five Kimpraswil (MSRI) decrees authorizing various types of fee collection for the extended work area;
(iii) Joint Decree of the Governors of Central and East Java on Cooperation between the two provincial governments; and a Joint Agreement on Water Management in the Bengawan Solo Watershed;
(iv) Numerous joint and other local decrees and agreements on the implementation of the above legislation.

The full list is given in Table P1.3.

This legislation is complex and extensive partly because the Bengawan Solo river basin covers two provinces. The time taken to prepare, discuss, socialize and make the component regulations effective is therefore much longer than for a single province. Also this was the first river basin corporation in Indonesia to cover two provinces[6]. Nearly three years elapsed after the prompt signing of Presidential Decree No. 129/2000 before all 24 items in Table P1.3 became operational. The equivalent legislation in the Jeneberang River basin should be complete in less than half the time, provided that there are no major and persistent objectors to the proposed corporation.

(3) Institutional Aspects

The management of O&M and non-water services in the Bengawan Solo River basin is the responsibility of the Director of Bengawan Solo Operations who is a full member of the PJT I Board. The directorate is based in Solo. Its structure within PJT I is charted in Figure P1.1 and is marginally different from the Brantas Operations Directorate on account of its distance[7] from the Malang headquarters of PJT I. It consists of three operations divisions and two support bureaus as follows:

(i) Public Service [or General Services] Division, responsible for a) utilizing available resources and work facilities (owned and managed) to obtain non-water services income and b) supplying equipment (e.g. for O&M activities), through two subdivisions;
(ii) Water Resources Services Divisions I and II, one based at Wonogiri Dam site, that undertake broadly the same functions as the Water Resource Service Divisions in the Brantas River basin (see P1.3.1(3) above).

[6] PJT II includes both West Java and Jakarta Special Province but the latter acts mainly as a service area for water resources from the Citarum river basin, and is not part of the main river basin.
[7] 6 hours by car.

(iii) Technical Bureau, responsible for a) technical planning and control of WRM, b) dam operation planning and annual work planning, c) contracts administration, and d) technical support;

(iv) Administration and General Affairs Bureau, responsible through two subdivisions for a) budgetary control and b) supervision of the Directorate's organization, management, personnel and materials to the extent delegated from PJT I Brantas. The extent of the Directorate's authority was not disclosed to the Study Team.

As mentioned earlier, the staffing of this directorate is at present 46[8] in total, 26 being permanent, 18 on limited period contracts and 2 on annual contracts. (It is understood that staff numbers have been limited by budget constraints and is one reason why PJT I Bengawan Solo is not yet fully operational, more than three years after the enabling Presidential Decree.) PJT I management apparently intend to increase the total staff to 60 next year, with a long term total of about 150. Additionally, an unknown quantity of non-routine and some routine O&M work is outsourced on a job-by-job basis.

(4) Human Resource Development Aspects

The senior staff for the Bengawan Solo directorate were apparently selected and appointed from the Bengawan Solo River Basin Development Project (Proyek Induk Pengembangan Wilayah Sungai (PIPWS) Bengawan Solo), the project work of which is reducing. These people, after the necessary permission from DGWR had been obtained, are understood to have been selected by PJT I with input from the Ministry of State Owned Enterprises (MSOE). This joint selection process meant that PJT I did not get all the staff they wanted, particularly in the upper echelons. (This situation is likely to be repeated in the case of the Jeneberang River basin.)

The implementation of the Bengawan Solo Directorate is said by PJT I to have been difficult and time consuming for PJT I senior staff. Intensive training was needed at all levels: initially one month on-the-job training in the Brantas basin for lower level staff, operating infrastructure for example, and two weeks on-the-job training for middle level staff, plus additional time for induction. Considerable PJT I management time was spent in supervising activities in the Bengawan Solo and in travelling.

The implementation of technical, financial and administrative systems and procedures proved a complex and onerous process. A PJT I Brantas accountant is currently working for PJT I Bengawan Solo and is likely to remain there indefinitely.

Systems and procedures were transferred gradually over a period of years according to carefully calculated priorities. All have now, it is understood, been transferred even though not yet fully applied.

[8] In the third year of operation. In the first and second years, there were about 20 and 30 staff respectively.

The retraining of older staff, especially within the more competitive and cost conscious environment of a PJT corporation, proved one of the more arduous tasks for the existing PJT I management. For Jeneberang and other new corporations, this experience should provide valuable lessons.

P1.3.3 PJT II (Citarum River basin)

(1) Background

PJT II, the first river basin management corporation in Indonesia, was established in 1970[9] as a wholly State-owned corporation (BUMN) known as Perum Otorita Jatiluhur (POJ). Its remit was to operate and manage selected rivers, the associated river infrastructure and all irrigation facilities in the Citarum river basin, the most developed in the country and which covers two provinces – West Java and Jakarta. The O&M of these facilities was carried out as managed assets, therefore off POJ's balance sheet and not representing a large depreciation cost. As the provision of water was considered a social (now socio-economic) function of government but costs were to be recovered, the Perum form of corporation was chosen rather than the Persero form.

(2) Legal Aspects

In 1999, POJ became Perum Jasa Tirta II by Government Regulation No. 94 of 1999. This was in order to rationalize river basin management corporations (RBMCs) in Indonesia before extending the RBMC concept into other river basins. Unfortunately, the opportunity was not taken when this GR was drafted to remove the provision for irrigation management by PJT II. However, since 1999 there has been much new legislation concerning the management of irrigation systems by (i) farmer groups, in particular, Government Regulation No. 77 of 2001, and (ii) Balai PSDA as technical implementation units (UPTD) of provincial Dinas PSDA. Under the new water law, amendments to both GR 77/2001 (concerning government responsibility for management of primary and secondary irrigation canals) and to PJT legislation will be required. Irrigation should be removed from PJT II's responsibility, at the latest, during such revisions and be handed over to Dinas PSDA and Balai PSDA, and P3As and GP3As, according to the current regulations.

Much national and regional legislation applies both generally and specifically to PJT II. However, this will not be discussed here as legislation applying to PJT I has already been reviewed in section P1.1.3 above, and is more likely to be relevant to the Jeneberang River basin.

(3) Institutional Aspects

PJT II is given the following main tasks by the current Government Regulation No. 94/1999:

[9] By Government Regulation No. 20/1970

(i) To exploit and maintain the infrastructure of irrigation and electric power**;**
(ii) To manage the provision of water (that is, its equitable allocation to users and consumers), water resource and electric power. In this respect, PJT II develops and sells electricity (880 million kWh annually with a capacity of 187.5 MW), currently 65% of its income. It also provides a) 420 million m^3 of raw water to Jakarta Municipal Water Company (PDAM), currently 20% of its income and b) 200 million m^3 of raw water to other PDAMs, that yield only 5% of income;
(iii) To manage the river basin (74 1st to 3rd order rivers and their tributaries, which are effectively all rivers in the Citarum river basin) by: protection, development and using water resources. No rivers in the basin are under local government control;
(iv) Electric power facility rehabilitation.

PJT II also operates, with a staff of 20, tourism facilities including a hotel around the Jatiluhur Dam, using ex-project facilities for hotels, restaurants and recreation areas. The business has been profitable for the last 6 years after an initial investment of about 30 billion Rupiah. A joint venture for operating the hotel is being sought.

PJT II provides water to[10] and manages overall the irrigation facilities for two crops a year in some 296,000 ha of paddy fields for which it receives no revenue. It also performs flood control and drought relief duties without remuneration.

The present PJT II organization structure is shown in Figure P1.2. In accordance with current SOE (state-owned enterprise) legislation, a Supervisory Board and a four member Board of Directors, including the President Director, provide direction for the Corporation.

Three directorates manage PJT II: Technical, Operation and Maintenance, and Administration and Finance.

Technical

The functions of this support directorate include work planning and programming, R&D, maintenance and environmental activities. Environmental activities include water quality monitoring/reporting and control of the analytical laboratory.

Operation and Maintenance

This directorate undertakes PJT II's core work of operation and maintenance of rivers and river infrastructure in its service area. Five field divisions through ten subdivisions are allocated to various sub-basins or subsectors. Divisions I, II and III cover western, northern and eastern parts of the basin, Division IV is responsible for dams and hydropower, and a separate Upper Citarum Division covers the upstream area.

[10] Irrigation consumes 90% of total water consumed in the river basin.

Administration and Finance

In addition to the usual areas of finance, personnel and general administration, this directorate is responsible for (i) overall quality management within PJT II, a requirement under the ISO 9001 certification awarded in 1994, (ii) Tourism Development Unit, (iii) Small Industry and Community Development Unit, (iv) Land Management Unit, and (v) Heavy Equipment Operational Unit. Units (ii) to (v) are in one business division reporting to the Director.

Staffing

Total staffing in March 2004 is 1,963[11], of which 934 managed the O&M of the irrigation system, 317 belonged to head office bureaus and the remaining 708 belonged to the five water resources services divisions and the non-water businesses (including tourism with 27 staff). As these figures (and the footnote) demonstrate, staff numbers, which are still believed to be more than really needed, are gradually declining along with reducing responsibilities for irrigation.

Manuals and Guidelines

Organization structure and unit functions and tasks are specified in the relevant Directors' Decree, No. 1/425/KPTS/2001.

Manuals and more detailed work instructions are said to be available for most administrative systems and procedures, including human resource development. One or two work instruction samples in Indonesian were shown and the format examined.

(4) Human Resource Development Aspects

As for PJT I, each year every PJT II unit is said to review the training needs of its staff and to select individuals for specific types of training according to a standard procedure. Successful applicants are placed in a one-year program of internal and external training according to availability of courses and within budget limits. Such training can be given at any staff level.

(5) Issues

For PJT II, the main legal and institutional problems and issues appear to be:

(i) As mentioned above, the irrigation network should be the responsibility of local government and farmer groups but, to date, PJT II have apparently been unable to fully hand over this responsibility. PJT II management state that there has been some small recent progress. However, apart from the need in the Citarum River basin to observe the latest government regulations and hand over irrigation management to regional government, there should be a consistent WRM model for RBMCs that is applied in all river basins throughout Indonesia. Therefore Government Regulation No. 94 of 1999

[11] A reduction of about 400 staff since 2002, the majority of which are in irrigation O&M.

should be amended and PJT II's irrigation responsibilities should be handed over without further delay.

(ii) Because PJT II's basin management responsibilities are limited to *in-stream* functions, other *off-stream* functions are not properly managed in the river basin context. This is important in view of heavy erosion in upper catchment areas which is causing sedimentation in dams and irrigation canals.

(iii) Lack of enforcement of regulations regarding pollution of river water and use of river and canal corridors. This may well be the most serious weakness in present river basin management. Neither PJT II nor Bapedalda have sufficient authority to take enforcement action from the results of extensive water quality monitoring in the Citarum River basin (82 sampling points under PROKASIH "clean river campaign"; and 102 industry units). PROKASIH (essentially a water monitoring program) has been running for more than 10 years with little if any beneficial effect on water quality which steadily deteriorates.

(iv) PJT II operates several "business units" (electricity, raw water supply, tourism, land utilization, engineering and laboratory services, heavy equipment services, and public services) and yet it appears to be organized mainly on a functional basis. As non-water businesses (except public services), especially tourism, generate significant income and are to be managed for profit, it may be preferable to create a separate corporate entity for such businesses.

P1.4 Financial Management Aspects

P1.4.1 PJT I (Brantas River basin)

(1) Review on Financial Condition

Table below shows the raw water tariff applied during these three years by type of water use. For comparison purpose, the table also shows the tariff rates which had been projected in an earlier study (JABIC SAPS study in 2001).

PJT I Tariff

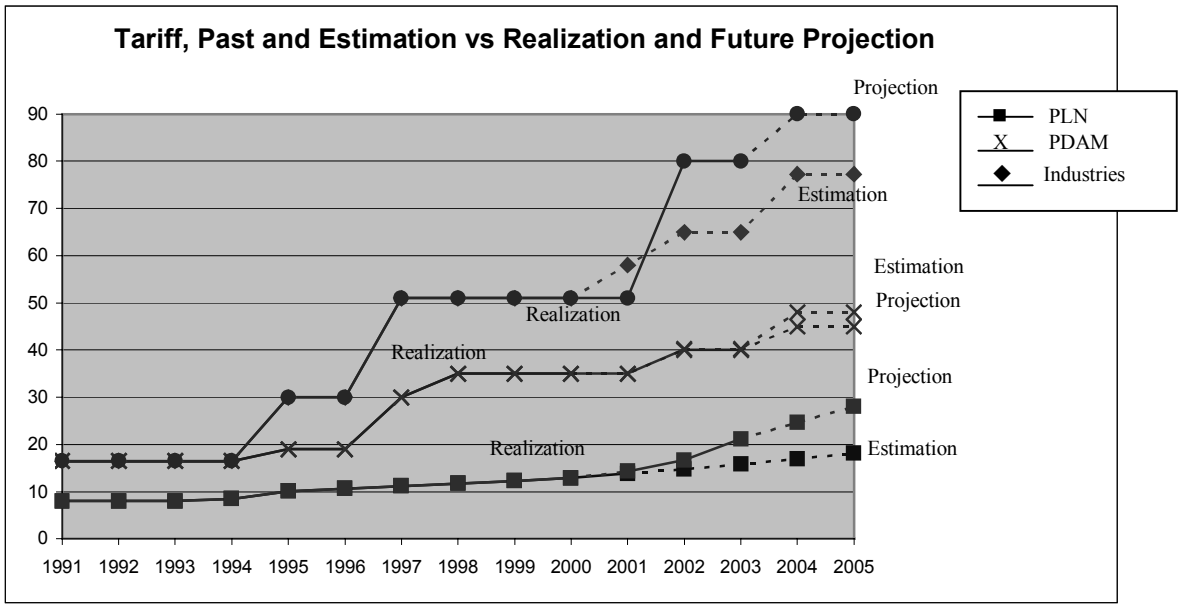
	Year	2001	2002	2003
PLN (Rp/kWh)	Realization	14.29	16.67	21.18
	Earlier projection	14.29	15.00	15.75
PDAM (Rp/m^3)	Realization	35.00	40.00	40.00
	Earlier projection	35.00	40.25	40.25
Industry (Rp/m^3)	Realization	51.00	80.00	80.00
	Earlier projection	56.00	64.40	64.40

Source: Realization: Rencana Jangka Panjang, Perum Jasa Tirta I Tahun 2004-2008
Earlier Projection: Final Report for the Study under JBIC SAPS for Rehabilitation Projects, July 2001

Tariffs of PLN and industries have increased more than the earlier projection, while tariff of PDAM remains at the same level as the earlier projection. As far as the table indicates, PJT I has

succeeded in managing the tariff rates at a level more than the projected, but more effort must be continued since the present tariff rates are still insufficient to generate the required O&M costs.

Figure below shows historical tariff rates together with the latest projection of tariffs in 2004 and 2005 and the estimation in the earlier study.



Revenue from PLN has increased due to tariff increase and commissioning of Wonorejo Dam in 2002. Revenue of water service for these three years was as follows:

PJT 1 Revenue of Water Service

(Unit Rp. million)

	Year	2001	2002	2003
PLN	Realization	14,092	15,347	18,848
	Earlier projection	14,004	15,560	16,343
PDAM	Realization	7,813	8,700	9,710
	Earlier projection	7,210	9,348	10,291
Industry	Realization	7,173	8,924	11,572
	Earlier projection	7,151	11,039	12,143
Total	Realization	29,078	32,971	40,130
	Earlier projection	28,365	35,947	38,777
	Realization/ Earlier projection	1.03	0.92	1.03

Source: Realization: Rencana Jangka Panjang, Perum Jasa Tirta I Tahun 2004-2008
Earlier projection: Final Report for The Study under JBIC SAPS for Rehabilitation Projects July 2001

Revenues from PDAM and industries and total water source revenue were almost at the same level of those of the earlier projection.

Revenue of non-water services for these three years was as follows:

PJT 1 Revenue of Non-Water Service

(Unit Rp. million)

	Year	2001	2002	2003
Tourism	Realization	1,134	1,439	1,645
	Earlier projection	900	1,098	1,219
Consultant	Realization	1,295	179	675
	Earlier projection	750	883	972
Construction	Realization	1,085	2,656	6,500
	Earlier projection	200	220	242
Equip. rental	Realization	990	886	1,065
	Earlier projection	250	420	463
Others	Realization	320	366	470
	Earlier projection	250	534	587
Total	Realization	4,824	5,526	10,355
	Earlier projection	2,350	3,155	3,483
	Realization/ Earlier projection	2.05	1.75	2.97

Source: Realization: Rencana Jangka Panjang, Perum Jasa Tirta I Tahun 2004-2008
Earlier projection: Final Report for The Study under JBIC SAPS for Rehabilitation Projects July 2001

Revenue from non-water services has increased more than the earlier projection, resulting in 20% of the total revenue in 2003.

Adding both water revenue and non-water revenue, total revenue for these three years are as follows:

PJT 1 Total Revenue

(Rp. million)

Year	2001	2002	2003
Realization	33,902	38,497	50,485
Earlier projection	30,715	39,102	42,260
Realization/ Earlier projection	1.10	0.98	1.19

Source: Realization: Rencana Jangka Panjang, Perum Jasa Tirta I Tahun 2004-2008
Earlier projection: Final Report for The Study under JBIC SAPS for Rehabilitation Projects July 2001

Profit and loss statement is as follows:

PJT I Profit & Loss Statement

(Unit: Rp million)

	2001	2002	2003
Revenue	33,902	38,497	50,485
Cost	30,974	35,309	47,455
Operating income	2,928	3,188	3,030
Other income	2,557	3,049	2,970
Profit before tax	5,485	6,237	6,000
Earlier projection (consolidated with Solo Branch)	5,510	7,977	5,754

Source: Realization: Rencana Jangka Panjang, Perum Jasa Tirta I Tahun 2004-2008
Earlier projection: Final Report for The Study under JBIC SAPS for Rehabilitation Projects July 2001

Profit before tax actually attained in 2002 was less than that of the earlier projection, but improved in 2003.

Direct O&M cost actually spent was almost same as the earlier projected as shown in the following table:

PJT 1 O&M Cost

(Unit: Rp. million)

Year	2001	2002	2003
Realization	15,206	16,853	22,065
Earlier projection	12,630	15,425	21,785
Realization/ Earlier projection	1.20	1.09	1.01
Revenue of water service	29,078	32,971	40,130
Realization/Revenue of water service	52%	51%	55%

The table indicates that about a half of water service revenue has been utilized for direct O&M cost.

(2) New Five-Year Plan

PJT I is now preparing a new five-year plan for the year 2004 to 2008 in accordance with the Decree No.KEP-102/MBU/2002 issued by Ministry of State-Owned Enterprise (MSOE).

Financial targets set forth in the plan are summarized as follows:

(i) Implementation of effective water resources management system in the Brantas River basin and the Bengawan Solo River basin
(ii) Improvement of implementation level of O&M by encouraging participation of the community
(iii) Realization of PJT I role in environmental awareness and small industry & cooperative building through partnership program
(iv) The growth of Corporation will comprise:
    a. Operating income increases from Rp.56.77 billion (year 2004) to Rp.98.06 billion (year 2008), with an average increase rate of 15 % per year.
    b. Profit before tax will increase from Rp.5.60 billion (year 2004) to Rp.8.13 billion (year 2008), with an average increase rate of 10 % per year.
    c. Total assets will increase from Rp.55.27 billion (year 2004) to Rp.61.76 billion (year 2008), with an average increase rate of 2.5 % per year.
(v) O&M cost increases from Rp.25.83 billion (year 2004) to Rp.61.76 billion (year 2008), with an average increase rate of 25% per year.

