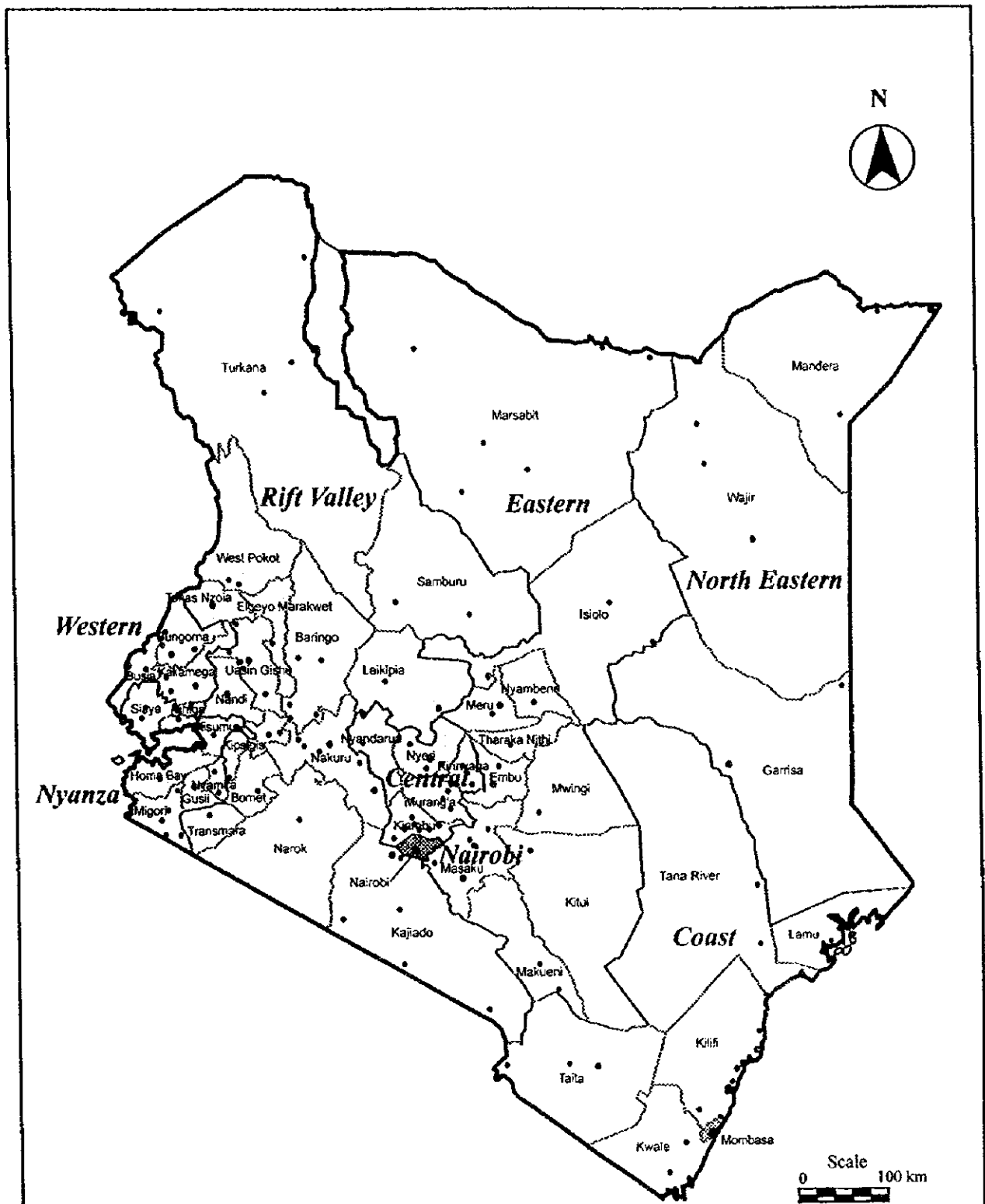


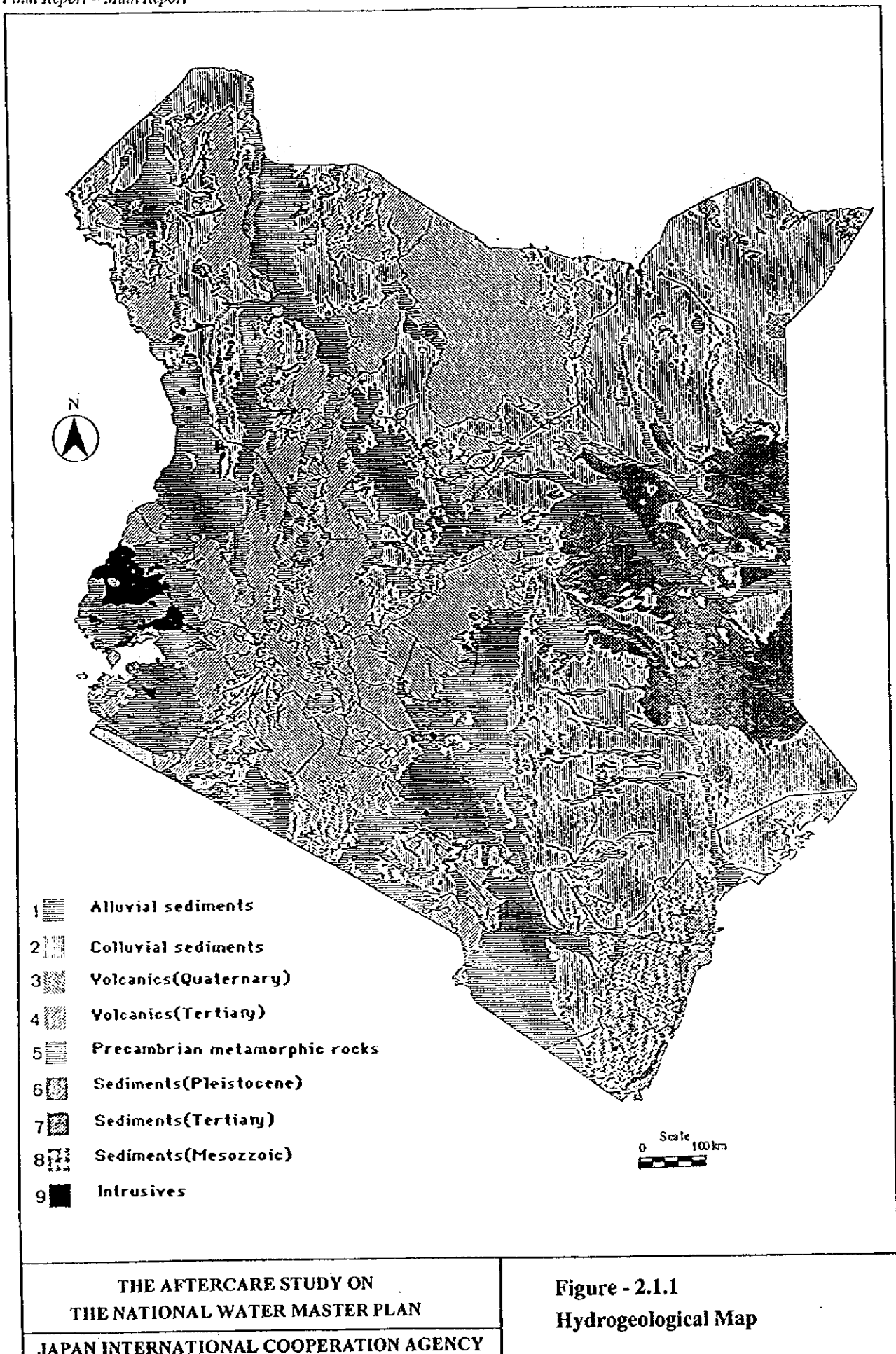
FIGURES



Legend

- : Urban centres (112 nos.) subject to urban water supply development planning
- : Urban centers (29 nos.) subject to urban water supply and sewerage development planning
- : Urban center (1 no.) subject to sewerage development planning
- Turkana : District (50 nos.) subject to rural water supply planning

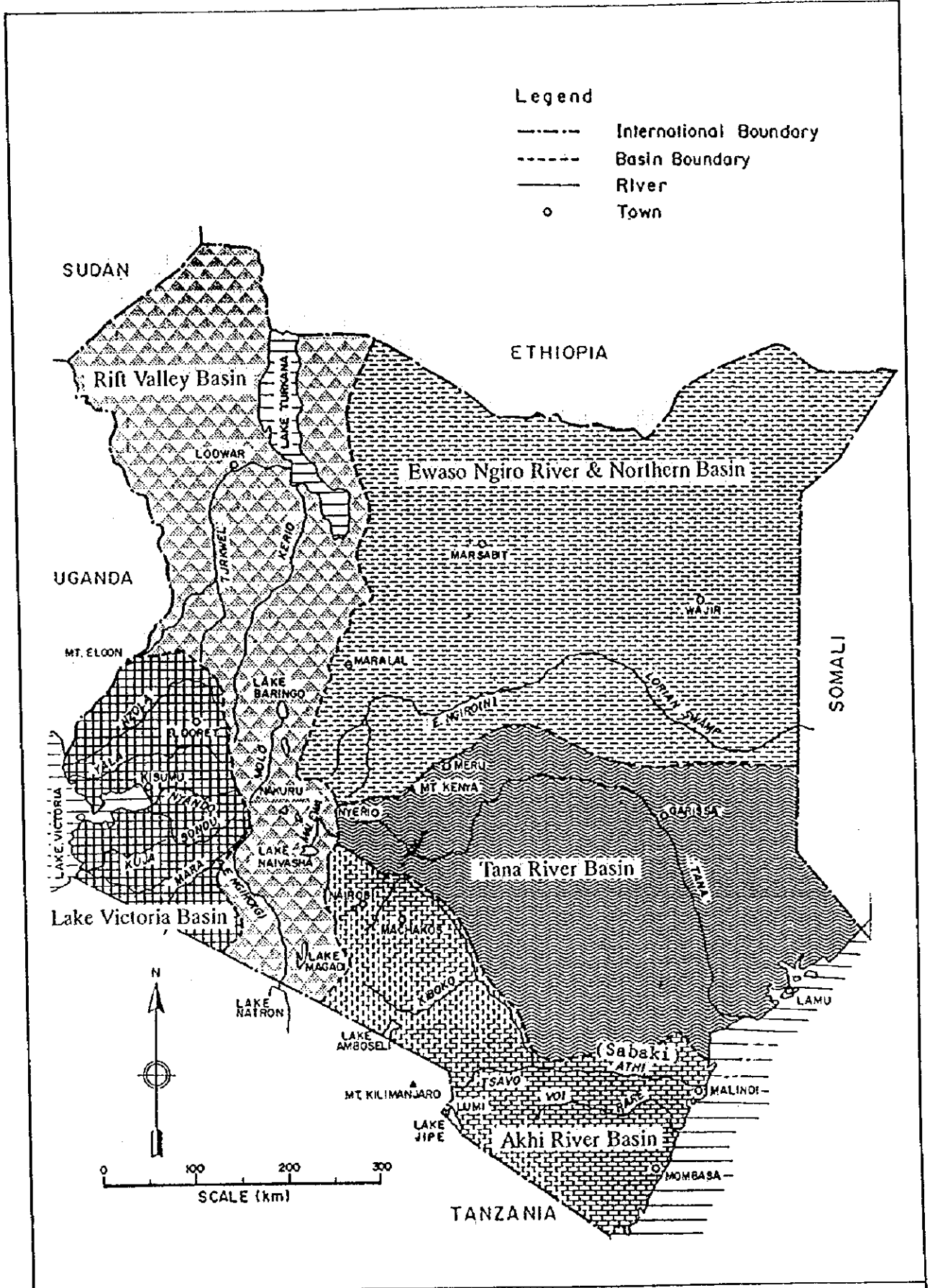
<p>THE AFTERCARE STUDY ON THE NATIONAL WATER MASTER PLAN</p>	<p>Figure - 1.2.1 Objective Areas for the Aftercare Study</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	



THE AFTERCARE STUDY ON
THE NATIONAL WATER MASTER PLAN

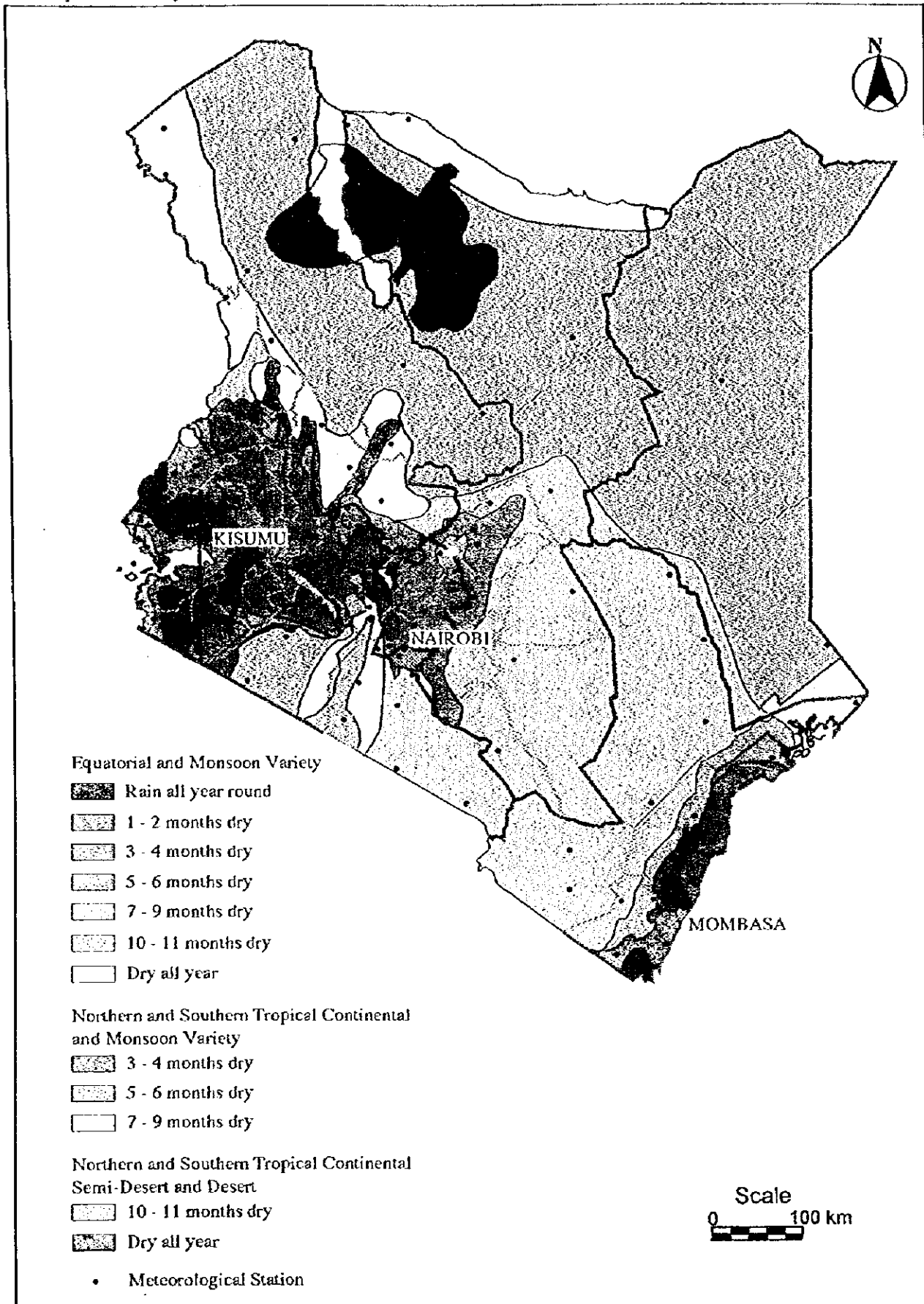
JAPAN INTERNATIONAL COOPERATION AGENCY

Figure - 2.1.1
Hydrogeological Map



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 THE NATIONAL WATER MASTER PLAN
 JAPAN INTERNATIONAL COOPERATION AGENCY

