

Systematic Land Information Management (SLIM)

By

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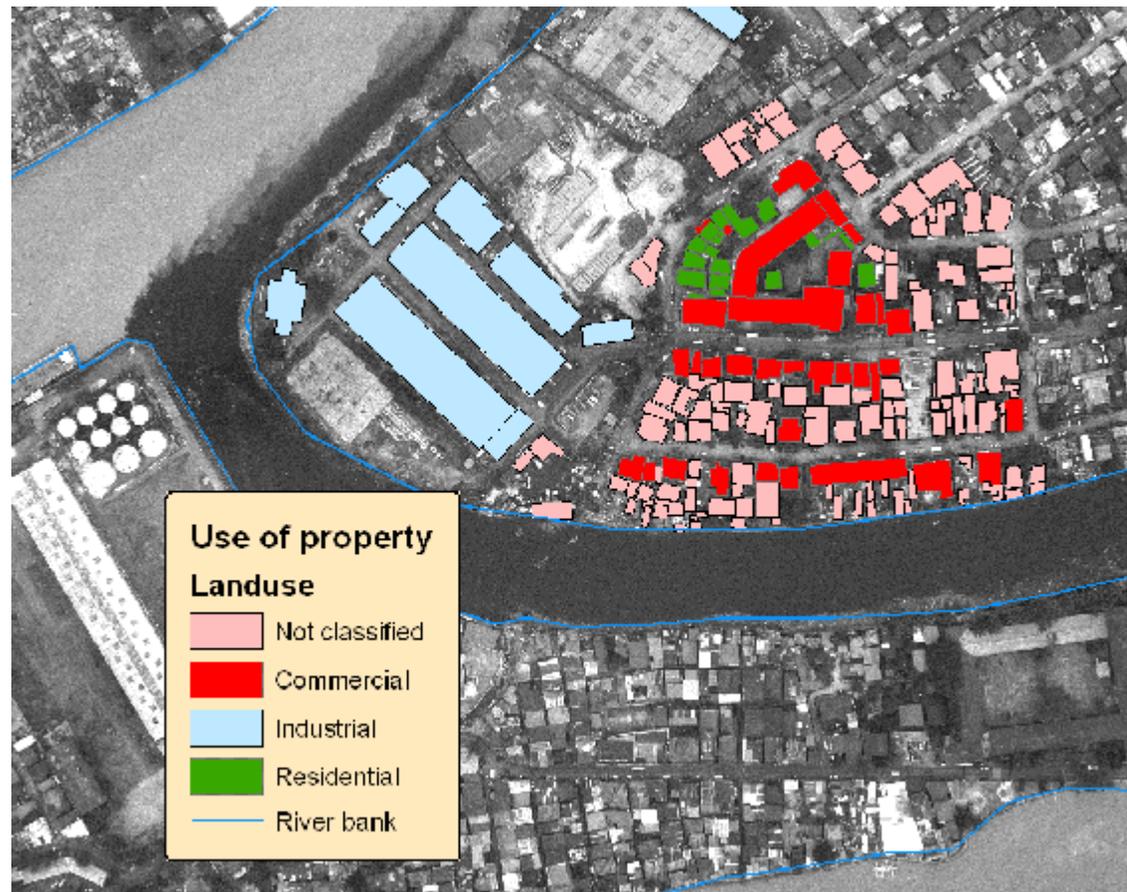
Jaakko Pöyry Infra – Soil
and Water Ltd.

Expert Group Meeting on
Secure Land Tenure:

‘New Legal Frameworks
and Tools’

