

*II.*

*QUESTIONNAIRE  
SURVEY ON WATER  
USE*

**THE STUDY ON  
COMPREHENSIVE WATER MANAGEMENT  
OF MUSI RIVER BASIN**

**QUESTIONNAIRE SURVEY ON WATER USE**

*OCTOBER 2002*

**FIELD: LIVESTOCK WATER USE (to Agriculture Office)**

**q.1)** In your Regency/Municipality, what are the populations of livestock, and in which year?

**q.2)** Do you have an idea how much do animals consume water in average?

**q.3)** What are the major water sources for the animals?

*Please, fill following boxes:*

<b>Kinds of Livestock</b>	<b>Population Year [       ] (head)</b>	<b>Water Consumption (lit/day/head)</b>	<b>Major Water Sources (river name, groundwater, etc)</b>
Milk Cow			
Cow			
Buffalo			
Horse			
Goat			
Sheep			
Pig			
Poultry			
Duck			

**q.4)** We want to know your future plan, the populations of livestock?

*If 2000 is adopted in q. 1), please, fill boxes of 2001-2010 as future plan.*

*If 2001 is adopted in q. 1), please, fill boxes of 2002-2010 as future plan.*

<b>Year</b>	<b>Existing</b>		<b>Future Plan</b>				
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2010</b>
Milk Cow							
Cow							
Buffalo							
Horse							
Goat							
Sheep							
Pig							
Poultry							
Duck							

**q.5)** In your Regency/Municipality, what are the major problems on livestock sector?

**FIELD: WATER USE FOR INLAND AQUACULTURE (to Agriculture Office)**  
**(marine fishery and fish catch are excluded)**

- q.1)** In your Regency/Municipality, what kinds of fish (incl. frog, turtle, shrimp) are cultured mainly?  
**q.2)** What are the areas of ponds and paddy fields, and number of cages in total, and in which year?  
**q.3)** What are the major water sources for the fish?

*Please, fill following boxes:*

Priority	Fish Name	Pond, Paddy or Cage Year [ ]	Major Water Sources (river & irri. scheme)
1st		Pond: [ ] ha	
		Paddy Field: [ ] ha	
		Cage: [ ] unit	
2nd		Pond: [ ] ha	
		Paddy Field: [ ] ha	
		Cage: [ ] unit	
3rd		Pond: [ ] ha	
		Paddy Field: [ ] ha	
		Cage: [ ] unit	
4th		Pond: [ ] ha	
		Paddy Field: [ ] ha	
		Cage: [ ] unit	

- q.4)** What is the typical water management of ponds and paddy fields?

Method of Aquaculture	Initial Impounding	Period of Water Intake
Pond	Depth: [ ] m When: [ ] Frequency: 1 time/[ ] yr	In case of everyday intake: [ ] hours per day In other case: [ ] hours per [ ] days Water level is kept constant? [Yes] / [No] If [No], how is change? [ ]
Paddy Field	Depth: [ ] m Month: [ ]	In case of everyday intake: [ ] hours per day In other case: [ ] hours per [ ] days Water level is kept constant? [Yes] / [No] If [No], how is change? [ ]
other: [ ]		

- q.5)** In the case of cage, what are the minimum and maximum water depths preferable for aquaculture?

Fish Name in Cage	Minimum (M)	Maximum (M)	Other Information

**q.6)** We want to know your future plan, the areas of ponds and paddy fields, and number of cages.

*If 2000 is adopted in q.2), please, fill boxes of 2001-2010 as future plan.*

*If 2001 is adopted in q.2), please, fill boxes of 2002-2010 as future plan.*

Year	Existing		Future Plan				
	2000	2001	2002	2003	2004	2005	2010
Pond (ha)							
Paddy Field (ha)							
Cage (unit)							
Other:[                    ]							

**q.7)** In your Regency/Municipality, what are the major problems on inland aquaculture sector?

**FIELD: WATER CONDITIONS OF INLAND FISH CATCH (to Agriculture Office)**  
**(marine fishery and inland aquaculture are excluded)**

**q.1)** In your Regency/Municipality, where are the major places for fish catch and fishing? These places may be along rivers, at ponds and/or at lakes. Please, specify the location.

