

# Summary of Baseline Survey of URAdapt Project

## Presentation on Re-SAP 3

### Part I –Policy and Institutional Setup

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# OUTLINE

- OBJECTIVE
- POLICY and INSTITUTIONAL SETUP
  - Constitution and Environmental Issues
  - Constitution – Addis Ababa Administration and Oromiya Region
  - Addis Ababa Charter
  - Institutional Setup

# OBJECTIVE

- *To Understand the Policy, Strategy and Institutional Framework/Setup of Urban Water Supply and Wastewater Management of Addis Ababa including surrounding rural and peri-urban areas*
- *To Know Water Use and Wastewater Generation Quantities*
- *To Understand Current and Future Water Supply and Wastewater Management Pattern in and around Addis*

# POLICY and INSTITUTIONAL ASPECT

- Ethiopian Constitution
  - Environment
  - Water
  - Addis Ababa City Administration / Oromiya Region
- Policies
- Proclamations
- Addis Ababa City Administration Charter
- Federal Institutions (MoWE/FEPA/.../)
- Regional Institutions (WRDB/REPA/.../)

# Ethiopian Constitution

## Environmental Issues

### *Article 43*

#### *The Right to Development*

1. The Peoples of Ethiopia as a whole, and each Nation, Nationality and People in Ethiopia in particular have **the right to improved living standards and to sustainable development.**
2. Nationals have the right to participate in national development and, in particular, to **be consulted with respect to policies and projects affecting their community.**

# ...Constitution/Environmental Issues

## *Article 44*

### *Environmental Rights*

1. All persons have **the right to a clean and healthy environment.**

## *Article 90*

### *Social Objectives*

1. **To the extent the country's resources permit,** policies shall aim to provide all **Ethiopians access to public health and education, clean water,** housing, food and social security.

# ...Constitution/Environmental Issues

## *Article 92*

### *Environmental Objectives*

1. Government **shall endeavor to ensure that all Ethiopians live in a clean and healthy environment.**
2. The **design and implementation of programmes and projects** of development **shall not damage or destroy the environment.**
3. People have **the right to full consultation and to the expression of views** in the planning and implementations of **environmental policies** and projects that affect them directly.
4. **Government and citizens shall have the duty to protect the environment.**

# Constitution/Addis Ababa and Oromiya

## *Article 49*

### *Capital City*

1. Addis Ababa shall be the **capital city of the Federal State.**
2. The residents of Addis Ababa shall **have a full measure of self-government. Particulars shall be determined by law.**
3. The Administration of Addis Ababa **shall be responsible to the Federal Government.**
4. Residents of **Addis Ababa shall in accordance with the provisions of this Constitution, be represented in the House of Peoples' Representatives.**



## ....Constitution/Addis Ababa and Oromiya

5. The **special interest of the State of Oromia in Addis Ababa**, regarding the provision of social services or the utilization of natural resources and other similar matters, as well as joint administrative matters arising from the location of Addis Ababa within the State of Oromia, shall be respected. **Particulars shall be determined by law.**

**PROCLAMATION No. 8711997 A PROCLAMATION  
TO PROVIDE FOR  
THE CHARTER OF THE ADDIS ABABACITY GOVERNMENT**

***33. Special Interest of the State of Oromia in  
Addis Ababa***

- 1) The boundaries of Addis Ababa** to be delimited pursuant to Article 2 (1) of this Charter **shall jointly be marked by the City Government and the Government of the State of Oromia.**

## ...Addis Charter

- 3) **Services provided to the residents of Addis Ababa by the City Government shall be extended to the surrounding residents of the State of Oromia on the same terms and conditions where such services are equally accessible to them.**

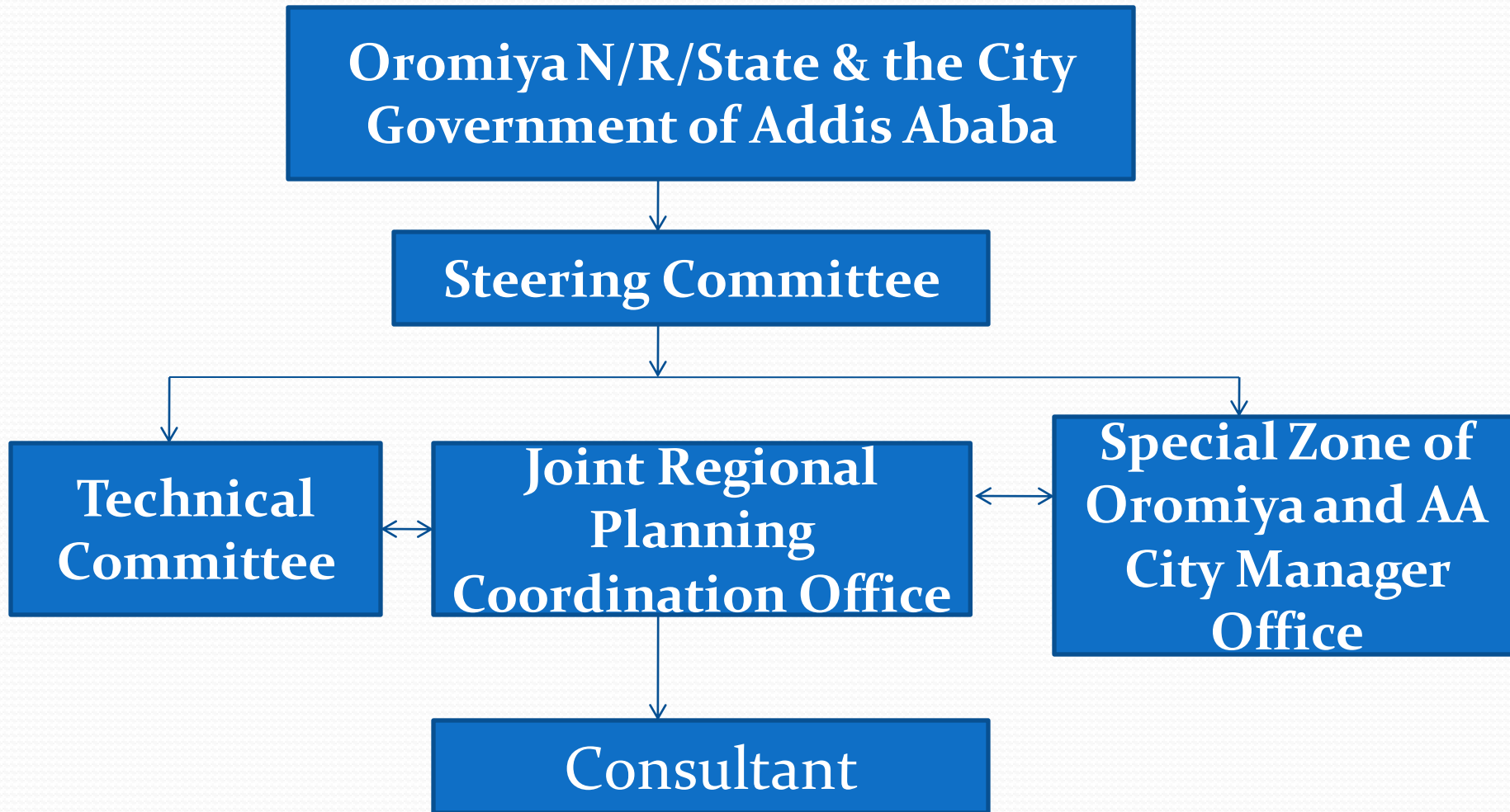
# ...Addis Charter

- 4) The Addis Ababa City Government **shall consult with and obtain the consent of the government of the state of Oromia** prior to undertaking any development activity within the territory of the State of Oromia with a view to providing services to the residents of Addis Ababa.