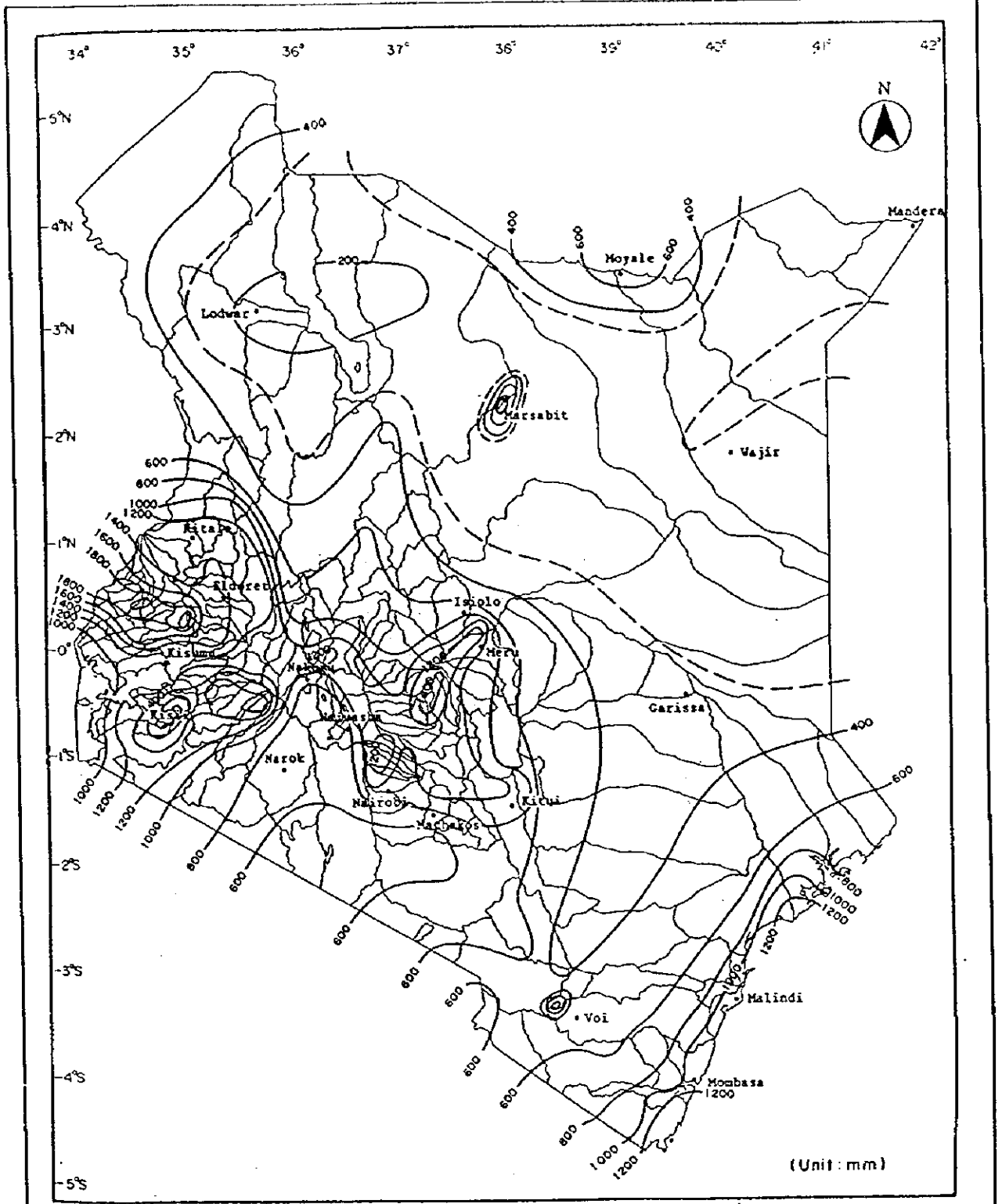
Figure - 2.1.2
 Drainage Areas in Kenya



THE AFTERCARE STUDY ON
THE NATIONAL WATER MASTER PLAN

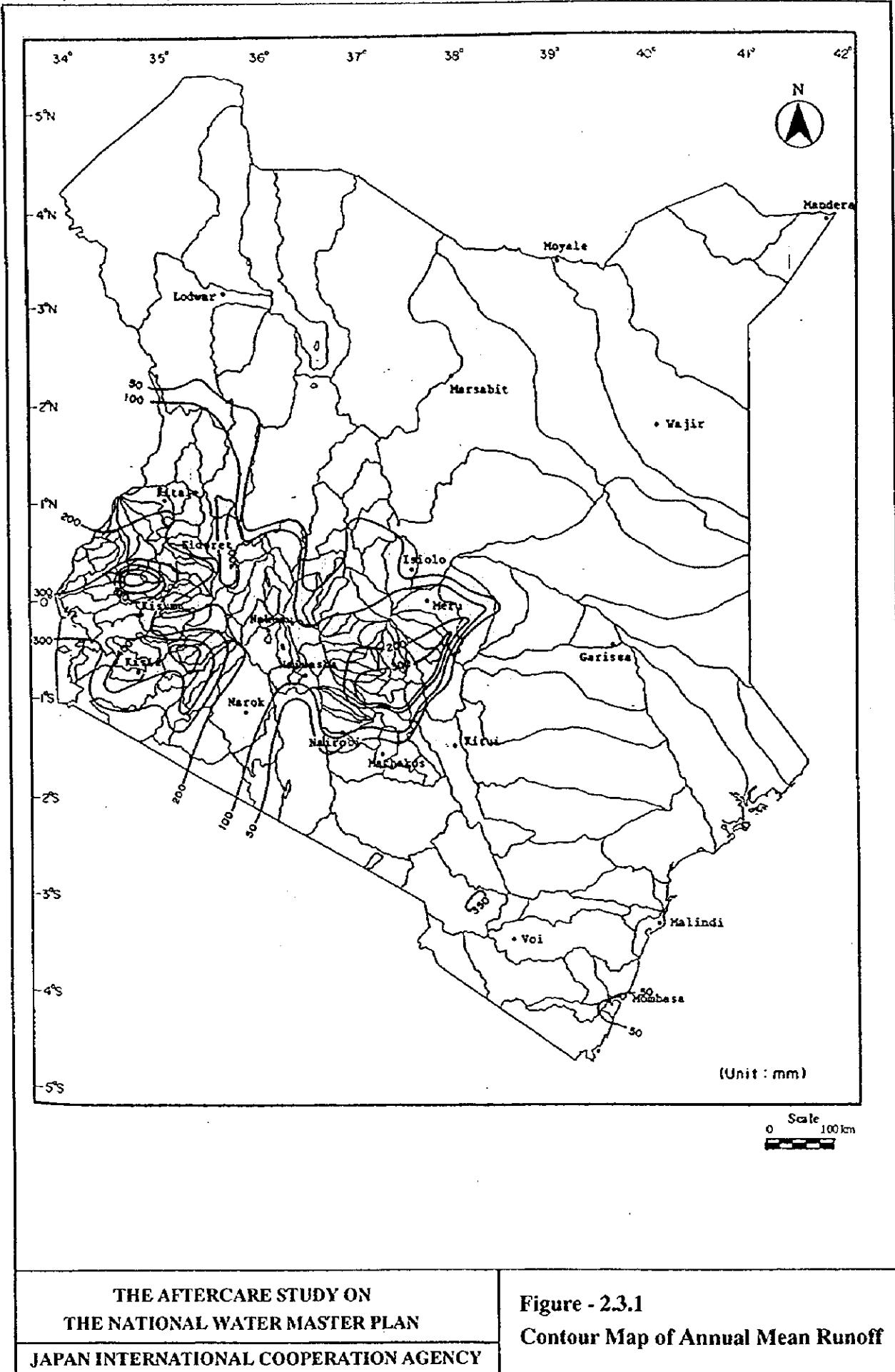
JAPAN INTERNATIONAL COOPERATION AGENCY

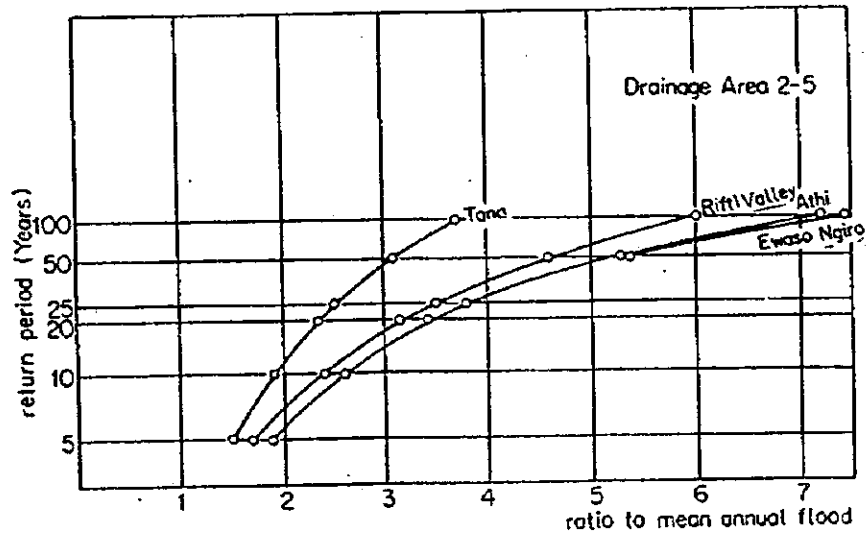
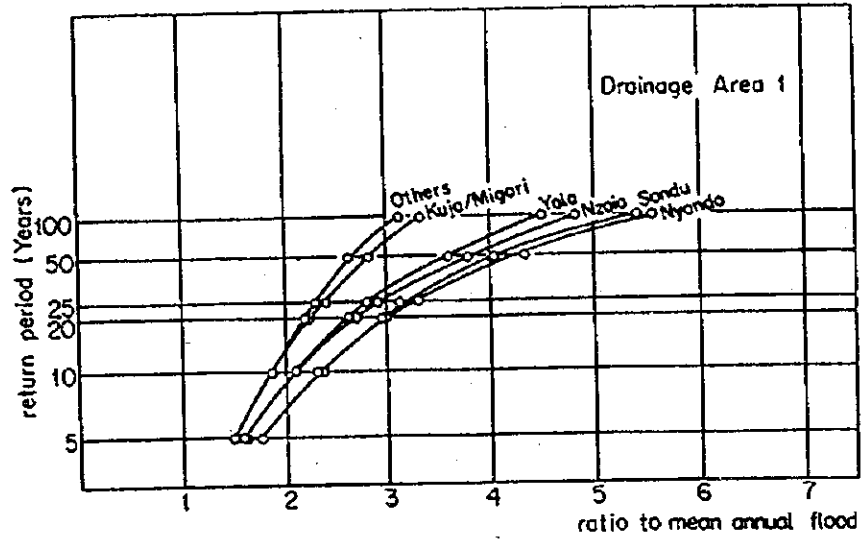
Figure - 2.2.1
Climatic Region in Kenya



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THE NATIONAL WATER MASTER PLAN
JAPAN INTERNATIONAL COOPERATION AGENCY

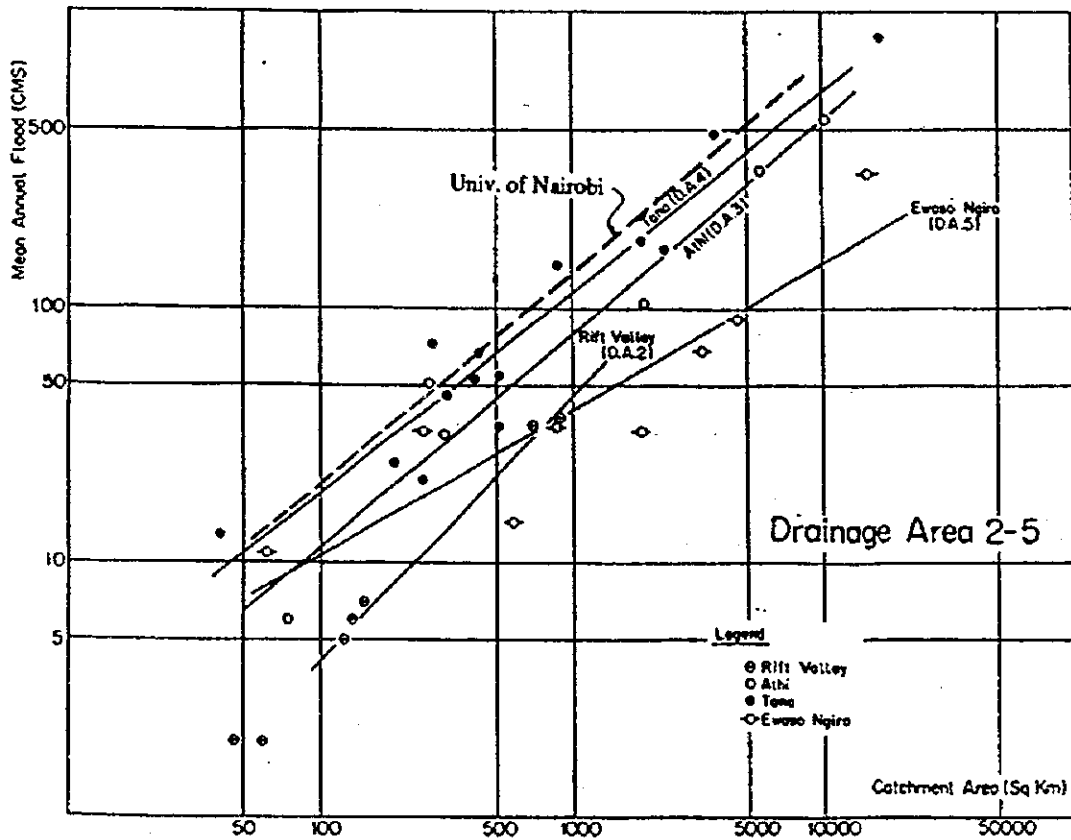
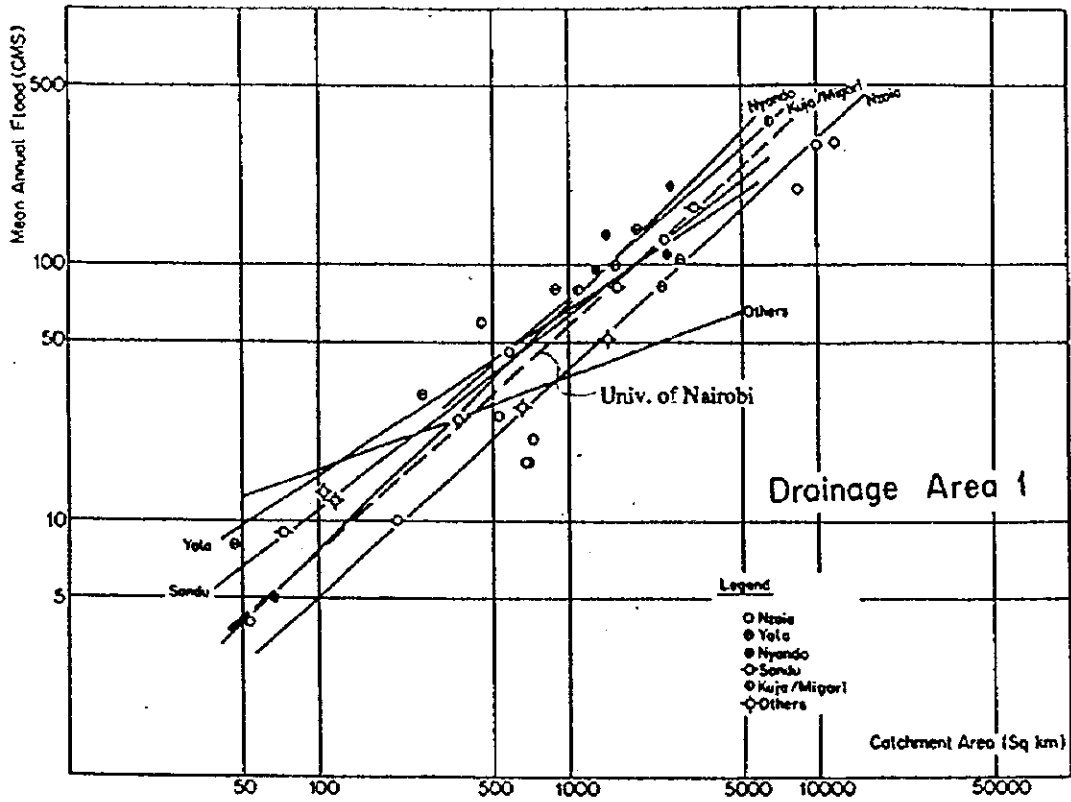
Figure - 2.2.2
Isohyetal Map of Annual Rainfall





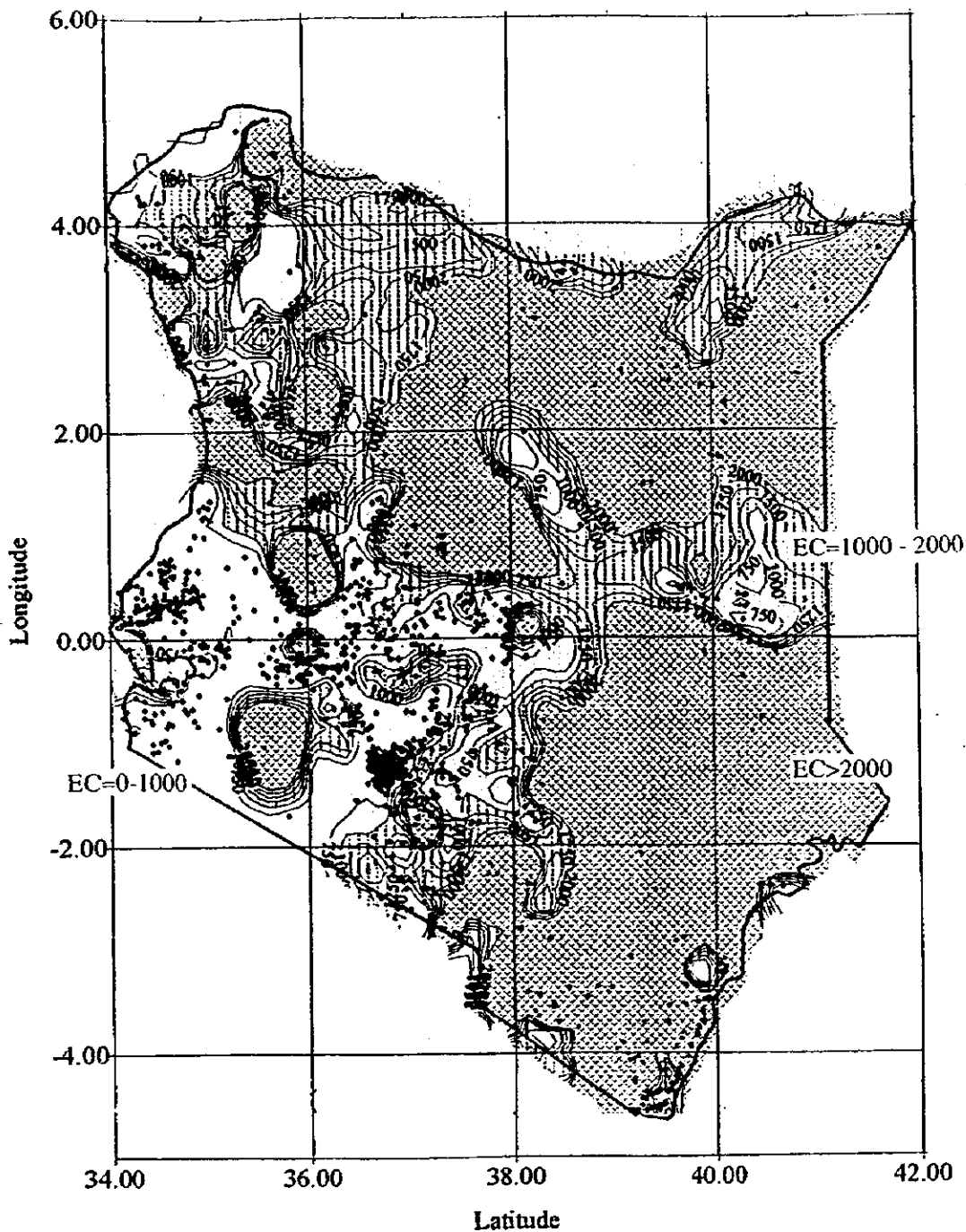
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Figure - 2.3.2
 Ratio of Various Probable Floods to
 Mean Annual Flood



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Figure - 2.3.3
Mean Annual Flood Discharge

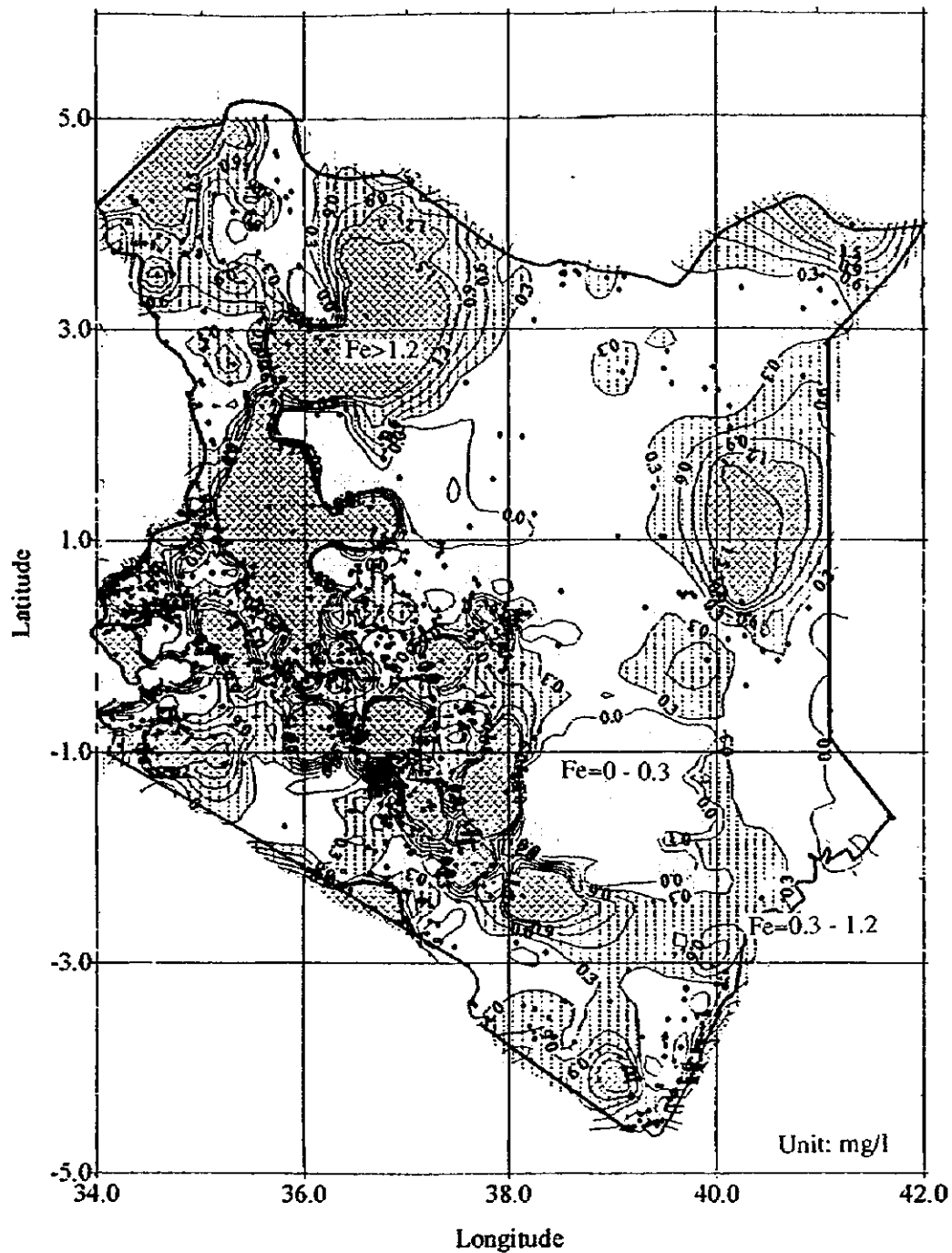


Data: 1,590 data
 Data source: National Water Resources Database of MWR
 Data were processed for plotting by the Aftercare Study Team.

Criteria for small community drinking water supply;
 Electric Conductivity (microS/cm); 750 < EC < 2,000 -- Permissible
 EC = 2,000 -- Limit

This map is produced with a limited number of data sets and hence is of limited use only for providing general information.

<p>THE AFTERCARE STUDY ON THE NATIONAL WATER MASTER PLAN JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>Figure - 2.4.1 Water Quality Distribution -Electric Conductivity</p>
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Data: 1,427 data
 Data source: National Water Resources Database of MWR
 Data were processed for plotting by the Aftercare Study Team.