**q.2)** At the places above mentioned, what are the methods and period of fish catch?

**q.3)** At the places, what are the minimum and maximum water depths preferable for fish catch and fishing?

*Please, fill following boxes:*

<b>Location of Fish Catch</b>	<b>Methods of Fish Catch</b>	<b>Period of Fish Catch</b>	<b>Minimum (M)</b>	<b>Maximum (M)</b>	<b>Other Information</b>

**q.4)** In your Regency/Municipality, what are the major problems on inland fish catch sector?

**FIELD: WATER USE FOR IRRIGATION DISTRICT / TIDAL SWAMP / INLAND SWAMP**  
**(to Irrigation & Drainage Office)**

**q.1)** In your Regency/Municipality, what kinds of crops are mainly cultivated on irrigation district/ tidal swamp/ inland swamp?

**q.2)** For paddy, when are the periods for land-preparation, trans-planting and harvesting?

**q.3)** For palawija, when are the periods for seed-down and harvesting?

*Please, fill following boxes:*

Crop Name		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Irrigation District	Paddy	(ex.)	LP	P		H							
	Palawija	(ex.)		S				H					

Crop Name		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Tidal Swamp	Paddy												
	Palawija												

Crop Name		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Inland Swamp	Paddy												
	Palawija												

**q.4)** I want to know whether there is the design and planning standard for irrigation/ reclamation schemes, which standard shows intake quantity (lit/sec/ha) or field requirement (lit/sec/ha) in accordance with stages of each crop growth. The intake quantities using weir differ from ones using pumps. Do you have such standard? [Yes] / [No]

If [Yes], please, supply us its photocopy.

**q.5)** If there exists gate or pump for taking river water to a scheme, there may be an operation rule indicating intake volumes during certain periods. In this rule, an amount of rainfall may be considered. Do you have such operation rule? [Yes] / [No]

If [Yes], please, supply us its information or photocopy.

**q.6)** How are discharges of return flow in general?

Discharges of return flow are: [Negligible] or [A little] or [Much]

Do you have the measurement data of return flow? [Yes] / [No]

If [Yes], please, supply us its data with relevant information like date and location.



**q.7)** Is groundwater used for irrigation district/ tidal swamp/ inland swamp?

If [Yes], what is the name of scheme which uses groundwater? For what kind of crop, is groundwater used?

Please, fill following boxes:

Kinds of Farmland (#)	Scheme Name	Kinds of Groundwater (##)	Major Crop using Groundwater	Approximate Duration & Quantity applying Groundwater
				Duration: [            ] Quantity: [            ] unit [            ]
				Duration: [            ] Quantity: [            ] unit [            ]
				Duration: [            ] Quantity: [            ] unit [            ]
				Duration: [            ] Quantity: [            ] unit [            ]
				Duration: [            ] Quantity: [            ] unit [            ]

(#) **D**=irrigation district, **T**=tidal swamp, **I**=inland swamp  
 (##) **S**=spring, **SH**=shallow well, **DW**=deep well

**q.8)** We want to know the existing major infrastructure relating to the irrigation district/ tidal swamp/ inland swamp.

Please, fill following boxes:

Name of Dam & Reservoir	River Name	Kecha matan	Construction Year	Dam Type (concrete or earth)	Total Storage Volume

Name of Intake Weirs	Number	River Name	Kecha matan
major: [            ]	no need.		
major: [            ]	no need.		
major: [            ]	no need.		
other small intake weirs	Total: [            ]	no need.	no need.