## ... Any New Development/Ongoing Activity (Addis / Oromiya)

- TOR for the Study of the **Common Development & Relationship of Addis Ababa City and the Special Zones in Oromiya National Regional State Around Addis Ababa (May, 2010):**
  - Sululta
  - Legetafo-Legedadi
  - Sendafa-Beki
  - Dukem
  - Gelan
  - Sebeta
  - Burayou
  - Holeta & 6 districts/Weredas

# Organizational Management of the Study



# ...Any New Development

- **Main Objective**

- Bringing Mutually Supportive/Integrated Planned Devt.
- Devt. That benefits both for Addis Ababa; its surrounding urban local govt. and their hinterland in Oromiya

- **Specific Objective**

- Harmonize Devt. Plans
- Identify Projects of Common interest and immediate needs
- Develop Implementation Strategies

# ...Any New Development

- **Scope of Study**

- Limited to studying the linkage in Service Spatial/Physical; Demographic; Economic and Environmental Issues Specifically:
  - Creating a Sustainable and Environmentally Friendly Neighborhood
  - Creating Institutional Framework that would assist and enhance the promotion of mutually supportive relationships
  - Creating a vibrant economic linkage with the City and its surrounding
  - Design well articulated demographic plan... to deal with resource requirement....
  - Creating a comprehensive service network, which facilitates and adequate access to education, health, road transport, waste management facilities, water and the like between Addis Ababa and the surrounding Special Zone.



# ...Any New Development

- ***Expected Outputs***

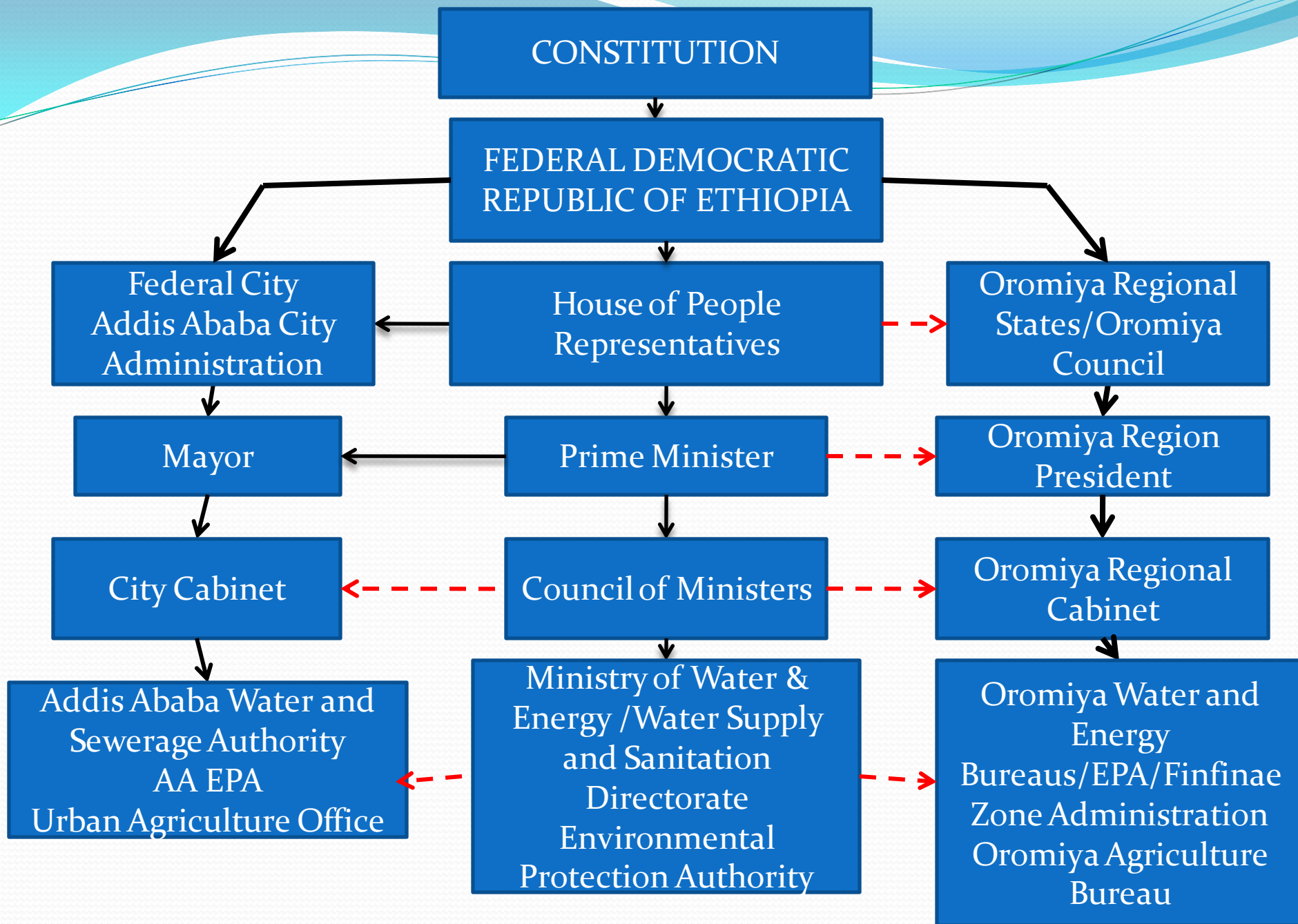
- Environmental Management Measures (mitigate the adverse environmental effects)
- Identified Comprehensive economic linkages
- Comprehensive service network plan that creates access to (....water, waste management....)
- Major Spatial/physical plan (inc. land use and infrastructure development)
- Institutional Framework that facilitates development of Addis Ababa/Surrounding urban local govts.
- ....