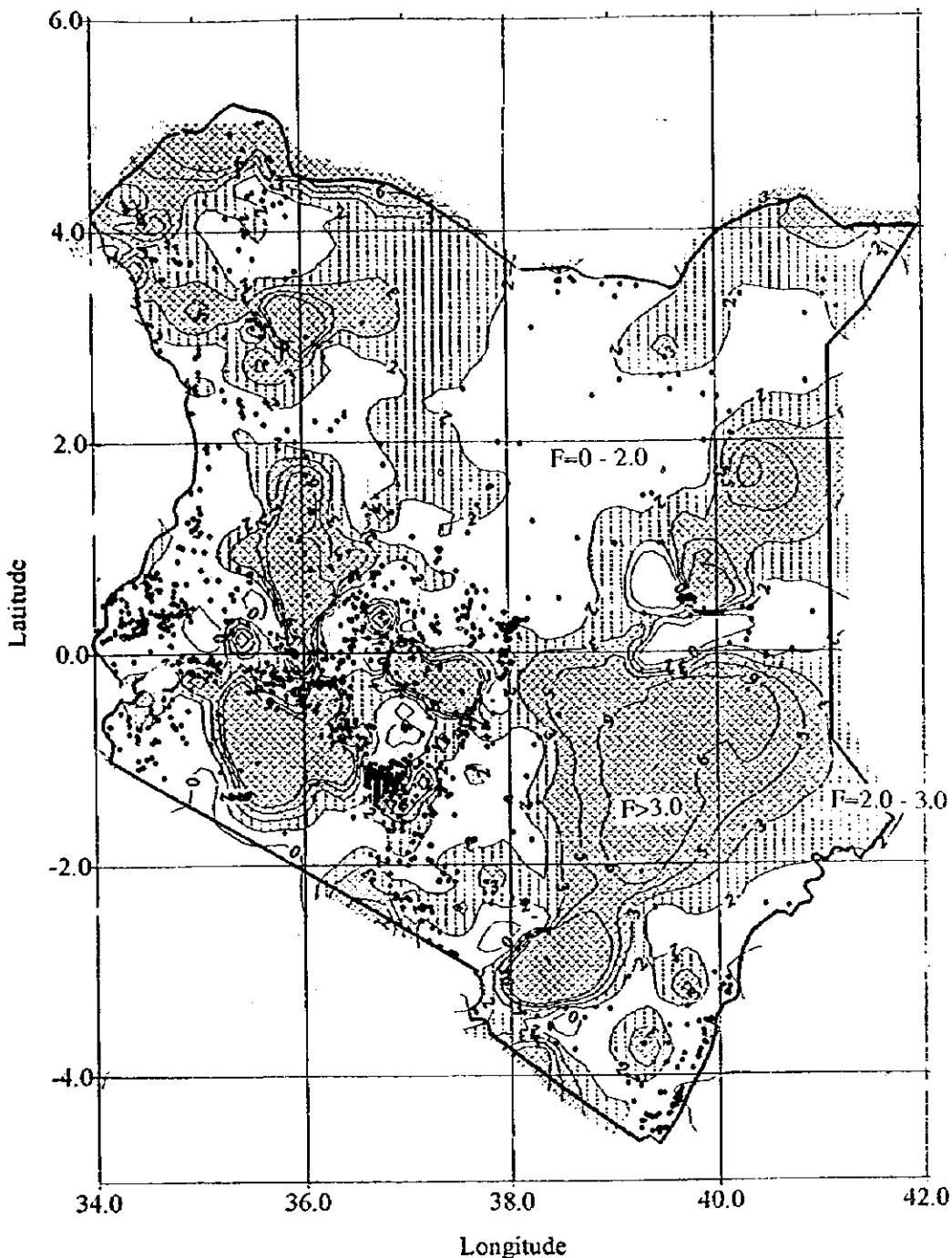
Criteria for small community drinking water supply;
 Electric Conductivity (mg/l); $0.3 < Fe < 1.0$ -- Permissible
 $Fe = 1.0$ -- Limit

This map is produced with a limited number of data sets and hence is of limited use only for providing general information.

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Figure - 2.4.2
 Water Quality Distribution -Iron (Fe)



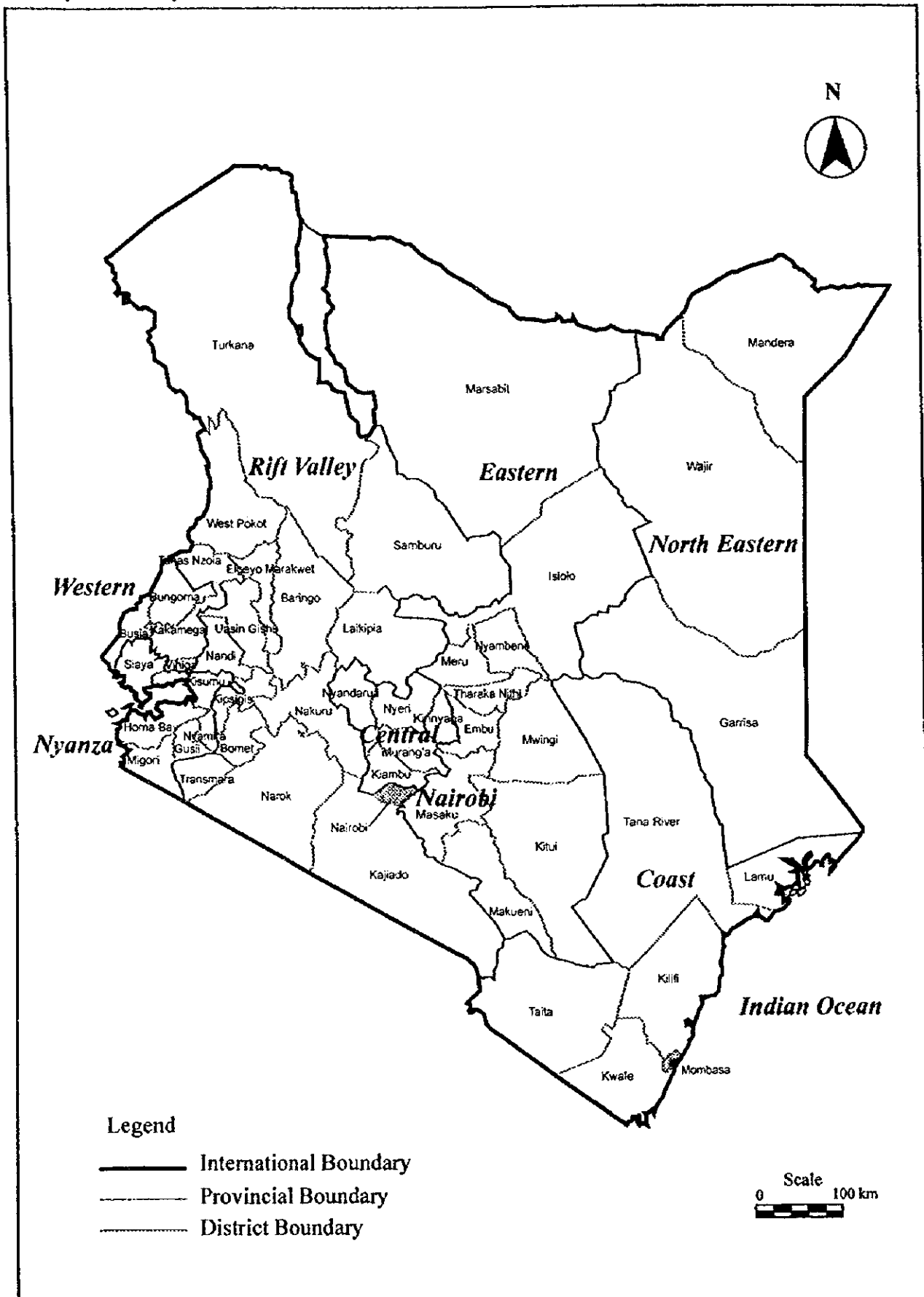
Data: 1,594 data
 Data source: National Water Resources Database of MWR
 Data were processed for plotting by the Aftercare Study Team.

Criteria for small community drinking water supply;
 Electric Conductivity (mg/l); $1.5 < F < 3.0$ ---- Permissible
 $F = 3.0$ -- Limit

This map is produced with a limited number of data sets and hence is of limited use only for providing general information.

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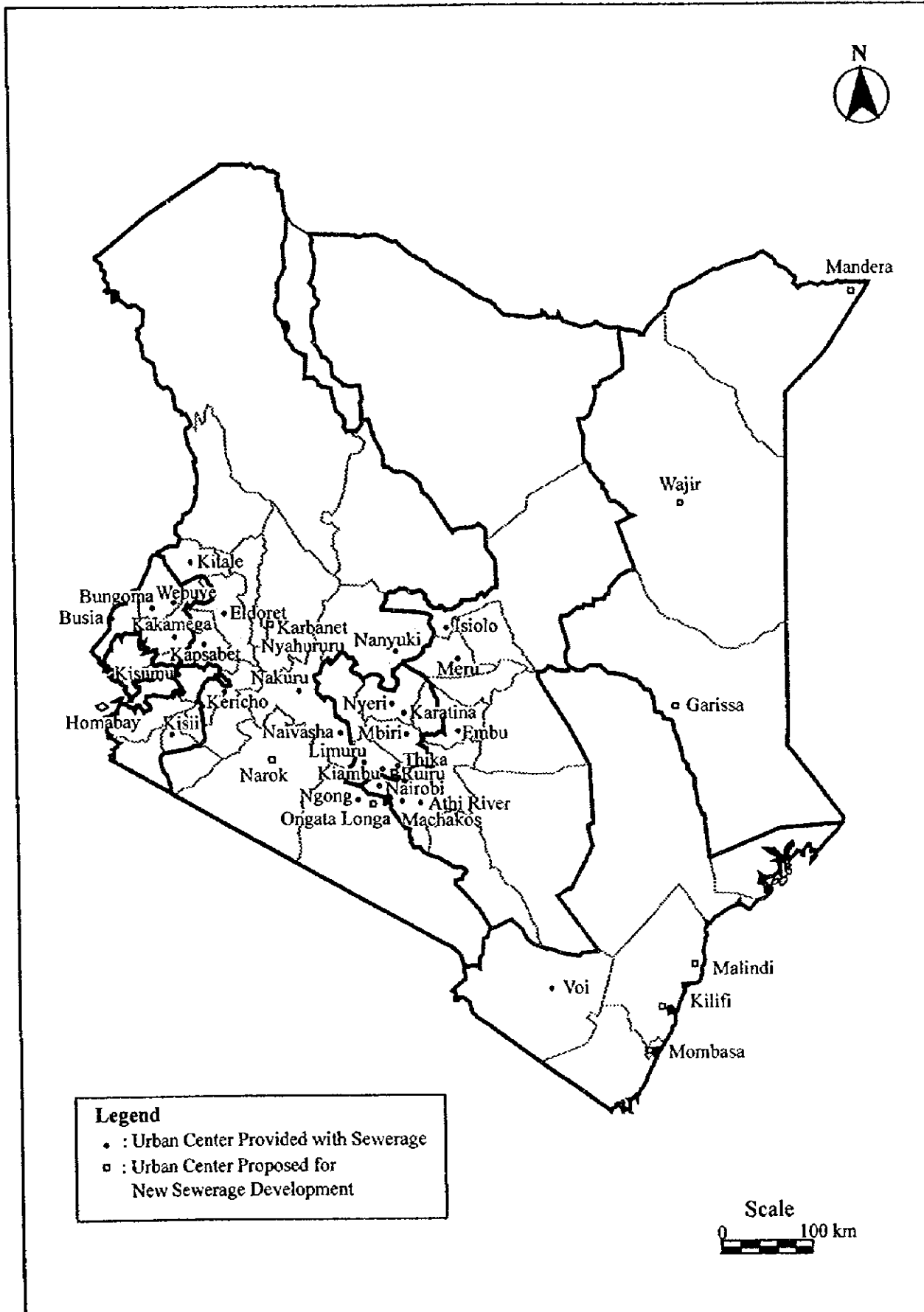
Figure - 2.4.3
 Water Quality Distribution -Fluoride (F)



**THE AFTERCARE STUDY ON
THE NATIONAL WATER MASTER PLAN**

**Figure - 2.6.1
Administrative Division Map**

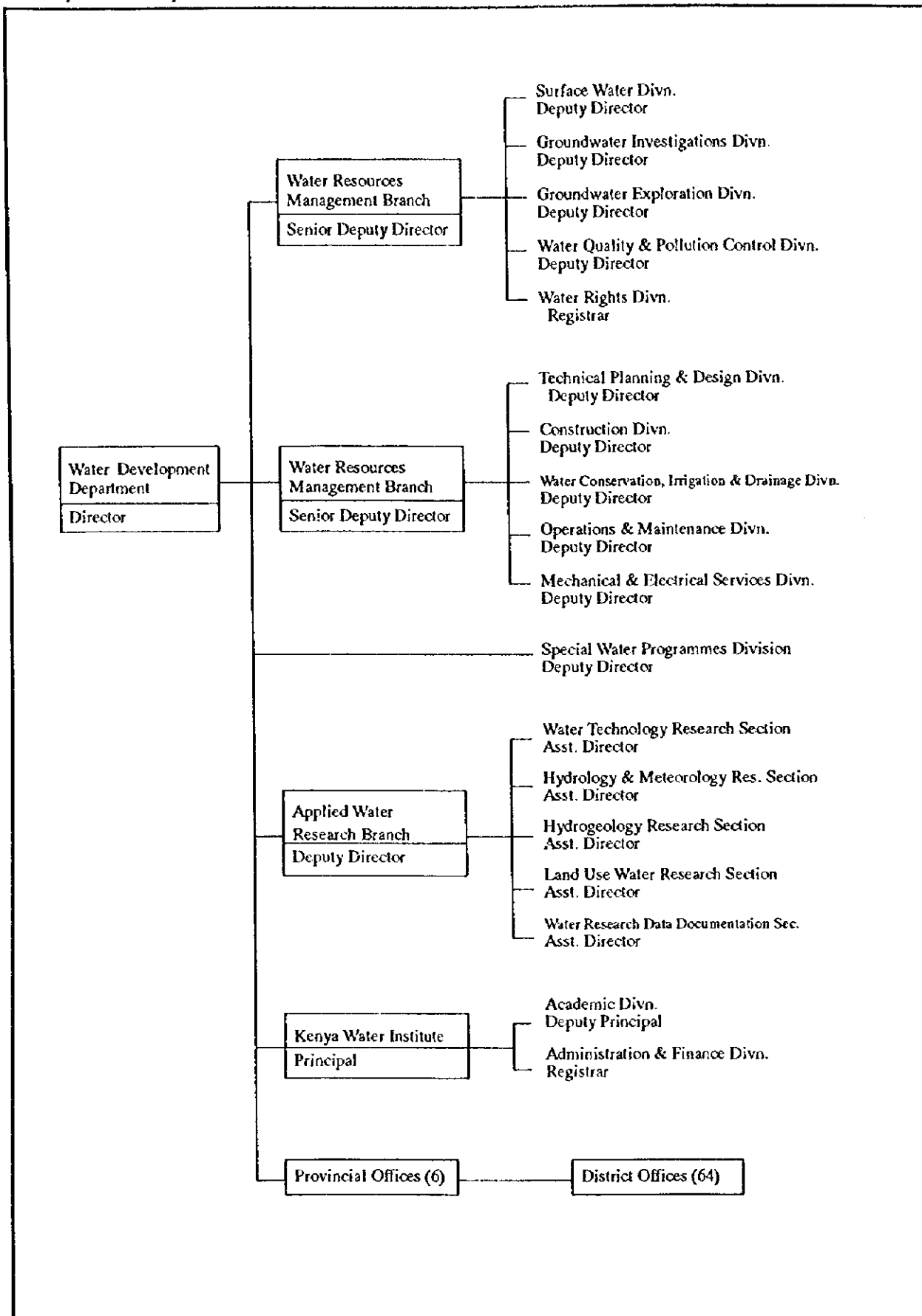
JAPAN INTERNATIONAL COOPERATION AGENCY



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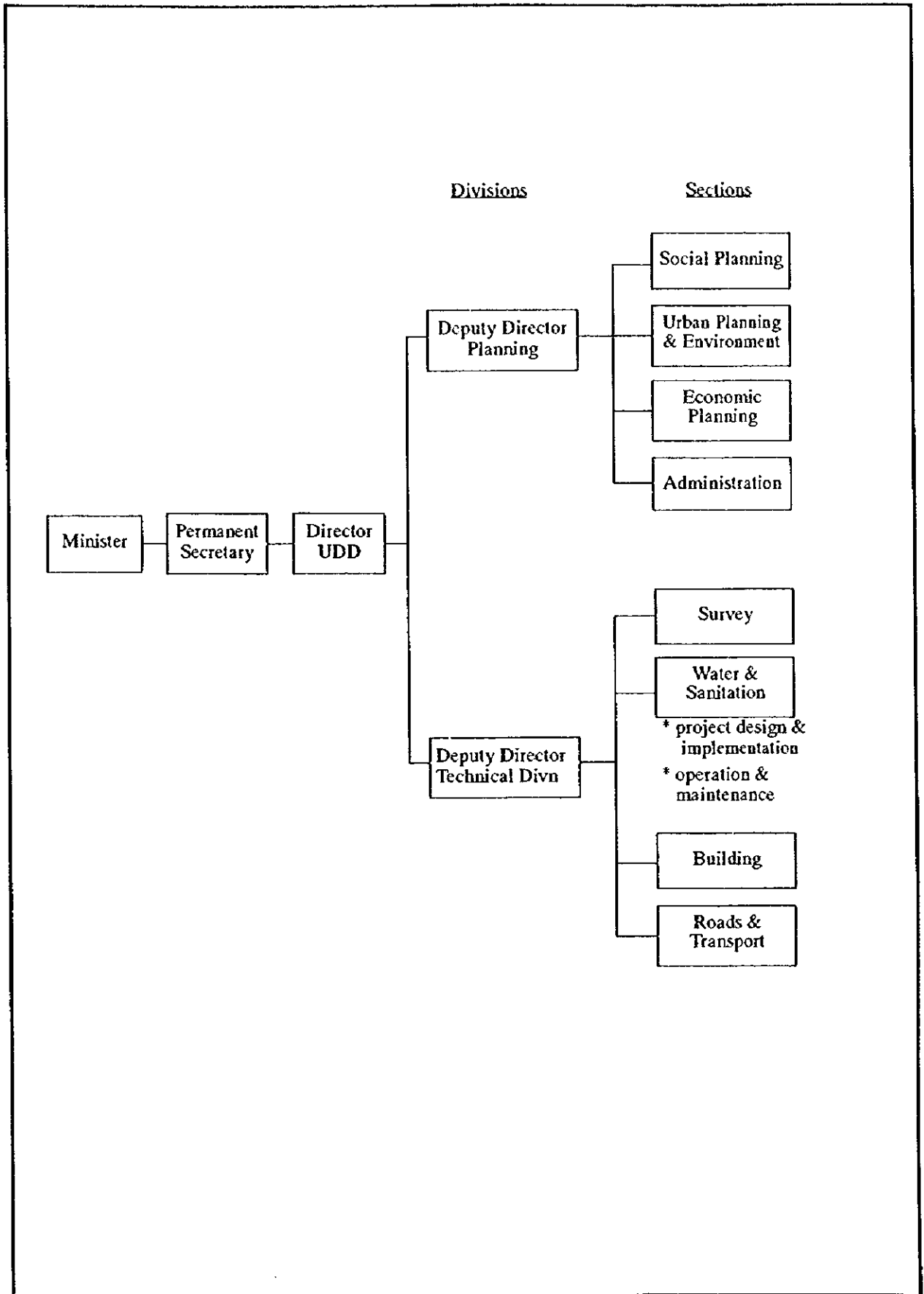
**Figure - 3.1.1
Urban Centres with Sewerage**