A separate analysis will be required in case PJT I takes over the Jeneberang River basin management as an extension of PJT I working area.

(3) Lesson Learnt for the New Corporation in the Jeneberang River Basin

PJT I is evaluated as a 'very healthy (AA)' corporation and its financial condition is mentioned as 'proper without exception' (Wajar Tanpa Pengecualian) according to the audit conducted by BPKP (Control of Finance and Development Agency) and BPK（Finance Inspection Agency）.

A matter to be noted is that owned assets are posted on the balance sheet, while managed assets are kept off balance sheet. Revenue mainly comes from managed assets not posted on the balance sheet. As a result, ROI (return on investment) and TATO (total assets turn over) show distorted figures.

P1.4.2 PJT II (Citarum River Basin)

(1) Review of financial condition

PJT II is the reorganized body of ex-Perum Otorita Jatiluhur (POJ) that was established in 1970 as a State owned corporation (BUMN), absorbing Jatiluhur State Company. Present working area is the Citarum basin covering 74 rivers with related facilities and irrigation area of 296,000 ha rice field. Operation and maintenance has been carried out for rivers, irrigation and related infrastructures as managed assets off from the balance sheet.

Other than raw water supply, PJT II is specifically assigned to operate its owned hydropower station at Jatiluhur dam. The generated energy is sold to PLN network.

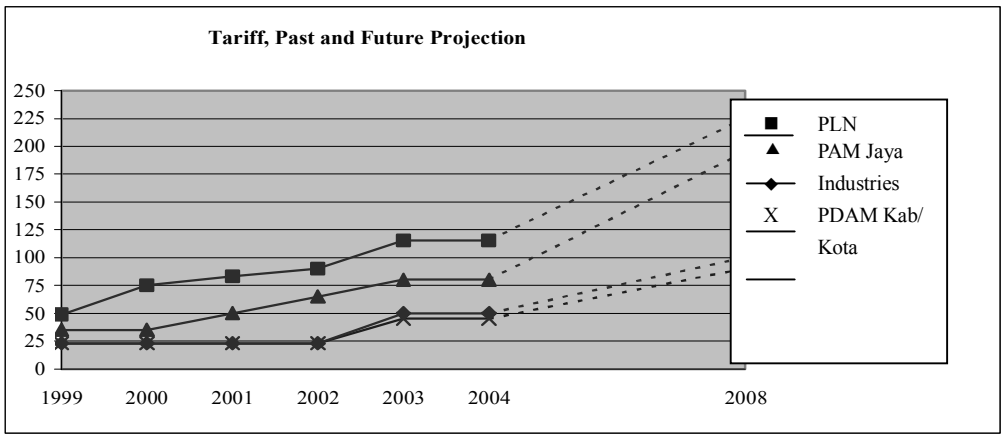
Table below shows the water fee rates effected in these three years, together with the rates in PJT I for comparison.

PJT II Tariff in comparison with PJT I

	Year	2001	2002	2003
PLN (Rp/kWh)	PJT II (Electricity selling price)	83.00	90.00	115.51
	PJT I (Water fee)	14.29	16.67	21.18
PDAM (Rp/m^3)	PJT II: supply to PDAM DKI (Pam Jaya)	50.00	65.00	80.00
	PJT II: supply to PDAM Kabupaten/Kota	23.00	23.00	45.00
	PJT I	35.00	40.00	40.00
Industry (Rp/m^3)	PJT II	23.00	23.00	50.00
	PJT I	51.00	80.00	80.00

Source: Rencana Jangka Panjang, Perum Jasa Tirta I & II Tahun 2004-2008

Figure below shows historical tariff rates since 1999 and projected tariff rates in 2008.



Total water revenue of PJT II is larger than that of PJT I on account of electricity sale to PLN as shown in table below.

PJT II Revenue of Water Service in Comparison with PJT I

(Unit: Rp. million)

	Year	2001	2002	2003
PLN	PJT II (Electricity selling price)	78,890	92,285	53,950
	PJT I (Water fee)	14,092	15,347	18,848
PDAM & Ind.	PJT II: supply to PDAM DKI (Pam Jaya)	20,751	26,043	32,072
	PJY II: supply to PDAM Kabupaten/Kota	6,751	7,089	9,651
	PJT I	14,986	17,624	21,282
Total	PJT II	106,392	125,417	95,673
	PJT I	29,078	32,971	40,130
	PJT II/PJT I	3.66	3.80	2.38

Source: Rencana Jangka Panjang, Perum Jasa Tirta I & II Tahun 2004-2008

Revenue source can be divided as follows:

(i) Ir H. Djuanda hydro power plant has the yearly production capacity of 880 GWh. Electricity selling dominates PJT II's revenue, which ranges from 60 to 70 % of the total revenue. The revenue in 2003 decreased to 58 % of 2002 revenue due to dry hydrological condition.

(ii) PDAM DKI (Pam Jaya) expects the supply of 420 million m^3 of raw water each year, which contributes to about 20 % of total revenue.

(iii) PJT II supplies about 200 million m^3 of water to PDAM Kabupaten/Kota and industries. However, the revenue contributes to only 5 % of the total revenue due to relatively low rate of tariff set forth for this water supply category.

Table below shows the income from non-water services of PJT II in comparison with that of PJT I.

PJT II Revenue of Non-Water Service in Comparison with PJT I

(Unit: Rp. million)

	Year	2001	2002	2003
Tourism	PJT II (Realization)	1,601	1,611	2,751
	PJT I	1,134	1,439	1,645
Land Lease	PJT II	3,305	4,122	4,604
	PJT I	none	none	none
Sand Mining	PJT II	529	346	593
	PJT I	none	none	none
Equip. rental	PJT II	383	417	541
	PJT I	990	886	1,065
Consultant	PJT II	none	none	none
	PJT I	1,295	179	675
Construction	PJT II	none	none	none
	PJT I	1,085	2,656	6,500
Others	PJT II	943	771	851
	PJT I	320	366	470
Total	PJT II	6,761	7,267	9,340
	PJT I	4,824	5,526	10,355
	PJT II/PJT I	1.40	1.32	0.90

Source: Rencana Jangka Panjang, Perum Jasa Tirta I & II Tahun 2004-2008 Source:

Tourism business is in operation with 20 employees. On account of advantageous location on the way from Jakarta to Bandung, the tourism business has made profit for these seven years. Private participation as a joint venture is now under consideration.

It is estimated that the present land use remains at 17% of the total land use potential of about 8,100 ha.

Total revenue in comparison with that of PJT I is as follows:

PJT II Total Revenue in Comparison with PJT I

(Rp. million)

Year	2001	2002	2003
PJT II	113,153	132,684	105,013
PJT I	33,902	38,497	50,485
Realization/Estimation	3.34	3.45	2.08

Source: Rencana Jangka Panjang, Perum Jasa Tirta I & II Tahun 2004-2008

Profit and loss statement is as follows:

PJT II Profit & Loss Statement

(Unit: Rp. million)

	2001	2002	2003
Revenue	113,153	132,684	105,013
Cost	82,487	93,018	93,245
Operating income	3,0666	39,666	11,768
Other income	-7,040	-8,846	6,748
Profit before tax	23,626	30,820	18,516

Source: Rencana Jangka Panjang, Perum Jasa Tirta II Tahun 2004-2008

O&M costs in comparison with those of PJT I are as follows:

PJT II O&M Cost in Comparison with PJT I

(Unit: Rp million)

Year	2001	2002	2003
O&M cost:			
Realization for Rivers & Facilities	40,069	43,019	43,827
Realization for Irrigation	4,418	5,914	3,888
Total	44,487	48,933	47,715
PJT I	15,206	16,853	22,065
PJT II/PJT I	2.93	2.90	2.16
Revenue of water service	106,392	125,417	95,673
Cost/Revenue Ratio	42%	39%	50%

Source: Rencana Jangka Panjang, Perum Jasa Tirta I & II Tahun 2004-2008

Irrigation O&M cost continued to increase until the year 2002, whereas in year 2003 decreased to 65% of the previous year since PJT II could not afford to provide the required budget for the irrigation O&M in the year.

(2) Issues

(i) PJT II was evaluated as a 'very healthy (AA)' corporation and its financial condition was mentioned as 'proper without exception' (Wajar Tanpa Pengecualian) as a result of audit conducted by BPKP (Control of Finance and Development Agency) and BPK(Finance Inspection Agency) during the year 1999 to 2002. For the year 2003, it was reported as 'normal without exception', where the rating of performance decreased to 'healthy (A)'.

(ii) Revenue from water supply services is far from enough to cover the costs for management of water, water resources and irrigation facilities in Citarum basin. The government subsidy appears to be inevitable. (Note: Presently, revenue from electricity sale is making up the deficit)

(iii) According to the government policy, irrigation network management should be the responsibility of the government and water users association. However, the work has actually been shouldered by PJT II for these 35 years. The irrigation management responsibility should be released from PJT II.

(iv) Fees for groundwater and liquid waste discharge were regarded as revenue source in the five-year plan for the year 1999-2003. However, PJT II has not been authorized to charge them.

(3) Lesson Learnt for the New Corporation in the Jeneberang River Basin

Managed assets were once posted on the balance sheet. Due to the burden of depreciation cost, they are now kept off from balance sheet.

Number of personnel should be reduced gradually in process of handing over the irrigation management responsibility. This will contribute to further improvement of the corporate financial soundness.

P2 Review of Other Studies

P2.1 General

This Chapter describes brief outlines of other studies which have dealt with the establishment of river basin management public corporations and the capacity building of institutions. Findings from this review study were taken into account in the plan formulation in this Study.

P2.2 Study on Policy Reform in Water Resources Sector (WATSAL) (June 2001)

In the water resources sector, the Government is currently undertaking a comprehensive sector institutional reform program in line with the National Water Resources Policy (NWRP) expressed in the 'Letter of Sector Policy (LoSP)' that was addressed to the Word Bank in April 1999. The LoSP describes the policy principles of proposed water resources sector reform programs including legislative, institutional and regulatory interventions.

Based on the LoSP, the Water Resources Sector Adjustment Loan (WATSAL) was signed between the Government of Indonesia (GOI) and the World Bank (WB) in May 1999. Since then, the term of 'WATSAL or WATSAP' is used to represent the activities related to the water sector reform program. The LoSP contains a tabular statement titled 'Water Resources and Irrigation Reform Program Policy Matrix', which set forth the proposed change of legal and institutional framework classifying into the following four target reform interventions:

(a) National institutional framework for water resources development and management; (N-1 below)
(b) Organizational and financial framework for river basin management; (N-2 below)
(c) Regional water quality management regulatory institution (N-3 below); and
(d) National irrigation management policy, institutions and regulations (IR below)

To implement the WATSAL agenda according to the Policy Matrix, the GOI set up Pokja (Task Force) under EKUIN, which comprises a Steering Committee, a Secretariat group and four Working Groups. The function of Working Groups, Pokja I through IV, broadly corresponds to each of the four target reform interventions.

The GOI decided to conduct a WATSAL Special Study, the Study on Policy Reform in Water Resources Sector (WATSAL), to provide technical assistance to the Pokja. The Study consisted of N-1, N-2, N-3 and IR studies assisting Pokja I, II, III and IV, respectively. The N-I study was financed by ADB, whereas the N-2, N-3 and IR studies were financed by JBIC. The executing agency of the Special Study was the Ministry of Settlement and Regional Infrastructure (MSRI or Kimpraswil, presently Ministry of Public Works), represented by the Directorate General of Water Resources (DGWR). The Study was carried out during the period from September 2000 to June 2001.

The Special Study produced 109 outputs comprising draft legal documents (drafts of laws, regulations, decrees and guidelines), academic papers and study reports. Some of the draft legal documents have been scrutinized in Pokja and put into legislation.

Table P2.1 shows the up-to-date status of legislation or authorization of various legal documents produced from the Special Study. Of those, major items of legislation so far enacted include:

(i) New Water Resources Law No. 7/2004 (amendment of Law No.11/1974)
(ii) Government Regulation (GR) No.77/2001 on Irrigation (a major amendment of GR 23/1982)
(iii) Ministry of Home Affairs (MOHA) Decree No.50/2000 and Kimpraswil Decree 529/2001 on empowerment of WUA and WUAF
(iv) GR No.82/2001 on Water Quality Management and Pollution Control

P2.3 Studies Dealing with Establishment of New Public Corporations

P2.3.1 Background

A policy goal set forth in the NWRP as well as in the Policy Matrix is to establish the organizational and financial framework for sustainable (self-financing) and autonomous river basin management corporations compatible with regional autonomy legislation. This improvement is to be effected by:

(i) Forming four new river basin management corporations (Bengawan Solo, Jratunseluna, Serayu-Bogowonto and Jeneberang); and
(ii) Amending the corporate structure of Jasa Tirta I Public Corporation for Brantas river basin and Jasa Tirta II for Citarum river basin

In addition to the four river basins stated in (i) above, possibility of establishing a corporative body in the Way Sekampung-Way Seputih basin was also studied.

Brief outline of the studies carried out to date and scheduled in the succeeding period is described below.

P2.3.2 Comprehensive Development and Management Plan (CDMP) Study for Bengawan Solo River Basin (March 2001)

This study examined a preliminary plan for the new institutional framework for managing O&M in the Bengawan Solo basin as a part of the Comprehensive Development and Management Master Plan (CDMP) which is to formulate a comprehensive master plan for the target year 2025 for the whole Bengawan Solo river basin.

The study compared the following three options of corporate ownership arrangement:

(i) Option 1: A branch of PJT I
(ii) Option 2: A subsidiary corporation of PJT I
(iii) Option 3: An independent state-owned corporation (PJT III)

After comparison of the complexity of legislative procedures, relative technical and operational advantages, five-year revenue-cost balance analysis and funding needs, the study recommended that (i) either Option 1 or Option 2 would be a suitable organizational arrangement, and (ii) when financial stability is achieved and an adequate level of O&M activity is being undertaken, the subsidiary or branch should convert to an independent corporation.

In parallel with the study, Kimpraswil decided to extend the working area of PJT I to cover additionally the Bengawan Solo basin. This decision almost coincides with the Option 1 stated above. The extension of PJT working area was legally authorized by the Presidential Decree

No.129/2000. The PJT I established a Bengawan Solo branch office and commenced its operation in the end of 2002 under the technical guidance of PJT I Brantas.

P2.3.3 Feasibility Studies on the Establishment of Public Corporation in Jeneberang Basin (2002-2003)

Two feasibility studies have been conducted to examine the prospect of river basin management by a corporative body; one is by PJT I completed in August 2002 and the other by Hasanuddin University (UNHAS) in October 2003. The both studies compared the relative merits of two options; (i) a branch of PJT I and (ii) a Perum type independent corporation. The studies gave no clear conclusion, but indicated that revenue-cost balance is superior in the case of (i) branch type to the case of (ii).

The UNHAS study[12] predicted the financial operation of Jeneberang Corporation for the initial 5-year operation period. The analysis was made for each of two options of organizational form; (i) Branch of Existing PJT and (ii) Independent Corporation. The results are reproduced in Table P2.2 and summarized below.

Financial Operation Analyzed in Previous Study

(Unit: Rp. Million)

Description	2004	2005	2006	2007	2008
Branch of Existing PJT:					
Income	1,890	2,571	4,172	5,957	7,774
Expenditure	3,571	4,062	4,682	5,507	6,550
Tax	-	-	-	127	358
Profit or Loss (after Tax)	- 1,681	- 1,491	- 509	324	866
Fund Requirement - Yearly	2,000	1,600	900	-	-
- Accumulated	2,000	3,600	4,500	-	-
Independent Corporation					
Income	1,944	2,630	4,237	6,028	7,852
Expenditure	3,850	4,423	5,090	5,969	7,071
Tax	-	-	-	9	226
Profit or Loss (after Tax)	- 1,907	- 1,793	- 853	51	556
Fund Requirement - Yearly	2,250	1,900	1,250	200	-
- Accumulated	2,250	4,150	5,400	5,600	-

Source: Review of Incorporation of Jeneberang River Basin Unit, Final Report, October 2003, University of Hasanuddin

It is noted that the expenditure estimated in the above table represents only 10 % of the standard O&M costs for year 2004 and about 20 % for 2008. This assumption of reduced O&M cost is based on understanding that the new corporate body could not conduct full scope of O&M work in view of its limited executing capability in the initial period.

Table above indicates the following:

(a) Corporation will have loss-making operation for initial 3 years. The situation will start improving in 2006 when the Corporation commences the collection of revenue from PLN

[12] Review of Incorporation of Jeneberang River Basin Unit, Oct. 2003, University of Hasanuddin

(b) Corporation will need funding support from the Government of the order of Rp. 4.5 to 5.6 billion in total in the initial operation period, even under the condition of reduced O&M costs at 10-20 % of standard O&M cost

Comparing the above two options, the option of 'Branch of Existing PJT' requires less expenditure and accordingly less fund assistance from the Government.

PJT I feasibility study in 2002 recommended that the new corporation should preferably be established after the Bili Bili hydropower plant is put into commercial operation and the revenue from it becomes assured.

P2.3.4 Feasibility Study on the Establishment of Public Corporation in Jratunseluna Basin (October 2003)

A feasibility study was conducted by Diponegoro University in 2003 [13] to examine the feasibility of establishing a public corporation in the Jratunseluna river basin.

The purpose of the study is to formulate a concept of the institutional form of the public corporation which would be responsible for the management of water resource in Jratunseluna River Basin (Wilayah Sungai Jratunseluna). The study included studies on technical, economical, and financial aspects in order to provide a description on how a public corporation may be capable of managing water resources in a sustainable, neutral, professional and self-sufficient manner.

The River Basin management is presently undertaken by PIPWS Jratunseluna (Jratunseluna River Basin Water Resource Development Project). The fund for O&M fund comes from the national expenditure and revenue budget (APBN) via the Project Budget Allocation (DIP).

Several issues being faced in the management of water resource in Jratunseluna River Basin Unit are reported as follows:

(a) Government fund to manage water resources are becoming more limited. Even fund for conducting operation and maintenance of water resource infrastructures are no longer adequate.
(b) The physical condition of the infrastructures are continuously declining, and if left ignored the infrastructures shall no longer be capable of fulfilling the economic purposes as initially expected when first constructed. The reason of this condition is that most of the water resource infrastructures are not managed by a permanent, professional, competent, and self-reliant institute for the implementation of the above mentioned duties.

[13] The Study on Corporatization of Water Resources Management and the Establishment of Jasa Tirta Public Corporation in Jratunseluna River Basin Unit, Diponegoro University, October 2003

(c) The increasing demand for water has caused an inconsistency between users and utilization. This matter is greatly evident in highly populated areas with swift economic activities, leading to water scarcity condition.

(d) Management of water resource in a river basin, until now, is still conducted limitedly because water management and maintenance of water resource infrastructures have not received sufficient funding. This is due to the reason that beneficiaries have not contributed in providing fund for water management and maintenance of water resource infrastructures.

(e) Sedimentation rate is comparably high in the Jratunseluna Reservoir. The reason is the high erosion in the catchment area because of unsuitable land management.

The study analyzed the possibilities of the formation of a public corporation as a branch of existing BUMN (State-owned Enterprise) or as an independent BUMN/ BUMD (Regional-owned Enterprise) and the alternatives to include PT Indonesia Power or not. There is no specific conclusions drawn from the study, however, the profit-loss projection showed that, among four alternatives, the branch of existing BUMN would be the only alternative which would give profit from the first year of establishment. The case of independent BUMN/BUMD was assessed that the corporation would face loss in the first and fifth years but gain profit in the second, third and forth years.

The financial analysis showed the importance to include infrastructures of PT Indonesia Power to be managed by the corporation, both for the cases of branch and independent BUMN/BUMD, because the government funding support will be needed only in the first year. Without infrastructures of PT Indonesia Power, the government funding will be needed from the first until the fifth year.