Nairobi 12 November 2004

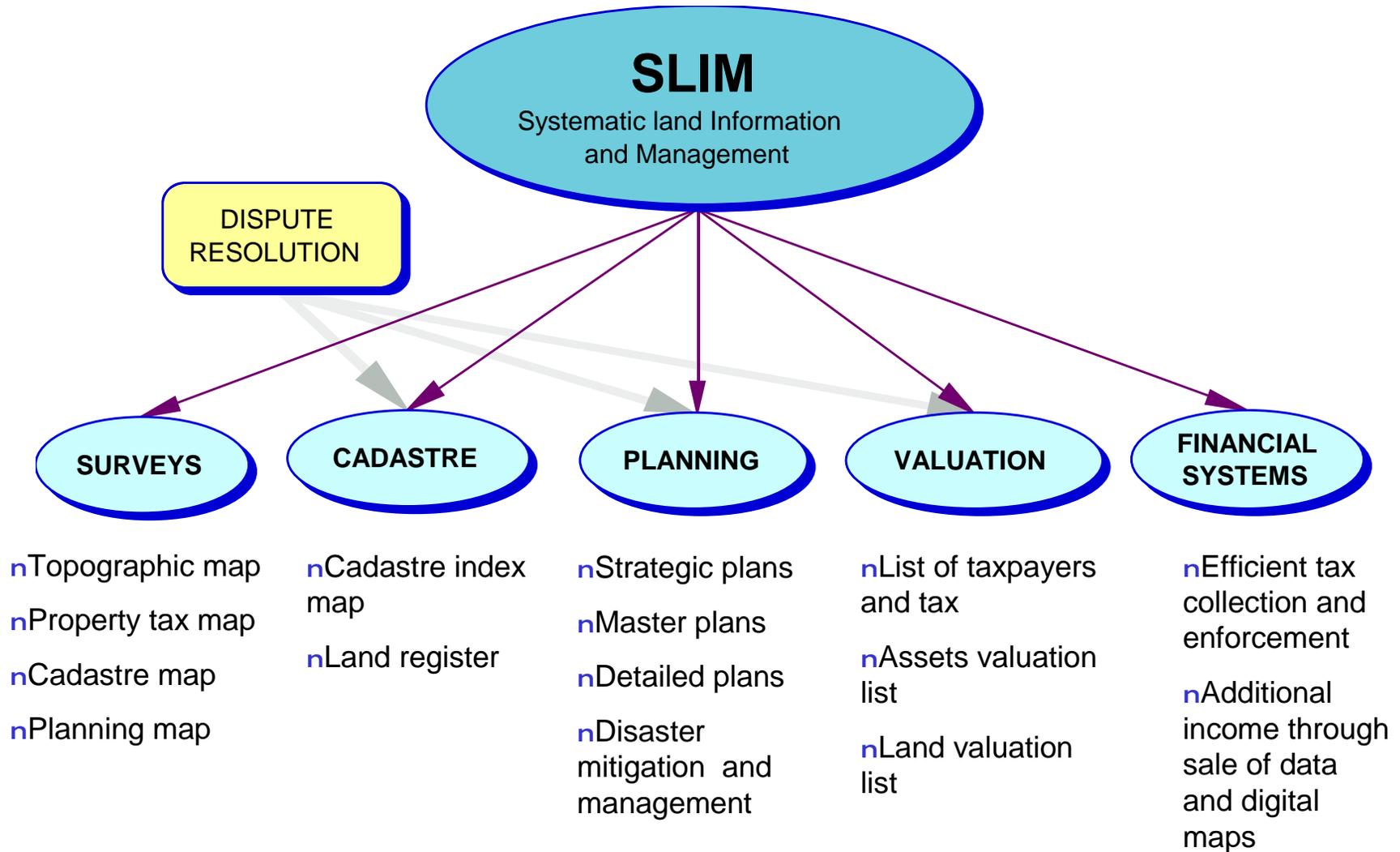
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Universal Problems with Urban Management in Developing Countries

- n Not enough own revenues to cover all urban management tasks
 - Public Utilities (Water, Drainage, Garbage Collection, Power ...)
 - Services (Basic Education, Health Care, ...)
- n Difficulties in maintaining constant inflow of revenues
- n Tax paying units (houses, business units) are not known
- n No proper monitoring system or maps to organise the revenue collection
- n No commitment from the city administration

SLIM Systematic Land Information Management



Principal Approach

n Build GIS Platform for applications

- Systems Analysis → Logical Design → Detail Design
- GIS Base Map → Aerial Photography, Satellite Imagery
- Digitize essential features only (buildings, roads, rivers, coast line etc.)
- Form database structures for revenue / business license collection

n Start with those applications that bring revenue to the LGU

- Property Tax Collection and Monitoring (Buildings, Real Property Units)
- Business License Collection and Monitoring (Business Premises, Real Property Units)
- **Fiscal cadastre → kept up-to-date all the time**

n Add modules that serve other local planning needs

- Strategic Planning SLIM (Townships, roads, streets, land use etc.)
- Informal Settlements SLIM (Buildings, utilities, public services, financing)