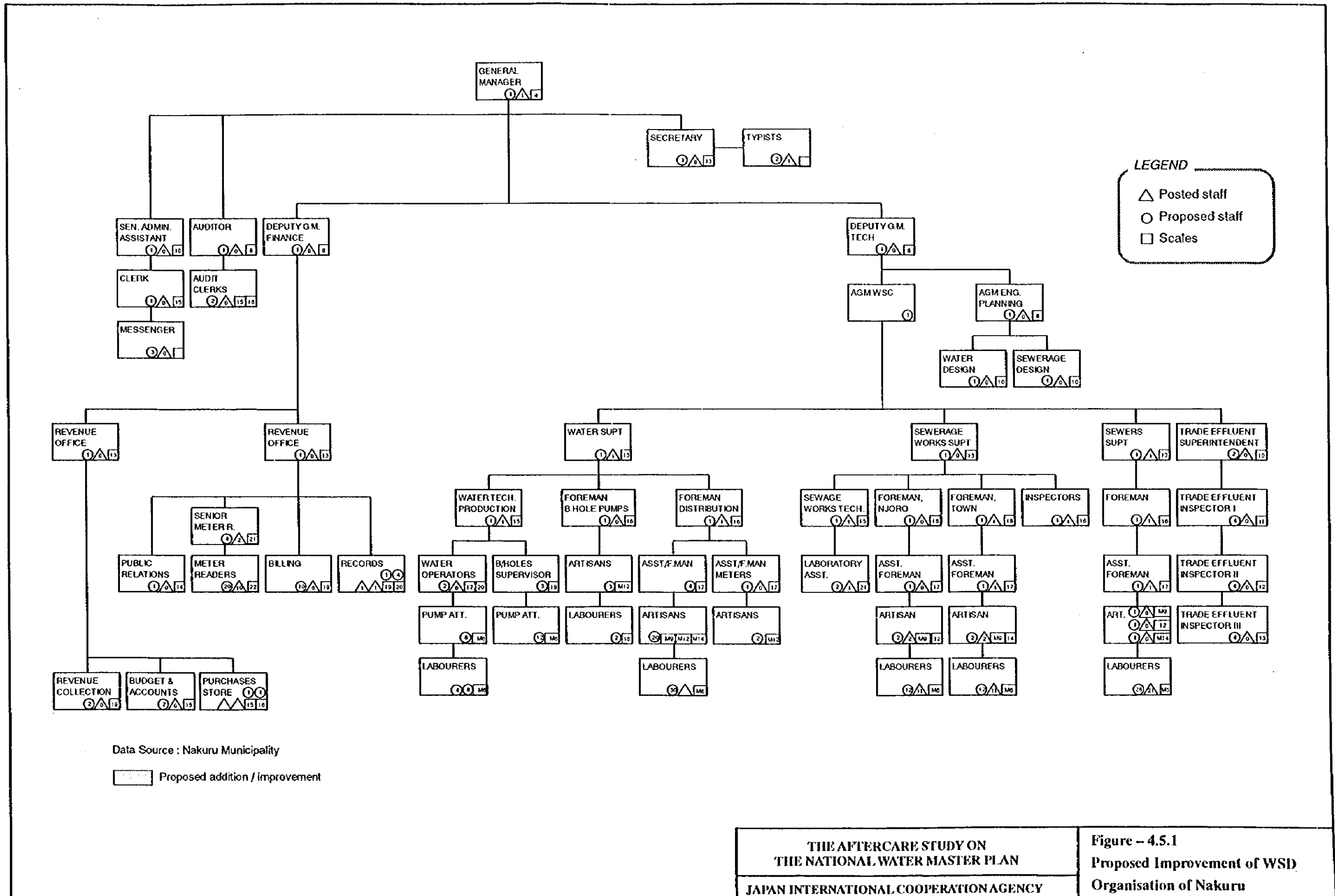
THE AFTERCARE STUDY ON
THE NATIONAL WATER MASTER PLAN

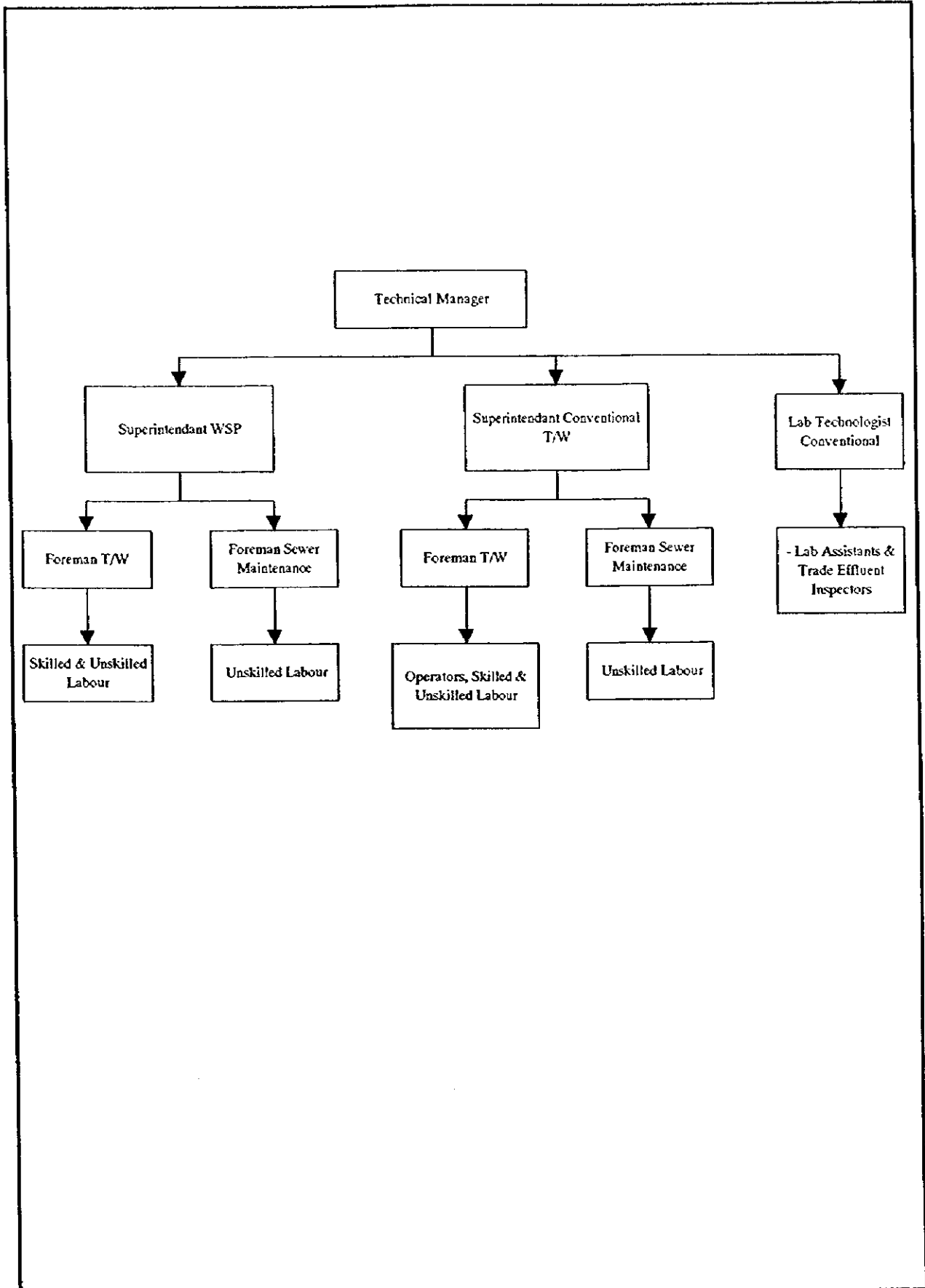
JAPAN INTERNATIONAL COOPERATION AGENCY

Figure - 3.3.1
Ministry of Water Resources Water
Development Department: Existing
Organisation



<p>THE AFTERCARE STUDY ON THE NATIONAL WATER MASTER PLAN</p>	<p>Figure - 3.3.2 Ministry of Local Authorities Urban Development Department: Existing Organisation</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	



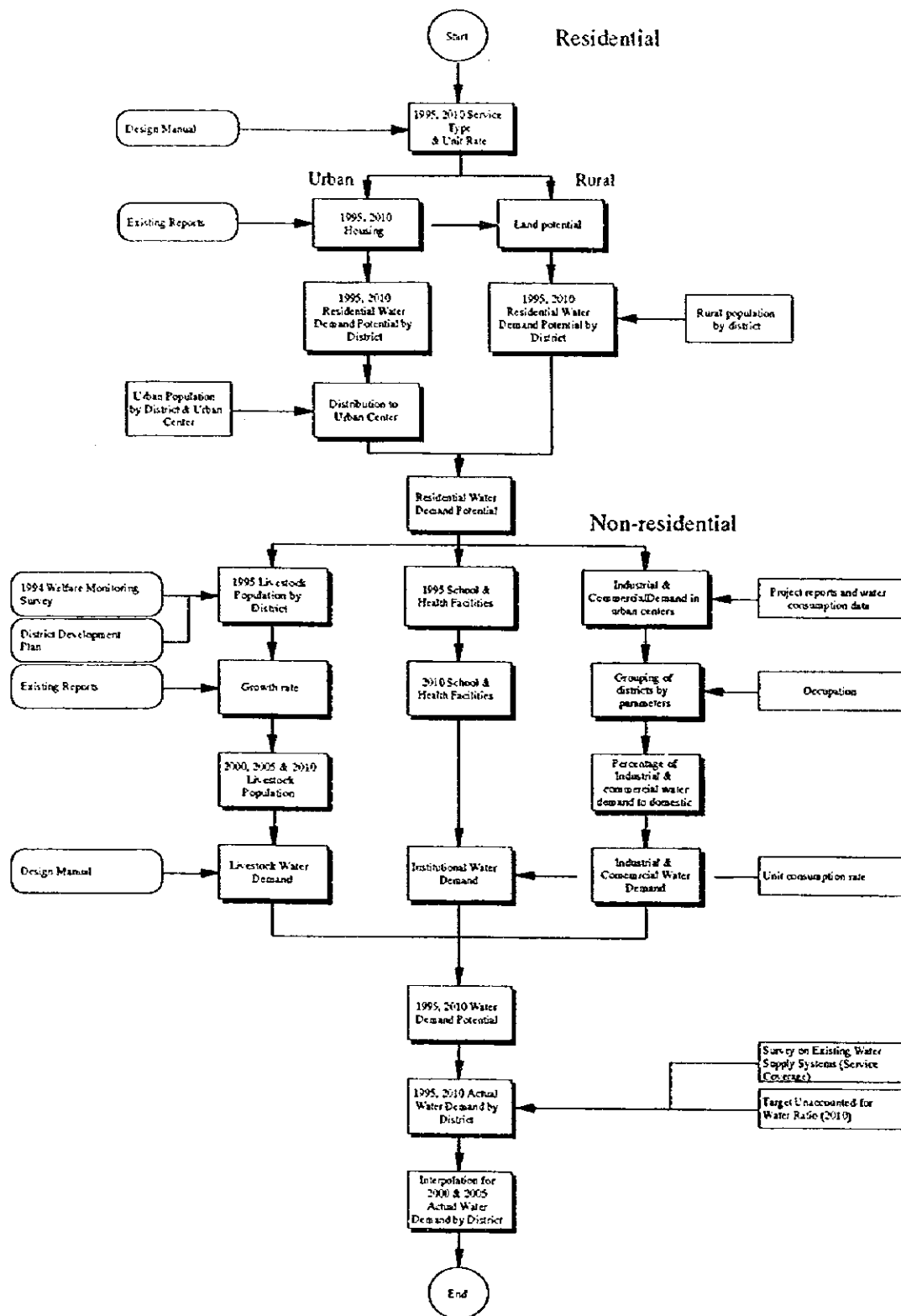


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**Figure - 5.4.1
Typical O&M Organisation Structure**

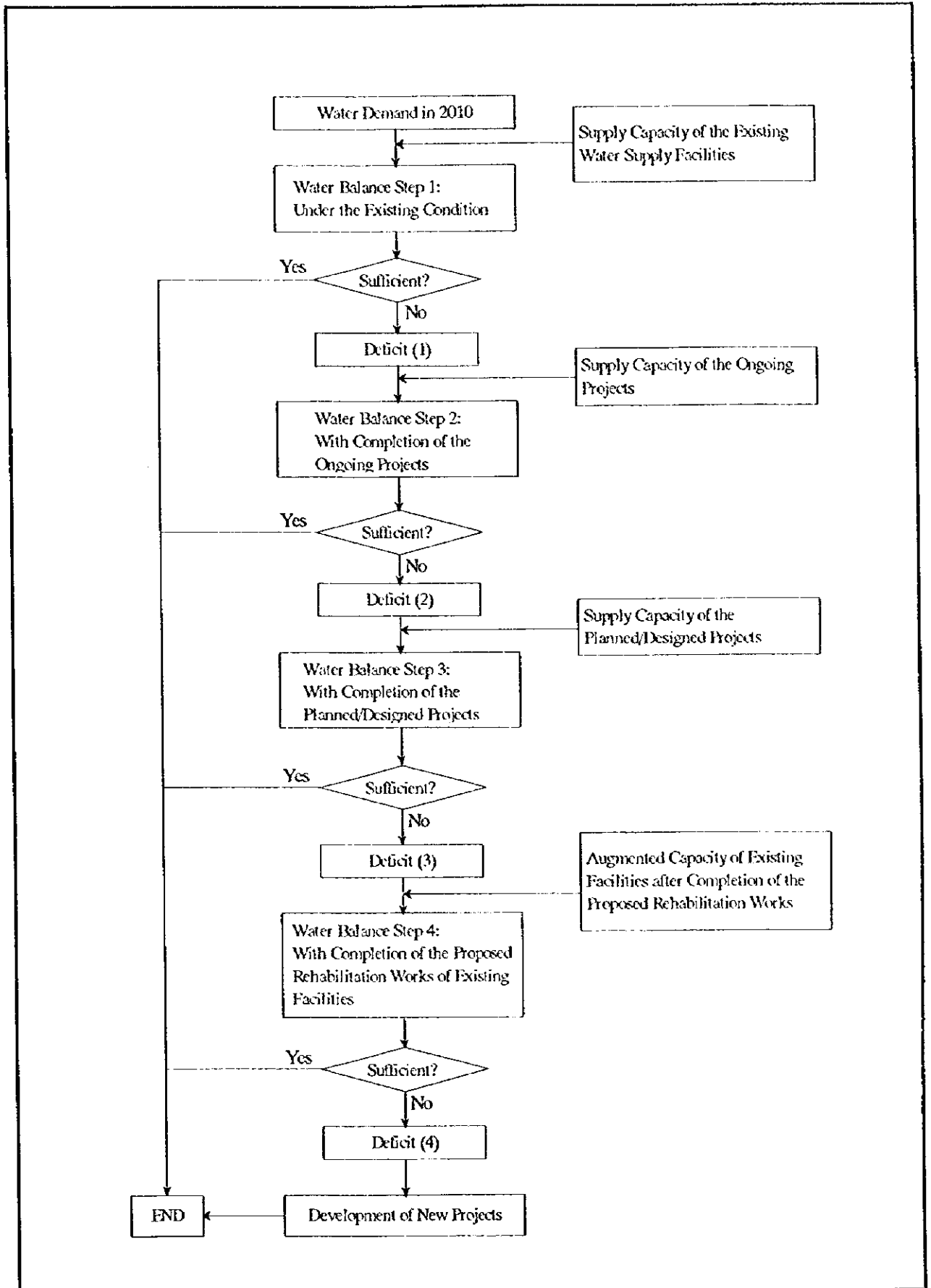
Review of Water Demand



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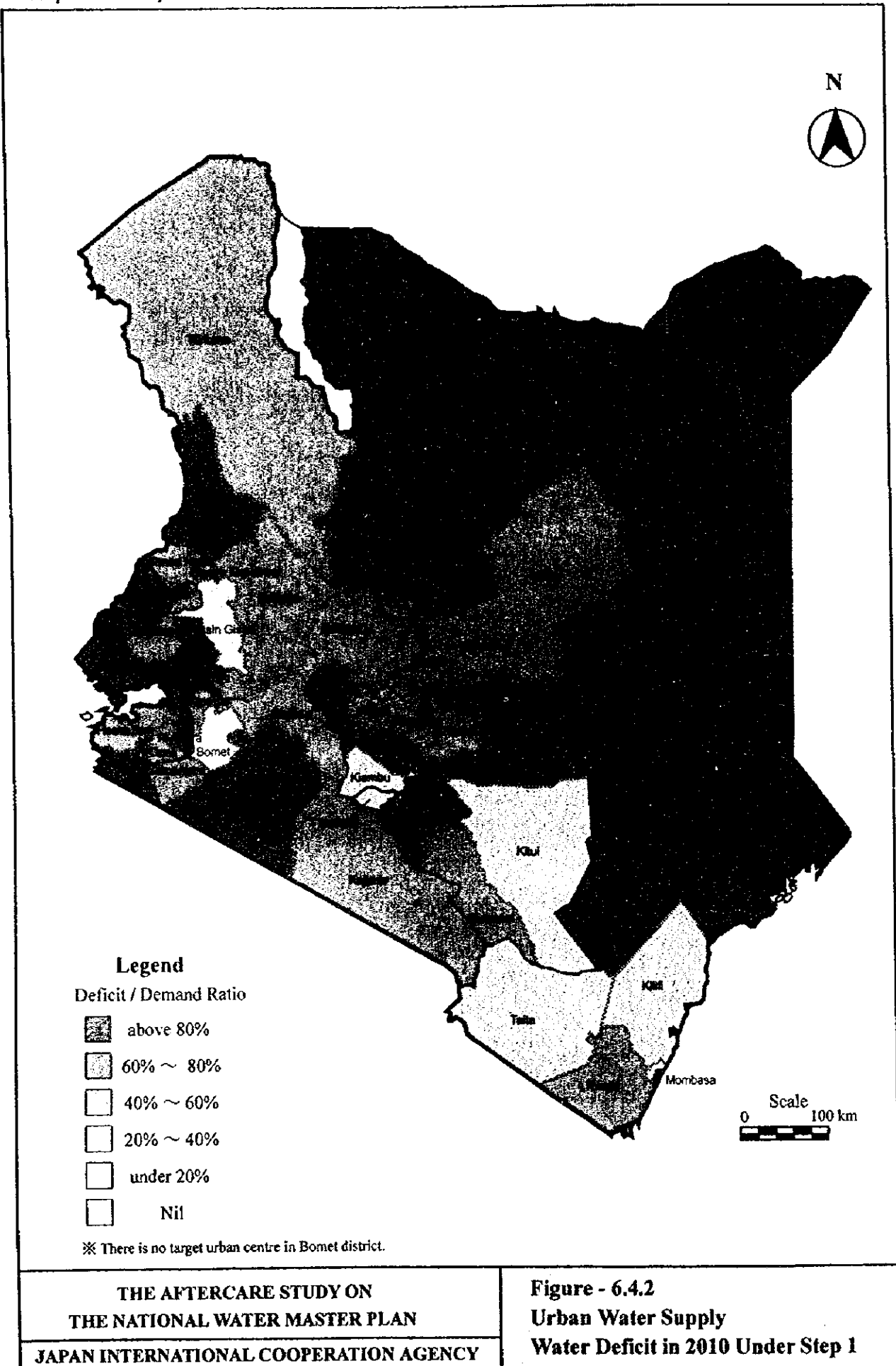
JAPAN INTERNATIONAL COOPERATION AGENCY

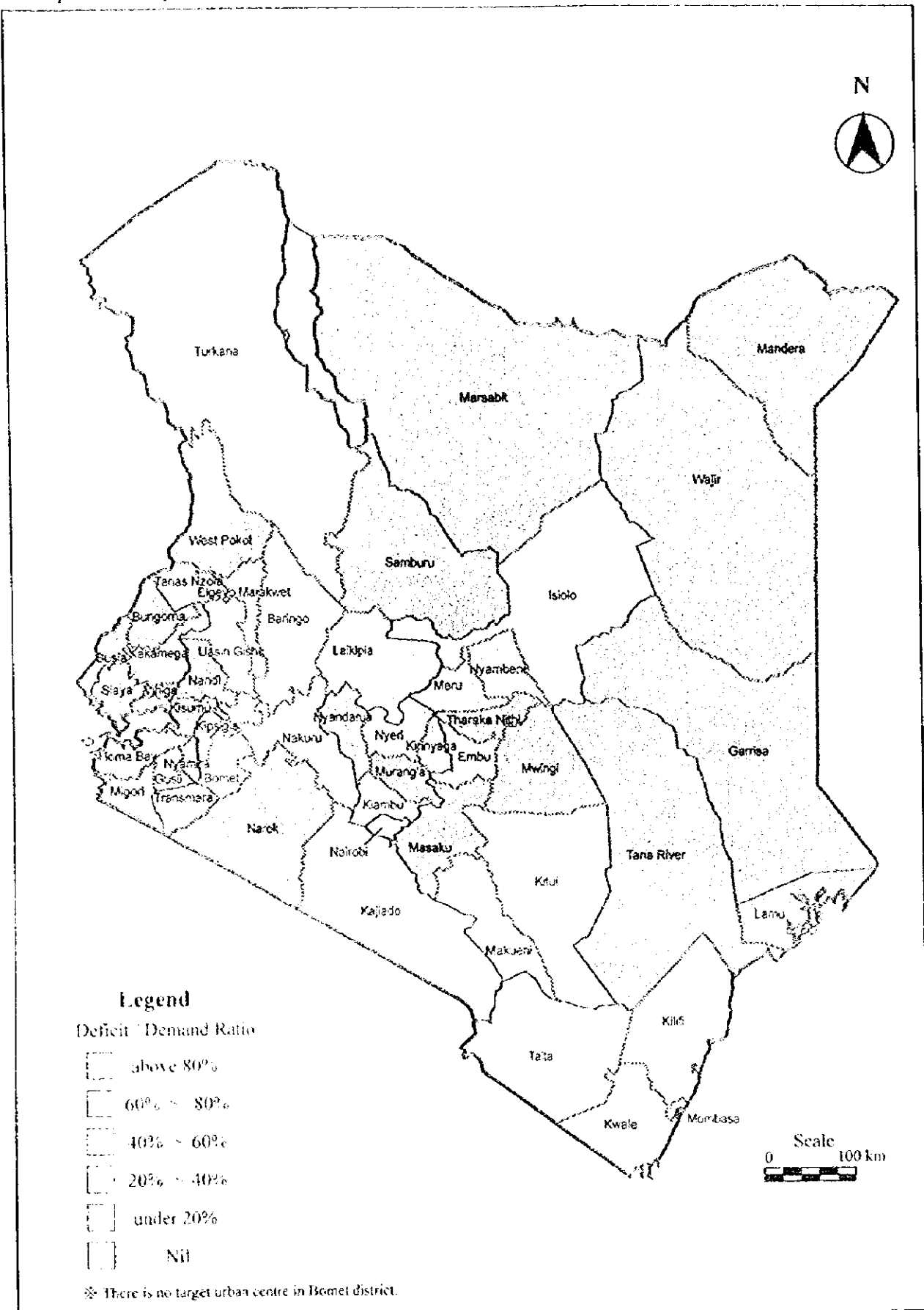
**Figure - 6.3.1
Procedures for Water Demand Forecast**