# **ENVIRONMENTAL PROCLAMATIONS**

- **PROCLAMATION NO. 295/2002**
  - A PROCLAMATION PROVIDED FOR THE ESTABLISHMENT OF ENVIRONMENTAL PROTECTION ORGANS (EPA/Federal and Regional)
- **PROCLAMATION NO. 300/2002**
  - ENVIRONMENTAL POLLUTION CONTROL PROCLAMATION
- **PROCLAMATION NO. 513/2007**
  - SOLID WASTE MANAGEMENT PROCLAMATION



# Institutional Setup



# **Part II– WATER SUPPLY**

**Part II– WATER SUPPLY**

# OUTLINE

- **Existing Situation**
- **Ongoing Programs/Projects**
- **Future Plans / Programs**

# Existing Situation

- **Sources/ Quantity**
- **Demand**
- **Efficiency / Effectiveness**

# LOCATION OF WATER SOURCES OF ADDIS





# WATER Sources , Production Quantity

## Surface Water Sources

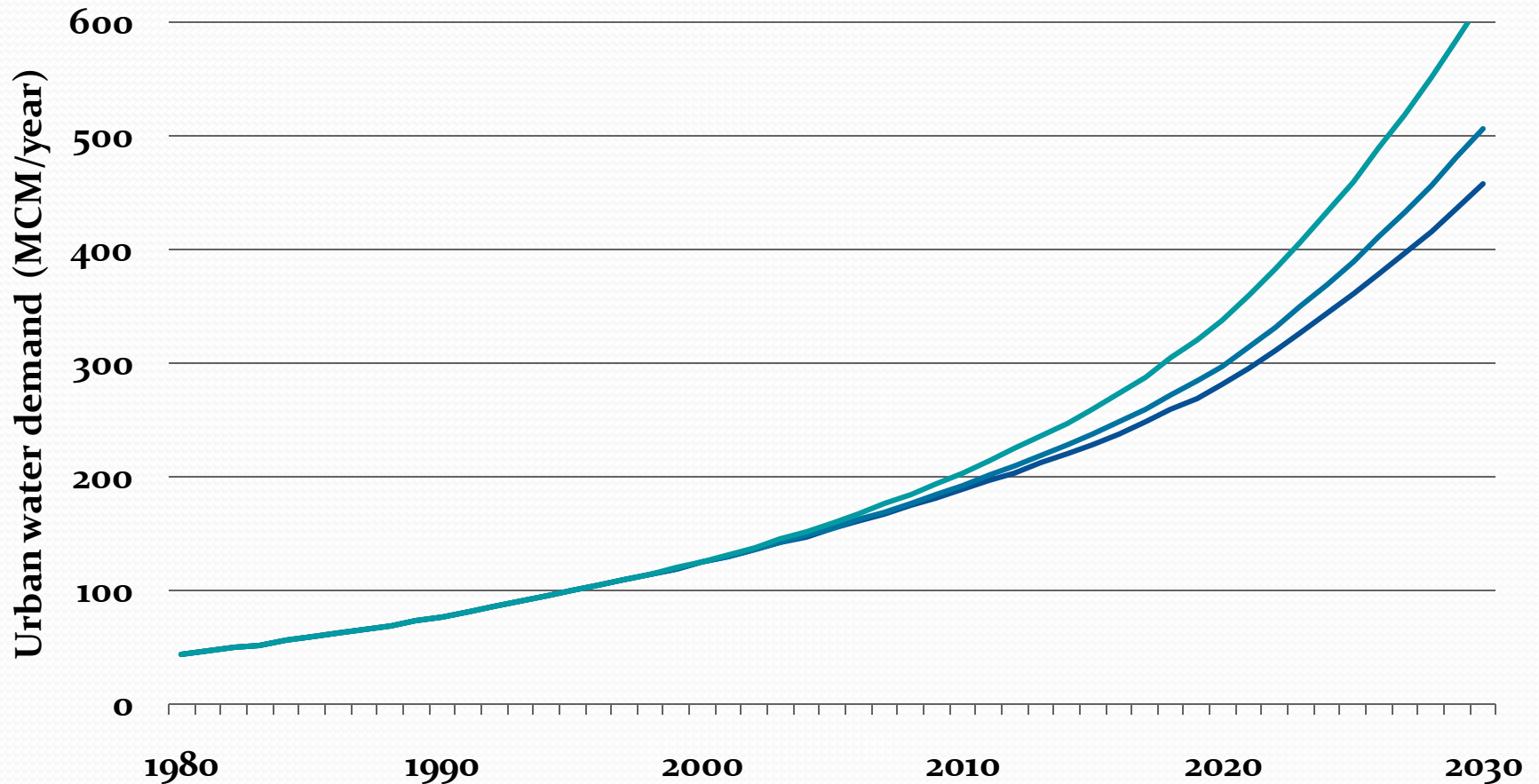
No	Name	Reservoir Volume (MCM)	Catchment Area (Km2)	Production (M3/D)	Period of Constructio n (G.C)
1	Legedadi	44	205	168,000	1970
2	Dire	19	78		1995-99
3	Gefersa	8	56	23,000	1952/53
	<b>Total</b>	<b>71</b>	<b>339</b>	<b>191,000</b>	

No	Name	No of wells & Springs	Production (M3/D)	Period of Construction (G.C)
1	Akaki Well Field	29	55,000	1995-2001
2	Other Wells & Springs	32	13,800	1995 to date
	<b>Total</b>	<b>90</b>	<b>68,800</b>	<b>26.5 %</b>

**Grand Total 259, 800**

Avg. Supply for a population of about 3 million considering loss of 35% = 56 l/c/d

# Demand (High/medium/low scenario)



# Efficiency / Effectiveness

- Efficiency
  - Un accounted for Water - >35 %
- Effectiveness
  - Non-Uniform Distribution
  - Some areas getting water once in a week...

[illegible]NOTES — Populations of *Staphylococcus aureus* in fish and fish products

# Ongoing Programs/Projects

- Well Drillings
- Rehabilitation of Facilities
- Studies on further well sources

# Future Plans / Programs

- *Short Term (3 – 5 yrs)*
  - Focus on increasing Groundwater Supply to Get Breathing Space
- *Long Term*
  - Develop Surface Water Source /Sibilu & Gerbi/