n Agree later on additional modules and their time table

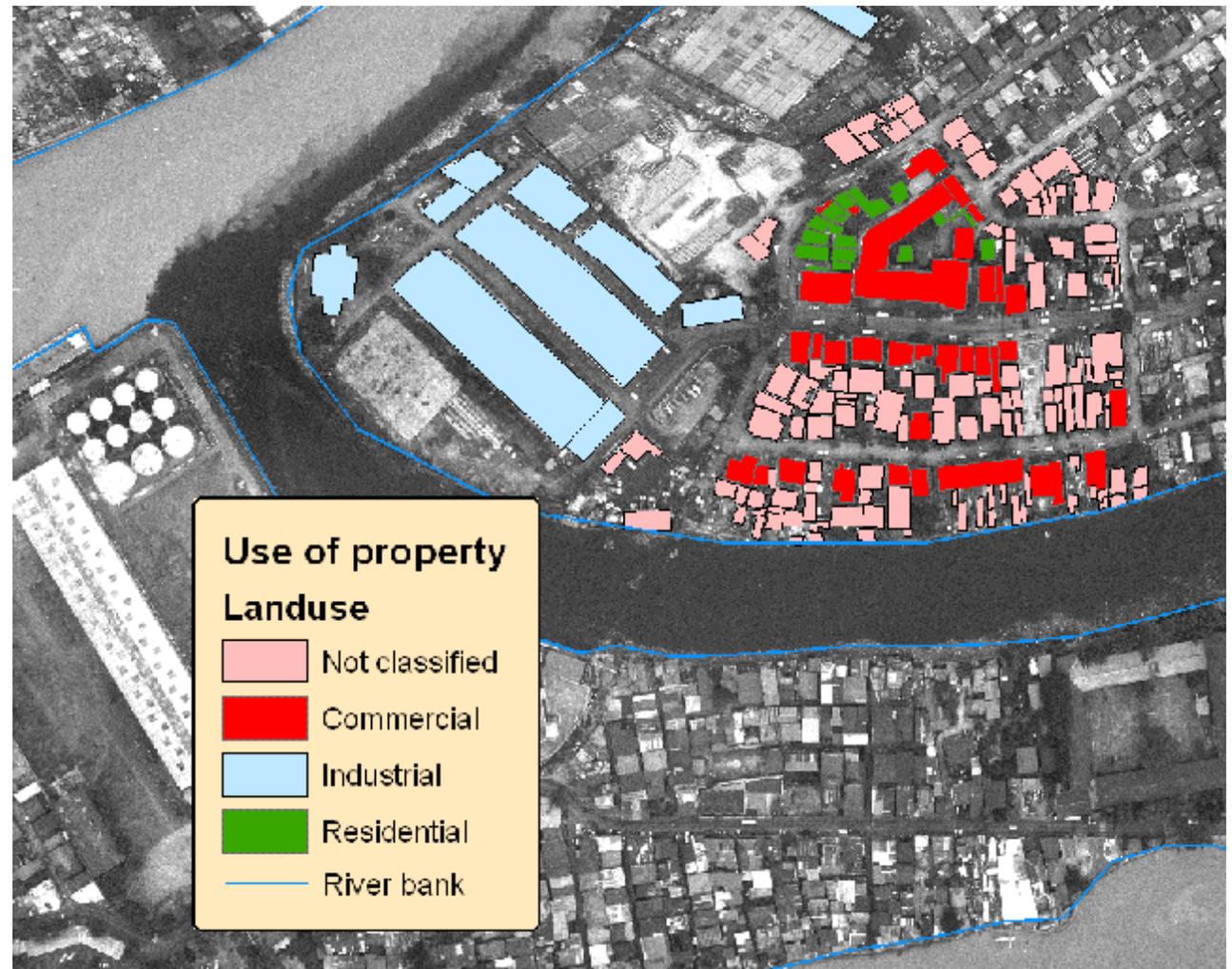
Taxable Properties – Aerial Photo

- n Rectified aerial photos (densely built areas) and satellite imagery (outskirts of the urban areas) will be used
- n Only essential features will be digitized
- n Attribute data will be collected from the site and from existing databases