Name of Pump Irrigation/Reclamation Schemes	Number of Pumps	Pump Capacity (M <sup>3</sup> /min)	Range of Net Head (M)	Average Operation Hour (hour/day)	
				Wet Season	Dry Season

<b>Wells</b>	<b>Total Number</b>	<b>Range of Well Depth (M)</b>	<b>Range of Inner Diameter (M)</b>
Shallow Well			
Deep Well			

**q.9)** Please, supply us the location map of the existing schemes and major infrastructures.

**q.10)** Concerning to the development of irrigation district/ tidal swamp/ inland swamp, we want to know your on-going projects and future projects, which will be implemented surely. These projects consist of rehabilitation and new construction. Also, supply us location map of the planning.

*Please, fill following boxes:*

<b>Names of On-Going and Future Projects</b>	<b>Financial Source</b>	<b>Implementation Agency</b>	<b>Construction Year</b>	<b>Rehabilitation/New Area (ha)</b>	<b>Contents of Project</b>
			-		
			-		
			-		
			-		
			-		

**q.11)** In your Regency/Municipality, what are the major problems on irrigation & swamp reclamation sector?

**FIELD: INDUSTRIAL WATER USE (to Industry and Trade Office)**

**q.1)** In your Regency/Municipality, how much is water used for industry? And what is the year of your information?

Please, fill following boxes:

Year: [            ]

Industry Classification Industrial Code & Scale		Total Unit	Water Resources	Total Water Abstracted (M <sup>3</sup> /Month)
15 Food & Beverages Industry	Large		Piped: [PDAM or other? [            ]] River: [River Name:            ] Groundwater: [Private or other? [            ]]	[            ] [            ] [            ]
	Medium		Piped: [PDAM or other? [            ]] River: [River Name:            ] Groundwater: [Private or other? [            ]]	[            ] [            ] [            ]
	Small		Piped: [PDAM or other? [            ]] River: [River Name:            ] Groundwater: [Private or other? [            ]]	[            ] [            ] [            ]
17/18 Textile/ Garment Industry	Large		Piped: [PDAM or other? [            ]] River: [River Name:            ] Groundwater: [Private or other? [            ]]	[            ] [            ] [            ]
	Medium		Piped: [PDAM or other? [            ]] River: [River Name:            ] Groundwater: [Private or other? [            ]]	[            ] [            ] [            ]
	Small		Piped: [PDAM or other? [            ]] River: [River Name:            ] Groundwater: [Private or other? [            ]]	[            ] [            ] [            ]
20 Wood, Wood-Made Goods (other than furniture), & Handicrafts Industry	Large		Piped: [PDAM or other? [            ]] River: [River Name:            ] Groundwater: [Private or other? [            ]]	[            ] [            ] [            ]
	Medium		Piped: [PDAM or other? [            ]] River: [River Name:            ] Groundwater: [Private or other? [            ]]	[            ] [            ] [            ]
	Small		Piped: [PDAM or other? [            ]] River: [River Name:            ] Groundwater: [Private or other? [            ]]	[            ] [            ] [            ]
22 Publishing, Printing, & Recording Media Reproduction Industry	Large		Piped: [PDAM or other? [            ]] River: [River Name:            ] Groundwater: [Private or other? [            ]]	[            ] [            ] [            ]
	Medium		Piped: [PDAM or other? [            ]] River: [River Name:            ] Groundwater: [Private or other? [            ]]	[            ] [            ] [            ]
	Small		Piped: [PDAM or other? [            ]] River: [River Name:            ] Groundwater: [Private or other? [            ]]	[            ] [            ] [            ]