# **Part III– WASTEWATER MANAGEMENT**

# OUTLINE

- Existing Situation
- Ongoing Programs/Projects
- Future Plans / Programs



# Existing Situation

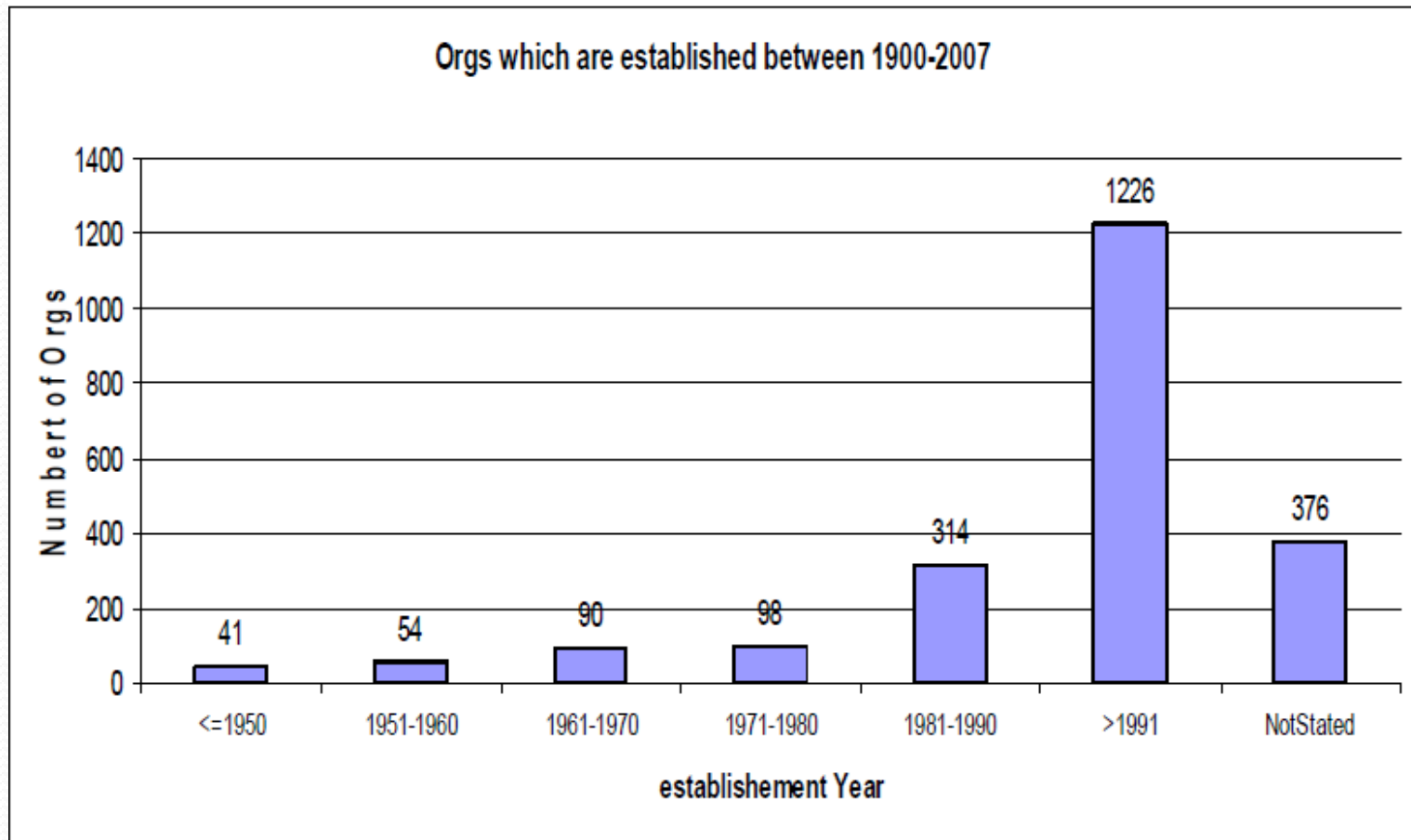
- Sources / Quantity/Quality
- Infrastructure
- Utilization

# Source/Quantity - Existing

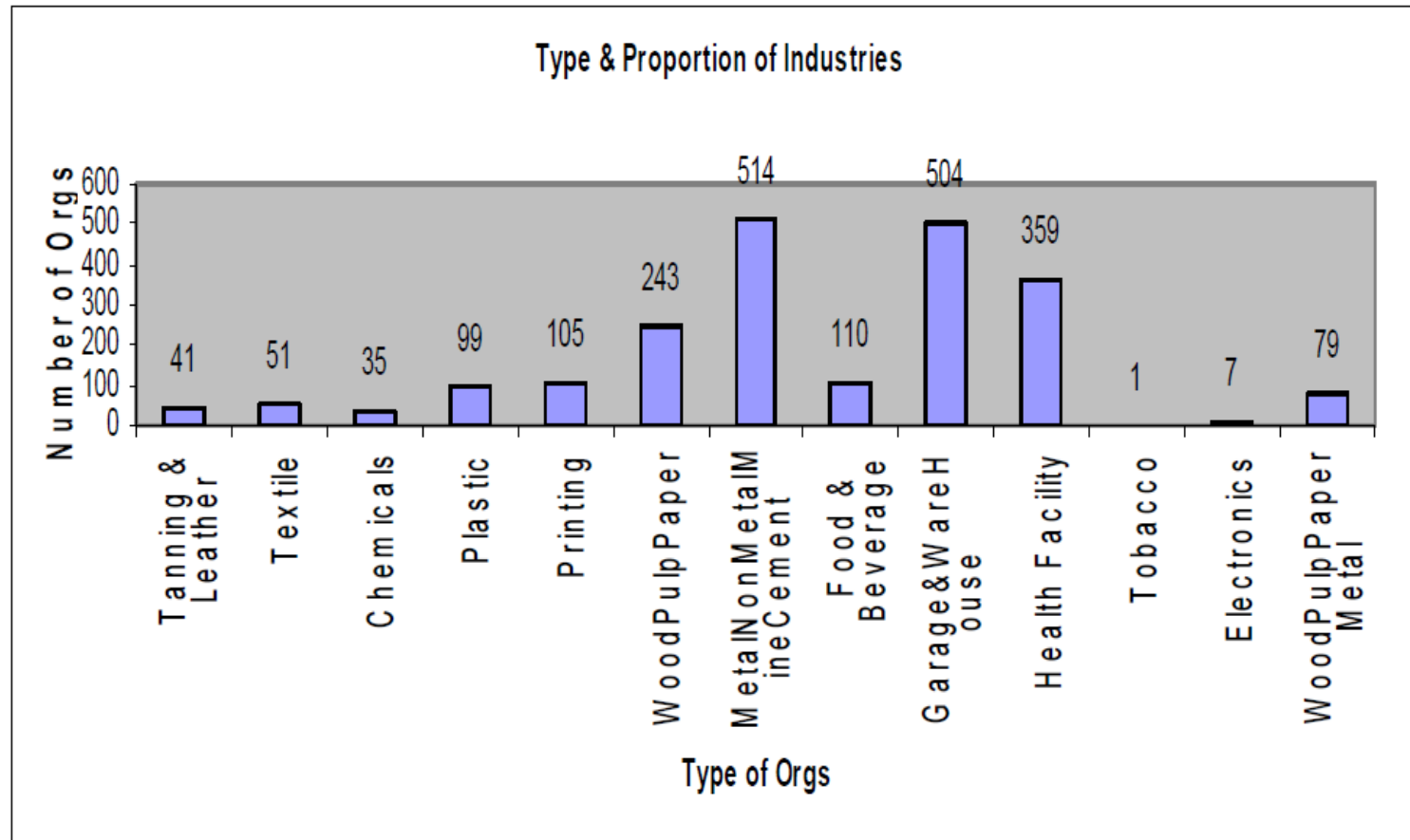
- *Multiple Sources*

- Residential
- Industrial
- Public Institutions/Health/Educational Facilities/Offices.../
- Hotels and other Commercial Buildings
- Overall it is estimated that 80% of Water Used is changed to Wastewater