Table P2.3 shows the outline features of the proposed public corporation in comparison with those in other basins. Table P2.4 shows the results of profit-loss projection for the proposed Jratunseluna public corporation.

P2.3.5 Feasibility Studies on the Establishment of Public Corporation in Serayu-Bogowonto Basin (November 2003)

A feasibility study was conducted by Diponegoro University in 2003[14] to examine the feasibility of establishing a public corporation in the Serayu-Bogowonto river basin.

Presently, the management of the river basin is undertaken by the Serayu-Bogowonto River Basin Development Project (PIPWS Serayu-Bogowonto).

The study noted the following issues in the basin:

[14] The Study on Corporatization of Water Resources Management and the Establishment of Jasa Tirta Public Corporation in Serayu-Bogowonto River Basin Unit, Diponegoro University, November 2003

(a) Insufficiency of available O&M fund for water resources infrastructures.
(b) Up till now, there is no permanent institution that is given the duty to manage water resources infrastructures and structures. (During these times, the management is undertaken by the PIPWS Serayu-Bogowonto, but, as known, this project institution is an institution that has duty to implement construction works and is temporary in nature).
(c) Flood occurs during rainy season. The major causes of flood are low rate of river flow capacity due to clogging of the estuary by sediments from the sea, and the inadequate flow capacity of river course due to exploitation of river corridors as settlement area.
(d) Erosion and sedimentation are also serious issues faced in the Serayu-Bogowonto River basin. Impact from erosion appears as high yield of sediments, environmental damage and flood outbreaks in Kali Serayu.
(e) Lack of irrigation water occurs during the dry season and thereby resulting to most agricultural fields left not irrigated. Out of 204,257 ha in total area, only 121,897 ha has an irrigation system that is either technical, semi-technical or simple irrigation
(f) Raw water demand for domestic and industrial needs is rapidly increasing, such as in the Cilacap area. Whereas, the lack of drinking water during the dry season is greatly felt in areas such as parts of the Cilacap municipality due to the intrusion of sea water that affects the quality of raw water in PDAM.

The study concluded the following:

(i) The need of establishing a corporation for the professional management of a river basin is in order that water resource facilities and infrastructures within the Serayu-Bogowonto River basin may function optimally and thereby support regional development. The activity calls for community and private sector participation in order to gradually decrease the Government's burden taken from the national and regional budgets that should be allocated for the management of the river basin.
(ii) Aside from "beneficiary to pay principle", the Central/Regional Government is obliged to provide fund for river basin management activities that are social in nature aimed at increasing the welfare and safety of the society at large; such as flood control, water quality and conservation (Government Obligation Principle or Public Service Obligation).
(iii) Based on the studies from various aspects, river basin management by a public corporation is found feasible in the Serayu-Bogowonto River basin, provided that the Donan River would be included in the jurisdiction area of the corporation. It is also important that PT Indonesia Power will be a source of revenue for the corporation.
(iv) Based on the institutional study, the form of Public Corporation shall be an independent BUMN in the form of Perum type public corporation.

Table P2.3 shows the outline features of the proposed public corporation in comparison with those in other basins. Table P2.5 shows the results of profit-loss projection for the proposed Serayu-Bogowonto public corporation.

P2.3.6 Study on Optimal Development of Water Infrastructure for Regional Development in Way Sekampung and Way Seputih Basins (March 2003)

This study examined the feasibility of establishing a public corporation as an institutional option for the Way Sekampung and Way Seputih basin management. Similar to the case of the Bengawan Solo basin, the study compared three organizational options:

(i) Option 1: Branch of PJT II (or extension of PJT II working area)
(ii) Option 2: Subsidiary corporation of PJT II
(iii) Option 3: Independent state-owned corporation

After a comparative study and exchange of discussions with DGWR, the study concluded that Option 1 would be most recommendable, taking advantages of (i) the least operating costs among the three options and (ii) the availability of full supports from PJT II in both technical and corporate operational aspects. Profit-loss projection analysis showed operation loss until year 2020.

The establishment of the PJT II branch for the Way Sekampung-Way Seputih basin has not been realized yet.

Table P2.3 shows the outline features of the proposed public corporation in comparison with those in other basins.

P2.4 Studies/Projects dealing with Capacity Development of Institutions

P2.4.1 Background

NWRP set forth the need to 'create a regional water resources regulatory and management structure to support and implement integrated river basin management under the principle "one basin, one management" through (i) Provincial Basin Management Units and, wherever feasible, (ii) corporative self-financing entities under regional government control. (Note: Of the two plans, (ii) was already discussed in Section P2.3 above)

Relating to this policy, the Policy Matrix states two items of proposed reform:

(a) Implement regulatory arrangements for water allocation and wastewater discharge, drought management, conjunctive use of groundwater and surface water, water quality monitoring and integrated watershed management; and
(b) Formation of fully functioning Provincial River Basin Management Units (Balai PSDA) in key basins in about 8 provinces.

In line with these reform programs, several studies/projects have been implemented with emphasis on the capacity building of water related institutions, especially Balai PSDA. Achievements and/or current progress of some representative studies/projects are described below.

P2.4.2 Basin Water Resources Management (BWRM) Program under IWIRIP (2002-2004)

The Basin Water Resources Management (BWRM) program was initiated under the Java Irrigation Improvement and Water Resources Management Project (JIWMP) under the assistance of World Bank for the period from 1995 to 2002. The project formulated 23 Balai PSDA in Java and conducted their institutional and human resources development.

As a continuation of BWRM-JIWMP, the second phase of BWRM was taken up in the Indonesia Water Resources and Irrigation Reform Implementation Program (IWIRIP) supported by the grant from Netherlands and has been commenced from late 2001. BWRM-IWIRIP envisages the capacity building of Balai PSDA in 6 provinces outside Java. Of the total 21 Balai PSDA established to date, the BWRM program has provided guidance services for 6 selected 'pilot Balai' and also provided funding or training supports to other 15 Balai.

Balai PSDA Jeneberang is one of the 6 pilot Balai. Start-up activities of BWRM were commenced in late 2001 initiated with institutional setting up of the Balai, and subsequently capacity building activities with main focuses on water resources management planning, hydrology and GIS/database. In 2003-2004 period, BWRM assigned to Balai PSDA Jeneberang three local consultant experts (a provincial leader, a hydrologist and a GIS/database) with a total input of 20 man-months (for Sept. 2003 - April 2004 period) for conducting the system

establishment, operational guidance and training. The updated status of achievements in Balai PSDA Jeneberang is briefly summarized in Table P2.6.

The BWRM has ambitious programs of attaining the outputs as shown in Table P2.7. The program covers almost all of the functional areas required for river basin management. Actually, however, activities in the Balai Jeneberang were concentrated on GIS, database and hydrology as shown in Table P2.6, and other activities were limited to (i) collaborating PHU (provincial hydrological unit) for water quality monitoring at 7 stations, (ii) preparatory works for water allocation and river infrastructure management, and (iii) irrigation O&M.

The consultant's final report states several items of lessons learnt from the operation of BWRM as follows:

(i) There is a general lack of enthusiasm in following the BWRM; irrigation O&M is still the Balai's priority
(ii) Water allocation or water management is not yet a pressing problem in many Balai but only in some rivers in some Balai PSDA
(iii) Flood problems are more dominant in some Balai
(iv) Need for coordination committees are not felt strongly
(v) Setting up GIS and hydrology program are handicapped by lack of manpower or hampered by project interests

The report suggests the need of further elaboration of subsequent approaches. Some of the suggestions are:

(i) Pay attention to manpower development
(ii) Focus on infrastructure required for water management
(iii) Follow a slower pace of development in line with human resources capacity
(iv) Reschedule GIS, database and hydrology programs to keep in pace with actual activities of Balai (need based programs)

Present BWRM-IWIRIP program will be terminated in 2004, but the next program; 'Water resources and Irrigation Sector Management Program (WISMP)' will be commenced presumably in 2005. The first phase of WISMP aims at capacity building of water sector agencies including Balai PSDA. The scope of WISMP is summarized in Table P2.8.

The jurisdiction area of Balai PSDA Jeneberang covers whole area of Wilayah Sungai (WS) Jeneberang, which consists of 15 river basins (DPS) having a total catchment area of 4,625 km2. Jeneberang River basin is one of them. The Balai has had virtually no positive river management activities in the Jeneberang basin (DPS) so far, supposedly because JRBDP is presently managing the basin and further a new public corporation is envisaged to come in within a few years. Present Balai activities are mostly for irrigation water distribution.

Nevertheless, the Phase III of the Study will need to coordinate with the activities of Balai. The coordination is required particularly in the areas of; (i) common use of basin management database, (ii) common use of procedures, guidelines and O&M manuals, and (iii) setup of information exchange system.

P2.4.3 Good Governance in Water Resources Management Project (2002-2005)

Under financial assistance from the European Commission (EC), this project started in October 2002 and is currently in progress with a schedule to complete toward the middle part of 2005. For accomplishing the consultancy services, the project envisages inputs of 128 M/M of international experts, 340 M/M of Indonesian experts and 516 M/M of support staff.

The specific objective of this project is to establish efficient, economically and environmentally sustainable management of water resources in three river basins by improved governance, empowerment of stakeholders, and devolution of administrative power to stakeholders' level. The objective three basins are (i) Progo-Opak Oyo basin in Yogyakarta, (ii) Grindulu basin in East Java and (iii) Seputih-Sekampung basin in Lampung.

The project has the following four components:

(a) Capacity building of Balai PSDA especially in conducting the following duties: (Component 1)
- optimizing of water allocation for rivers/irrigation schemes
- introduction of the concepts of river maintenance
- acting as secretariat of the river basin coordination committee (PPTPA)

(b) Preparation of Basin Water Resources Management Plan (BWRMP) including the following activities: (Component 2)
- collection of all available data on water resources management
- execution of studies on those aspects for which available data is sufficient
- preparation of a water allocation plan at basin level
- preparation of a coordinated management plan

(c) Institutional development and strengthening, including the following activities, together with training of district level irrigation support agencies: (Component 3)
- facilitating meetings at the water-board and district level for water scheduling decision-making processed for the project area
- strengthening the involvement of communities in decision-making in the project area
- restructuring water users associations and facilitating the creation of the federations

(d) Watershed management and erosion control, including the following activities: (Component 4)
- environmental education of community organizations in the project area; develop and distribute guidelines for environmentally sustainable watershed management

- developing interpretative ecological field guides and conservation-oriented visual aids for use in the project area
- developing a plan and implementing works on a pilot scale for erosion control in the upper catchments

According to a progress report as of September 2003 prepared by the consultant, the training for Balai staff is being carried out through lectures (hydrology, GIS, water quality, soil and water conservation, public awareness), on-the-job training (field inspection, special training session) and a comparative study tour (visit to other Balai). On-the-job training is also being conducted through development of various systems such as GIS, hydrological information system, water allocation management system, flood control/drought management system, and river infrastructure management (RIM) system.

P2.4.4 Capacity Building Project for the Water Resources Sector (1996-2002)

Due to unavailability of the project report as at this stage, the following descriptions are based on information made available from officials in Dinas PSDA in Makassar.

This project was implemented under financial assistance from ADB during the period of 1996-2002. The objective agencies for capacity building covered the headquarters of Kimpraswil and regional institutions (PTPA, PPTPA, Dinas PSDA and Balai PSDA) in four provinces including South Sulawesi.

The project provided an intensive assistance in establishing the Provincial Water Resources Coordination Committee (PTPA) and the River Basin Water Resources Coordination Committee (PPTPA) and also implemented the training of regional institutions staff on the subjects of hydrology, GIS and river basin management. The Project also provided equipment and facilities needed for implementing the programs, such as hydrological observatory equipment, water quality testing kits, and vehicles/motor cycles.

Overall, the scope of the projects was almost similar to that of BWRM project which dealt with the capacity building for Balai PSDA Jeneberang.

P2.4.5 Water Resources Existing Facilities Rehabilitation and Capacity Development Project (2003-2007)

This project, under the financial assistance from JBIC, has been commenced from the end part of 2003 and currently in progress for completion toward 2007. The main component of the project is the rehabilitation of some 26 water resources and river structures, whereas the project also includes the strengthening of O&M system of Perum Jasa Tirta I in the Brantas and Bengawan Solo river basins.

The strengthening program aims to (i) improve O&M management system in the Brantas and Solo river basins, and (ii) strengthen the PJT I in institutional, organizational, O&M activities

and financial aspects. The activities for (i) includes mainly the review or preparation of guidelines and manuals, and those for (ii) look into responsibility and authority, institutional and organizational issues, financing and tariff system, and revenue-generating business developments.

The study and implementation of the strengthening programs is scheduled in year 2005 onward. Accordingly, the outcomes from the project could not be reflected in the plan formulation in this current Study, but would be very usable for the activities in Phase III of this Study.

P2.4.6 Technical Cooperation Program for Empowerment of Water Users' Association (WUA), JICA (2004-2007)

A WUA empowerment study was conducted by JICA to formulate detailed action plans for the improvement of irrigation management and empowerment of water users' association (WUA) for the management of the turnover program. The study report was submitted in November 2001.

As a follow-up action of the above WUA empowerment study, JICA has started a three-year program of technical assistance in empowerment of WUA in the South Sulawesi Province in April 2004. The target area is a group of five WUAs at Tanabangka village in the Kampili irrigation scheme. The technical assistance program aims at strengthening WUAs organization, achieving adequate water management, enhancing technical capacity for irrigation facilities management, and improving farming systems. The assistance program is coordinated by the Benefit Management Department of Dinas PSDA.

Further detail is described in Supporting Report B.

Tables

Table P1.1 Organizational and Functional Structures of Existing Public Corporations (1/2)

Item	Perum Jasa Tirta I (PJT I) (Brantas Corporation)	Perum Jasa Tirta II (PJT II) (Citarum Corporation)
Year Established	1990 as Jasa Tirta Public Corporation	1970 as Jatilufur Authority Public Corporation
	1999 as Perum Jasa Tirta I Public Corporation (PJT I)	1990 as Jatilfur Authority Public Corporation (POJ)
		1999 as Perum Jasa Tirta II Public Corporation (PJT II)
Ex-Organization	Split-off from Brantas River Basin Development Project	Jatilufur Authority
Legislations	GR No.5/1990 on Jasa Tirta Public Corporation	GR No. 8/1967 on the Jatilufur State Owned Company, July 1967
	Minister of Public Works Regulation No. 56/PRT/1990 on General Policy on Jasa Tirta Public Corporation Management	GR No. 20/1970 on Perum Otoria Jatilufur (POJ), May 1970
	GR No.13/1998 on Public Corporation	GR No. 35/1980 on Perum Otoria Jatilufur (POJ), Oct. 1980
	GR No. 93/1999 on Jasa Tirta I Public Corporation	Presidential Decree No. 7/1981 on Establishment of Perum Otoria Jatilufur (POJ), authorized to collect contributions from beneficiaries
	Presidential Decree No.58/1999 on PJT I's right to charge and receive financial contribution from beneficiaries	GR No. 42/1990 on Perum Otoria Jatilfur (POJ), Aug. 1990
	Presidential Decree No.129/2001 on Establishment of Branch Office in Solo basin	Minister of Public Works Regulation No. 52/PRT/1991 on General Policy on POJ Management
		GR No.13/1998 on Public Corporation
		GR No. 94/1999 on Jasa Tirta II Public Corporation, Oct. 1999
		Minister of Settlement and Regional Infrastructure Decree No. 18/2000 on Guidelines of Operational Activities of PJT II
Institutional and Organizational Structures		
Form of Organization	State-Owned Corporation	State-Owned Corporation
Location of Head Office	Malang, East Java Province	Purwakarta, West Java Province
Principal Policies	Providing river basin management services with a sustainable self-financing entity operation	River basin management with consideration of national development, environmental development and entity profitability.
Capital	Invested wholly by state, not inclusive of structural assets such as dam, levees, tunnels, rivers	Rp. 155 billion (2003), of which Rp. 124 billion invested by state
Supervising Ministry	Minister of Finance according to GR 93/1999, but practically responsible for and supervised by Ministry of Settlement and Regional Infrastructure	Minister of Finance according to GR 94/1999, but practically responsible for and supervised by Ministry of Settlement and Regional Infrastructure
Board of Directors	Comprised of 5 Directors (incl. 1 Director for Solo Basin), appointed by Minister of State-Owned Enterprises	Comprised of 4 Directors, appointed by Minister of State-Owned Enterprises
Organizational Structure	4 departments (Technical, O&M of Brantas, O&M of Solo, Administration & Finance) and 1 audit section	3 departments (Technical, O&M, Administration & Finance) and 1 audit section
Number of Employees	540 in total, including 210 on contract basis	About 1900 in total, including 1,200 dispatched from governments
Accounting System	As instructed by Minister of Finance	To be decided by Board of Directors
Profit Appropriation	45 % reserved within PJT and 55 % transferred to state as development fund	45 % reserved within PJT and 55 % transferred to state as development fund
Funding		
Fund Sources	(1) Fund reserved in Corporation (accumulated earnings)	(1) Fund reserved in Corporation (accumulated earnings)
(as listed in PP, but (2),	(2) Loan from domestic and foreign sources	(2) Loan from domestic and foreign sources
(4) & (5) not used)	(3) Investment from state	(3) Investment from state
	(4) Disbursement from state recurrent budget	(4) Disbursement from state recurrent budget
	(5) Other funds legally affordable	(5) Other funds legally affordable
Financial Status		
Income	Rp. 38.5 billion in 2002, of which the main source is water revenue from hydropower (52%) and Water supply (35%)	Rp. 127 billion in 2001, of which the main source is water revenue from hydropower (66%) and Water supply (27%)
Cost	Rp. 35.3 billion In 2002, of which O&M cost is Rp. 19.1 billion (54%)	Rp. 104 billion in 2001, of which Rp. 60 billion for personnel cost, Rp. 18 billion for depreciation cost, the remaining for O&M and other expenditures
Water Charge Rates		
Tariff Setting		By Minister of Settlement and Regional Infrastructure, upon approval of Minister of Finance
Municipal water supply	Rp. 40/m^3 in 2002 (Rp. 35.0/m^3 in 2001) No revenue in Solo in 2002	Rp. 80/m^3 for supply to Jakarta, Rp. 40/m^3 for others (2003)
Industrial water supply	Rp. 80/m^3 in 2002 (Rp. 51.0/m^3 in 2001) No revenue in Solo in 2002	Ro. 50/m^3 for areas other than Jakarta
Hydropower	Rp. 16.67/kWh in 2002 (Rp. 14.29/kWh in 2001) No rev. in Solo in 2002	
Electricity Selling Rate		Rp. 116.51/kWh saled to PLN
Basin Characteristics		
Drainage Area	11,800 km^2 (Brantas basin) / 20,000 km^2 (Solo basin)	12,000 km^2 (Citarum basin and adjacent basins)
Major Cities	Surabaya, Malang, Kediri, Blitar / Surakarta, Madiun, Bojonegoro	Bandung, Bogor, Bekasi, Karawang, Purwakarta, Subang, Indramayu, Sumedang, Cianjur,
Basin Population	about 15.2 million in Brantas basin (2000) / 15.4 million in Solo basin	about 16 million
Major water use		
Irrigation	about 75,000 ha, 2.3-2.5 billion m^3/year	about 296,000 ha, 5.75 billion m^3/year
Municipal and industrial water supply	300 million m^3/year (9.5 m^3/sec)	668 million m^3/year (21.2 m^3/sec), consisting of 473 million m^3 to PDAM & PAM Jaya and 195 million m^3 to industries in 2001
Hydropower	7 power stations, 200 MW, 740 GWh	6 power stations incl. PJT owned Juanda power station (187.5 MW, 900
Fishery	35,000 ha of freshwater fishery, 8,000 ha of brackish water fishery	
Other water use	Navigation, recreation	
Issues arising	Water shortage (irrigation, water supply), water quality in dry season, sediments yield, ground subsidence	Sedimentation in reservoirs and irrigation canals, pollution of river water, inadequate use of rivers and canal corridors
Major Facilities		
Dam	7 major dams	3 major dams (Juanda, Cirata & Saguling)
Barrage	4 major barrages/weirs	
Water Intake	About 60 intakes	