24 Chemistry, & Chemistry made Goods Industry	Large		Piped: [PDAM or other? [ ]]	[ ]
	Medium		Piped: [PDAM or other? [ ]]	[ ]
	Small		Piped: [PDAM or other? [ ]]	[ ]
25 Latex & Latex-made Goods Industry	Large		Piped: [PDAM or other? [ ]]	[ ]
	Medium		Piped: [PDAM or other? [ ]]	[ ]
	Small		Piped: [PDAM or other? [ ]]	[ ]
26 Non Metal Quarrying Goods Industry	Large		Piped: [PDAM or other? [ ]]	[ ]
	Medium		Piped: [PDAM or other? [ ]]	[ ]
	Small		Piped: [PDAM or other? [ ]]	[ ]
27/28/29 Basic Metal/ Metal made Goods/ Mechanical & Spare Parts Industry	Large		Piped: [PDAM or other? [ ]]	[ ]
	Medium		Piped: [PDAM or other? [ ]]	[ ]
	Small		Piped: [PDAM or other? [ ]]	[ ]
35 Transportation other than 4-Wheel or more Vehicles Industry	Large		Piped: [PDAM or other? [ ]]	[ ]
	Medium		Piped: [PDAM or other? [ ]]	[ ]
	Small		Piped: [PDAM or other? [ ]]	[ ]

36 Furniture and other Processing Manufacturing Industry	Large		Piped: [PDAM or other? [ ]]	[ ]
			River: [River Name: ]	[ ]
			Groundwater: [Private or other? [ ]]	[ ]
	Medium		Piped: [PDAM or other? [ ]]	[ ]
			River: [River Name: ]	[ ]
			Groundwater: [Private or other? [ ]]	[ ]
	Small		Piped: [PDAM or other? [ ]]	[ ]
			River: [River Name: ]	[ ]
			Groundwater: [Private or other? [ ]]	[ ]

**q.2)** We want to know your future plan concerning to the industrial development. Also, supply us location map of the planning.

**q.3)** In your Regency/Municipality, what are the major problems on industrial water use sector?

**FIELD: MINING WATER USE (to Mining Office)**

**q.1)** In your Regency/Municipality, how much is water used for mining? And what is the year of your information?

*Please, fill following boxes:*

Year: [       ]			
Unit Name	Production	Water Resources of Unit	Total Water Abstracted (M <sup>3</sup> /Month)
	Crude Oil: [       ] barrel	Piped: [PDAM or other? [       ]]	[       ]
	Gas: [       ]mmscf	River: [River Name:       ]	[       ]
	Coal:[       ] ton	Groundwater: [Private or other? [       ]]	[       ]
	Tin: [       ] ton		
	Gold: [       ] kg		
	Silver: [       ] kg		
	Crude Oil: [       ] barrel	Piped: [PDAM or other? [       ]]	[       ]
	Gas: [       ]mmscf	River: [River Name:       ]	[       ]
	Coal:[       ] ton	Groundwater: [Private or other? [       ]]	[       ]
	Tin: [       ] ton		
	Gold: [       ] kg		
	Silver: [       ] kg		
	Crude Oil: [       ] barrel	Piped: [PDAM or other? [       ]]	[       ]
	Gas: [       ]mmscf	River: [River Name:       ]	[       ]
	Coal:[       ] ton	Groundwater: [Private or other? [       ]]	[       ]
	Tin: [       ] ton		
	Gold: [       ] kg		
	Silver: [       ] kg		
	Crude Oil: [       ] barrel	Piped: [PDAM or other? [       ]]	[       ]
	Gas: [       ]mmscf	River: [River Name:       ]	[       ]
	Coal:[       ] ton	Groundwater: [Private or other? [       ]]	[       ]
	Tin: [       ] ton		
	Gold: [       ] kg		
	Silver: [       ] kg		

**q.2)** We want to know your future plan concerning to the mining development. Also, supply us location map of the planning.

**q.3)** In your Regency/Municipality, what are the major problems on mining water use sector?

**FIELD: PDAM WATER SUPPLY (to PDAM)**

**q.1)** Please, provide us following information.

And what is the year of your information?      **Year:** [      ]

<b>Town/ Village</b>	<b>Produc- tion Capacity (Lit/sec)</b>	<b>Produc- tion (M<sup>3</sup>/year)</b>	<b>Source /Type #1)</b>	<b>Status #2)</b>	<b>Population Served (persons)</b>

#1) River Name, Spring or Deep Well, etc.