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THE NATIONAL WATER MASTER PLAN
JAPAN INTERNATIONAL COOPERATION AGENCY

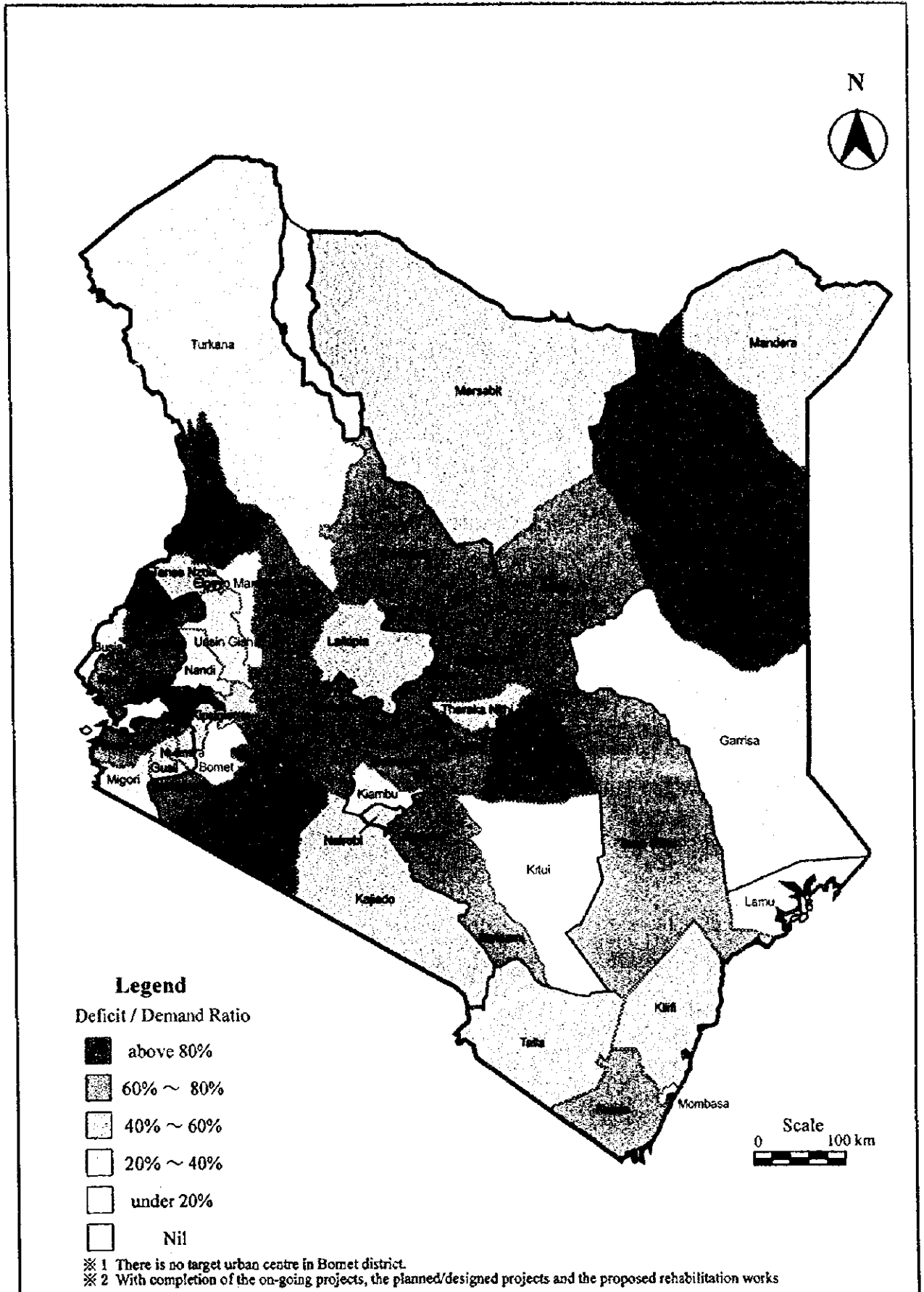
Figure - 6.4.1
Flow Chart of Water Balance Calculation





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JAPAN INTERNATIONAL COOPERATION AGENCY**

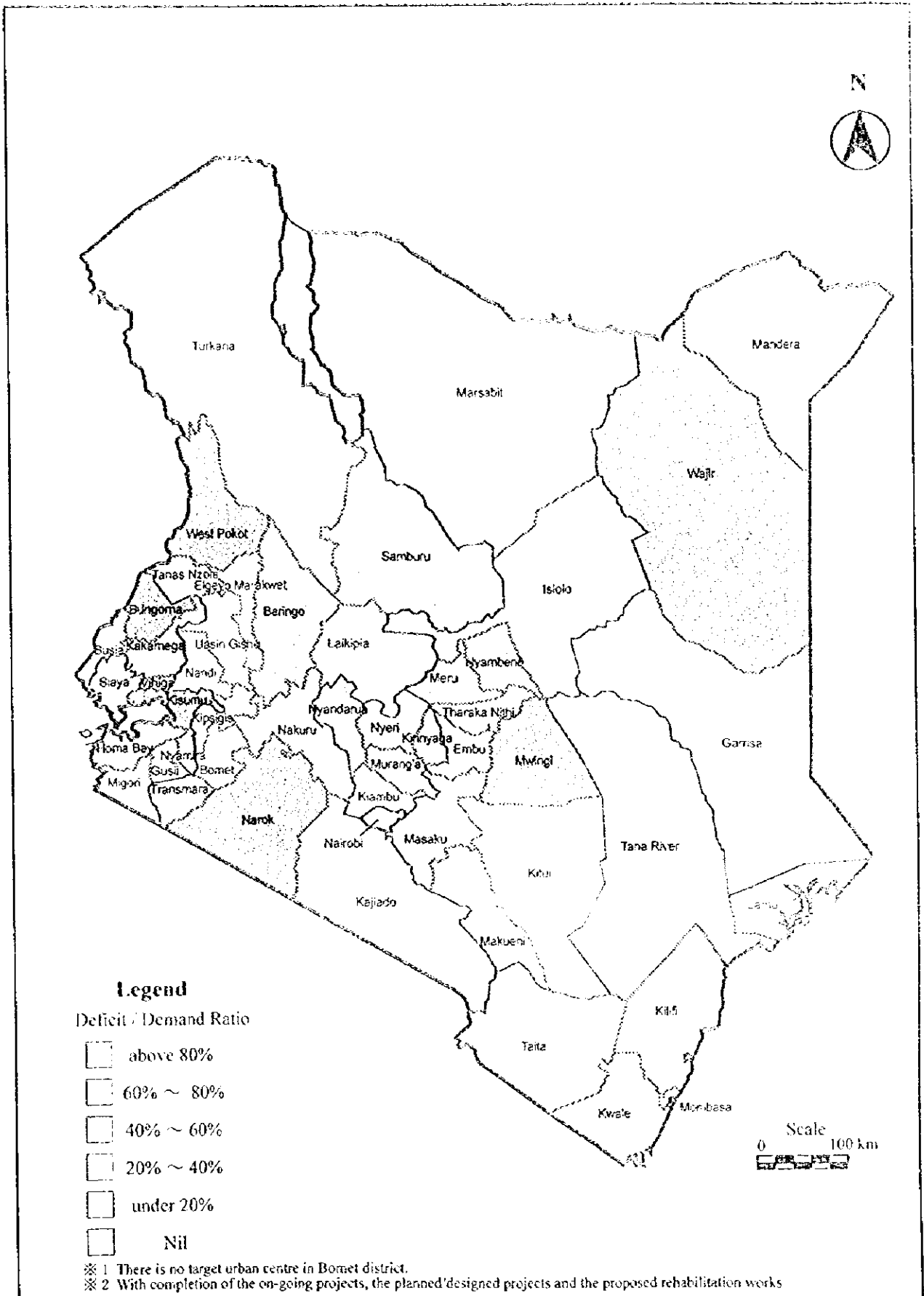
**Figure - 6.4.2
Urban Water Supply
Water Deficit in 2010 Under Step 1**



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 THE NATIONAL WATER MASTER PLAN**

JAPAN INTERNATIONAL COOPERATION AGENCY

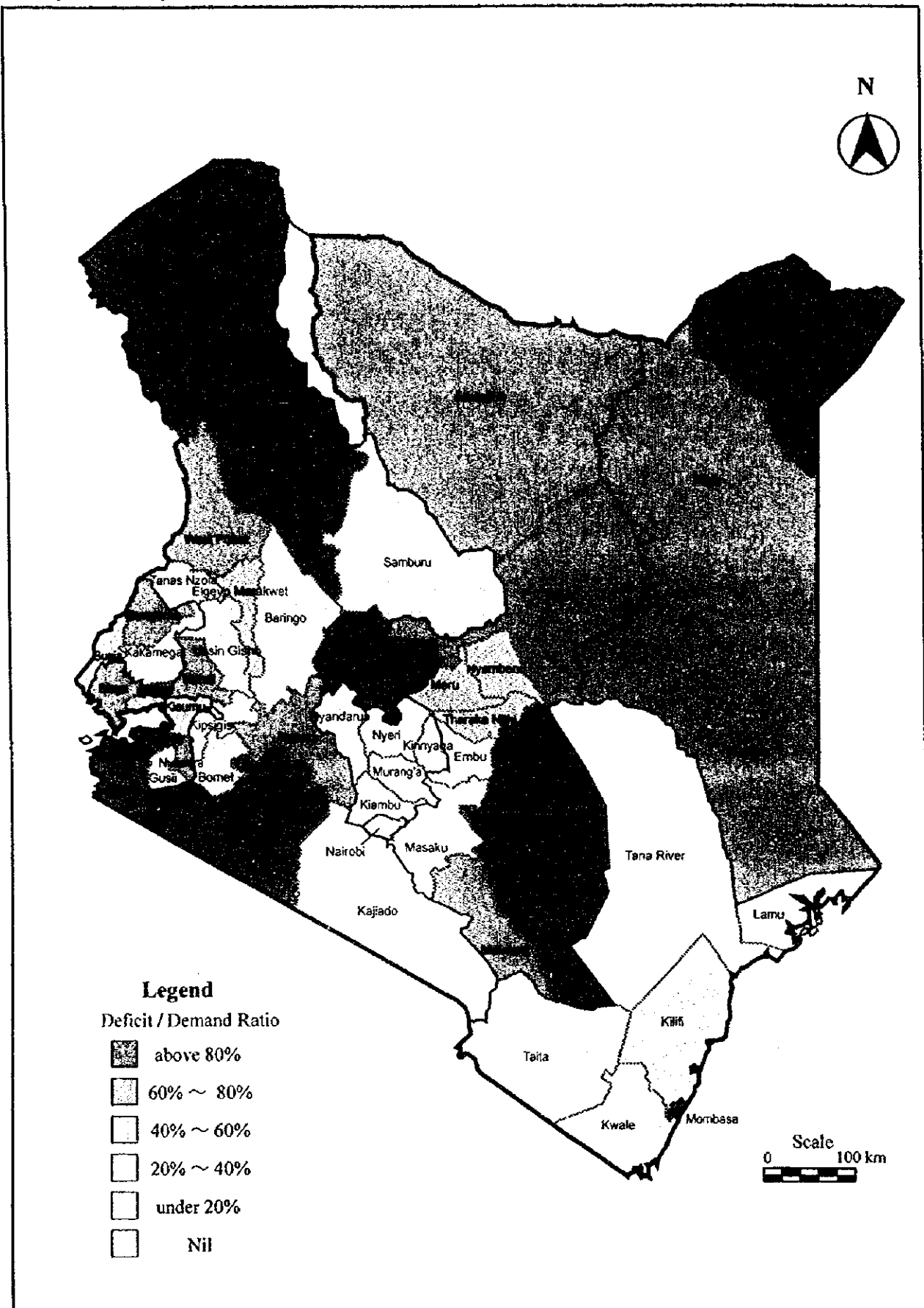
**Figure - 6.4.3
 Urban Water Supply
 Water Deficit in 2010 Under Step 4**



**THE AFTERCARE STUDY ON
THE NATIONAL WATER MASTER PLAN**

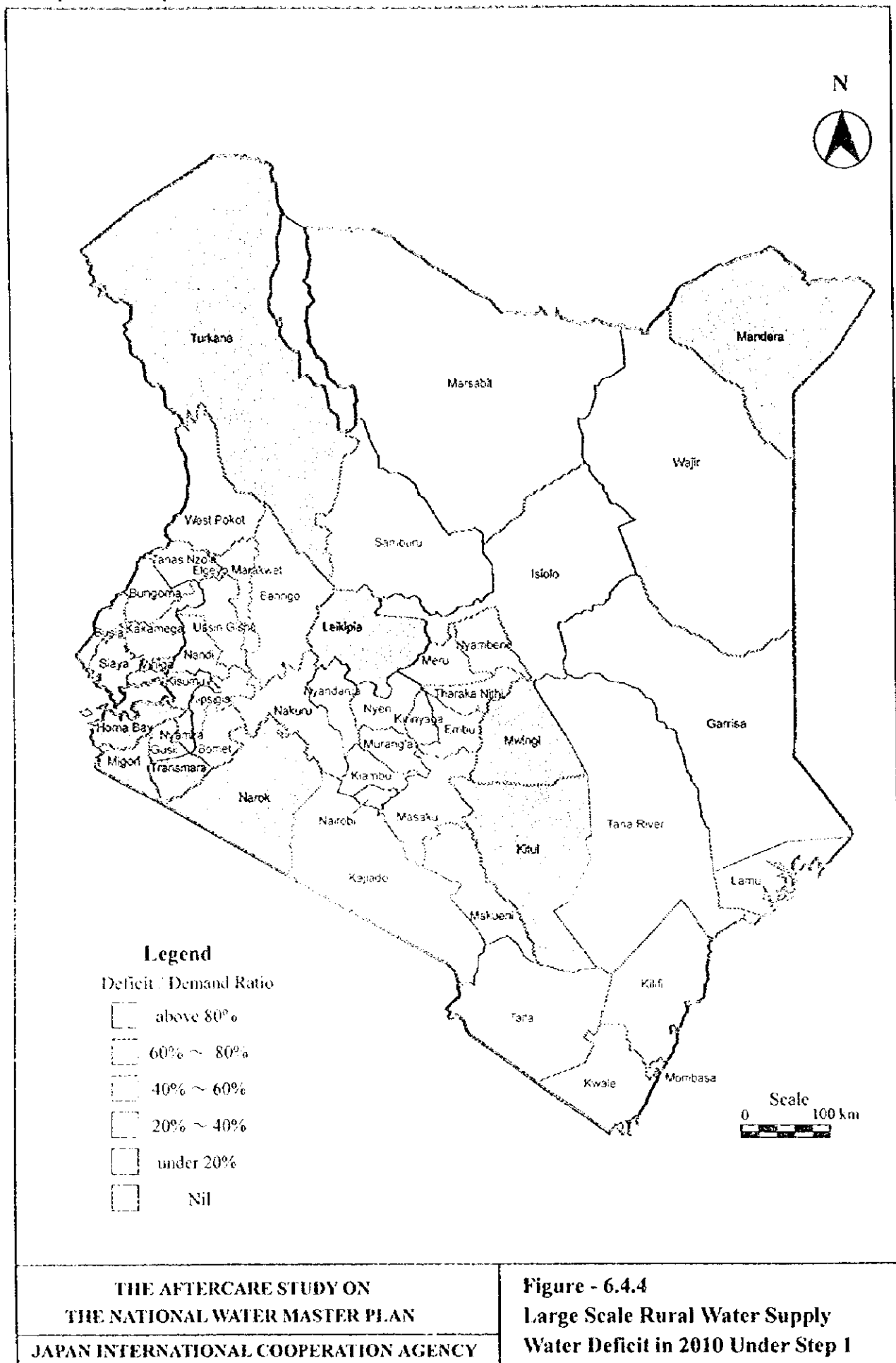
JAPAN INTERNATIONAL COOPERATION AGENCY

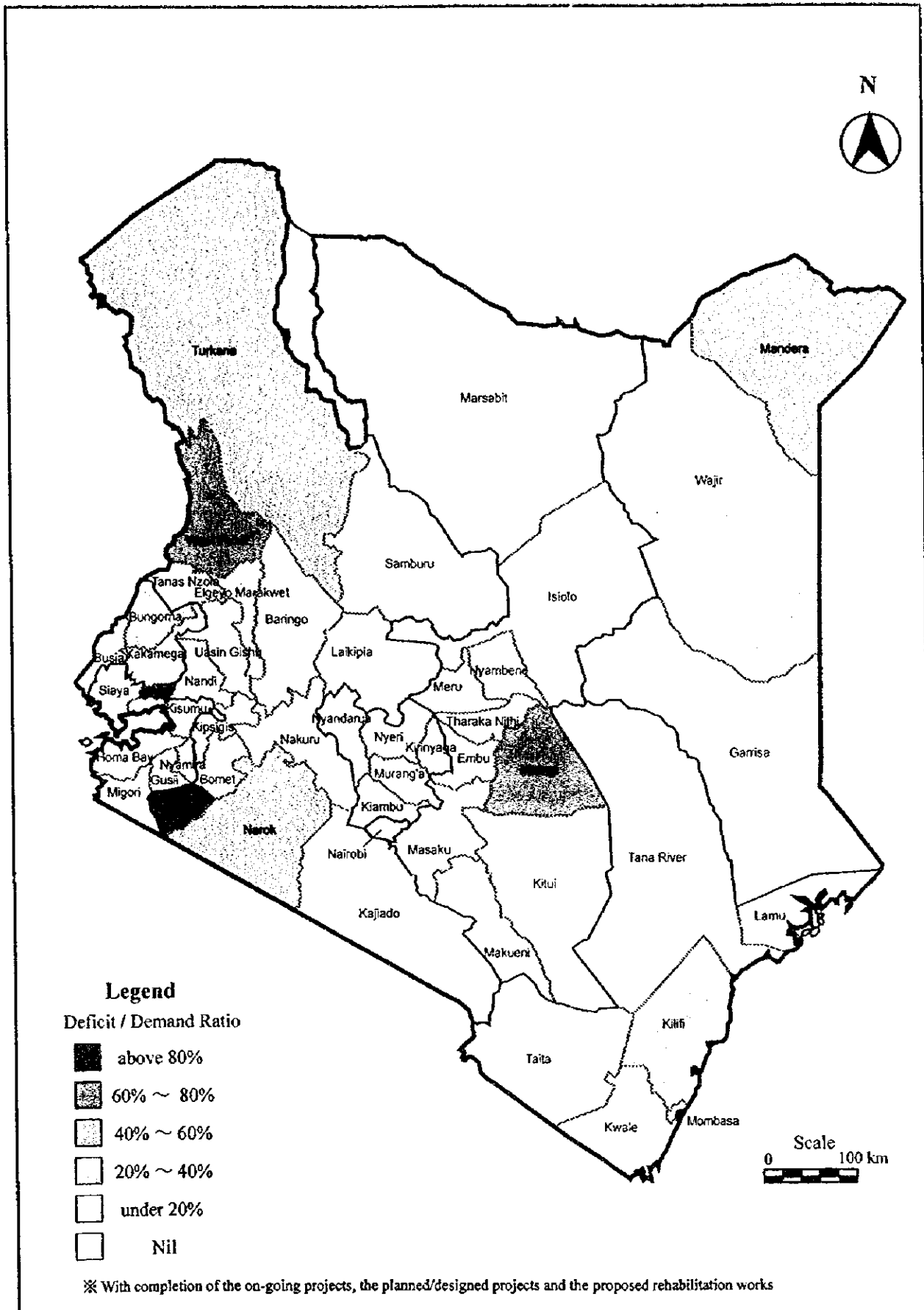
**Figure - 6.4.3
Urban Water Supply
Water Deficit in 2010 Under Step 4**



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JAPAN INTERNATIONAL COOPERATION AGENCY