Table P1.1 Organizational and Functional Structures of Existing Public Corporations (2/2)

Item	Perum Jasa Tirta I (PJT I) (Brantas Corporation)	Perum Jasa Tirta II (PJT II) (Citarum Corporation)
Services		
Service Area	40 rivers in Brantas basin, and 25 rivers in Solo basin (since 2002)	21 rivers (9 rivers ?) in Citarum and part of Ciliwung-Cisadane basins, covering 12,000 km^2 in total, manage main streams and 1st & 2nd tributaries
Services by Corporation	(1) Bulk water supply for municipal water, hydropower, irrigation, industry, etc., including trading of water among water users	(1) Bulk water supply for municipal water, hydropower, irrigation, industry, seaport, etc.
	(2) Basin management relevant to development, use and conservation of water resources	(2) Generation and supply of own generated power of 900 GWh/year
	(3) O&M of water resources infrastructure and hydropower plant, including rehabilitation	(3) Basin management relevant to development, use and conservation of water resources
	(4) Other related businesses such as tourism, land development, consulting, construction, lease and training services	(4) O&M of water resources infrastructure and hydropower plant, including rehabilitation
		(5) Other related businesses such as tourism, land development, consulting, construction, lease and training services
Basin Management Activities		
Low Flow Management	Low flow management is based on water discharges measured at dam and intake points. Clear water use right system has not been established (now being introduced as trial). Water allocation is coordinated by PTPA/PPTPA.	Low flow management is based on water discharges measured at dam and intake points. Water allocation is coordinated by PTPA/PPTPA.
High Flow Management	Flood forecasting/warning systems have been installed with telemeter	
Water Quality Management	Water quality monitoring is underway. Water quality standards are set forth at representative points.	Observe at 50 stations every half-monthly or monthly, have a testing laboratory
Irrigation Management	No obligation, except for bulk water supply and O&M of irrigation intakes	O&M of primary and secondary canals for 296,000 ha
Rehabilitation	Major rehabilitation by Brantas Project Office	By Government, no cost sharing by PJT II
O&M Manuals		
Technical Manuals	Manuals cover O&M manuals for river structures, flood forecasting/warning, flood fighting, hydrological observation, sediments observation, etc.	Manuals cover catchments area management, water quantity, flood and draught, water quality, river environment (sand mining, river area use), and water resources infrastructure. Similar manuals are being used by Balai
Organization Management	PJT has already established regulations and manuals required for organizational management.	Manuals cover accounting, human resources planning and development, tasks and responsibility, organization, and financing program
Balai PSDA in the Basin		
No. of Balai PSDA	3 Balai (Malang, Kediri, Surabaya)	2 Balai (Citarum, Ciliwung-Cisadane)
Function of Balai PSDA	As operator cum regulator	As operator cum regulator
Duties of Balai PSDA		(1) Irrigation water supply and other raw water supply, including O&M and rehabilitation
		(2) O&M and rehabilitation of rivers (tributaries in upstream watershed), reservoir/tank/lake, swamp, coastal area, river mouth
		(3) Water quality monitoring, flood management and drainage management
		(4) Data collection, database management, facilities inventorying
		(5) Land acquisition (support)

Table P1.2 Current Legal Products for the Operation of Brantas River Basin Management in East Java Province by Public Corporation of Jasa Tirta (1/2)

No.	Legal Products	Progress
1.	Government Regulation on Public Corporation (PERUM) of Jasa Tirta I	Issued: Government Regulation No.93 Year 1999 of 13 October 1999
2.	Presidential Decree on Assignment of Jasa Tirta Public Corporation (PERUM) as an Authorized Corporation in Collecting and Receiving Fees of Exploitation Finance and of Water Resources Infrastructures Maintenance.	Issued: Presidential Decree No.58 Year 1990 of 17 December1990
3.	Regulation of Public Works Ministry on General Policy of Jasa Tirta Public Corporation (PERUM) Management.	Issued: Regulation of Public Works Ministry No. 56/PRT/1990 of 1 November 1991
4.	Decree of Ministry of Settlement and Regional Infrastructures on Authority of Jasa Tirta I Public Corporation (PERUM) as an Authorized Corporation in Collecting and Receiving Fees of Exploitation Finance and of Regional Infrastructures Maintenance.	Issued: Decree of Ministry of Settlement and Regional Infrastructures No. 342/KPTS/M/2002 of 6 September 2002
5.	Provincial Regulation of East Java on Water Pollution Control within East Java Province.	Issued: Regional Regulation No.5 Year 2000 of 1January 2000
6.	Decree of East Java Governor on Manual Operation of East Java Provincial Regulation Number 5 Year 2000 regarding Water Pollution Control within East Java Province.	Issued: Decree of East Java Governor No.28 Year 2000 of 31 May 2000
7.	Decree of East Java Governor on Method of Obtaining Permit of Disposing Liquid Waste into Water Resources in the Area of East Java Province.	Issued: Decree of East Java Governor No.29 Year 2000 of 31 May 2000
8.	Decree of East Java Governor on Permit of Obtaining and Utilizing Surface Water that are Supplied from Water Resources, and of Collecting Fees for Exploitation Finance and Water Resources Infrastructures Maintenance within the Work Area of Public Corporation (PERUM) of Jasa Tirta I.	Issued: Decree of East Java Governor No.74 Year 2002 of 21 October 2002
9.	Decree of East Java Governor on Administration and Operational Costs as well as Service Collection Cost, for Collecting Fees of Exploitation Finance and of Water Resources Infrastructure Maintenance within Jasa Tirta I Public Corporation's Work Area.	Issued: Decree of East Java Governor No.75 Year 2002 of 21 October 2002
10.	Decree of East Java Governor on Working Group of Assessing License Obtainment and Utilizing Surface Water within the Work Area of Jasa Tirta I Public Corporation.	Issued: Decree of East Java Governor No.188/266/KPTS/013/2002 of 21 October 2002

Table P1.2 Current Legal Products for the Operation of Brantas River Basin Management in East Java Province by Public Corporation of Jasa Tirta (2/2)

No.	Legal Products	Progress
11.	Decree of East Java Governor regarding Sand Mining Management along the sides of Kali Brantas River, Kali Surabaya, Kali Porong, and Kali Marmoyo.	Issued: Decree of East Java Governor No.29 Year 2003 of 16 April 2003
12.	Decree of East Java Governor regarding Team of Assisting, Monitoring and Controlling Sand Mining Enterprises along the sides of Kali Brantas River, Kali Surabaya, Kali Porong, and Kali Marmoyo.	Issued: Decree of East Java Governor No.188/126/KPTS/013/2003 of 8 May 2003
13.	Decree of Chief Agency of Regional Water Resources Service of East Java Public Works regarding Technical Guidelines of Implementing Permit Obtainment, Utilization, and of Surface Water Utilization in East Java Province.	Issued: Decree of Chief Agency of Regional Water Resources Service of East Java Public Works No.1 year 2003 of 18 March 2003.
14.	Decree of Chief Agency of Energy and Mineral Resources of East Java Province regarding Technical Guidelines of Sand Mining Management along the sides of Kali Brantas River, Kali Surabaya, Kali Porong, and Kali Marmoyo.	Issued: Decree of Chief Agency of Energy and Mineral Resources of East Java Province No.15 Year 2003 of 20 May 2003

Table P1.3 Progress of Legal Products for Operationalization of Bengawan Solo River Basin Management in Central Java and East Java Province by Jasa Tirta I Public Corporation (1/3)

No.	Legal Products	Progress
1.	Government Regulation on Additional Capital of Indonesian Republic into Jasa Tirta I Public Corporation Capital.	Issued: Government Regulation Number 45 Year 2002 of 27 August 2002
2.	Presidential Decree (*KEPPRES*) on Additional Area of Jasa Tirta I Public Corporation in Bengawan Solo River Basin.	Issued: Presidential Decree Number 129 Year 2000 of 14 September 2000
3.	Decree of Ministry of Settlement and Regional Infrastructure on Basic Tariff of Exploitation Fee and Maintenance of Water Resources Infrastructure of Row Water Utility for Industrial Interests within the Work Area of Jasa Tirta I Public Corporation.	Issued: Ministerial Decree of KIMPRASWIL Number 312/KPT/M/2002 of 2 August 2002
4.	Decree of Ministry of Settlement and Regional Infrastructure on Delegating Authority of Issuing Water Use Permit and/or Water Resources Utilization in Bengawan Solo River Basin toward Central Java Governor and East Java Governor	Issued: Ministerial Decree of KIMPRASWIL Number 341/KPTS/M/2002 on 6 September 2002.
5.	Decree of Ministry of Settlement and Regional Infrastructure on Jasa Tirta I Public Corporation's Authority as a Corporation, which can Collect and Receive Fee of Exploitation Fee and Regional Infrastructure Maintenance.	Issued: Ministerial Decree of KIMPRASWIL Number 342/KPTS/M/2002 of 6 September 2002.
6.	Decree of Ministry of Settlement and Regional Infrastructure on Stipulation of Exploitation Fee and Maintenance of Water Resources Infrastructure of Obtaining and Utilizing Row Water for Industries in the Work Area of Jasa Tirta I Public Corporation of Bengawan Solo River in Central Java Province in 2003.	Issued: Ministerial Decree of KIMPRASWIL Number 244/KPTS/M/2003 of 19 June 2003.
7.	Decree of Ministry of Settlement and Regional Infrastructure on Stipulation of Exploitation Fee and Maintenance of Water Resources Infrastructure of Row Water Obtainment and Utilization for Regional Drinking Water Supply Company in the Work Area of Jasa Tirta I Public Corporation of Bengawan Solo River in Central Java Province in 2003.	Issued: Ministerial Decree of KIMPRASWIL Number 245/KPTS/M/2003 of 19 June 2003.
8.	Joint Decree of Central Java Governor and East Java Governor on Cooperation between Central Java Government and East Java Government	Issued: Joint-Decree Number 1 Year 2002 Number 42 Year 2002 Of 10 June 2002

Table P1.3 Progress of Legal Products for Operationalization of Bengawan Solo River Basin Management in Central Java and East Java Province by Jasa Tirta I Public Corporation (2/3)

No.	Legal Products	Progress
9.	Joint Agreement between Central Java Governor and East Java Governor on Water Management in Bengawan Solo Watershed	Issued: Joint-Agreement Number 2 Year 20002 Number 43 Year 2002 Of 7 June 2002
10.	Provincial Regulation of Central Java Province on Obtaining and Utilizing Water Surface.	Issued: Central Java Provincial Regulation Number 8 Year 2002 Of 21 May 2002
11.	Decree of Central Java Governor on Manual Operation of Central Java Provincial Regulation Number 8 Year 2002 on Obtaining and Utilizing Water Surface.	Issued: Central Java Governor Decree Number 89 Year 2002 of 29 October 2002
12.	Decree of Central Java Governor on Permit Procedures of Water Surface Obtainment and Utilization, and Exploitation Fee Collection and Water Resources Infrastructure Maintenance within the Area of Jasa Tirta I Public Corporation	Issued: Central Java Governor Decree Number 90 Year 2002, of 29 October 2002
13.	Decree of Central Java Governor on Formation of Permit Assessment Team of Water Surface Obtainment and Utilization in the Area of Jasa Tirta I Public Corporation.	Issued: Central Java Governor Decree Number 91 Year 2002, of 29 October 2002
14.	Decree of Central Java Governor on Administration Fee and Collection Service Operational for Collecting Exploitation Fee and Water Resources Infrastructure Maintenance within the Area of Jasa Tirta I Public Corporation.	Issued: Central Java Governor Decree Number 92 Year 2002, of 29 October 2002
17.	Decree of East Java Governor on Permit Assessment Team Work of Water Surface Obtainment and Utilization in the Area of Jasa Tirta I Public Corporation.	Issued: East Java Governor Decree Number 188/266/KPTS/013/2002, of 21 October 2002
18.	Decree of Head of East Java Regional Water Resources Agency on Technical Guidelines of Permit Implementation, and Obtainment and Utilization of Water Surface in East Java Province.	Issued: Decree of Head of East Java Regional Water Resources Agency Number 1 Year 2003, of 18 March 2003.
19.	Joint-Decree of Bupati Lamongan (Lamongan Regent) and Jasa Tirta I Public Corporation General Director on Cooperation of Assets Utilization and Water and Water Resources Protection in the Work Area of Jasa Tirta I Public Corporation in Kabupaten Lamongan (Lamongan Regency).	Issued: Joint-Decree Number 32 Year 2002 KP/039/PK/DU/2002 Of 27 August 2002

Table P1.3 Progress of Legal Products for Operationalization of Bengawan Solo River Basin Management in Central Java and East Java Province by Jasa Tirta I Public Corporation (3/3)

No.	Legal Products	Progress
20	Joint-Agreement between Lamongan Regent Government and Jasa Tirta I Public Corporation on Utilization and Security of Ex Land of Bengawan Solo River Basin Development Project Office and Solo Vallei Werken Land in Kabupaten Lamongan (Lamongan Regency).	Issued: Joint-Agreement Number 181.1/302/413.013/2002 BS.01/PK/DB/2002 Of 9 October 2002
21.	Joint-Decree of Bupati Wonogiri (Wonogiri Regent) and Jasa Tirta I Public Corporation General Director on Joint-Agreement of Water and Water Resources Management in the Area of Jasa Tirta I Public Corporation.	Issued: Joint-Agreement Number 07/2002 KP/072/PK/DU/2002 Of 17 December 2002
22.	Decree of Jasa Tirta I Public Corporation Board on Appointment of Socialization Team of Bengawan Solo Jasa Tirta I Public Corporation.	Issued: KPTS of Jasa Tirta I Public Corporation Board No. 015/KPTS/DA/2003, of 3 February 2003
23.	Decree of Jasa Tirta I Public Corporation Board on Procedures of Collecting and Paying Exploitation Fee and Water Resources Infrastructure Maintenance within the Work Area of Jasa Tirta I Public Corporation in Bengawan Solo River Basin in Central Java Province.	Issued: KPTS of Jasa Tirta I Public Corporation Board Number 082/KPTS/DA/2003 of 13 May 2003
24.	Decree of Head of East Java Water Resources Management Agency on Technical Guidelines of Permit Implementation, and Obtainment and Utilization of Water Surface in Central Java Province.	Draft Decree of Central Java KA. DIS. PSDA (Head of Central Java Water Resources Management Agency)- (PJT I Draft sent on 23 April 2003 to Head of Central Java Water Resources Management Agency)
25.	Contracts with Customers (Obtaining and Utilizing Surface Water)	Contract Guideline

Table P2.1 Current Status of WATSAL Reform Programs (1/7)

No.	Sub Objective	Proposed Reform	Monitorable Indicator	Products in WATSAL Supporting Study assisted by JBIC (June 2001)	Current Status of Achievement (as of October 2004)
1.1	Establish a National Water Resources Management Coordination Framework	a. Establishment of an interim inter- ministerial sector apex body to oversee the sector reform process until a national apex body is established a sector institution under revised water resources law	(i) Issuance of Presidential Decree establishing a National Apex Body	Draft of President Decree on National Water Resources Policy	Presidential Decree No.9/1999 and on Coordination Team (Tim Koordinasi) for River Utilization and Sustainable Watershed Management and subsequently Presidential Decision No. 123/2001on the Coordination for Water Resources Management were issued. It is expected that the Tim Koordinasi will be reformed as a National Apex Body (National Water Council) after the legislation of new Water Law (issued in march 2004) and the relevant Regulations.
		b. Establish a Technical Secretariat of Director General for the interim apex body	(i) Issuance of appropriate Ministerial Decree to establish the Technical Secretariat		Decree of Coordinating Minister for Economic, Finance and Industry No.34/M.EKUIN/20/2000 on Formation Task Force for Water Resources Sector Policy Reform
1.2	Adoption of National Policy for Water Resources Management	a. National Water Resources Policy (NWRP) and NWRP Implementation Plan to be formally adopted by Government as binding on all ministries and organizations having water resources management functions (inclusive of surface water, groundwater, and water quality from watershed to lowland and coastal areas).	(i) NWRP and its Implementation Plan approved by Tim Koordinasi and scheduled to be included in the agenda of the next "Broad State Policy Guidelines" (GBHN).		NWRP and its Implementation Plan were included as agenda of the Broad State Policy Guidelines (GBHN) as well as Five-Year Plan.
		b. Revise Law No. 11 of 1974 on Water Resources (UU. 11/74) and its existing Government Regulations to : (i) conform with proposed regional administration and fiscal legislation, (ii) implement the proposed sector reform, including provision for a National Apex Body for Water Resources Management at the highest national level; and (iii) facilitate execution of the NWRP Implementation Plan	(i) Issuance of amended UU. 11/74 and amendment of the following Government Regulations (PP) : PP 6/81, PP 22/82, PP 23/82, PP14/87, PP 6/88, PP 5/90, PP 42/90, PP27/91, and PP 35/91.	Draft of Law on Water Resources	New Water Resources Law No.7 of 2004 was enacted in March 2004. has passed the People's Representatives Assembly (DPR) on February 19, 2004. The drafts of 12 Government Regulations are under preparation by Ministry of Public Works (former Kimpraswil) and other concerned ministries.
		c. Revise relevant MPW Ministerial Regulation and Decrees in line with proposed regional administration legislation and specific sector reforms.	(i) Issuance of revised MPW Regulations (PRT) including 57/PRT/87, 58/PRT/87, 39/PRT/89, 45/PRT/90, 48/PRT/90, 49/PRT/90, 53/PRT/90, and 64/PRT/93.		Revision of MPW Decrees is scheduled after or in parallel with the revision of GRs.
		d. Prepare Guidelines (Pedoman) for (i) Regional Government Regulation (Perda) and/or Gubernatorial Decrees, and (ii) administrative and technical guidelines (Juklak & Juknis)	(i) Issuance of Pedoman for key Perda and/or Gubernatorial Decrees, and Juklak & Juknis.		It is expected that Pedoman will be prepared after the preparation of Regulations and Miniterial Decrees.
1.3	Improve of Private Sector in Development and Stakeholders in Basin Management Policy and Decision Making	a. Issue Government Regulation for Involvement of the Public in Water Resources Development (private sector and community participation) and Water Management Regulation (stakeholder and community involvement in water resources management)	(i) Issuance of a new Ministerial Regulation for stakeholder involvement in water resources management (Will take extensive time if this can be put in tranche 3)	1. Academic paper : The Role and Involvement of Stakeholder in the Water Resources Management. 2. Draft of Government Regulation on the Role and Involvement of the Stakeholders in Water Resources Management	--- Need of involvement of public sectors and stakeholders is described in various laws and regulations, including New Water Law. Specific GR ion this subject has not been issued.
		b. Amend Ministerial Regulation to (I) include stakeholder representatives in Provincial and Basin Water Management Coordination Committees (PTPA & PPTPA) and (ii) combine PTPA and Provincial Irrigation Committees	(i) MPW Regulation 67/PRT/93 revised and Pedoman issued for Gubernatorial decrees which include selection and appointment of stakeholder representatives	1. Draft of academic paper on the establishment of Regional Water Resources Board (Dewan Daerah Sumberdaya Air) as replacement of PTPA/PPTPA with Stakeholder representation . 2. Draft of Ministerial Decree of Minister of Kimpraswil on the establishment of Regional Water Resources Board (Revision of Per Men PU No. 67/PRT/1993) 3, Draft of Bupati/Walikota Decree on Water Resources Board Establishment at Kabupaten level . 4. The establishment of Provincial River Basin Management Units (Balai PSDA)	Both the PTPA South Sulawesi and PPTPA Jeneberang include stakeholder representatives as members, but they have not reformed as 'Dewan'. PTPA and Irrigation Committee has not been combined yet in South Sulawesi. Establishment of Regional Water Resources Board has not been authorized yet. Establishment of Regional Water Resources Board has not been authorized yet. Establishment of Balai PSDA was authorized vide Ministry of Home Affairs Decree No. 179/1996 on the Organization and Work Procedures Guidelines for Balai PSDA. Five Bali PSDA have been established in South Sulawesi including Balai PSDA Jeneberang.