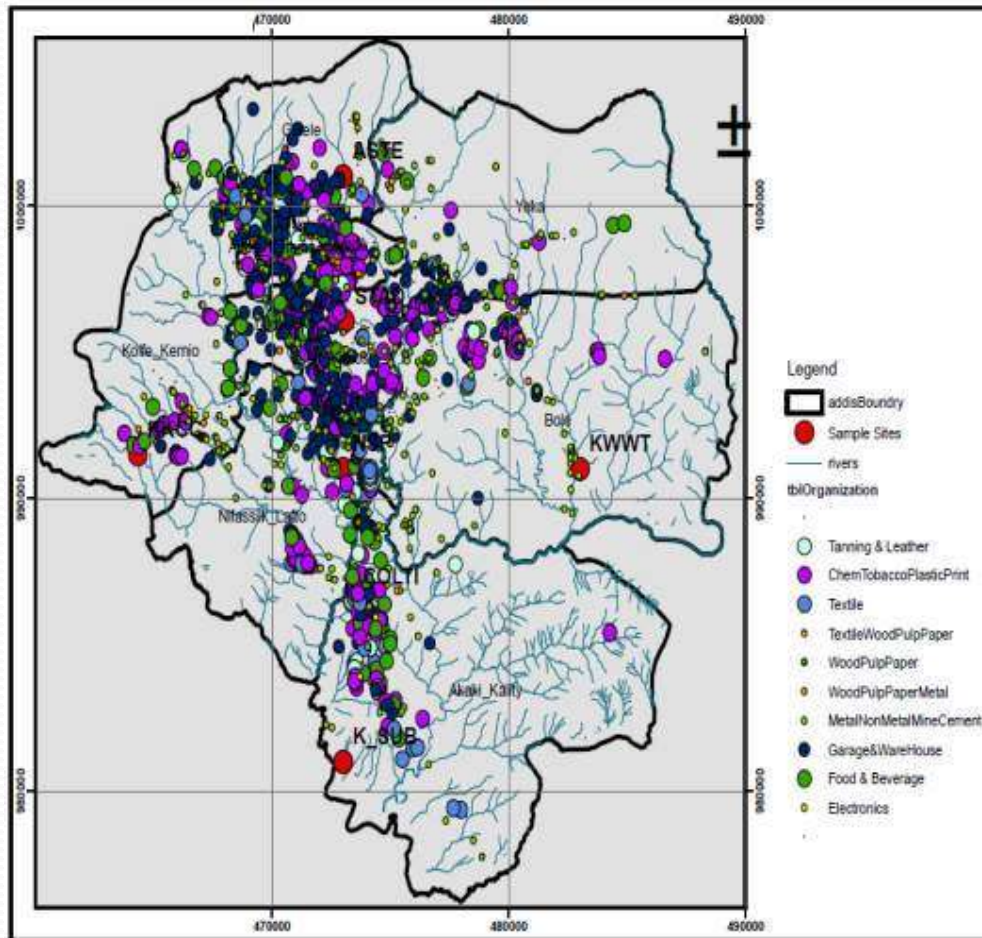
## Trends of industrial growth in Addis Ababa (AAEPA, 2007)



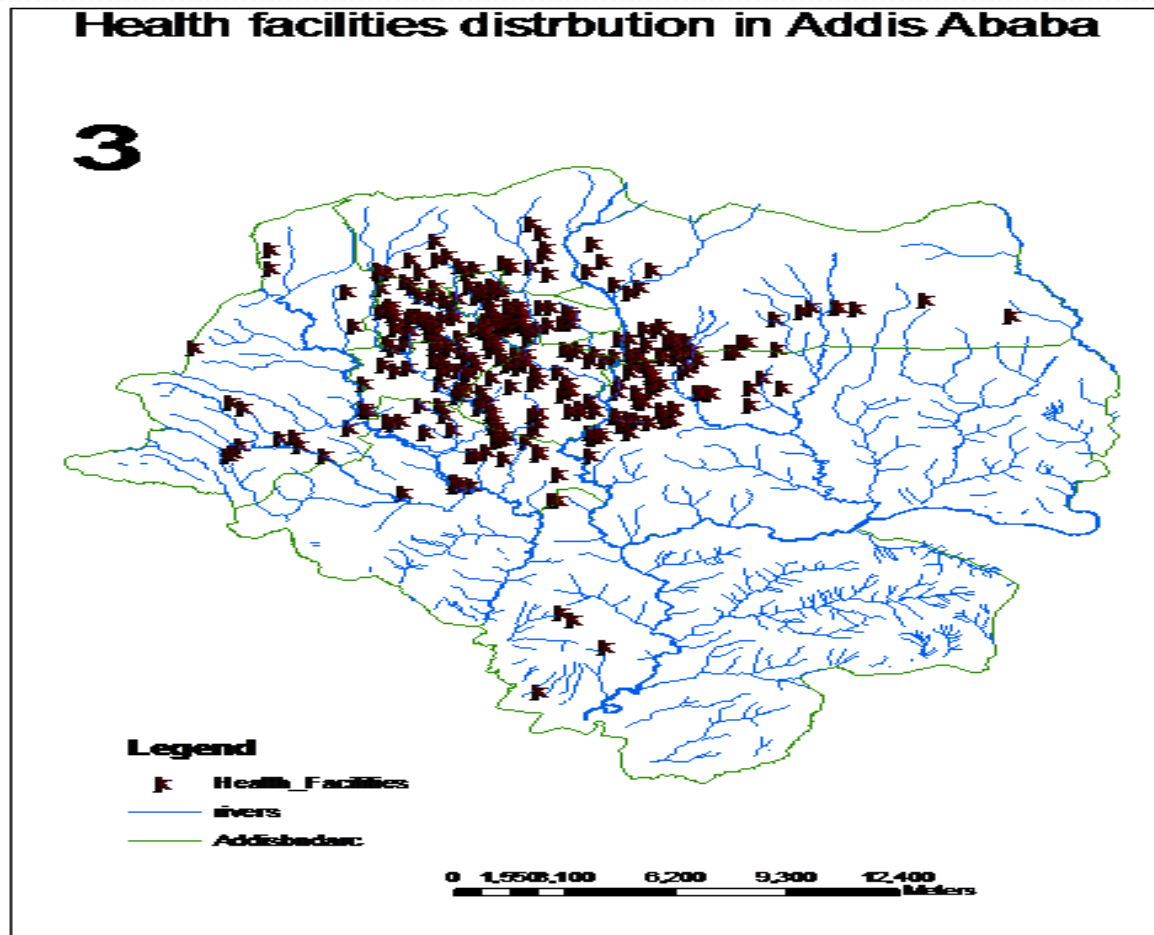
# Major industries in Addis Ababa (AAEPA, 2005)