#2) Operating or Under Construction

**q.2)** Please, supply us the location map of the existing intake facilities.

**q.3)** If there are future development schemes of PDAM water supply in your Regency/Municipality within 5-10 years, please, fill following boxes:

<b>Town/ Village</b>	<b>Development Type #1)</b>	<b>Additional Capacity (Lit/sec)</b>	<b>Source /Type #2)</b>	<b>Increase on Service Population (persons)</b>	<b>Year Completion</b>

#1) New Installation, Rehabilitation or Capacity Increase

#2) River Name, Spring or Deep Well, etc.

**q.4)** In your Regency/Municipality, what are the major problems?

**FIELD: WATER SUPPLY UNDER INPRES (to Office relating to INPRES)**

**q.1)** In your Regency/Municipality, are **piped water supply systems** provided under INPRES?

[Yes] / [No]

*If [Yes], please, fill following boxes:*

And what is the year of your information?      **Year:** [      ]

Town/ Village	Produc- tion Capacity (Lit/sec)	Produc- tion (M <sup>3</sup> /year)	Source /Type #1)	Status #2)	Opera- ting Autho- rity	Population Served (persons)	Number of Connection			Year Commence Operation
							House	Public Stand- pipe	Other	

#1) River Name, Spring or Deep Well, etc.

#2) Operating or Under Construction

**q.2)** Please, supply us the location map of the existing intake facilities.

**q.3)** In your Regency/Municipality, are other types of water supply facilities (**Well, Spring, Rain Water, etc**) provided under INPRES?

[Yes] / [No]

*If [Yes], please, fill following boxes:*

And what is the year of your information?      **Year:** [      ]

	Shallow Well with Hand Pump	Deep Well with Hand Pump	Dug Well	Protected Spring	Rain Water Harvesting	Total Persons Served
<b>Total No. Facilities Provided</b>						
<b>Managing Authority</b>						
<b>Average No. of Persons Served by One Facility</b>						
<b>Town/Village</b>						



**q.4)** If there are future water supply schemes under INPRES in your Regency/Municipality within 5-10 years, please, fill following boxes:

Town/ Village	Develop- ment Type #1)	Planned Facilities	Additional Capacity (Lit/sec)	Managing Authority	Source /Type #2)	Increase on Service Population (persons)	Implemen- tation Period
							-
							-
							-
							-
							-
							-
							-

#1) New Installation, Rehabilitation or Capacity Increase

#2) River Name, Spring or Deep Well, etc.

**q.5)** In your Regency/Municipality, what are the major problems on water supply sector?

**FIELD: NON-PDAM, NON-INPRES, NON-PPSAB/IKK WATER SUPPLY (to Health Office)**

**q.1)** In your Regency/Municipality, are water supply facilities provided under **NON-PDAM** and **NON-INPRES** and **NON-PPSAB/IKK**? [Yes] / [No]

*If [Yes], please, fill following boxes:*

And what is the year of your information? Year: [       ]

	Shallow Well with Hand Pump	Deep Well with Hand Pump	Piped Water Supply Schemes	Dug Well	Protected Spring	Rain Water Harvesting	Total Persons Served
<b>Total No. Facilities Provided</b>							
<b>Managing Authority</b>							
<b>Average No. of Persons Served by One Facility</b>							
<b>Town/Village</b>							

**q.2)** In your Regency/Municipality, what are the major problems on water supply sector?

**FIELD: FUTURE PLAN OF NON-PDAM, NON-INPRES, NON-PPSAB/IKK WATER SUPPLY  
(to Water Supply Office)**

**q.1)** In your Regency/Municipality, if there are future development schemes of water supply other than PDAM, INPRES and PPSAB/IKK within 5-10 years, please, fill following boxes:

Town/ Village	Develop- ment Type #1) { program name }	Planned Facilities	Additional Capacity (Lit/sec)	Source of Fund	Managing Authority	Source /Type #2)	Increase on Service Population (persons)	Implemen- tation Period
	{ }							-
	{ }							-
	{ }							-
	{ }							-
	{ }							-
	{ }							-
	{ }							-

#1) New Installation, Rehabilitation or Capacity Increase, { } = program name like P2MPD, etc.