Table P2.1 Current Status of WATSAL Reform Programs (2/7)

No.	Sub Objective	Proposed Reform	Monitorable Indicator	Products in WATSAL Supporting Study assisted by JBIC (June 2001)	Current Status of Achievement (as of October 2004)
				5. Draft of Ministerial Decree of Minister of Kimpraswil on Guidelines for Balai PSDA Establishment .	Government Regulation No. 18/2001 was issued.
				6. Draft of Regional Government Regulation on the Organization and Job Description of Balai PSDA .	Balai PSDA Jeneberang was already established in February 2002 under authorization by Governor of Sulsel Decree No. 212/2001.
		c. Establish functional PTPA and establish PPTPA with stakeholder representation in key river basin territories (SWS) of about eight Provinces	(i) Gubernatorial decrees for inclusion of stakeholder involvement in PTPA and PPTPA issued and PPTPA established in key river basins in about 8 Provinces	1. Draft Gubernatorial Decree on Regional Water Resources Board Establishment at Provincial level and at River Basin level.	PTPA South Sulawesi and PPTPA Jeneberang were established under Governor of SulSel Decree No. KPTS 76/III/1995, No.709/VIII/2002 and No.35/2002. They include stakeholder representatives as members. They have not been reformed to the body of 'Water Resources Board'.
1.4	Improve National Water Resources Information and Decision Support System (DSS)	a. Establish a sector Decision Support System for specified data needs using an intergovernmental data sharing network utilizing agency management information systems (MIS)	(i) Completion of data network concept, framework, procedures and implementation arrangement MIS system of DGWRD improved on a sustainable basis..		MIS system has not been established at provincial level yet.
			(ii) MIS system of Kimpraswil improved on sustainable basis.		It is said due preparation is in progress.
1.5	Improve National Hydrological and Water Quality Data Collection and Management System	a. Establish sustainable institutional, organizational, and financial framework for improved hydrological data collection, processing, and information retrieval for surface and groundwater management	(i) Issuance of Ministerial Regulation to establish a national hydrology management system responsible for upgrading of surface and groundwater data collection networks.		No information as to the issuance of Ministerial Regulation
			(ii) Issuance of Pedoman for Perda for establishment / upgrading of fully funded and staffed Provincial Hydrological Units in 8 provinces; and PHUs established/upgraded in about 8 provinces.		Provincial Hydrological Unit has been established in Dinas PSDA in Makassar. But, no information as to the availability of Pedoman for Perda.
		b. Establish a sustainable national water quality sampling networks	(i) Issuance of Ministerial Regulation to establish a national water quality sampling organization and network	1. Academic Paper to establish organization and network of water quality monitoring.	No information as to the issuance of Ministerial Regulation
				2. Draft of Presidential Decree on establishment of National Water Quality Network .	No water quality sampling networks has been established in the Jeneberang basin yet.
2.1	Improve Provincial Regulatory Management of River Basins and Aquifers	a. Implement regulatory arrangements for water allocation and wastewater discharge, drought management, conjunctive use of groundwater and surface water, water quality monitoring and integrated watershed management.	(i) Issuance of amended related Ministerial Decrees, and administrative and Technical Pedoman.	Guidelines for establishment of Perda on : 1. Water Allocation 2. Wastewater Discharge 3. Drought Management 4. Flood Control 5 Water Quality Monitoring 6 Conjunctive use of Groundwater and Surface water	Neither Ministerial Decrees nor Pedoman for Perda have been issued to Province.
			(ii) Integrated watershed management	1. Academic paper on integrated river basin management 2. Draft of government regulation on Integrated river basin management. 3 Technical Guidelines on Integrated river basin management	Neither government regulation nor technical guidelines have been issued to Province.
		b. Formation of fully functioning Provincial River Basin Management Units (Balai PSDA) in key basins in about 8 provinces.	(i) Issuance of Regional Government Perda, and Balai PSDA established in key basins in about 8 provinces.	1. Academic paper of establish of water resources development office guideline 2. Basic concept of establish of water resources development office as technical implementation unit of Public Works Service/Water Resources Provincial Services 3. Draft of Ministry of KimPrasWil concerning establishment of water resources office guideline	Balai PSDA Jeneberang was already established in February 2002 under authorization by Sulsel Governor Decree No. 212/2001.

Table P2.1 Current Status of WATSAL Reform Programs (3/7)

No.	Sub Objective	Proposed Reform	Monitorable Indicator	Products in WATSAL Supporting Study assisted by JBIC (June 2001)	Current Status of Achievement (as of October 2004)
				4. Draft of regional regulation concerning organization and management of Provincial Public Works Services.	
2.2	Develop Sustainable Corporate framework for Management of Strategic River Basins	a. Establish the organizational, financial, and management framework for self-financing river basin water management corporations compatible with regional autonomy legislation.	(i) Issuance of generic Government Regulation for river basin corporation as BUMN or BUMD.	1. Academic paper of corporation funding system	
				2. Academic paper of the framework of comprehensive river basin management corporation	
				3. Draft of PP on the establishment of river basin management corporation BUMN/BUMD	Draft of generic Government Regulation (PP) has been prepared, but not approved within MPW (formerly Kimpraswil) yet. It should further be reviewed by an inter-departmental committee and processed to Secretary of Cabinet for approval.
				4. Draft of revision on guideline for regional government in the establishment of river basin management	Revised guideline has not been issued yet.
				5. Draft of revision on PP. 6/1981 on O & M fee for water resources infrastructures.	The draft of revised PP 6/1981 is under preparation by MPW.
				6. Draft of Keppres/KepMen on implementation guideline of corporation funding system	Drafts of 6 to 10 listed left are undre study by MPW. These would be issued toward the establishment of Jeneberang Public Corporation.
				7. Draft of Keppres concerning authority of river basin corporation in levying of water resources management fees	
				8. Draft of Kepmen concerning general policy on the management of river basin corporation	
				9. Draft of Keppres concerning authority of governor in issuing water use permit	
				10. Draft of KepMen concerning Supervisory Board.	
			(ii) Issuance of Ministerial Regulation / Pedoman for Regional Government establishment of river basin corporations.	1. Draft of Keppres on the establishment of PJT branch in Jratunseluna River Basin.	These 3 Keppres are under process of preparation by MPW.
				2. Draft of Keppres on the establishment of PJT branch in Serayu Bogowonto River Basin.	
				3. Draft of Keppres on the establishment of PJT branch in Jeneberang River Basin.	Draft has already been prepared. Scheduled to be issued toward March 2004.
		b. Strengthen arrangements for corporate financing from bulk water supply services fees and wastewater discharge fees.	(i) Issuance of Pedoman for corporate water service and wastewater discharge fees.	1. Academic paper arrangement, regulation of water supply fee and liquid waste discharge fee to finance water resources management activities.	Draft guidelines on water supply fee and liquid waste discharge fee have been drafted by MPW and under process of scrutiny.
				2. Draft Presidential Decree on arrangement, regulation of water supply fee and liquid waste discharge fee to finance water resources management activities.	
				3. Draft guideline on arrangement, regulation of water supply fee and liquid waste discharge fee to finance water resources management activities.	
		c. Revise legal basis for PJT Brantas and Perum Otoria Jatiluhur (POJ) to strengthen financial management and provincial role and functions in governance of the corporation.	(i) Issuance of revised PP 93/99 for PJT Brantas and PP 94/99 for POJ. Note: Description in initial versin of Policy Matrix is "Issuance of revised PP 5/90 for PJT Brantas and PP 42/90 for POJ."	1. Draft of revision on PP 93/99 on Perum Jasa Tirta I	Draft of revised PP 93/99 has been drafted, awaiting approval and issuance.
				2. Draft of revision on PP 94 / 99 on Perum Jasa Tirta II	Draft of revised PP 94/99 has been drafted, awaiting approval and issuance.
		d. Formation of four River Basin Corporations (Bengawan Solo, Jeneberang, Jratunseluna, and Serayu-Bogowonto river basins)	(i) Issuance of Presidential Decrees and/or Regional Government Perda for basin corporations; and entities in process of being established.	1. Draft of Presidential Decree for Basin Corporation and Regional Perda for Basin Corporation Development.	Neither Presidential Decree nor Regional Government Perda have been issued yet. Options for institutional form of these four corporations has been discussed and is said to be decided soon (selection of Option II envisaging three key corporate bodies; PJT I, PJT II and new PJT III).

Table P2.1 Current Status of WATSAL Reform Programs (4/7)

No.	Sub Objective	Proposed Reform	Monitorable Indicator	Products in WATSAL Supporting Study assisted by JBIC (June 2001)	Current Status of Achievement (as of October 2004)
2.3	Introduce Secure, Equitable and Efficient Water Allocation	a. Establish a national framework for an enforceable water right system for surface and groundwater allocation.	(i) Issuance of Government Regulation for Water Use Rights and amend existing MPW Regulations.	1. Academic paper for issuance of Government Regulation for Water Use Right.	A specific study on water rights, "Indonesia: Water Rights Study", is underway to develop a conceptual framework and administration systems with implementation of pilot programs in two basins. The draft report has been submitted recently.
				2. Draft of Government Regulation on water use right	Draft of Government Regulation has not been prepared yet.
				3. Water use right, guideline and procedures on award and annulment of water use right.	
			(ii) Issuance of Pedoman for revised Provincial water licensing regulations and allocation of water use rights.	1. Ministerial Decree on the revised guidance on Provincial water license regulation and allocation of water use right	Pedoman has not been issued to Province.
				1) Study role of District Public Works to support the Water Resources Office (Balai PSDA)	These study products, 1) to 16) listed left, have not been authorized yet.
				2) Authority and Tasks of Balai PSDA in Water Resources Management within Working Area of Perum Jasa Tirta .	
				3) Study on Draft of PROKASIH 2005 and its relevance to the Integrated River Basin Management .	
				4) Restudy on feasibility study of water resources management in Jratunseluna River Basin Corporation.	
				5) Restudy on Feasibility study of water resources management in Serayu Bogowonto River basin Corporation	
				6) Restudy on Feasibility study of water resources management in Jeneberang River Basin Corporation	This JICA study is conducted to assist the establishment of Jeneberang River Basin Corporation
				7) Draft of Local Government Regulation concerning water use.	
				8) Draft of Governor Decree concerning guidance on implementation of Local Government Regulation on water uses.	
				9) Draft of Governor Decree concerning water use permit mechanism.	
				10) Draft of Local Government Regulation concerning River corridor utilization.	
				11) Draft of Governor Decree concerning guidance on implementation of Local Government Regulation on River Corridor Utilization.	
				12) Draft of Governor Decree concerning river corridor utilization permit mechanism..	
				13) Draft of Local Government Regulation concerning Land Mining.	
				14) Draft of Governor Decree concerning Guidance on implementation of Local Government Regulation on sand mining.	
				15) Draft of Governor Decree concerning Sand Mining permit mechanism.	
				16) Draft of Governor Decree concerning administration and operation fee.	

Table P2.1 Current Status of WATSAL Reform Programs (5/7)

No.	Sub Objective	Proposed Reform	Monitorable Indicator	Products in WATSAL Supporting Study assisted by JBIC (June 2001)	Current Status of Achievement (as of October 2004)
3.1	Establish an Effective and Enforceable National Regulatory Framework for Water Pollution Control	a. Establish an Effective and Enforceable National Regulatory Framework for Water Pollution Control.	(i) Replacement of PP 20/90 by the issuance of Government Regulation on Water Pollution Control and Water Quality Management and revise MPW Regulation 42/PRT/90.	1) Academic paper of Government Regulation on Water Quality Management and Water Pollution Control.	
				2) Draft of Government Regulation concerning water pollution and water quality management, revision for PP 20 /1990	Government Regulation No. 82/2001 on Water Quality Management and Pollution Control has been issued. Further revision is intended in relation to New Water Law.
				3) Draft of Implementation Guidelines of Government Regulation for 12 legal drafts as follows :	These drafts, 3) a) to k) listed left, have not been authorized yet. These subjects are still under study by MPW.
				a) Guidelines for establishment of water quality standard b) Guidelines for water quality analysis and water sampling method (water quality monitoring) c) Guidelines for establishment of water quality criteria d) Guidelines for reduction of water pollution load . e) Guidelines for definition of domestic wastewater standard . f) Guidelines for care out of water pollution control g) Guidelines for wastewater effluent permitting h) Guidelines for compliance inspection permitting of effluent to water body (water resources) I) Guidelines for definition of wastewater standard for coal mining industries activities . j) Guidelines for calculation of pollution capacity load and data recording . k) Guidelines for calculation of pollution level grade and good water level grade .	
			(ii) Administrative and Technical Guidelines (Pedoman) issued to enforce sanction provisions of PP on Water Pollution Control and Water Quality Management.	1) Academic Paper on Implementation Guidelines of Government Regulation	
				2) Guidelines for policy arrangement of incentive and disincentive policy in Water Quality Control (Monitoring Proper Prokasih)	Guidelines (Pedoman) have not been issued yet.
		b. Improve the incentive framework for industries, mines and municipalities to comply with discharge licenses and	(i) Issuance of regulations, as necessary, to facilitate introduction of financial and/or other incentives for investment in on-site effluent treatment and/or investment in clean technology.	1) Academic Paper for water pollution control 2) Academic Paper for water pollution control in Province 3) Academic Paper for effluence wastewater fee 4) Academic Paper for permit of effluent wastewater to water resources 5) Academic Paper for guidelines of cooperation between regional government and authority of river basin management 6) Academic Paper for permit procedure of effluence wastewater disposal to water resources	No regulation have been issued so far.
3.2	Integrated Water Quality Management implemented in Six strategic river basins	a. Implement integrated water pollution control and water quality management in six river basins (Bengawan Solo, Brantas, Citarum, Jeneberang, Jratunseluna, and Serayu-Bogowonto)	(i) Issuance of Pedoman for licensing/concession arrangements from Bappedalda I whereby river basins corporation could : undertake stream and effluent discharge fees; and operate municipal wastewater treatment plants.	Draft of Guidelines of licensing/concession arrangements from Regional/Province Government to River Basin Corporation Management, for water pollution control and water quality by joint agreement , for Central Java, East Java, South Sulawesi and West Java .	Draft Guidelines have not been issued so far. To be issued until the Corporation would be established.
			(ii) Decree Bappedalda I of Central Java, East Java, South Sulawesi and West Java to enforce water quality standards in priority basins managed by corporations.	Draft of Gubernatorial Decree of Central Java, East Java, South Sulawesi and West Java, sign by chief of Bappedalda Province on behalf of Governor , on enforce water quality standards .	Gubernatorial Decree of South Sulawesi No.14/2003 on Management Control of Water and Air Pollution, Determination of Water Quality has been issued.

Table P2.1 Current Status of WATSAL Reform Programs (6/7)

No.	Sub Objective	Proposed Reform	Monitorable Indicator	Products in WATSAL Supporting Study assisted by JBIC (June 2001)	Current Status of Achievement (as of October 2004)
			(iii) Operational concessions issued to six basin corporations.	Draft of licensing/concession arrangement from Regional/Province Government to River Basin Corporation Management for Central Java, East Java, South Sulawesi and West Java .	Draft concessions have not been issued so far. To be issued until the Corporation would be established.
4.1	Improve irrigation governance, transparency and accountability through farmer empowerment and management transfer	a. Establish a participatory framework for management transfer and joint management based on an Irrigation Management Policy Reform (IMPR)	(i) Irrigation Management Policy Reform (IMPR) announced by the President of Indonesia on April 13, 1999 and Presidential Instruction No.3/1999 on Irrigation Management Policy Reform" issued in April 1999.	1) President Decree to replace President Instruction No. 3/1999 on Irrigation Management Policy	New Presidential Decree to replace Presidential Instruction No.3/1999 on IMPR has not been issued so far.
		b. Strengthen framework to establish democratic Water User Association (WUA) & WUA Federations (WUAF) with autonomous governance and financial authority to manage irrigation networks transferred to their control.	(i) Issuance of a Presidential Decree containing IMPR to replace Inpres 3/99 and issuance of suitable enabling Presidential Decree or MoHA Decree with guidelines (Pedoman) for WUA establishment.	1) Academic Paper on Institution Format of Farmer Organization	---
				2) Academic Paper of Law and Regulation on Farmer empowerment	---
				3) Decree of Home Affair Minister on empowerment of WUA	Ministry of Home Affairs Decree No. 50/2001 was issued on empowerment of WUAs.
4.2	Improve Regional Government Irrigation Service	a. Redefine roles, duties and responsibilities of central , provincial, and district-level irrigation institutions to focus on reliable water delivery and post-management transfer services to WUA/WUAF.	(i) Issuance of a revised PP 23/82 on Irrigation.	1) Academic Paper of Policy on Irrigation System Sustainability	
				2) Government Regulation on Irrigation (Revision of PP. 23 / 1982)	Government Regulation No. 77/2001 on Irrigation was issued to replace PP 23/82. In connection with new Water Law, however, this Regulation is under process of revision with a schedule of issuance within this year according to recent information from MPW.
				3) Government Regulation on Swamp (Revision of PP. 27 / 1991)	Draft Regulation has been prepared, but not issued so far.
			(ii) Issuance of KimPrasWil Decree on Transfer of Irrigation Network Management & Governance Authority compatible with PP 25/00 and the IMP.	1) Academic Paper on Transfer of Irrigation Management to WUA	---
				2) Ministerial Decree on transfer of Irrigation Management to WUA	Ministry of Settlement and Regional Infrastructure Decree No.529/2001 was issued in relation to Government Regulation No. 77/2001. This would subject to further revision in connection with revised GR.
			(iii) Issuance of MoHA Decree with administrative and technical guidelines (Pedoman) for redefinition of irrigation management institutions compatible with PP 25/00 and IMP.	1) Academic Paper on Rearrangement of Irrigation Institution	---
				2) Decree of Home Affair Minister on Redefinition of Irrigation Management Institution	Ministry of Home Affairs Decree No. 50/2001 was issued on enpowerment of WUAs.
			(iv) Issue Irrigation Reorganization Program.	1) Irrigation Reorganization Program	
			(v) Establish scheme level management for selected provinces & schemes in a phased manner.	1) General Guidelines on Fora for WUA	
4.3	Ensure Fiscal Sustainability and Efficiency of O&M and Rehabilitation of Irrigation Schemes	a. Revise framework for financing of irrigation operation and maintenance by WUA / WUAF, with full authority to collect irrigation service fees in all schemes.	(i) Issuance of revised regulation (Kepmen/joint Ministerial Decree) and guidelines.	1) Academic Paper of Regulation on Irrigation Service Fee (IPAIR)	---
				2) Ministerial Decree and general Guidelines on IPAIR	Regional governmrnt is currently collecting IPAIR in irrigation scheme. But this will be subject to change in connection with new irrigation O&M concepts set forth in new Water Law.
		b. Create framework for government-financed Irrigation Improvement Funds for prioritized phased rehabilitation of irrigation infrastructure directly under WUA/WUAF management control	(I) Issuance of appropriate decrees, procedures and guideline.	1) Academic Paper on Regulation for Operation, Maintenance and Rehabilitation of Irrigation and Swamp Reclamation	---
				2) Ministerial Decree on Operation , Maintenance and Rehabilitation of Irrigation System	
				1) Guideline for WUA Empowerment	---