**Figure - 6.4.4
Large Scale Rural Water Supply
Water Deficit in 2010 Under Step 1**

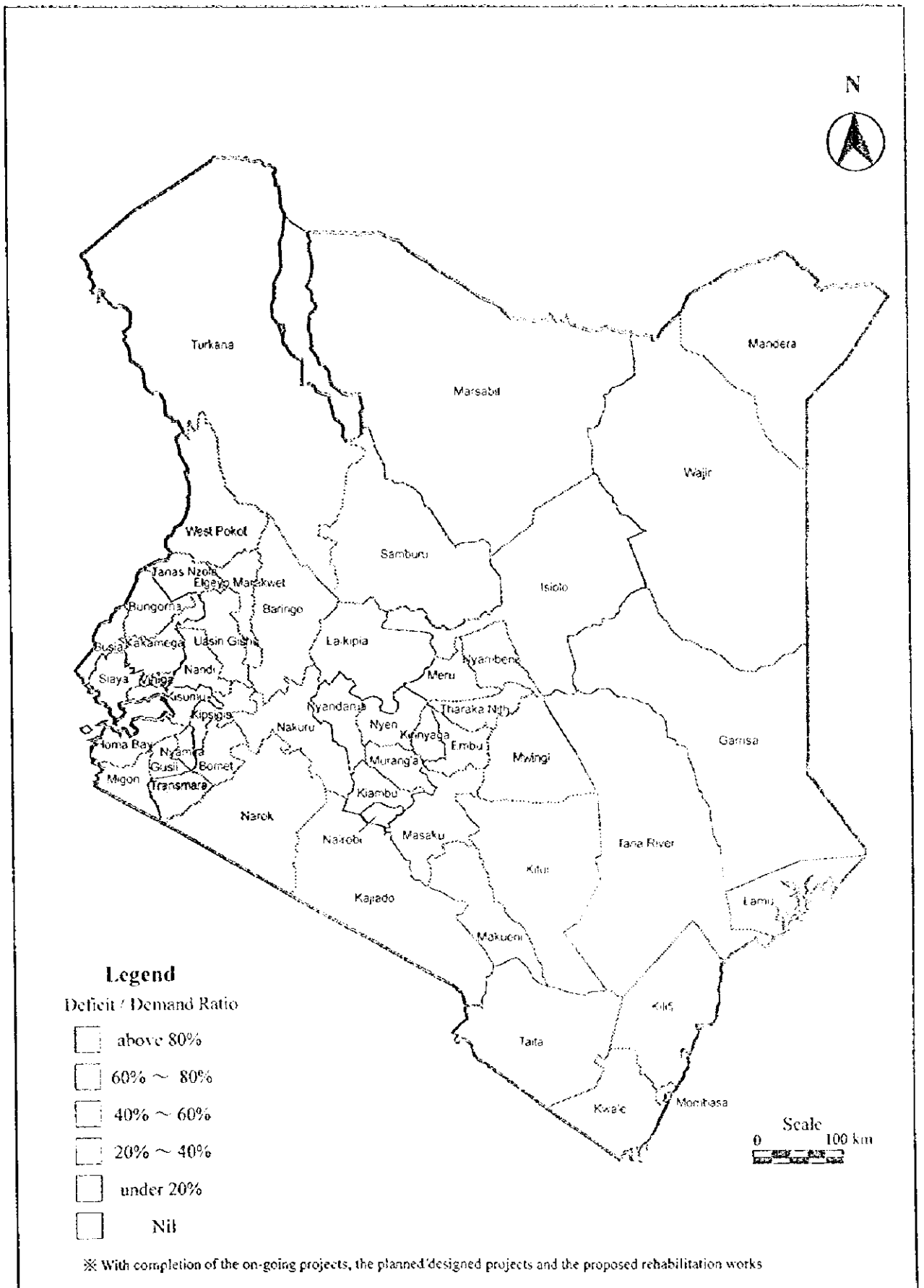




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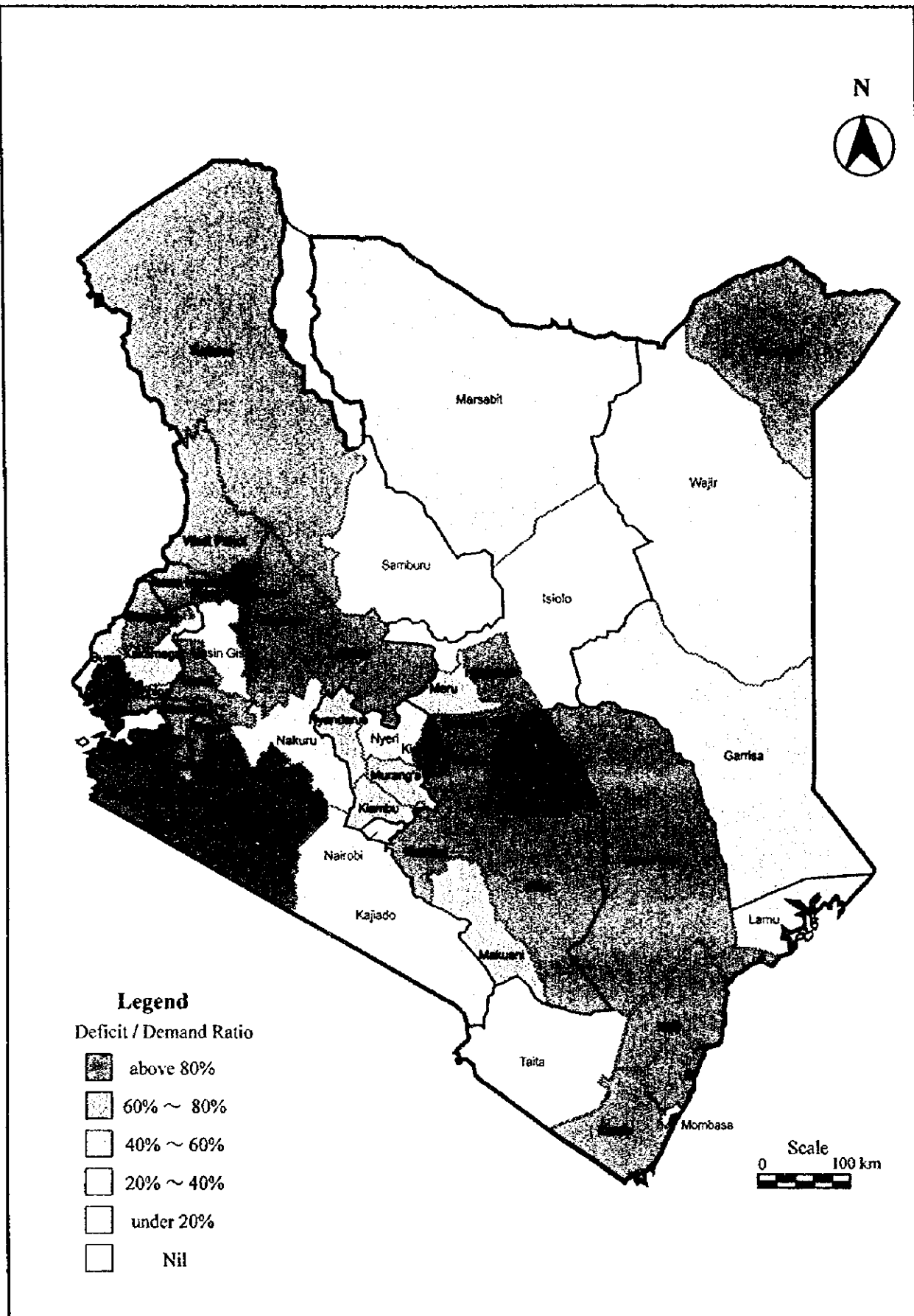
**Figure - 6.4.5
Large Scale Rural Water Supply
Water Deficit in 2010 Under Step 4**



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**Figure - 6.4.5
Large Scale Rural Water Supply
Water Deficit in 2010 Under Step 4**



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THE NATIONAL WATER MASTER PLAN**
JAPAN INTERNATIONAL COOPERATION AGENCY

**Figure - 6.4.6
Small Scale Rural Water Supply
Water Deficit in 2010 Under Step 1**

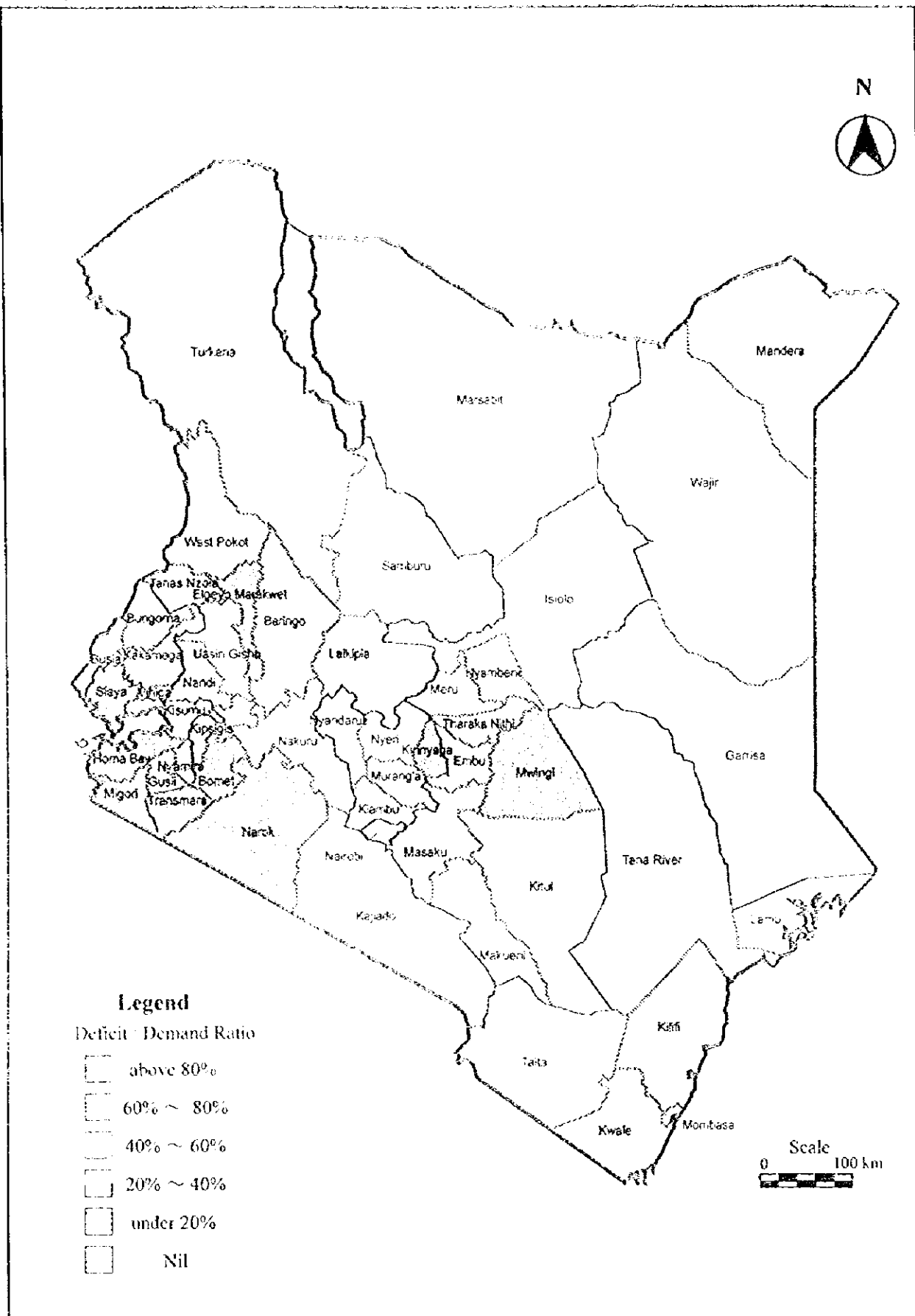
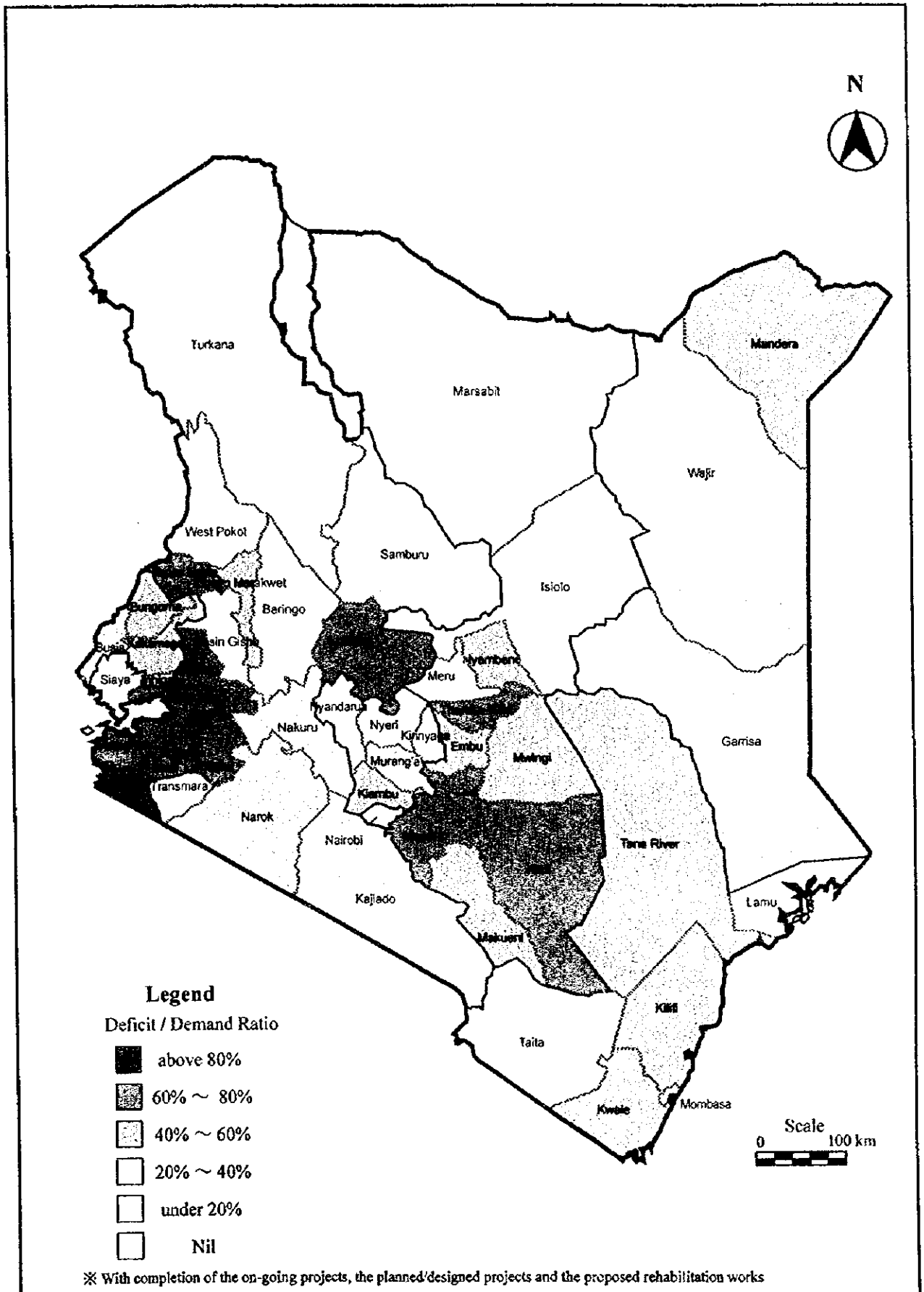
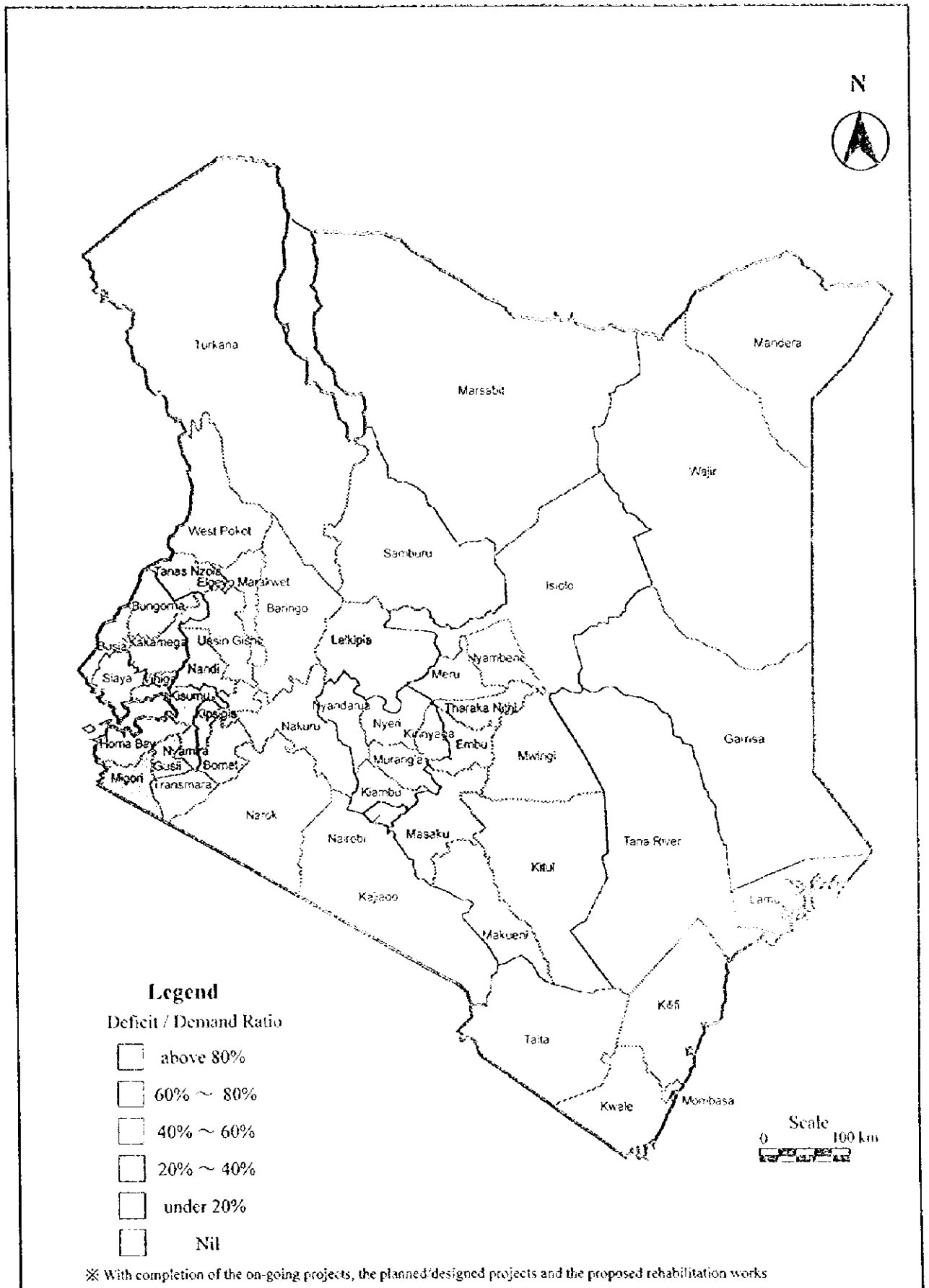


Figure - 6.4.6
Small Scale Rural Water Supply
Water Deficit in 2010 Under Step 1



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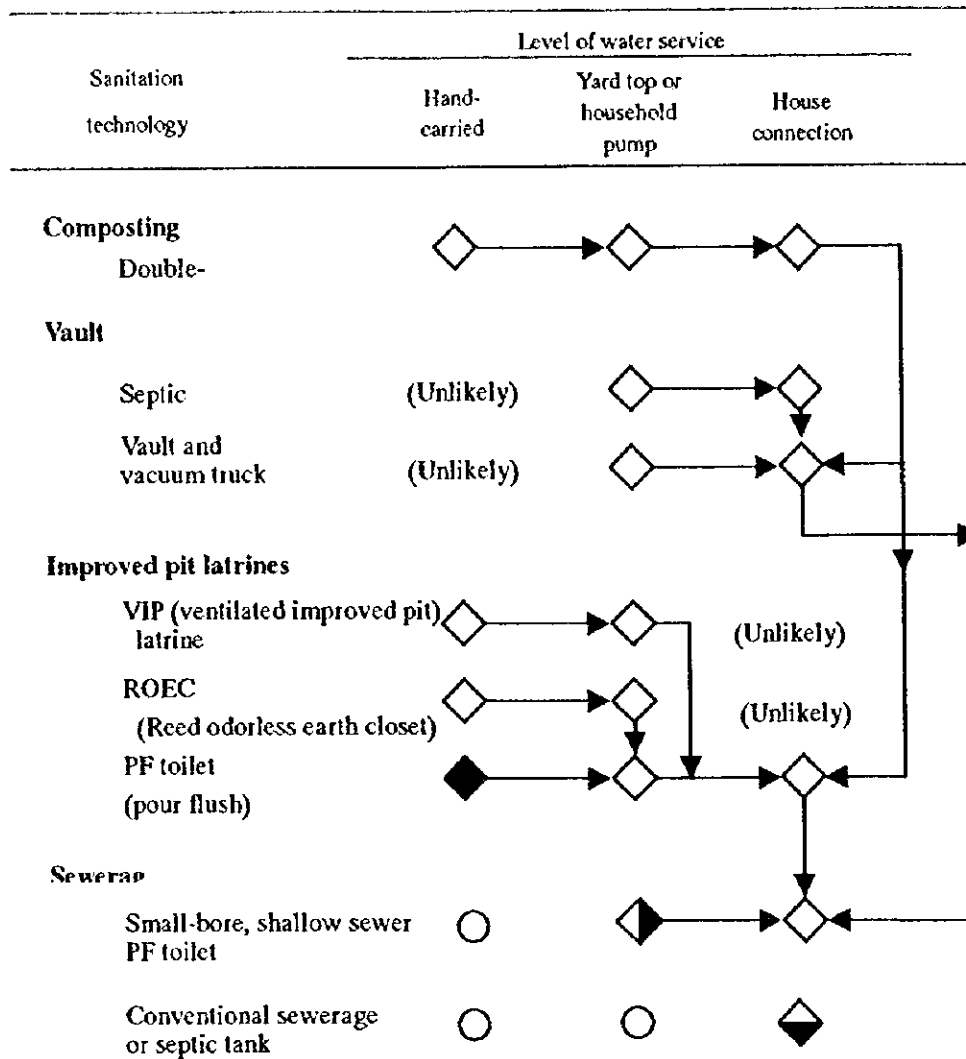
**Figure - 6.4.7
Small Scale Rural Water Supply
Water Deficit in 2010 Under Step 4**