# Distribution of Industries along the Course of Akaki Rivers (AAEPA, 2008)



# Spatial distribution of health centres in Addis Ababa (AAEPA, 2008)



## ...Source/Quantity - Existing

- ***Aggregate Quantity***
  - Daily Waste Water Production Estimate – **800,000 *m³/day***
  - Figure includes all type of waste.
  - Disaggregated data not found

# Mean Concentration of water quality parameters of industrial wastes in Addis Ababa(Mohamed,2002)

[illegible]



## Wastewater Infrastructure - Existing

- *Wastewater Treatment Plants (Five Year Strategic Plan/2008-2013)*
  - *Kality Wastewater Treatment Plant (Constructed 1987) Waste Delivered through Sewerage Line or Vacuum Cleaning Trucks*
    - Capacity about 8,000 m<sup>3</sup>/day (1%)
- Kotebe Sludge treatment plant / Sludge Drying Beds
  - Total Vacuum Cleaned Volume – 465,000 m<sup>3</sup>
    - AWSA 314,000 m<sup>3</sup>
    - Private 151,000 m<sup>3</sup>

# Utilization - Existing

- Agriculture
- Domestic /Human & Cattle/

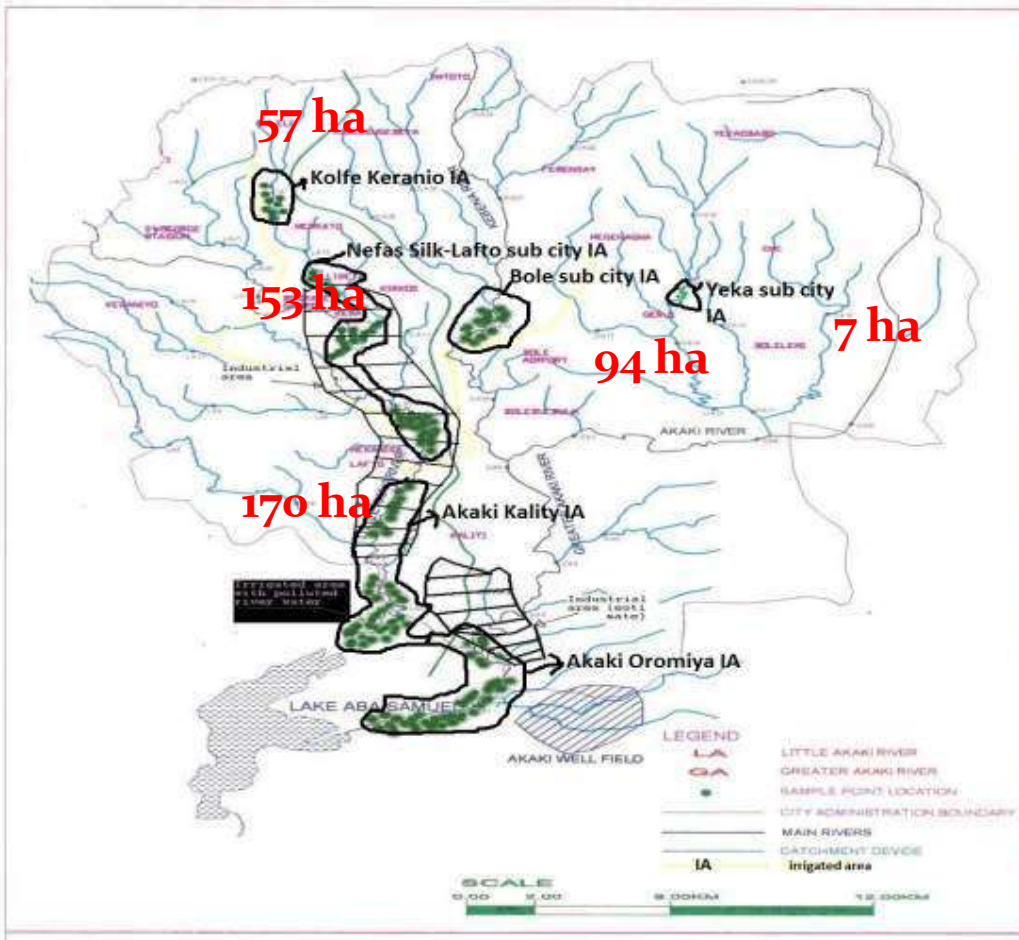




# Diversion 'Weir' for Wastewater Irrigation



# Wastewater Irrigated Area (Total 481 ha)





## Domestic Uses

- Drinking
- Bathing
- Cattle Watering



# Impacts

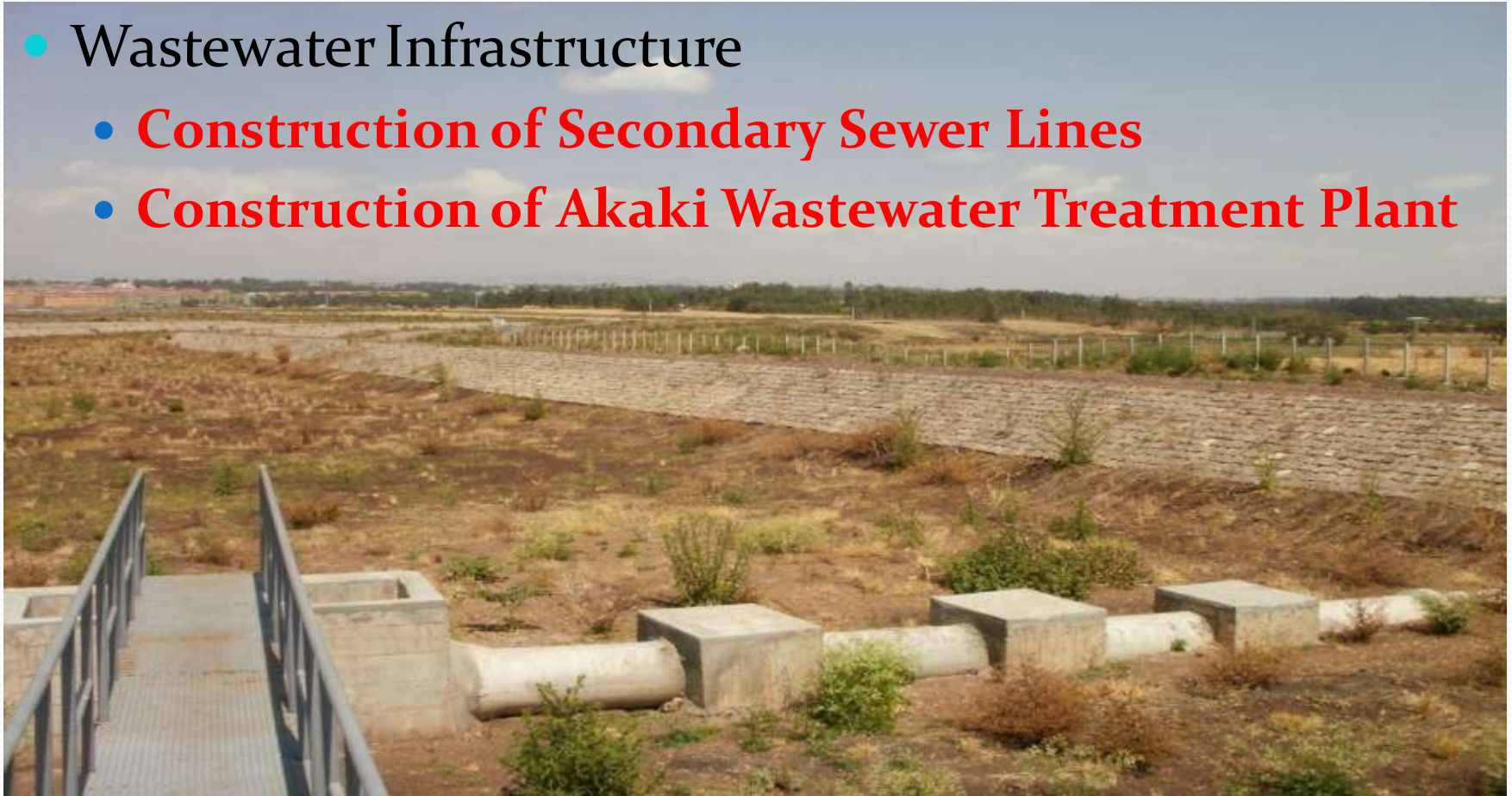
- Positive / Income Generation /Selling of Vegetable../
- Negative
  - Health Risk /short and long term – Skin/internal.../
  - Dying of Cattle at the beginning of rainy season
  - Cows not producing milk
  - Danger to Migratory Bird Sanctuary





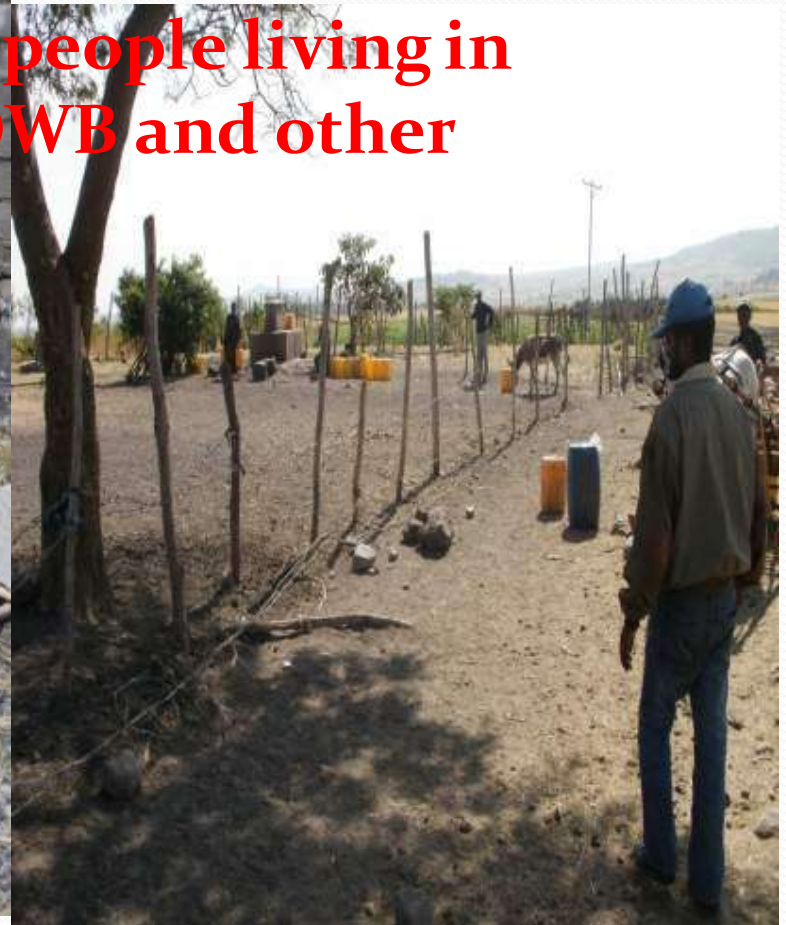
# Ongoing Programs/Projects

- Wastewater Infrastructure
  - **Construction of Secondary Sewer Lines**
  - **Construction of Akaki Wastewater Treatment Plant**



# ...Ongoing Projects

- Drilling of Deep Wells for people living in polluted areas by AWSA/OWB and other institutions