Table P2.1 Current Status of WATSAL Reform Programs (7/7)

No.	Sub Objective	Proposed Reform	Monitorable Indicator	Products in WATSAL Supporting Study assisted by JBIC (June 2001)	Current Status of Achievement (as of October 2004)
				2) WUA Empowerment Module for TOT 3) Empowerment of WUA Training Modules based on the result of study in 2 Provinces (Sumut and Kalsel)	
				1) General Guidelines on Arrangement of PPI 2) Software of M & E for Management of Irrigation	---
				1) Academic Paper on Water Use Right Policy for Farmers 2) Result Study of Water Use Right for Farmers 3) Result Study of Function Change of Irrigation Land	---
				1) Guidelines for arrangement of Irrigation Management Institution	---
				1) General Guidelines of Irrigation Operation 2) General Guidelines of Swamp Operation 3) General Guidelines of Irrigation Maintenance 4) General Guidelines of Swamp Maintenance 5) General Guidelines of Irrigation Rehabilitation 6) General Guidelines of Swamp Rehabilitation	---
				1) General Guidelines for Irrigation Service Fee and Government Assistance Fund 2) Ministerial Decree on Funding Guidelines	---

Table P2.2 Profit and Loss Projection of Jeneberang Public Corporation Analyzed in Previous Study (1/2)

Case 1: Branch of Existing PJT
(Deemed almost same as Extension of Working Area of Existing PJT)

	Description	Unit	2004	2005	2006	2007	2008
I	**INCOME FROM MAIN BUSINESS**	**Million Rp.**	**1.704**	**2.343**	**3.908**	**5.653**	**7.427**
1.1	**Income from Water Supply**	**Million Rp.**	**1.537**	**2.072**	**3.632**	**5.276**	**7.048**
a.	**Production**						
	- Power Generation	'000 kWh	-	-	52.577	78.865	105.153
	- PDAM	'000 m^3	38.411	43.141	47.872	51.656	61.117
	- Industry	'000 m^3	11	12	13	15	16
b.	**Tariff**	Rp/kWh	19,17	22.05	25.35	29.16	33.53
	- Power Generation	Rp/ m^3	40,00	48.00	48.00	57.60	57.60
	- PDAM	Rp/ m^3	80,00	96.00	96.00	115.20	115.20
	- Industry						
c.	**Income from Water Supply**	Million Rp.	-	-	1.333	2.299	3.526
	- Power Generation	Million Rp.	1.536	2.071	2.298	2.975	3.520
	- PDAM	Million Rp.	1	1	1	2	2
	- Industry						
1.2	**Income from Non-water Supply Service**	**Million Rp.**	**167**	**272**	**276**	**377**	**379**
	- Tourism	Million Rp.	5	6	7	8	10
	- C category mine	Million Rp.	150	250	250	350	350
	- Land lease	Million Rp.	4	4	7	7	7
	- Others (Plantation)	Million Rp.	8	12	12	12	12
II	**MAIN BUSINESS EXPENDITURE**	**Million Rp.**	**3.570**	**4.061**	**4.680**	**5.504**	**6.546**
	- O & M	Million Rp.	1.540	1.693	1.948	2.337	2.921
	- Personnel	Million Rp.	765	913	1.089	1.300	1.551
	- SPD	Million Rp.	399	438	482	530	583
	- General Affairs	Million Rp.	348	383	421	463	510
	- Marketing	Million Rp.	17	23	39	57	74
	- Depreciation	Million Rp.	166	194	256	288	343
	- Extension	Million Rp.	50	55	61	67	73
	- Services	Million Rp.	85	141	141	197	198
	- River basin Protection	Million Rp.	150	165	182	200	220
	- HCD	Million Rp.	50	55	61	67	73
	- Supervisor Board	Million Rp.	-	-	-	-	-
	- R & D	Million Rp.	-	-	-	-	-
III	**MAIN BUSINESS PROFIT/LOSS**		**(1.866)**	**(1.718)**	**(771)**	**149**	**881**
IV	**INCOME FROM OTHER BUSINESS**	**Million Rp.**	**186**	**228**	**264**	**304**	**347**
	- Bank fee	Million Rp.	-	23	39	57	74
	- Private Employee Salary	Million Rp.	186	205	225	248	273
V	**OTHER BUSINESS EXPENSES**	Million Rp.	**1**	**1**	**2**	**3**	**4**
	- Administration, bank fee, etc.	**Million Rp.**	1	1	2	3	4
VI	**PROFIT/LOSS FROM OTHER BUSINESS**	Million Rp.	**185**	**227**	**262**	**302**	**343**
VII	**PROFIT/LOSS BEFORE TAX**	**Million Rp.**	**(1.680)**	**(1.491)**	**(509)**	**451**	**1.224**
VIII	**TAXES**	**Million Rp.**	**-**	**-**	**-**	**127**	**358**
IX	**PROFIT/LOSS AFTER TAXES**	**Million Rp.**	**(1.680)**	**(1.491)**	**(509)**	**324**	**866**
X	**Fund Requirement from Government**						
	- Yearly	**Million Rp.**	**2.000**	**1.600**	**900**	**-**	**-**
	- Accumulated	**Million Rp.**	**2,000**	**3,600**	**4,500**	**-**	**-**

Source: Review of Incorporation of Jeneberang River Basin Unit, Final Report, October 2003, University of Hasanuddin

Table P2.2 Profit and Loss Projection of Jeneberang Public Corporation Analyzed in Previous Study (2/2)

Case 2: Independent Corporation

	Description	Unit	2004	2005	2006	2007	2008
I	**INCOME FROM MAIN BUSINESS**	**Million Rp.**	**1.704**	**2.343**	**3.908**	**5.653**	**7.427**
1.1	**Income from Water Supply**	**Million Rp.**	**1.537**	**2.072**	**3.632**	**5.276**	**7.048**
a	**Production**						
	- Power Generation	'000 kWh	-	-	52.577	78.865	105.153
	- PDAM	'000 m^3	38.411	43.141	47.872	51.656	61.117
	- Industry	'000 m^3	11	12	13	15	16
b	**Tariff**						
	- Power Generation	Rp/kWh	19,17	22.05	25.35	29.16	33.53
	- PDAM	Rp/ m^3	40,00	48.00	48.00	57.60	57.60
	- Industry	Rp/ m^3	80,00	96.00	96.00	115.20	115.20
c.	**Income from Water Supply**						
	- Power Generation	Million Rp.	-	-	1.333	2.299	3.526
	- PDAM	Million Rp.	1.536	2.071	2.298	2.975	3.520
	- Industry	Million Rp.	1	1	1	2	2
1.2	**Income from Non-water Supply Service**	**Million Rp.**	**167**	**272**	**276**	**377**	**379**
	- Tourism	Million Rp.	5	6	7	8	10
	- C category mine	Million Rp.	150	250	250	350	350
	- Land lease	Million Rp.	4	4	7	7	7
	- Others (Plantation)	Million Rp.	8	12	12	12	12
II	**MAIN BUSINESS EXPENDITURE**	**Million Rp.**	**3.849**	**4.422**	**5.088**	**5.966**	**7.067**
	- O & M	Million Rp.	1.540	1.693	1.948	2.337	2.921
	- Personnel	Million Rp.	1.095	1.287	1.512	1.776	2.087
	- SPD	Million Rp.	203	265	291	320	352
	- General Affairs	Million Rp.	348	399	439	483	531
	- Marketing	Million Rp.	17	23	39	57	74
	- Depreciation	Million Rp.	166	194	256	288	343
	- Extension	Million Rp.	50	55	61	67	73
	- Services	Million Rp.	85	141	141	197	198
	- River basin Protection	Million Rp.	150	150	165	182	200
	- HCD	Million Rp.	50	55	61	67	73
	- Supervisor Board	Million Rp.	96	105	116	128	140
	- R & D	Million Rp.	50	55	61	67	73
III	**MAIN BUSINESS PROFIT/LOSS**	**Million Rp.**	**(2.145)**	**(2.079)**	**(1.180)**	**(312)**	**360**
IV	**INCOME FROM OTHER BUSINESS**	**Million Rp.**	**240**	**287**	**329**	**375**	**425**
	- Bank fee	Million Rp.	-	23	39	57	74
	- Private Employee Salary	Million Rp.	240	263	290	319	351
V	**OTHER BUSINESS EXPENSES**	**Million Rp.**	**1**	**1**	**2**	**3**	**4**
	- Administration, bank fee, etc.	Million Rp.	1	1	2	3	4
VI	**PROFIT/LOSS FROM OTHER BUSINESS**	**Million Rp.**	**239**	**286**	**327**	**372**	**421**
VII	**PROFIT/LOSS BEFORE TAX**	**Million Rp.**	**(1.907)**	**(1.793)**	**(853)**	**60**	**782**
VIII	**TAXES**	**Million Rp.**	**-**	**-**	**-**	**9**	**226**
IX	**PROFIT/LOSS AFTER TAXES**	**Million Rp.**	**(1.907)**	**(1.793)**	**(853)**	**51**	**556**
X	**Fund Requirement from Government**						
	- Yearly	**Million Rp.**	**2.250**	**1.900**	**1.250**	**200**	**-**
	- Accumulated	**Million Rp.**	**2.250**	**4.150**	**5.400**	**5.600**	**-**

Source: Review of Incorporation of Jeneberang River Basin Unit, Final Report, October 2003, University of Hasanuddin

Table P2.3 Outline Features of Proposed Public Corporations for Jratunseluna, Serayu-Bogowonto and Way Sekampung-Way Seputih River Basins

Description	Jratunseluna	Serayu-Bogowonto	Way Sekampung-Way Seputih
Location of River Basin	Central Jawa Province, East of Semarang	Central Jawa Province, West of Yogyakarata	Lampung Province, North of Bandar Lampung
Name of Rivers in the proposed PC management area	First stage =5 rivers: Serang, Wulan, Lusi, Tuntang, Jajar. Second stage 9 rivers : Serang, Gelis, Wulan, Bum, Sani, Lusi, Kumpulan, Tutang, Jajar.	Fist stage = 9 rivers : Bogowonto, Donan, Serayu, Pancasan/Tajum, Logawa, Telomoyo, Jatinegara, Wawar, Bedegolan. Second stage = 10 rivers : Banjaran, Merawu, Tulis, Klawing, Tipar, Ijo, Lukulo, Jali/Cokroyasan, Gentan, Butuh.	First stage=24 rivers: Sekampung (main stream), Merabung, Bulok, Kandis Besar, Ketibung, Pisang, and other 8 second order rivers Seputih (main stream), Tatayam, Waya, Pengubuan, and other 6 second order rivers Second stage=44 rivers
Total Catchment Area	± 13,100 Km²	± 7,525 Km²	
Socio-economic Features: - Number of Kabupaten in the Basin - Population in the Basin	- 16 Kabupaten & 4 City - 9,421,414. Person	- 7 Kabupaten - 7,385,000. Person	
Hydrological Condition: - Basin average rainfall - Average runoff	- 1,700 – 3,000 mm/year - 18.434 billion m^3/year	- 2,450 – 4,050 mm/year - 4.89 billion m^3/year	
Major Water Resources Infrastructure (Dam and Reservoir)	Kedungombo DAM, Sidorejo DAM, Sidorejo Drinking Water Channel, Klambu DAM, Klambu-Kudu Drinking Water Channel, Pening Natural Lake, Kalijajar Barrage, Flood Drainage/Canal.	Wadaslintang DAM, Sempor DAM, Gerak Serayu DAM, Pajengkolan DAM, Boro- DAM.	Batutegi Dam, Argoguruh Weir, Jabung Rubber Weir, and other 8 weirs in Sekampung basin Ajibau Weir, and other 4 weirs in Seputih basin
Major Water Users PDAM: Power Generation Major Industries Irrigation	 - 59.9 MCM/year - 82.1 GWh/year - 2,175 MCM/year - 105,273 ha	 - 17.2 MCM/year - 604.6 GWh/year - 296.2 MCM/year - 93,338 ha	
Financial Operation at end of initial 5-year Plan - Annual Revenue - Annual Expenditure - Profit/Loss before tax	 Rp. 14,319 million Rp 14,579 million Rp – 277 million (loss)	 Rp 64,229 million Rp 17,565 million Rp 47,730 million	 Rp. 9.225 million Rp. 9,426 million Rp. – 201 million (loss)
Number of Staff of Proposed PC	- 70 staffs	- 213 staffs	- 223 staffs

Source: Reports referred to in the Report Note: PC: Public Corporation, MCM: Million cubic meter, GWh: Giga-watt hour

Table P2.4 Profit and Loss Projection of Proposed Public Corporation - Jratunseluna River Basin (1/4)

Alternative 1-a: Branch of Existing PJT (Not including Infrastructures of PT. Indonesia Power)

	Description	Unit	2004	2005	2006	2007	2008
I	**INCOME FROM MAIN BUSINESS**	**Million Rp.**	**4,935**	**6,143**	**6,739**	**8,349**	**8,992**
1.1	**Income from Water Supply**	**Million Rp.**	**4,825**	**6,021**	**6,606**	**8,202**	**8,831**
a.	**Production**						
	- Power Generation	'000 kWh	82,088	82,088	82,088	82,088	82,088
	- PDAM	'000 m^3	60,580	65,310	70,041	74,771	77,925
	- Industry	'000 m^3	2,220	2,442	2,686	2,955	3,250
b.	**Tariff**						
	- Power Generation	Rp/kWh	19.17	22.05	25.35	29.16	33.53
	- PDAM	Rp/ m^3	50.00	60.00	60.00	72.00	72.00
	- Industry	Rp/ m^3	100.00	120.00	120.00	144.00	144.00
c.	**Income from Water Supply**						
	- Power Generation	Million Rp.	1,574	1,810	2,081	2,393	2,752
	- PDAM	Million Rp.	3,029	3,919	4,202	5,384	5,611
	- Industry	Million Rp.	222	293	322	425	468
1.2	**Income from Non-water Supply Service**	**Million Rp.**	**110**	**121**	**133**	**147**	**161**
	- Tourism	Million Rp.	55	61	67	73	81
	- C category mine	Million Rp.	-	-	-	-	-
	- Land lease	Million Rp.	55	61	67	74	81
	- Others (Plantation)	Million Rp.					
II	**MAIN BUSINESS EXPENDITURE**	**Million Rp.**	**7,396**	**8,300**	**9,565**	**11,280**	**13,572**
	- O & M	Million Rp.	4,536	4,989	5,738	6,885	8,606
	- Personnel	Million Rp.	1,161	1,397	1,681	2,022	2,432
	- SPD	Million Rp.	349	383	422	464	510
	- General Affairs	Million Rp.	375	413	454	499	549
	- Marketing	Million Rp.	49	61	67	83	90
	- Depreciation	Million Rp.	646	749	865	954	974
	- Extension	Million Rp.	50	55	61	67	73
	- Services	Million Rp.	30	33	37	40	44
	- River basin Protection	Million Rp.	150	165	182	200	220
	- HRD	Million Rp.	50	55	61	67	73
	- Supervisor Board	Million Rp.	-	-	-	-	-
	- Improvement	Million Rp.	-	-	-	-	-
	- R & D	Million Rp.	-	-	-	-	-
III	**MAIN BUSINESS PROFIT/LOSS**	**Million Rp.**	**(2,461)**	**(2,158)**	**(2,826)**	**(2,931)**	**(4,579)**
IV	**INCOME FROM OTHER BUSINESS**	**Million Rp.**	**274**	**363**	**400**	**449**	**492**
	- Bank fee	Million Rp.	-	61	67	83	90
	- Private Employee Salary	Million Rp.	274	302	332	365	402
V	**OTHER BUSINESS EXPENSES**	**Million Rp.**	**2**	**3**	**3**	**4**	**4**
	- Administration, bank fee, etc.	Million Rp.	2	3	3	4	4
VI	**PROFIT/LOSS FROM OTHER BUSINESS**	**Million Rp.**	**272**	**360**	**396**	**445**	**487**
VII	**PROFIT/LOSS BEFORE TAX**	**Million Rp.**	**(2,189)**	**(1,797)**	**(2,430)**	**(2,486)**	**(4,092)**
VIII	**TAXES**	**Million Rp.**	**-**	**-**	**-**	**-**	**-**
IX	**PROFIT/LOSS AFTER TAXES**	**Million Rp.**	**(2,189)**	**(1,797)**	**(2,430)**	**(2,486)**	**(4,092)**
X	**FUND REQUIREMENT FROM GOVERNMENT**	**Million Rp.**	**3,600**	**2,200**	**2,500**	**2,300**	**3,400**

Source: Study on the Corporatization of Water Resources Management and the Process of the Establishment of Public Corporation foin Jratun-Seluna River Basin Unit, Diponegoro Univ.,2003

Table P2.4 Profit and Loss Projection of Proposed Public Corporation - Jratunseluna River Basin (2/4)

Alternative 1-b: Branch of Existing PJT (Including Infrastructures of PT. Indonesia Power)

	Description	Unit	2004	2005	2006	2007	2008
I	**INCOME FROM MAIN BUSINESS**	**Million Rp.**	**7,980**	**9,645**	**10,767**	**12,981**	**14,319**
1.1	**Income from Water Supply**	**Million Rp.**	**7,870**	**9,524**	**10,633**	**12,834**	**14,157**
a.	**Production**						
	- Power Generation	'000 kWh	240,943	240,943	240,943	240,943	240,943
	- PDAM	'000 m^3	60,580	65,310	70,041	74,771	77,925
	- Industry	'000 m^3	2,220	2,442	2,686	2,955	3,250
b.	**Tariff**						
	- Power Generation	Rp/kWh	19.17	22.05	25.35	29.16	33.53
	- PDAM	Rp/ m^3	50.00	60.00	60.00	72.00	72.00
	- Industry	Rp/ m^3	100.00	120.00	120.00	144.00	144.00
c.	**Income from Water Supply**						
	- Power Generation	Million Rp.	4,619	5,312	6,109	7,025	8,079
	- PDAM	Million Rp.	3,029	3,919	4,202	5,384	5,611
	- Industry	Million Rp.	222	293	322	425	468
1.2	**Income from Non-water Supply Service**	**Million Rp.**	**110**	**121**	**133**	**147**	**161**
	- Tourism	Million Rp.	55	61	67	73	81
	- C category mine	Million Rp.	-	-	-	-	-
	- Land lease	Million Rp.	55	61	67	74	81
	- Others (Plantation)	Million Rp.					
II	**MAIN BUSINESS EXPENDITURE**	**Million Rp.**	**7,929**	**8,888**	**10,241**	**12,090**	**14,579**
	- O & M	Million Rp.	5,038	5,542	6,374	7,648	9,560
	- Personnel	Million Rp.	1,161	1,397	1,681	2,022	2,432
	- SPD	Million Rp.	349	383	422	464	510
	- General Affairs	Million Rp.	375	413	454	499	549
	- Marketing	Million Rp.	80	96	108	130	143
	- Depreciation	Million Rp.	646	749	865	954	974
	- Extension	Million Rp.	50	55	61	67	73
	- Services	Million Rp.	30	33	37	40	44
	- River basin Protection	Million Rp.	150	165	182	200	220
	- HRD	Million Rp.	50	55	61	67	73
	- Supervisor Board	Million Rp.	-	-	-	-	-
	- Improvement	Million Rp.	-	-	-	-	-
	- R & D	Million Rp.	-	-	-	-	-
III	**MAIN BUSINESS PROFIT/LOSS**	**Million Rp.**	**51**	**756**	**525**	**891**	**(260)**
IV	**INCOME FROM OTHER BUSINESS**	**Million Rp.**	**274**	**398**	**440**	**495**	**545**
	- Bank fee	Million Rp.	-	96	108	130	143
	- Private Employee Salary	Million Rp.	274	302	332	365	402
V	**OTHER BUSINESS EXPENSES**	**Million Rp.**	**4**	**5**	**5**	**6**	**7**
	- Administration, bank fee, etc.	Million Rp.	4	5	5	6	7
VI	**PROFIT/LOSS FROM OTHER BUSINESS**	**Million Rp.**	**271**	**394**	**434**	**489**	**538**
VII	**PROFIT/LOSS BEFORE TAX**	**Million Rp.**	**322**	**1,150**	**960**	**1,308**	**277**
VIII	**TAXES**	**Million Rp.**	**84**	**332**	**275**	**401**	**71**
IX	**PROFIT/LOSS AFTER TAXES**	**Million Rp.**	**238**	**817**	**684**	**978**	**207**
X	**FUND REQUIREMENT FROM GOVERNMENT**	**Million Rp.**	**1,750**	**-**	**-**	**-**	**-**