#2) River Name, Spring or Deep Well, etc.

**q.2)** In your Regency/Municipality, what are the major problems on water supply sector?

**FIELD: TOURISM WATER USE (to Tourism Office)**

**q.1)** In your Regency/Municipality, what are objects for tourism?

**q.2)** At each tourism object, how many tourists did visit in each month? And what is the year of this information?

*Please, fill following boxes:*

Tourism Objects	Year: [            ], Unit (Persons)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

**q.3)** At each tourism object, how many days does one tourist stay in average?

**q.4)** Where do tourists stay usually, hotel, own house or relatives?

*Please, fill following boxes:*

Tourism Objects	Stay (days)	Accommodation
		[Hotel], [Own House], [Relatives], Other [            ]
		[Hotel], [Own House], [Relatives], Other [            ]
		[Hotel], [Own House], [Relatives], Other [            ]
		[Hotel], [Own House], [Relatives], Other [            ]
		[Hotel], [Own House], [Relatives], Other [            ]
		[Hotel], [Own House], [Relatives], Other [            ]
		[Hotel], [Own House], [Relatives], Other [            ]
		[Hotel], [Own House], [Relatives], Other [            ]
		[Hotel], [Own House], [Relatives], Other [            ]

**q.5)** Among the above tourism objects, are there objects whose specifications are strongly related with water? If there are, what are these specifications?

**q.6)** At the objects above mentioned, what are the minimum and maximum water depths suitable for tourism?

*Please, fill following boxes:*

<b>Tourism Objects</b>	<b>Specification relating Water</b>	<b>Minimum (M)</b>	<b>Maximum (M)</b>	<b>Present Problems</b>

**q.7)** We want to know your future plan on the total number of tourists in your Regency/Municipality.

*If 2000 is adopted in q.2), please, fill boxes of 2001-2010 as future plan.*

*If 2001 is adopted in q.2), please, fill boxes of 2002-2010 as future plan.*

<b>Year</b>	<b>Existing</b>		<b>Future Plan</b>				
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2010</b>
Total Number of Tourists (person)							

**q.8)** In your Regency/Municipality, what are the major problems on tourism water use sector?

**FIELD: RECREATION WATER USE (to Tourism Office)**

**q.1)** In your Regency/Municipality, where are major places for water recreation? In this question, water recreation means boating, sports fishing, water skiing, picnic, swimming, bathing, etc. enjoyed by tourists as well as residents.

**q.2)** At above recreation places, what kinds of water recreation are enjoyed?

**q.3)** At the recreation places, what are the minimum and maximum water depths for enjoying recreation?

*Please, fill following boxes:*

<b>Places for Water Recreation</b>	<b>Recreation Activities</b>	<b>Minimum (M)</b>	<b>Maximum (M)</b>	<b>Present Problems</b>

**q.4)** In your Regency/Municipality, what are the major problems on recreation water use sector?

**FIELD: WATER LICENSING (to Water Resources Office)**

**q.1)** Please, supply us the inventory of water licenses for surface and groundwater abstraction, which are permitted by the Government of your Regency/Municipality. The inventory includes registered names, licensed quantities of water abstraction, and other relevant information.

**q.2)** In your Regency/Municipality, what are the major problems on water licensing?

**FIELD: RETRIBUTION ON WATER USE (to UPTD)**

**q.1)** Please, supply us the inventory of retribution for water use, both surface and groundwater used in your Regency/Municipality. The inventory includes user names, quantities of water used, and other relevant information.

**q.2)** In your Regency/Municipality, what are the major problems on retribution on water use?