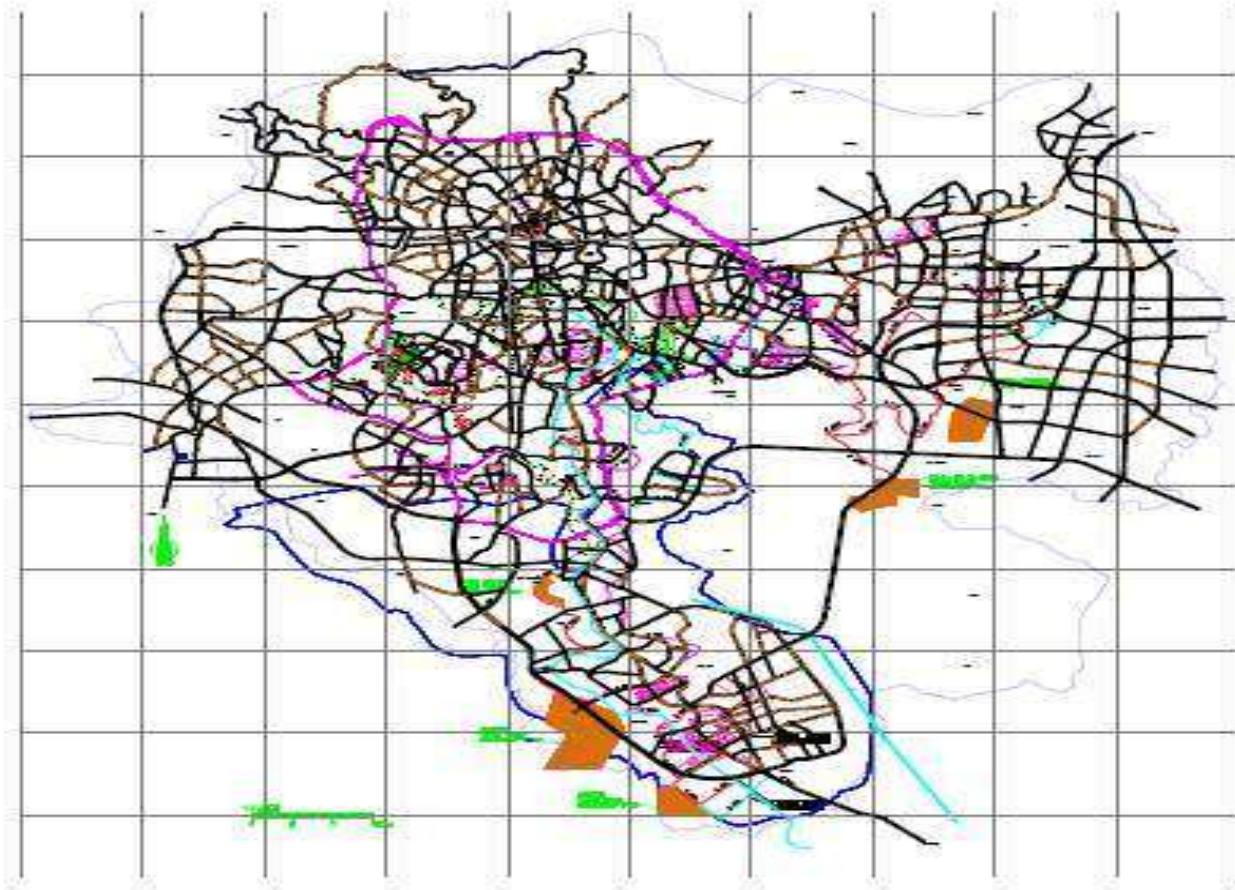




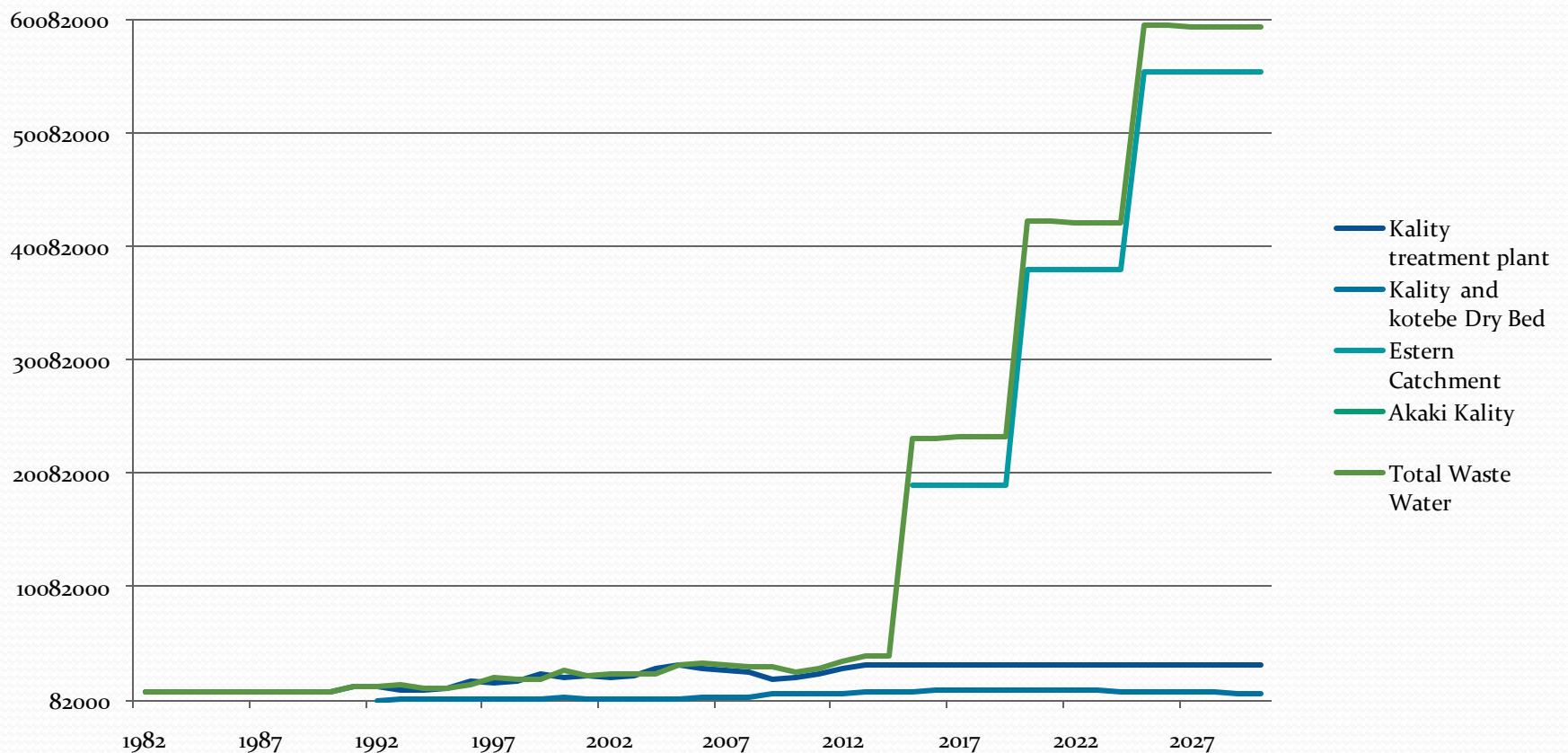
# Future Plans / Programs

- Wastewater Management Master Plan/ June 2002/
  - By 2020 Population Served by:
    - Sewer Line - 960,000 (26 %)
    - Septic Tank – 1,366,000 (37 %)
    - Dry Pit Latrine – 1,366,000 (37 %)
- Regional Planning to have mutually benefiting development plan

# Wastewater Master Plan



# Wastewater Infrastructure Capacity Development m<sup>3</sup>/Year



# CONCLUSION

- In terms of Policy Activities has been started to develop Integrated Regional Plan for Addis Ababa City and Finfinnee Zone Towns and surrounding Rural Areas.
- Water Supply and Distribution is not growing as per the growing demand
- In Short Term Focus is in Developing Groundwater and Long term is Surface Water
- Wastewater Infrastructure is still under developed and impact of wastewater pollution is increasing

# ...Conclusion

- Wastewater has also positive contribution to livelihood
- In general in most projections and program developments Climate Change Impact is not Considered.
- Projections and Existing Policies and Strategies can be used to develop Future Scenarios Considering Climate Change
- This is highlight of Data Collected / Other Detailed Data Collected shall be used in the Research



**THANK YOU !!**