Source: Study on the Corporatization of Water Resources Management and the Process of the Establishment of Public Corporation foin Jratun-Seluna River Basin Unit, Diponegoro Univ.,2003

Table P2.4 Profit and Loss Projection of Proposed Public Corporation - Jratunseluna River Basin (3/4)

Alternative 2-a: Independent PJT (Not Including Infrastructures of PT. Indonesia Power)

	Description	Unit	2004	2005	2006	2007	2008
I	**INCOME FROM MAIN BUSINESS**	**Million Rp.**	**4,935**	**6,143**	**6,739**	**8,349**	**8,992**
1.1	**Income from Water Supply**	**Million Rp.**	**4,825**	**6,021**	**6,606**	**8,202**	**8,831**
a.	**Production**						
	- Power Generation	'000 kWh	82,088	82,088	82,088	82,088	82,088
	- PDAM	'000 m^3	60,580	65,310	70,041	74,771	77,925
	- Industry	'000 m^3	2,220	2,442	2,686	2,955	3,250
b.	**Tariff**						
	- Power Generation	Rp/kWh	19.17	22.05	25.35	29.16	33.53
	- PDAM	Rp/ m^3	50.00	60.00	60.00	72.00	72.00
	- Industry	Rp/ m^3	100.00	120.00	120.00	144.00	144.00
c.	**Income from Water Supply**						
	- Power Generation	Million Rp.	1,574	1,810	2,081	2,393	2,752
	- PDAM	Million Rp.	3,029	3,919	4,202	5,384	5,611
	- Industry	Million Rp.	222	293	322	425	468
1.2	**Income from Non-water Supply Service**	**Million Rp.**	**110**	**121**	**133**	**147**	**161**
	- Tourism	Million Rp.	55	61	67	73	81
	- C category mine	Million Rp.	-	-	-	-	-
	- Land lease	Million Rp.	55	61	67	74	81
	- Others (Plantation)	Million Rp.					
II	**MAIN BUSINESS EXPENDITURE**	**Million Rp.**	**7,804**	**8,760**	**10,081**	**11,858**	**14,216**
	- O & M	Million Rp.	4,536	4,989	5,738	6,885	8,606
	- Personnel	Million Rp.	1,532	1,816	2,152	2,550	3,021
	- SPD	Million Rp.	240	263	290	319	351
	- General Affairs	Million Rp.	375	413	454	499	549
	- Marketing	Million Rp.	49	61	67	83	90
	- Depreciation	Million Rp.	646	749	865	954	974
	- Extension	Million Rp.	50	55	61	67	73
	- Services	Million Rp.	30	33	37	40	44
	- River basin Protection	Million Rp.	150	165	182	200	220
	- HRD	Million Rp.	50	55	61	67	73
	- Supervisor Board	Million Rp.	96	106	116	128	141
	- Improvement	Million Rp.	-	-	-	-	-
	- R & D	Million Rp.	50	55	61	67	73
III	**MAIN BUSINESS PROFIT/LOSS**	**Million Rp.**	**(2,869)**	**(2,617)**	**(3,342)**	**(3,509)**	**(5,223)**
IV	**INCOME FROM OTHER BUSINESS**	**Million Rp.**	**330**	**424**	**466**	**522**	**573**
	- Bank fee	Million Rp.	-	61	67	83	90
	- Private Employee Salary	Million Rp.	330	363	399	439	483
V	**OTHER BUSINESS EXPENSES**	**Million Rp.**	**2**	**3**	**3**	**4**	**4**
	- Administration, bank fee, etc.	Million Rp.	2	3	3	4	4
VI	**PROFIT/LOSS FROM OTHER BUSINESS**	**Million Rp.**	**327**	**421**	**463**	**518**	**568**
VII	**PROFIT/LOSS BEFORE TAX**	**Million Rp.**	**(2,542)**	**(2,196)**	**(2,879)**	**(2,990)**	**(4,655)**
VIII	**TAXES**	**Million Rp.**	**-**	**-**	**-**	**-**	**-**
IX	**PROFIT/LOSS AFTER TAXES**	**Million Rp.**	**(2,542)**	**(2,196)**	**(2,879)**	**(2,990)**	**(4,655)**
X	**FUND REQUIREMENT FROM GOVERNMENT**	**Million Rp.**	**4,000**	**2,500**	**3,000**	**2,850**	**3,950**

Source: Study on the Corporatization of Water Resources Management and the Process of the Establishment of Public Corporation foin Jratun-Seluna River Basin Unit, Diponegoro Univ.,2003

Table P2.4 Profit and Loss Projection of Proposed Public Corporation - Jratunseluna River Basin (4/4)

Alternative 2-b: Independent PJT (Including Infrastructures of PT. Indonesia Power)

	Description	Unit	2004	2005	2006	2007	2008
I	**INCOME FROM MAIN BUSINESS**	**Million Rp.**	**7,980**	**9,645**	**10,767**	**12,981**	**14,319**
1.1	**Income from Water Supply**	**Million Rp.**	**7,870**	**9,524**	**10,633**	**12,834**	**14,157**
a.	**Production**						
	- Power Generation	'000 kWh	240,943	240,943	240,943	240,943	240,943
	- PDAM	'000 m^3	60,580	65,310	70,041	74,771	77,925
	- Industry	'000 m^3	2,220	2,442	2,686	2,955	3,250
b.	**Tariff**						
	- Power Generation	Rp/kWh	19.17	22.05	25.35	29.16	33,53
	- PDAM	Rp/ m^3	50.00	60.00	60.00	72.00	72,00
	- Industry	Rp/ m^3	100.00	120.00	120.00	144.00	144,00
c.	**Income from Water Supply**						
	- Power Generation	Million Rp.	4,619	5,312	6,109	7,025	8,079
	- PDAM	Million Rp.	3,029	3,919	4,202	5,384	5,611
	- Industry	Million Rp.	222	293	322	425	468
1.2	**Income from Non-water Supply Service**	**Million Rp.**	**110**	**121**	**133**	**147**	**161**
	- Tourism	Million Rp.	55	61	67	73	81
	- C category mine	Million Rp.	-	-	-	-	-
	- Land lease	Million Rp.	55	61	67	74	81
	- Others (Plantation)	Million Rp.					
II	**MAIN BUSINESS EXPENDITURE**	**Million Rp.**	**8,338**	**9,348**	**10,758**	**12,667**	**15,223**
	- O & M	Million Rp.	5,038	5,542	6,374	7,648	9,560
	- Personnel	Million Rp.	1,532	1,816	2,152	2,550	3,021
	- SPD	Million Rp.	240	263	290	319	351
	- General Affairs	Million Rp.	375	413	454	499	549
	- Marketing	Million Rp.	80	96	108	130	143
	- Depreciation	Million Rp.	646	749	865	954	974
	- Extension	Million Rp.	50	55	61	67	73
	- Services	Million Rp.	30	33	37	40	44
	- River basin Protection	Million Rp.	150	165	182	200	220
	- HRD	Million Rp.	50	55	61	67	73
	- Supervisor Board	Million Rp.	96	106	116	128	141
	- Improvement	Million Rp.	-	-	-	-	-
	- R & D	Million Rp.	50	55	61	67	73
III	**MAIN BUSINESS PROFIT/LOSS**	**Million Rp.**	**(357)**	**297**	**9**	**313**	**(904)**
IV	**INCOME FROM OTHER BUSINESS**	**Million Rp.**	**330**	**459**	**507**	**569**	**626**
	- Bank fee	Million Rp.	-	96	108	130	143
	- Private Employee Salary	Million Rp.	330	363	399	439	483
V	**OTHER BUSINESS EXPENSES**	**Million Rp.**	**4**	**5**	**5**	**6**	**7**
	- Administration, bank fee, etc.	Million Rp.	4	5	5	6	7
VI	**PROFIT/LOSS FROM OTHER BUSINESS**	**Million Rp.**	**326**	**454**	**501**	**562**	**619**
VII	**PROFIT/LOSS BEFORE TAX**	**Million Rp.**	**(31)**	**751**	**511**	**876**	**(286)**
VIII	**TAXES**	**Million Rp.**	**-**	**213**	**141**	**250**	**-**
IX	**PROFIT/LOSS AFTER TAXES**	**Million Rp.**	**(31)**	**538**	**370**	**625**	**(286)**
X	**FUND REQUIREMENT FROM GOVERNMENT**	**Million Rp.**	**2,100**	**-**	**-**	**-**	**-**

Source: Study on the Corporatization of Water Resources Management and the Process of the Establishment of Public Corporation foin Jratun-Seluna River Basin Unit, Diponegoro Univ.,2003

Table P2.5 Profit and Loss Projection of Proposed Public Corporation - Serayu Bogowonto River Basin (1/4)

Alternative 1a: Not Including both Donan River and Infrastructures of PT. Indonesia Power

	Description	Unit	2004	2005	2006	2007	2008
I	**INCOME FROM MAIN BUSINESS**	**Million Rp.**	**3,387**	**3,959**	**4,387**	**5,127**	**5,694**
1.1	**Income from Water Supply**	**Million Rp.**	**3,387**	**3,959**	**4,387**	**5,127**	**5,649**
a.	**Production**						
	- Power Generation	'000 kWh	124,619	124,619	124,619	124,619	124,619
	- PDAM	'000 m^3	17,610	17,610	17,610	17,610	17,610
	- Industry	'000 m^3	1,177	1,295	1,424	1,566	1,723
b.	**Tariff**						
	- Power Generation	Rp/kWh	19.17	22.05	25.35	29.16	33.53
	- PDAM	Rp/ m^3	50.00	60.00	60.00	72.00	72.00
	- Industry	Rp/ m^3	100.00	120.00	120.00	144.00	144.00
c.	**Income from Water Supply**						
	- Power Generation	Million Rp.	2,389	2,747	3,159	3,633	4,178
	- PDAM	Million Rp.	881	1,057	1,057	1,268	1,268
	- Industry	Million Rp.	118	155	171	226	248
1.2	**Income from Non-water Supply Service**	**Million Rp.**	**-**	**-**	**-**	-	**-**
	- Tourism	Million Rp.	-	-	-	-	-
	- C category mine	Million Rp.	-	-	-	-	-
	- Land lease	Million Rp.	-	-	-	-	-
	- Others (Plantation)	Million Rp.					
II	**MAIN BUSINESS EXPENDITURE**	**Million Rp.**	**7,686**	**8,706**	**10,121**	**11,905**	**14,280**
	- O & M	Million Rp.	3,529	3,882	4,464	5,357	6,696
	- Personnel	Million Rp.	2,479	2,912	3,422	4,021	4,725
	- SPD	Million Rp.	327	359	395	435	478
	- General Affairs	Million Rp.	376	414	455	500	551
	- Marketing	Million Rp.	34	40	44	51	57
	- Depreciation	Million Rp.	452	560	748	888	1,056
	- Extension	Million Rp.	50	55	61	67	73
	- Services	Million Rp.	-	-	-	-	-
	- River basin Protection	Million Rp.	150	165	182	200	220
	- HRD	Million Rp.	50	55	61	67	73
	- Supervisor Board	Million Rp.	191	210	231	254	279
	- Improvement	Million Rp.	-	-	-	-	-
	- R & D	Million Rp.	50	55	61	67	73
III	**MAIN BUSINESS PROFIT/LOSS**	**Million Rp.**	**(4,299)**	**(4,747)**	**(5,734)**	**(6,778)**	**(8,568)**
IV	**INCOME FROM OTHER BUSINESS**	**Million Rp.**	**294**	**363**	**399**	**442**	**487**
	- Bank fee	Million Rp.	-	40	44	51	57
	- Private Employee Salary	Million Rp.	294	323	356	391	430
V	**OTHER BUSINESS EXPENSES**	**Million Rp.**	**1**	**1**	**1**	**1**	**1**
	- Administration, bank fee, etc.	Million Rp.	1	1	1	1	1
VI	**PROFIT/LOSS FROM OTHER BUSINESS**	**Million Rp.**	**293**	**362**	**399**	**441**	**486**
VII	**PROFIT/LOSS BEFORE TAX**	**Million Rp.**	**(4,006)**	**(4,385)**	**(5,335)**	**(6,336)**	**(8,100)**
VIII	**TAXES**	**Million Rp.**	**-**	**-**	**-**	**-**	**-**
IX	**PROFIT/LOSS AFTER TAXES**	**Million Rp.**	**(4,006)**	**(4,385)**	**(5,335)**	**(6,336)**	**(8,100)**
X	**FUND REQUIREMENT FROM GOVERNMENT**	**Million Rp.**	**5,500**	**4,600**	**5,700**	**6,400**	**8,100**

Source: Study on the Establishment of Public Corporation for in Serayu Bogowonto River Basin, Diponegoro Univ.,2003

Table P2.5 Profit and Loss Projection of Proposed Public Corporation - Serayu Bogowonto River Basin (2/4)

Alternative 1b: Not including Donan River but Including Infrastructures of PT. Indonesia Power

	Description	Unit	2004	2005	2006	2007	2008
I	**INCOME FROM MAIN BUSINESS**	**Million Rp.**	**12,589**	**14,541**	**16,556**	**19,122**	**21,789**
1.1	**Income from Water Supply**	**Million Rp.**	**12,589**	**14,541**	**16,556**	**19,122**	**21,789**
a.	**Production**						
	- Power Generation	'000 kWh	604,619	604,619	604,619	604,619	604,619
	- PDAM	'000 m^3	17,610	17,610	17,610	17,610	17,610
	- Industry	'000 m^3	1,177	1,295	1,424	1,566	1,723
b.	**Tariff**						
	- Power Generation	Rp/kWh	19.17	22.05	25.35	29.16	33.53
	- PDAM	Rp/ m^3	50.00	60.00	60.00	72.00	72.00
	- Industry	Rp/ m^3	100.00	120.00	120.00	144.00	144.00
c.	**Income from Water Supply**						
	- Power Generation	Million Rp.	11,591	13,329	15,329	17,628	20,272
	- PDAM	Million Rp.	881	1,057	1,057	1,268	1,268
	- Industry	Million Rp.	118	155	171	226	248
1.2	**Income from Non-water Supply Service**	**Million Rp.**	**-**	**-**	**-**	**-**	**-**
	- Tourism	Million Rp.	-	-	-	-	-
	- C category mine	Million Rp.	-	-	-	-	-
	- Land lease	Million Rp.	-	-	-	-	-
	- Others (Plantation)	Million Rp.					
II	**MAIN BUSINESS EXPENDITURE**	**Million Rp.**	**8,934**	**10,120**	**11,784**	**13,924**	**16,807**
	- O & M	Million Rp.	4,532	4,985	5,733	6,879	8,599
	- Personnel	Million Rp.	2,631	3,117	3,694	4,377	5,187
	- SPD	Million Rp.	327	359	395	435	478
	- General Affairs	Million Rp.	376	414	455	500	551
	- Marketing	Million Rp.	126	145	166	191	218
	- Depreciation	Million Rp.	452	560	748	888	1,056
	- Extension	Million Rp.	50	55	61	67	73
	- Services	Million Rp.	-	-	-	-	-
	- River basin Protection	Million Rp.	150	165	182	200	220
	- HRD	Million Rp.	50	55	61	67	73
	- Supervisor Board	Million Rp.	191	210	231	254	279
	- Improvement	Million Rp.	-	-	-	-	-
	- R & D	Million Rp.	50	55	61	67	73
III	**MAIN BUSINESS PROFIT/LOSS**	**Million Rp.**	**3,656**	**4,421**	**4,773**	**5,198**	**4,981**
IV	**INCOME FROM OTHER BUSINESS**	**Million Rp.**	**294**	**469**	**521**	**582**	**648**
	- Bank fee	Million Rp.	-	145	166	191	218
	- Private Employee Salary	Million Rp.	294	323	356	391	430
V	**OTHER BUSINESS EXPENSES**	**Million Rp.**	**1**	**1**	**2**	**2**	**2**
	- Administration, bank fee, etc.	Million Rp.	1	1	2	2	2
VI	**PROFIT/LOSS FROM OTHER BUSINESS**	**Million Rp.**	**293**	**467**	**520**	**580**	**646**
VII	**PROFIT/LOSS BEFORE TAX**	**Million Rp.**	**3,948**	**4,888**	**5,292**	**5,778**	**5,627**
VIII	**TAXES**	**Million Rp.**	**1,167**	**1,449**	**1,570**	**1,716**	**1,671**
IX	**PROFIT/LOSS AFTER TAXES**	**Million Rp.**	**2,781**	**3,439**	**3,722**	**4,062**	**3,957**
X	**FUND REQUIREMENT FROM GOVERNMENT**	**Million Rp.**		**-**	**-**	**-**	**-**

Source: Study on the Establishment of Public Corporation for in Serayu Bogowonto River Basin, Diponegoro Univ.,2003

Table P2.5 Profit and Loss Projection of Proposed Public Corporation - Serayu Bogowonto River Basin (3/4)

Alternative 2a: Including Donan River but not including Infrastructures of PT. Indonesia Power