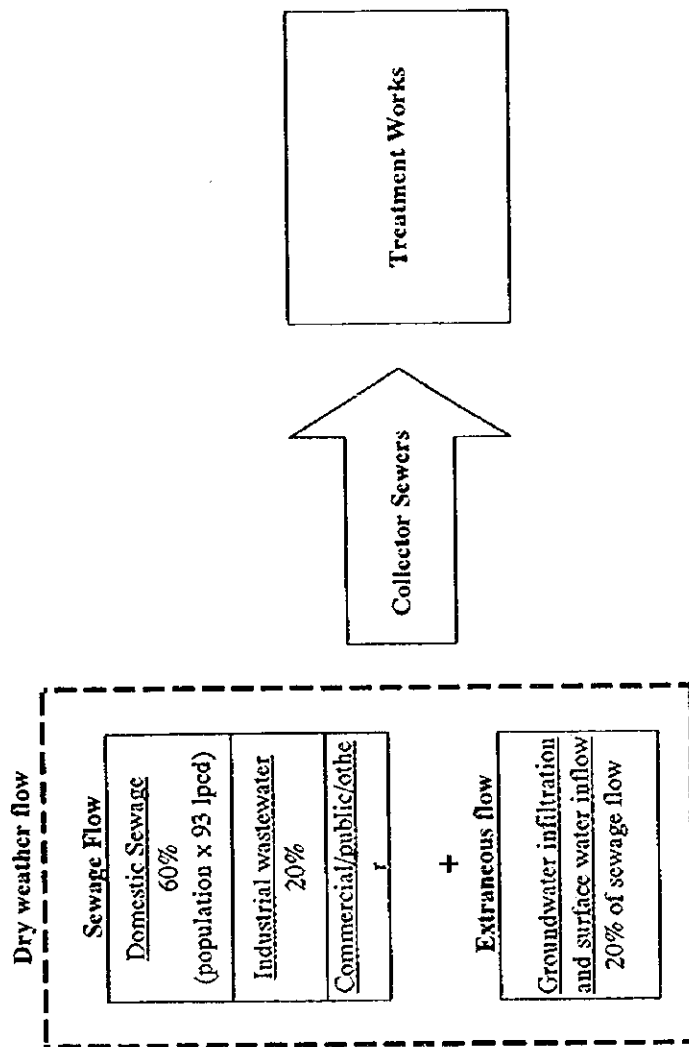
**THE AFTERCARE STUDY ON
THE NATIONAL WATER MASTER PLAN**

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**Figure - 6.4.7
Small Scale Rural Water Supply
Water Deficit in 2010 Under Step 4**



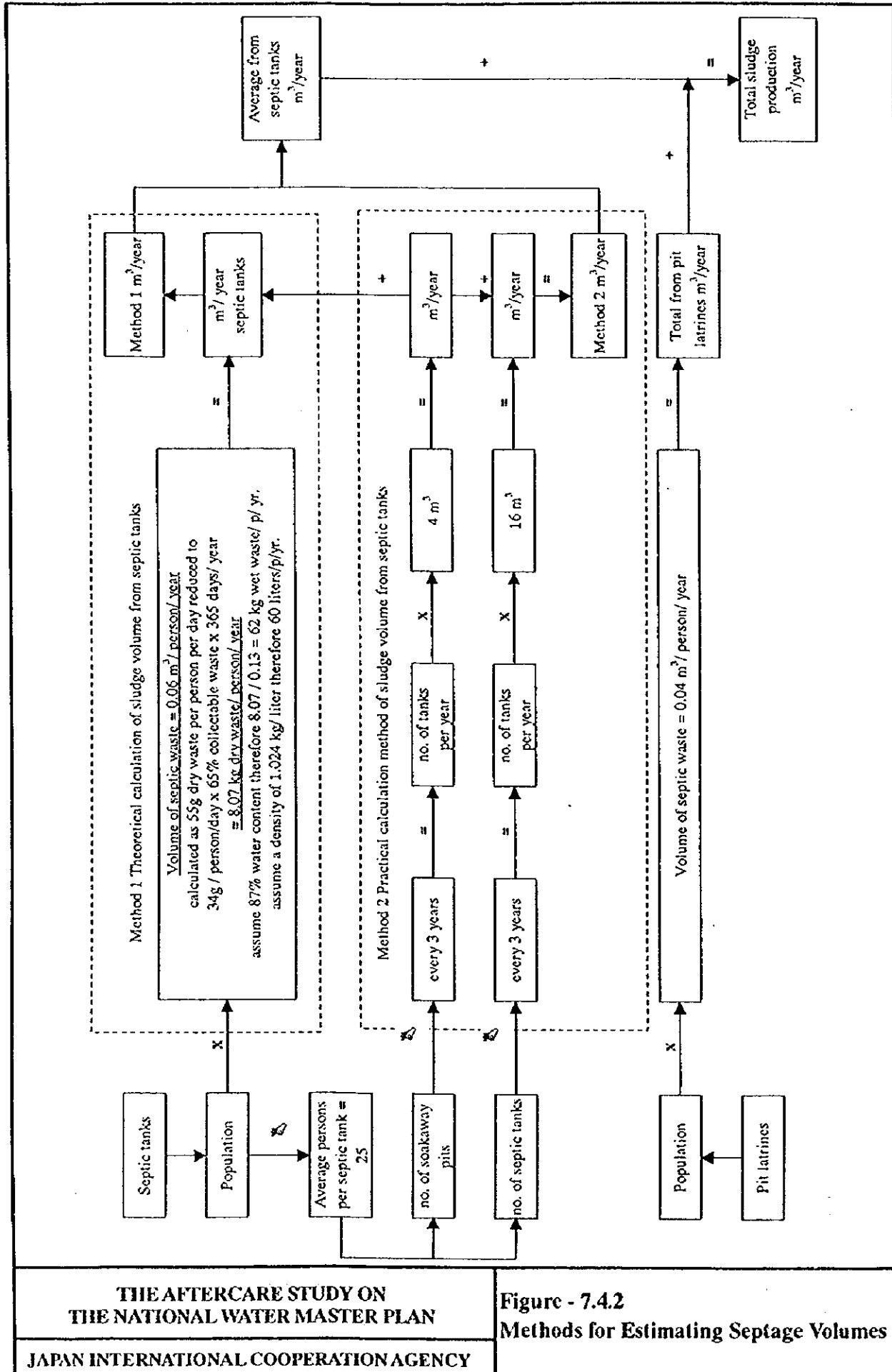
- ◇ Technically feasible
- ◆ Feasible if sufficient pour-flush water will be hand carried
- Technically infeasible
- ◇ Feasible if total wastewater flow exceeds 50 liters per capita daily
- ◆ Wastewater flow exceeds 75 liters per capita daily



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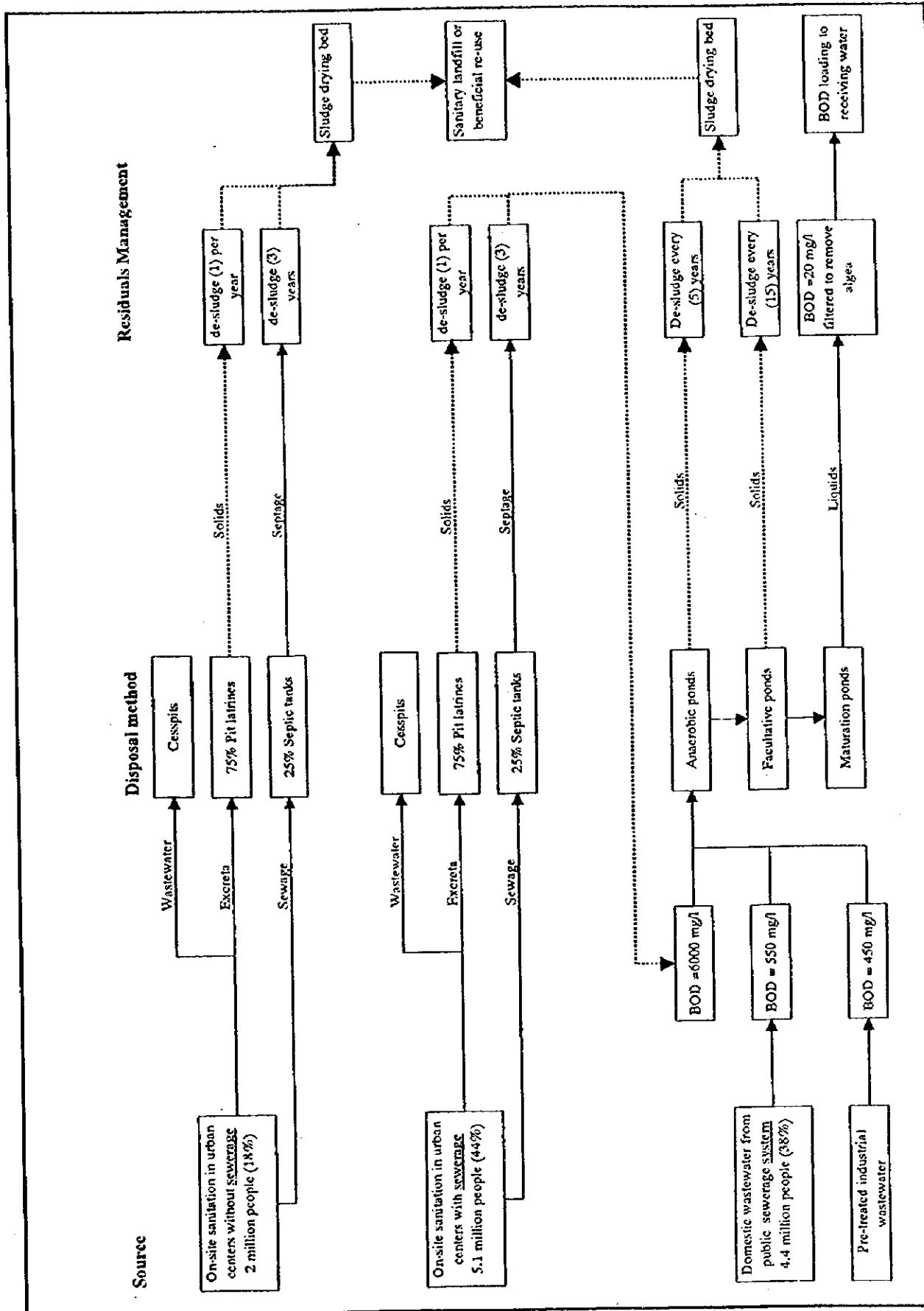
Figure - 7.4.1
Dry Weather Sewage Flow Components



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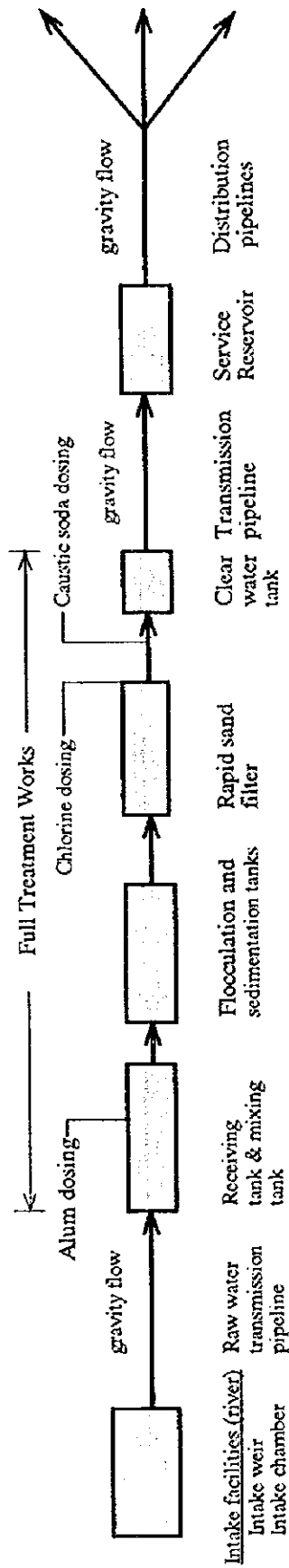
Figure - 7.4.2
Methods for Estimating Septage Volumes

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Figure - 7.5.1
 Liquid and Solid Waste Management Methods

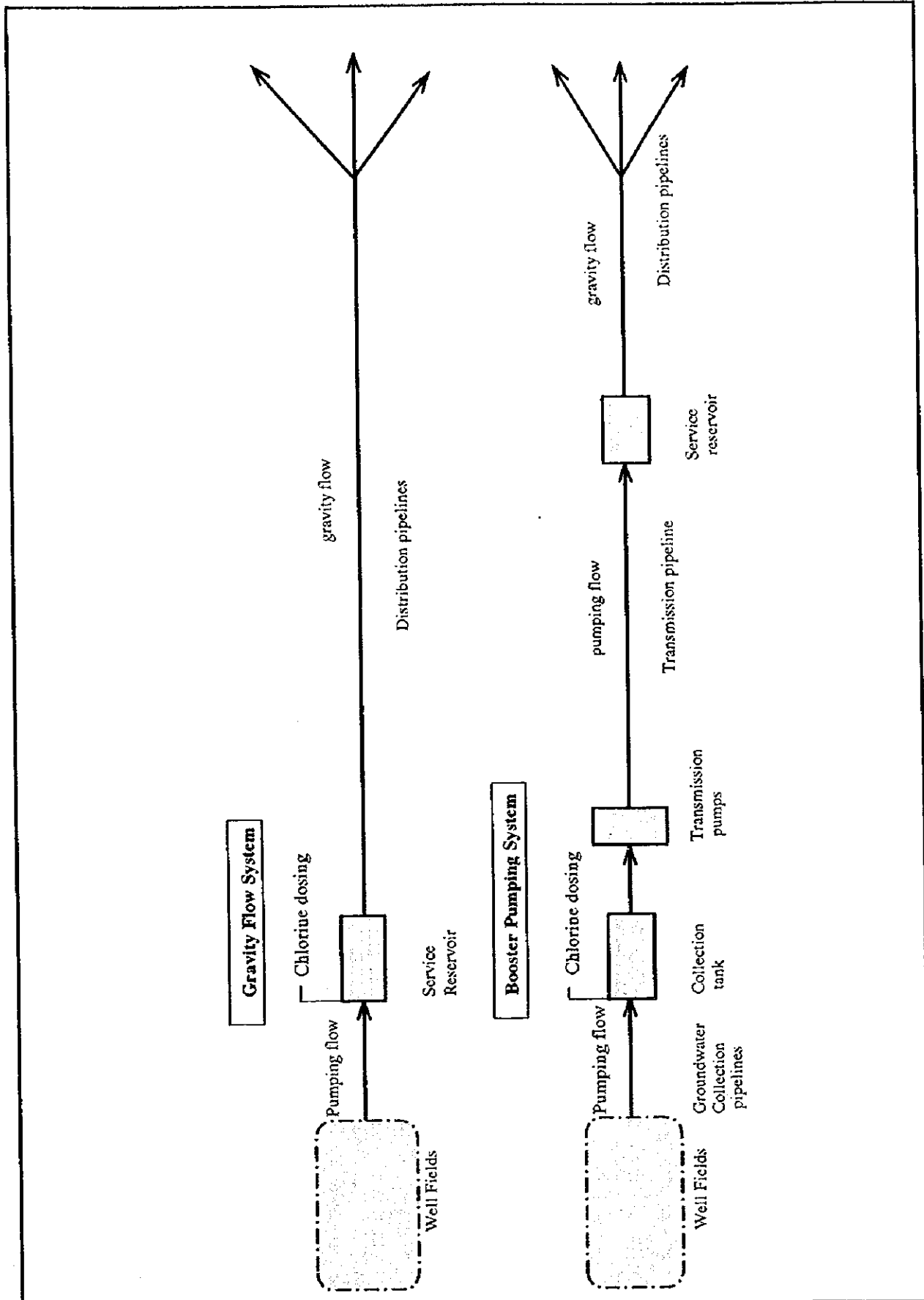


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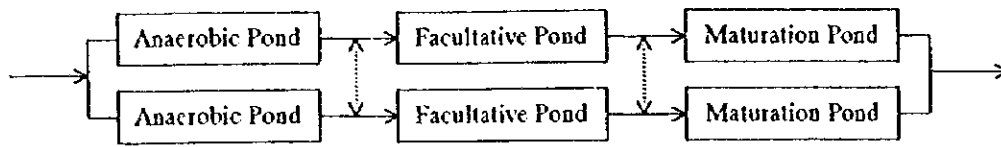
Figure - 8.2.1

Flow Sheet for Urban Water Supply
Systems of Surface Water Source

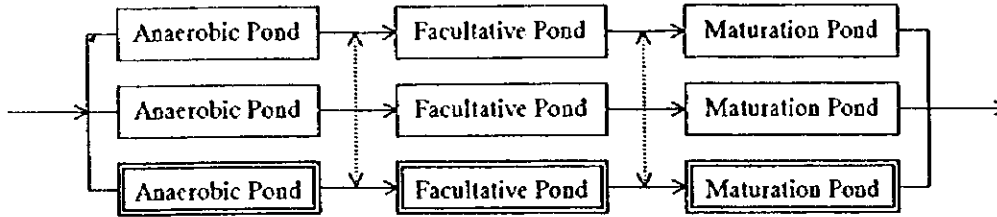


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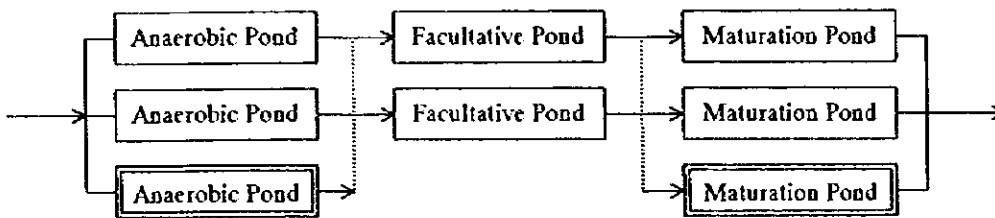
Figure - 8.2.2
Flow Sheet for Urban Water Supply
Systems of Groundwater Source
(Borehole)



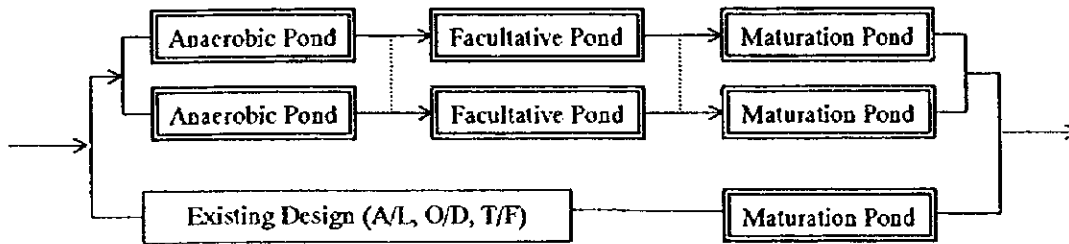
Typical Existing Stabilization Pond in Kenya



Expansion Type 1



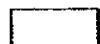
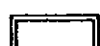
Expansion Type 2



Expansion Type 3

Legend:

A/L: Aerobic Lagoon
 O/D: Oxidation ditch
 T/F: Trickling filter

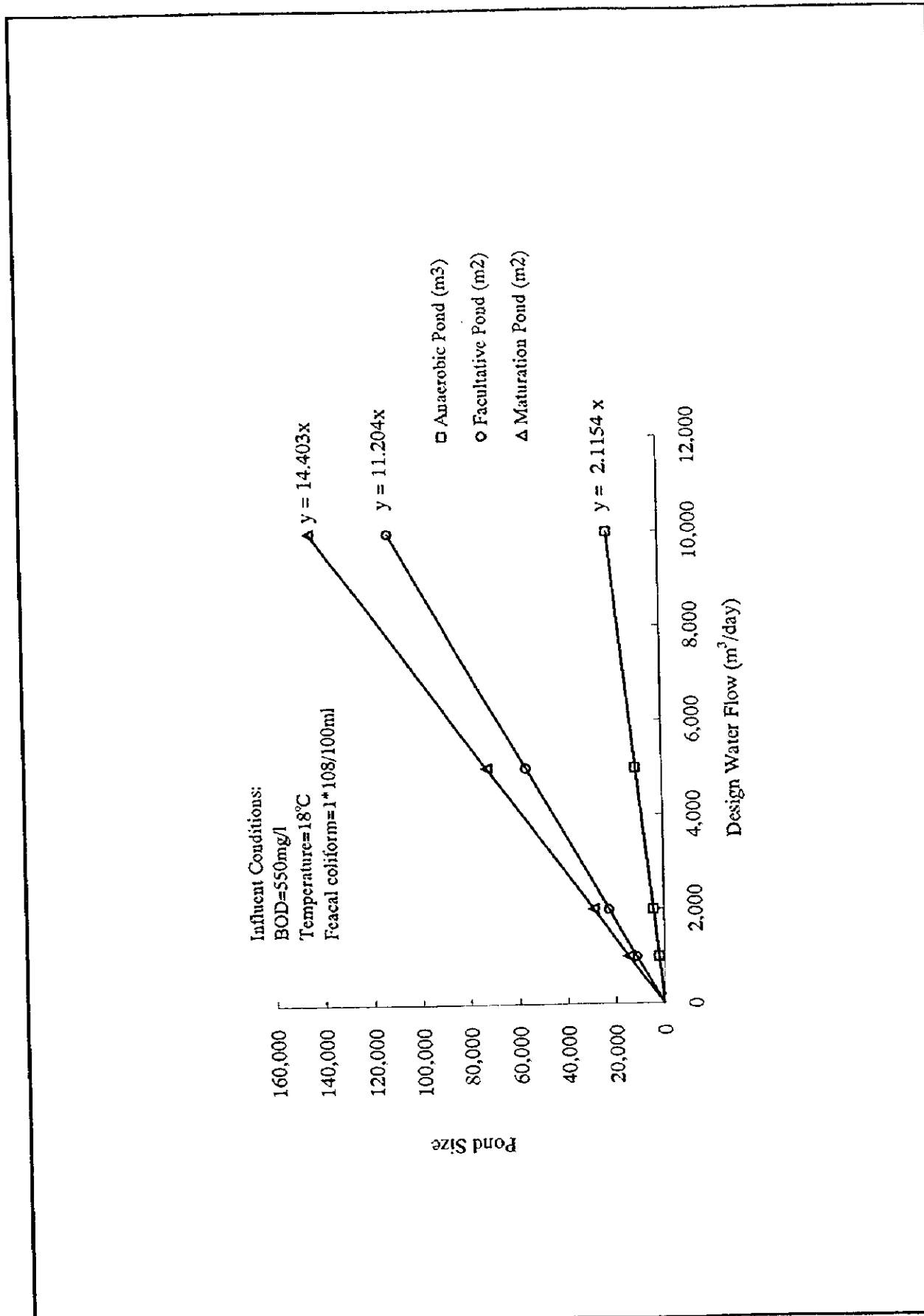
 : Existing
 : New

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Figure - 10.3.1

Types of Expansion

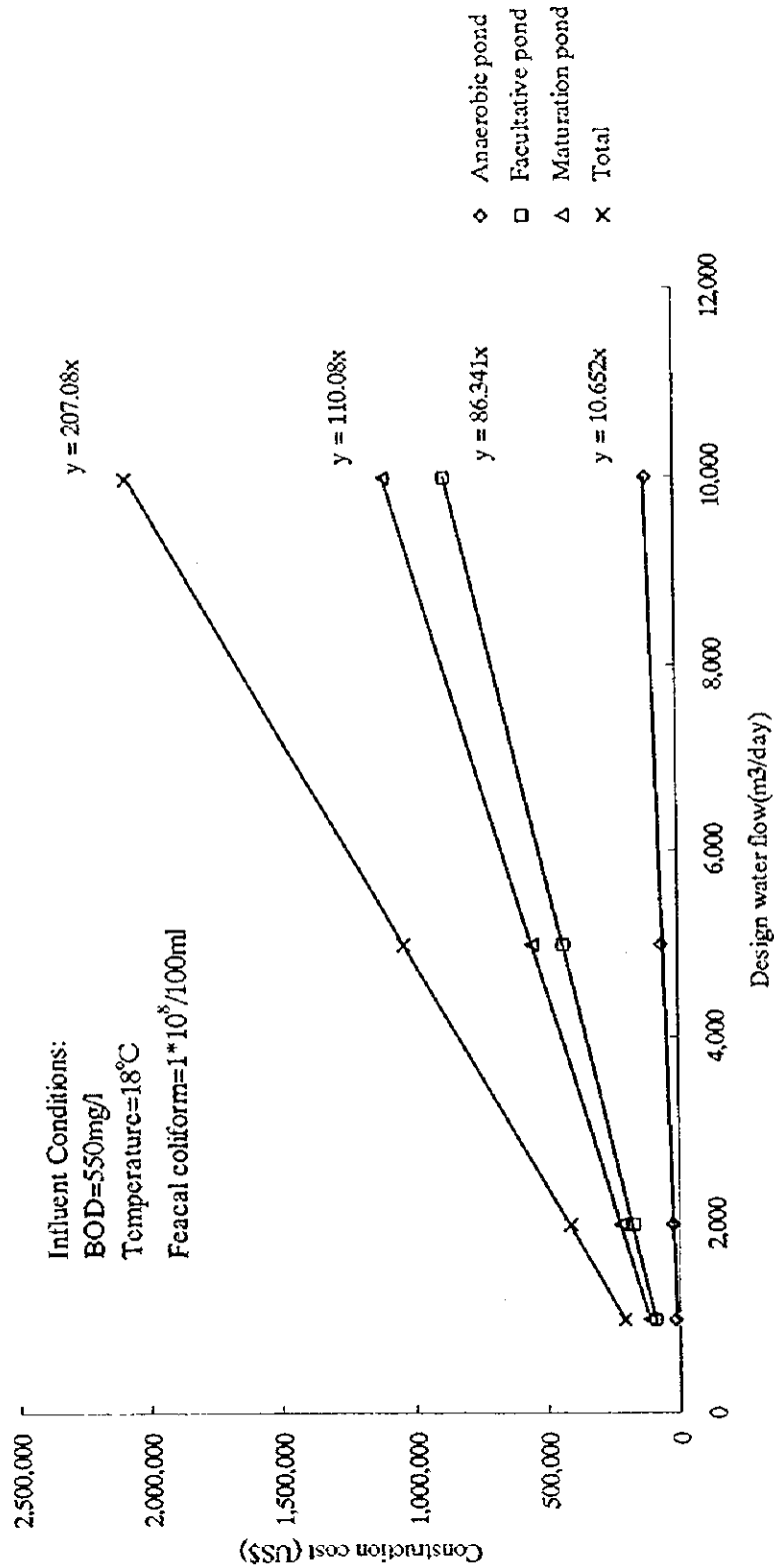
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Figure - 10.3.2
 Typical Relation between Design Wastewater and Size of Treatment Facilities

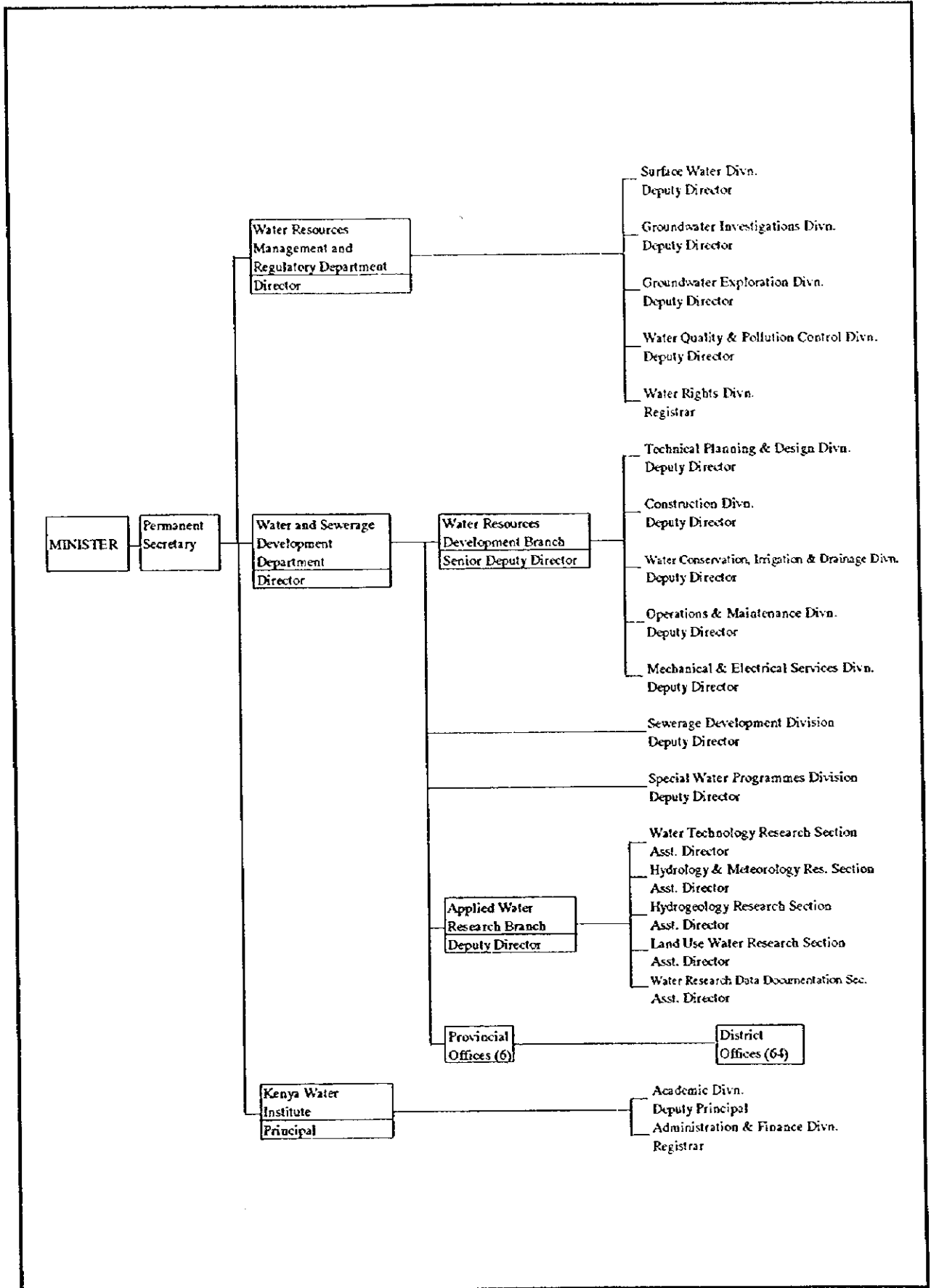
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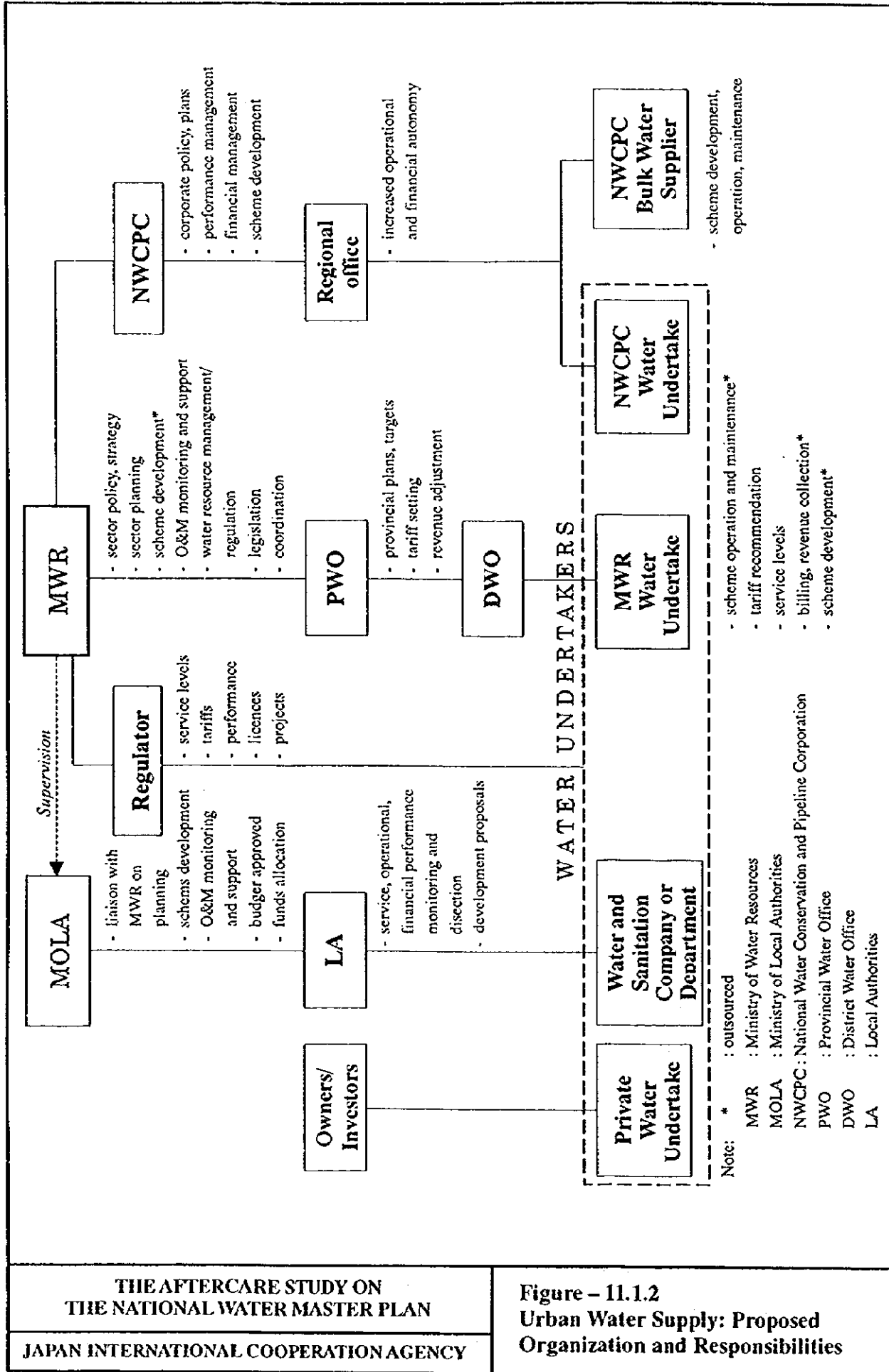
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Figure – 10.4.1
 Typical Relation between Design
 Wastewater and Total Construction
 Cost of Treatment Facilities



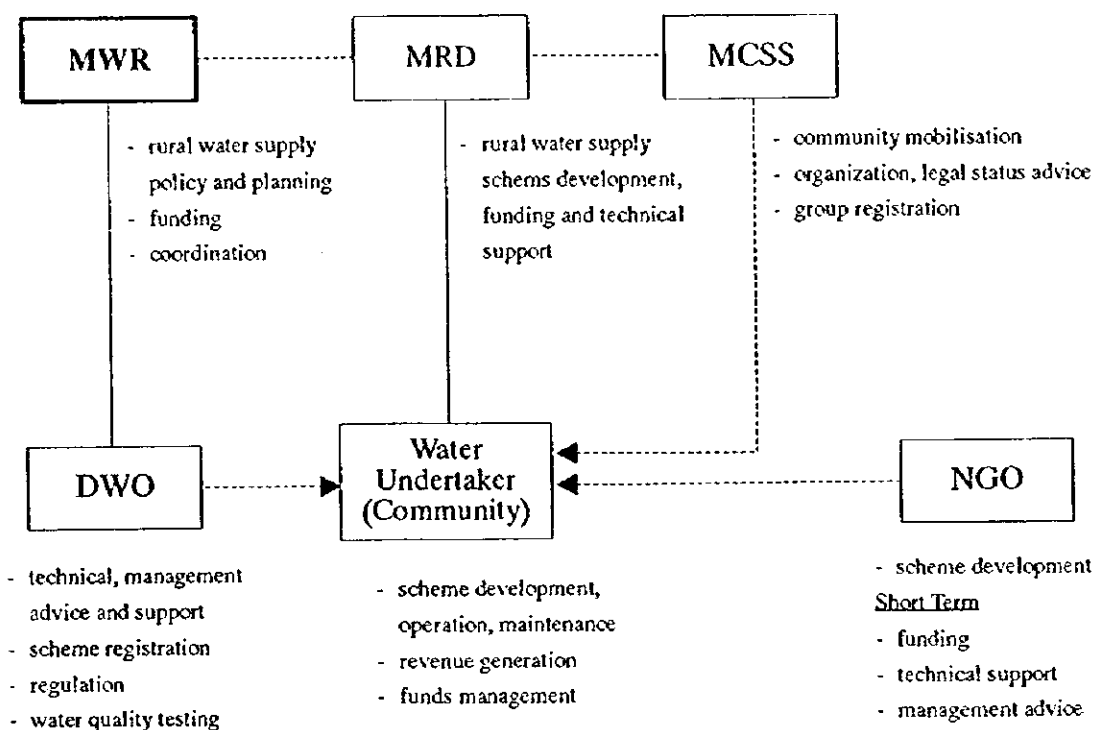
<p>THE AFTERCARE STUDY ON THE NATIONAL WATER MASTER PLAN</p>	<p>Figure -11.1.1 Ministry of Water Resources: Proposed Organization</p>
<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	



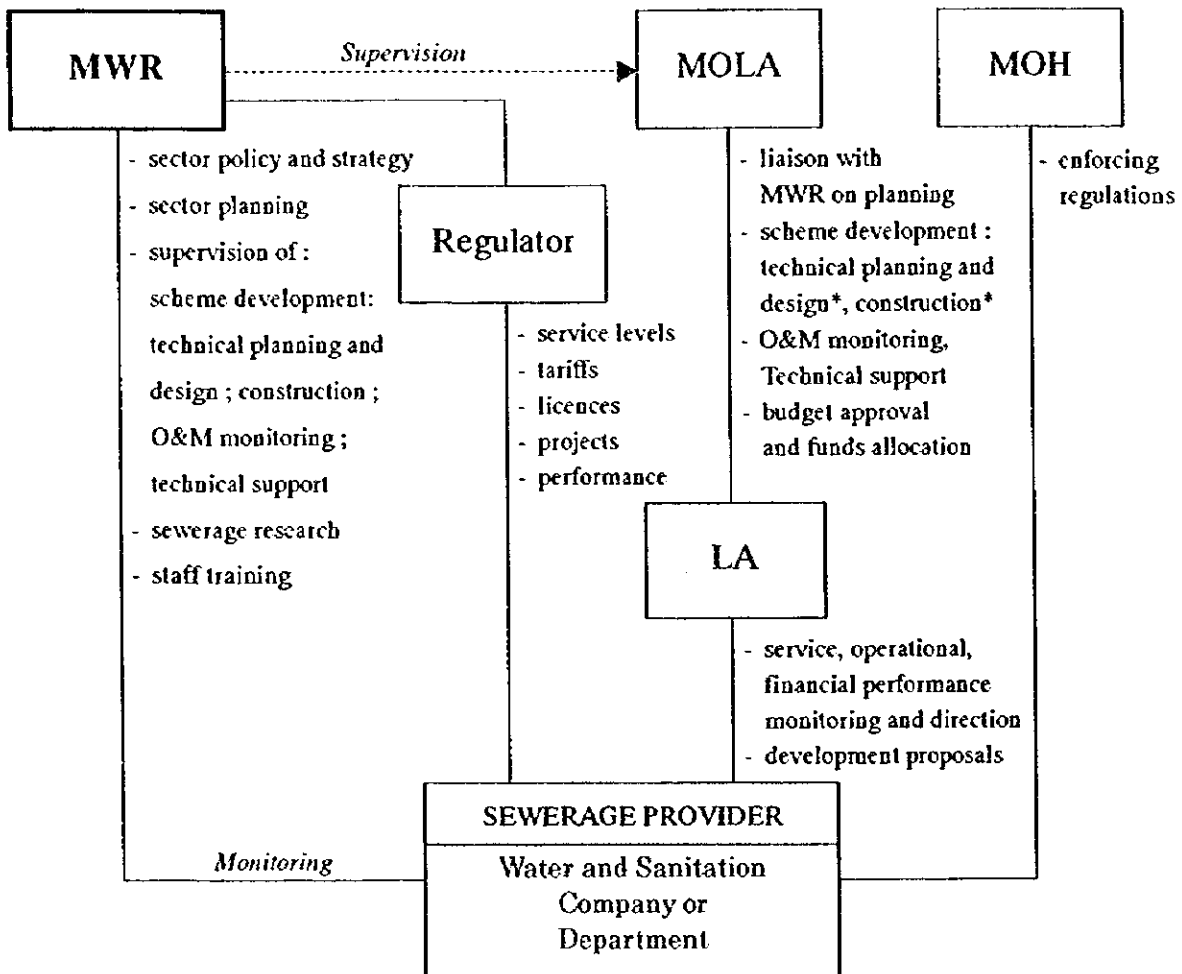
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Figure - 11.1.2
Urban Water Supply: Proposed Organization and Responsibilities



Note : MWR : Ministry of Water Resources
 MCSS : Ministry of Culture and Social Services
 DWO : District Water Office
 NGO : Non Governmental Organization
 MRD : Ministry of Regional Development



Note : * : outsourced

MWR : Ministry of Water Resources

MOLA: Ministry of Local Authorities

LA : Local Authorities

MOH : Ministry of Health