	Description	Unit	2004	2005	2006	2007	2008
I	**INCOME FROM MAIN BUSINESS**	**Million Rp.**	**18,124**	**39,326**	**39,754**	**47,567**	**48,135**
1.1	**Income from Water Supply**	**Million Rp.**	**18,124**	**39,326**	**39,754**	**47,567**	**48,135**
a.	**Production**						
	- Power Generation	'000 kWh	124,619	124,619	124,619	124,619	124,619
	- PDAM	'000 m^3	17,610	17,610	17,610	17,610	17,610
	- Industry	'000 m^3	148,540	296,021	296,151	296,293	296,450
b.	**Tariff**						
	- Power Generation	Rp/kWh	19.17	22.05	25.35	29.16	33.53
	- PDAM	Rp/ m^3	50.00	60.00	60.00	72.00	72.00
	- Industry	Rp/ m^3	100.00	120.00	120.00	144.00	144.00
c.	**Income from Water Supply**						
	- Power Generation	Million Rp.	2,389	2,747	3,159	3,633	4,178
	- PDAM	Million Rp.	881	1,057	1,057	1,268	1,268
	- Industry	Million Rp.	14,854	35,523	35,538	42,666	42,689
1.2	**Income from Non-water Supply Service**	**Million Rp.**	**-**	**-**	**-**	**-**	**-**
	- Tourism	Million Rp.	-	-	-	-	-
	- C category mine	Million Rp.	-	-	-	-	-
	- Land lease	Million Rp.	-	-	-	-	-
	- Others (Plantation)	Million Rp.					
II	**MAIN BUSINESS EXPENDITURE**	**Million Rp.**	**7,834**	**9,060**	**10,475**	**12,329**	**14,705**
	- O & M	Million Rp.	3,529	3,882	4,464	5,357	6,696
	- Personnel	Million Rp.	2,479	2,912	3,422	4,021	4,725
	- SPD	Million Rp.	327	359	395	435	478
	- General Affairs	Million Rp.	376	414	455	500	551
	- Marketing	Million Rp.	181	393	398	476	481
	- Depreciation	Million Rp.	452	560	748	888	1,056
	- Extension	Million Rp.	50	55	61	67	73
	- Services	Million Rp.	-	-	-	-	-
	- River basin Protection	Million Rp.	150	165	182	200	220
	- HRD	Million Rp.	50	55	61	67	73
	- Supervisor Board	Million Rp.	191	210	231	254	279
	- Improvement	Million Rp.	-	-	-	-	-
	- R & D	Million Rp.	50	55	61	67	73
III	**MAIN BUSINESS PROFIT/LOSS**	**Million Rp.**	**10,290**	**30,267**	**29,279**	**35,238**	**33,431**
IV	**INCOME FROM OTHER BUSINESS**	**Million Rp.**	**294**	**717**	**753**	**867**	**912**
	- Bank fee	Million Rp.	-	393	398	476	481
	- Private Employee Salary	Million Rp.	294	323	356	391	430
V	**OTHER BUSINESS EXPENSES**	**Million Rp.**	**4**	**8**	**8**	**10**	**10**
	- Administration, bank fee, etc.	Million Rp.	4	8	8	10	10
VI	**PROFIT/LOSS FROM OTHER BUSINESS**	**Million Rp.**	**290**	**709**	**745**	**857**	**902**
VII	**PROFIT/LOSS BEFORE TAX**	**Million Rp.**	**10,580**	**30,975**	**30,025**	**36,096**	**34,333**
VIII	**TAXES**	**Million Rp.**	**3,157**	**9,275**	**8,990**	**10,811**	**10,282**
IX	**PROFIT/LOSS AFTER TAXES**	**Million Rp.**	**7,424**	**21,700**	**21,035**	**25,285**	**24,050**
X	**FUND REQUIREMENT FROM GOVERNMENT**	**Million Rp.**	**-**	**-**	**-**	**-**	**-**

Source: Study on the Establishment of Public Corporation for in Serayu Bogowonto River Basin, Diponegoro Univ.,2003

Table P2.5 Profit and Loss Projection of Proposed Public Corporation - Serayu Bogowonto River Basin (4/4)

Alternative 2b: Including both Donan River and Infrastructures of PT. Indonesia Power

	Description	Unit	2004	2005	2006	2007	2008
I	**INCOME FROM MAIN BUSINESS**	**Million Rp.**	**27,325**	**49,909**	**51,924**	**61,562**	**64,229**
1.1	**Income from Water Supply**	**Million Rp.**	**27,325**	**49,909**	**51,924**	**61,562**	**64,229**
a.	**Production**						
	- Power Generation	'000 kWh	604,619	604,619	64,619	604,619	604,619
	- PDAM	'000 m^3	17,610	17,610	17,610	17,610	17,610
	- Industry	'000 m^3	148,540	296,021	296,151	296,293	296,450
b.	**Tariff**						
	- Power Generation	Rp/kWh	19.17	22.05	25.35	29.16	33.53
	- PDAM	Rp/ m^3	50.00	60.00	60.00	72.00	72.00
	- Industry	Rp/ m^3	100.00	120.00	120.00	144.00	144.00
c.	**Income from Water Supply**						
	- Power Generation	Million Rp.	11,591	13,329	15,329	17,628	20,272
	- PDAM	Million Rp.	881	1,057	1,057	1,268	1,268
	- Industry	Million Rp.	14,854	35,523	35,538	42,666	42,689
1.2	**Income from Non-water Supply Service**	**Million Rp.**	**-**	**-**	**-**	**-**	**-**
	- Tourism	Million Rp.	-	-	-	-	-
	- C category mine	Million Rp.	-	-	-	-	-
	- Land lease	Million Rp.	-	-	-	-	-
	- Others (Plantation)	Million Rp.					
II	**MAIN BUSINESS EXPENDITURE**	**Million Rp.**	**9,257**	**10,667**	**12,360**	**14,615**	**17,565**
	- O & M	Million Rp.	4,707	5,178	5,955	7,146	8,932
	- Personnel	Million Rp.	2,631	3,117	3,694	4,377	5,187
	- SPD	Million Rp.	327	359	395	435	478
	- General Affairs	Million Rp.	376	414	455	500	551
	- Marketing	Million Rp.	273	499	519	616	642
	- Depreciation	Million Rp.	452	560	748	888	1,056
	- Extension	Million Rp.	50	55	61	67	73
	- Services	Million Rp.	-	-	-	-	-
	- River basin Protection	Million Rp.	150	165	182	200	220
	- HRD	Million Rp.	50	55	61	67	73
	- Supervisor Board	Million Rp.	191	210	231	254	279
	- Improvement	Million Rp.	-	-	-	-	-
	- R & D	Million Rp.	50	55	61	67	73
III	**MAIN BUSINESS PROFIT/LOSS**	**Million Rp.**	**18,069**	**39,241**	**39,564**	**46,947**	**46,664**
IV	**INCOME FROM OTHER BUSINESS**	**Million Rp.**	**294**	**822**	**875**	**1,007**	**1,073**
	- Bank fee	Million Rp.	-	499	519	616	642
	- Private Employee Salary	Million Rp.	294	323	356	391	430
V	**OTHER BUSINESS EXPENSES**	**Million Rp.**	**3**	**5**	**5**	**6**	**6**
	- Administration, bank fee, etc.	Million Rp.	3	5	5	6	6
VI	**PROFIT/LOSS FROM OTHER BUSINESS**	**Million Rp.**	**291**	**817**	**870**	**1,001**	**1,066**
VII	**PROFIT/LOSS BEFORE TAX**	**Million Rp.**	**18,360**	**40,059**	**40,434**	**47,948**	**47,730**
VIII	**TAXES**	**Million Rp.**	**5,491**	**12,000**	**12,113**	**14,367**	**14,302**
IX	**PROFIT/LOSS AFTER TAXES**	**Million Rp.**	**12,870**	**28,059**	**28,321**	**33,581**	**33,429**
X	**FUND REQUIREMENT FROM GOVERNMENT**	**Million Rp.**	**-**	**-**	**-**	**-**	**-**

Source: Study on the Establishment of Public Corporation for in Serayu Bogowonto River Basin, Diponegoro Univ.,2003

Table P2.6 Updated Status of BWRM Achievement in Balai PSDA Jeneberang (As of September 2003)

Description	Updated Status
Water Resources Management (WRM) database	
GIS	28 digital maps were installed in the Balai GIS system. 9 layers were developed.
Database	A series of hydrological data, comprising hydrological stations location, rainfall, water level, suspended sediment, water quality, were stored in MS Excel format
Hydrological Data	
Hydrological Stations	22 AWLR (automatic water level gauge), 169 rainfall stations (incl. 69 BMG stations), and 4 climatological stations
Data collection and processing	Data obtained from Provincial Hydrological Unit (PHU) of Dinas PSDA. AWLR data covers 2000-2001, rainfall 1990-2001, climatology 1990-2001.
Training	
Training-Classical	Four courses, one study visit (to Balai in Java) and a workshop are planned, of which two courses of classical training were completed
On-the-job training	On-the-job training on GIS was conducted during February-June 2003. Additional training on hydrology and GIS is scheduled from October 2003 to April 2004.

Source: BWRM-IWIRIP 2003-2004 Inception Report, October 2003, PT. Virama Karya

Table P2.7 Expected Outputs from BWRM-IWIRIP Program 2003-2004

	Item of Work	Expected Output
1	Institutional Developement	● Setting up organization and staffing of Balai PSDA in each province (completed) ● Management and administration of Balai improved through training ● Annual Reports of Balai issued
2	Training	● Classical training conducted as per schedule in Training program 2003-2004 ● On-the-job training in hydrology and GIS/database for staff of Balai in each province
3	GIS/Database	● Maps installed and GIS data completed for selected DPS in Balai in each province ● Database for hydrology in MS Access set up; data already compiled transferred to this database ● River Infrastructure Management (RIM) database program set up ● Data Year Book issued
4	Hydrology	● Hydrological network under O&M responsibility of Balai finalized ● Condition inventory of these stations completed ● Balai routine procedures established for data collection, processing, archiving and quality control ● Balai capability established for Balai in each province in O&M of hydrometric stations and data processing ● Rating curves prepared/updated for all stations in each Balai in each province
5	Water Allocation	● Preliminary report prepared on current status on water allocation in each basin in Balai area ● Condition inventory of discharge measurement structures at control points in selected DPS prepared (Note: Introductory training in aspects of water allocation including use of computer spreadsheets also scheduled)
6	Water Quality	● Available data of water quality monitoring collected (Note: A low priority activity at this stage)
7	River Infrastructure Maintenance	● Priority list of rivers prepared ● Condition inventory of river reaches and structures started (Note: Limited activity at this stage due to fund available. Have to wait the next project-WISMP)
8	Flood Management	● Balai PSDA functions and responsibilities in flood management defined in each province ● Basic information on flood areas, flood magnitudes to be collected and included in GIS

Source: BWRM-IWIRIP 2003-2004 Inception Report, October 2003, PT. Virama Karya

Table P2.8 Components of WISMP Program

No.	Components of WISMP (Phase I)
A.1	***Sector Governance***
A 1.1.1	National Water Council and Secretariat Policy Studies
A 1.1.2	Provincial and District DPRD Members Awareness Program
A 1.1.3	Provincial and River Basin Water Resources Coordinating Body and Secretariats
A 1.1.4	National and Provincial Water Resources and Irrigation MIS
	1. National Level
	2. Provincial Level
	3. Basin and Kabupaten Levels
A 1.1.5	National Water Quality Monitoring Network
A 1.1.6	Water User Rights Legislation and Licensing Pilot
A 1.1.7	Dam Safety
A 1.2	**Basin Water Resources Management Planning Capacity**
A 1.2.1	Provincial Basin Planning Capacity Building
A 1.2.2	Central Planning Unit Capacity Building
A 1.2.3	National Hydrology Supervision and Guidance
A.2	***Basin Water Resources Management Agencies Capacity***
A 2.1	**Basin Agencies Capacity**
A 2.1.1	Mission, Organization Structure and Tasks of Dinas and Balai PSDA
A 2.1.2	Performance and Accountability Improvement of Dinas and Balai PSDA
A 2.1.3	Public Awareness Campaign
A 2.1.4	Quality Assurance for Provincial and Basin Management Agencies
A 2.2	**Basin Water Resources Management Corporation**
A.3	***Fiscal Policy on Water Resources Management***
A 3.1	**Fiscal and Cost Recovery Policy**
A 3.2	**Cost Effectiveness of Staff Expenditure**
A.4	***Basin Water Resources Management and Infrastructure***
A 4.1	**Basin Water Resources Management and Infrastructure**
A 4.1.1	Hydrology Management
A 4.1.2	Water Allocation Management
A 4.1.3	Water Quality Program
A 4.1.5	Flood Management
A 4.1.6	Dam Monitoring Unit (by Balai PSDA)
A.4.2	**River Infrastructure Improvement**
A 4.2.1	River Infrastructure Management
A 4.2.2	Priority Rehabilitation of Selected Key Structures
A.5	***National Sector Capacity Building***
A 5.1	**National Water Resources Sector Capacity Building Development**
A 5.2	**National Sector Capacity Building Network**
A 5.3	**National Water Resources Archive**

Source : Basin Water Resources Management (BWRM) – IWIRIP 2003-2004, Final Report – Main Report, PT. Virama Karya, May 2004

Figures

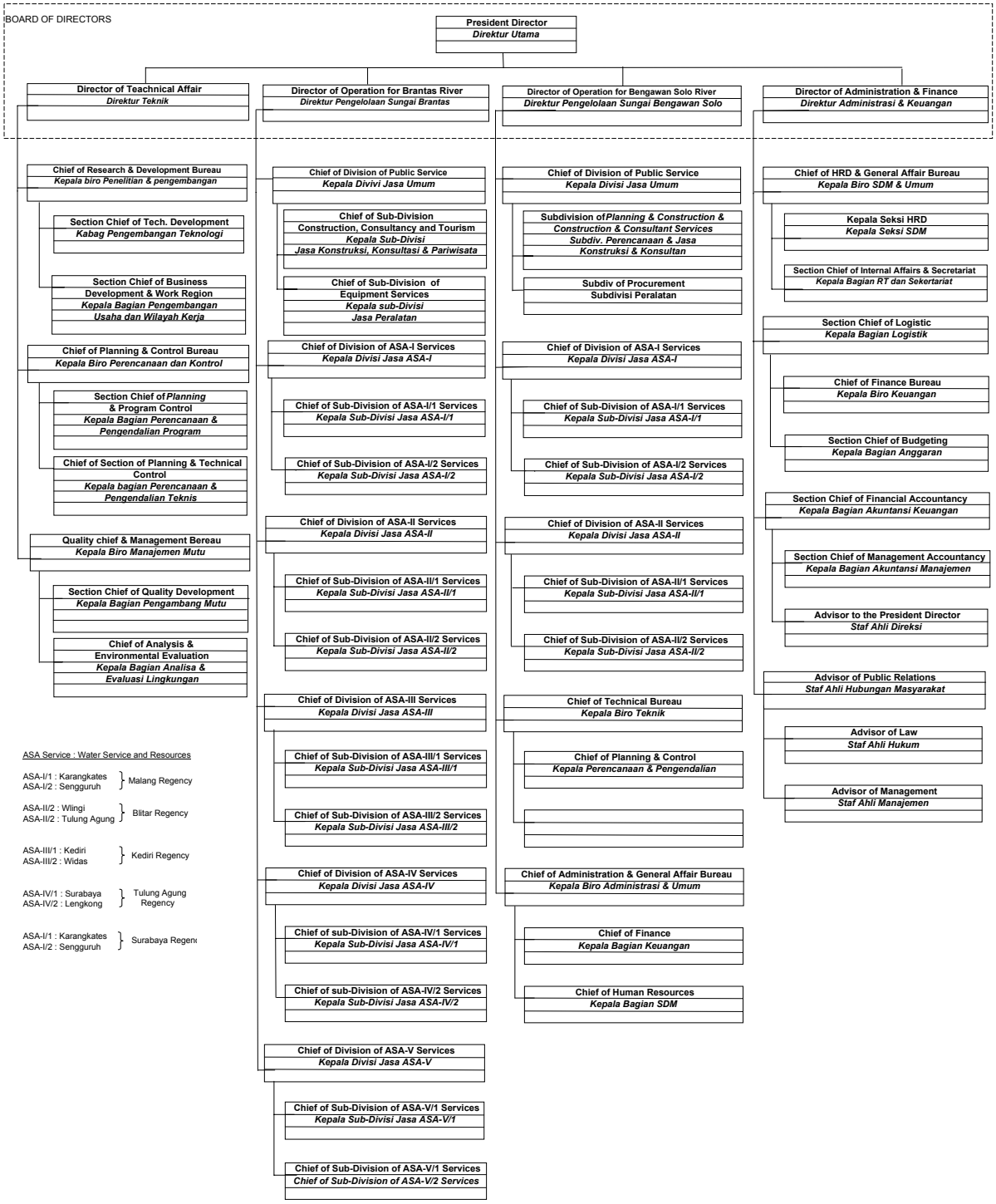


Figure P1.1 Organization Chart of Perum Jasa Tirta I

Struktur Organisasi Perum Jasa Tirta I

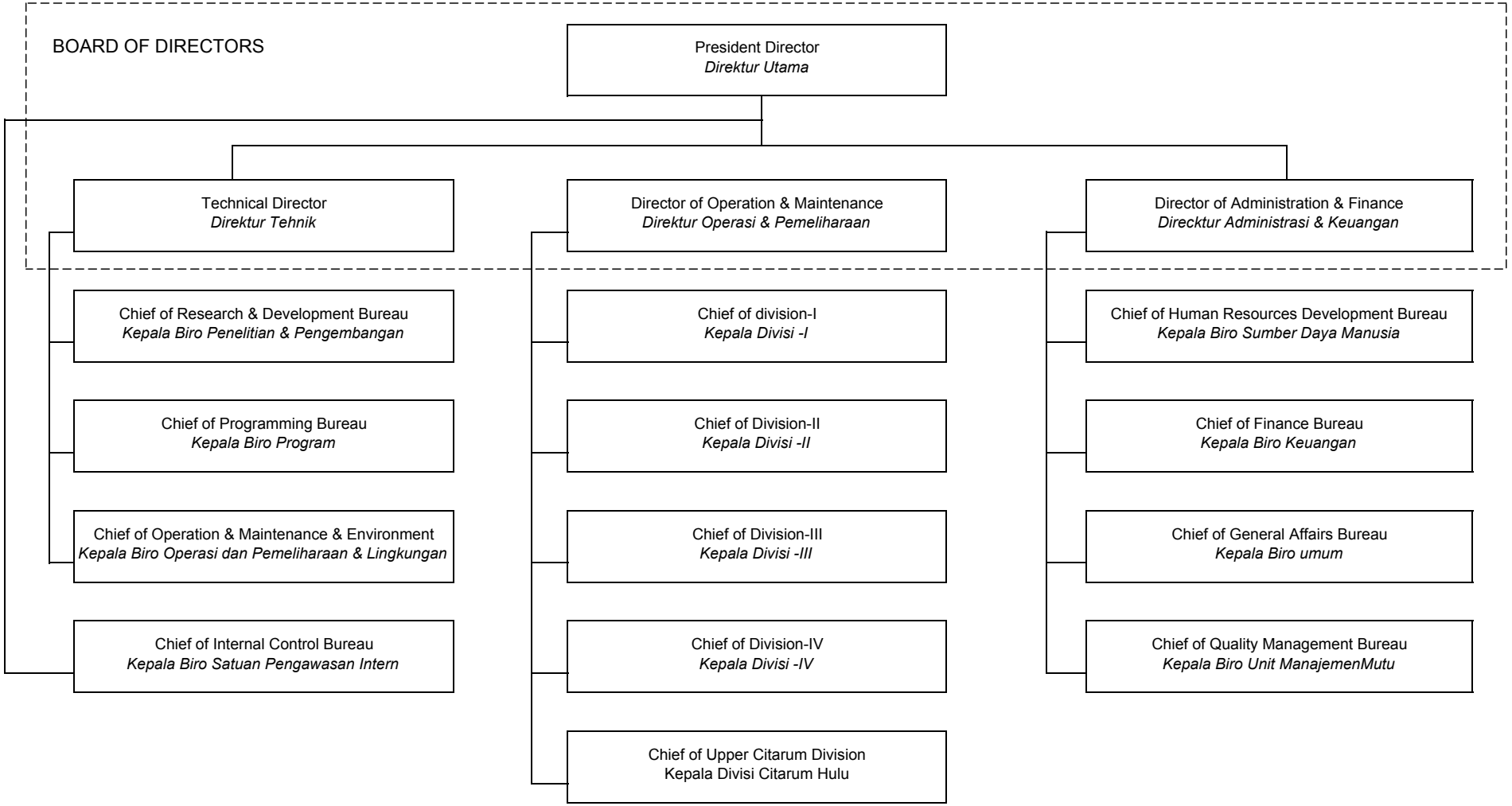


Figure P1.2 Organization Chart of Perum Jasa Tirta-II
Struktur Organisasi Perum Jasa Tirta-II