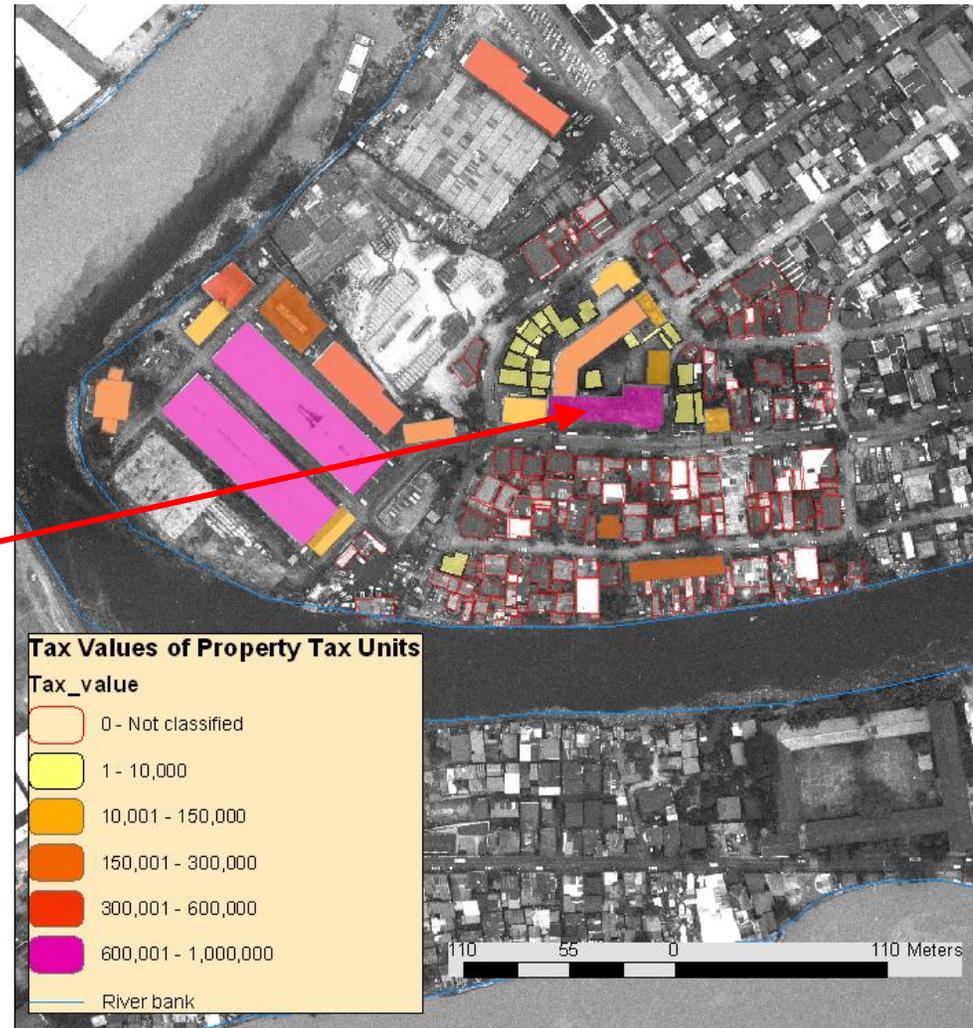
Tax Collector's Sample Sheet – Properties in a Block

- n Property land use can be presented immediately after data entry
- n Seamless map
- n Ortho photo at the back



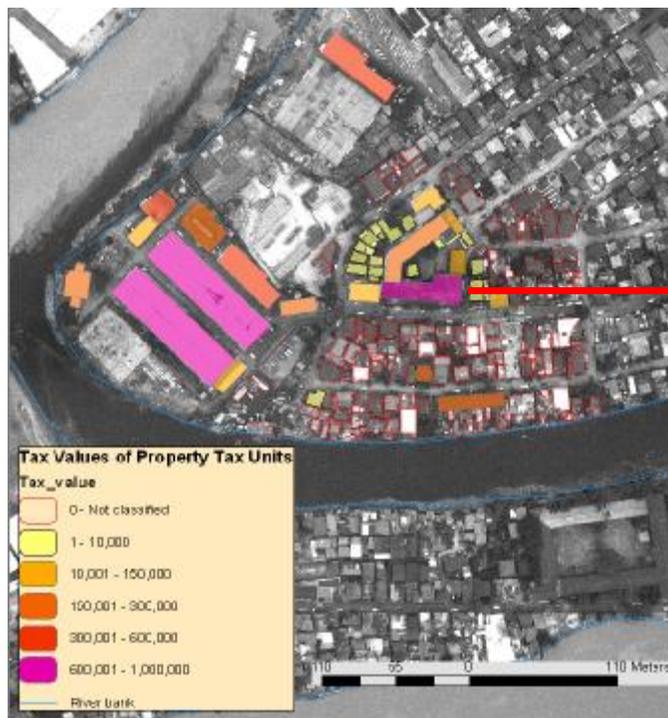
Tax Collector's Sample Sheet – Valuation

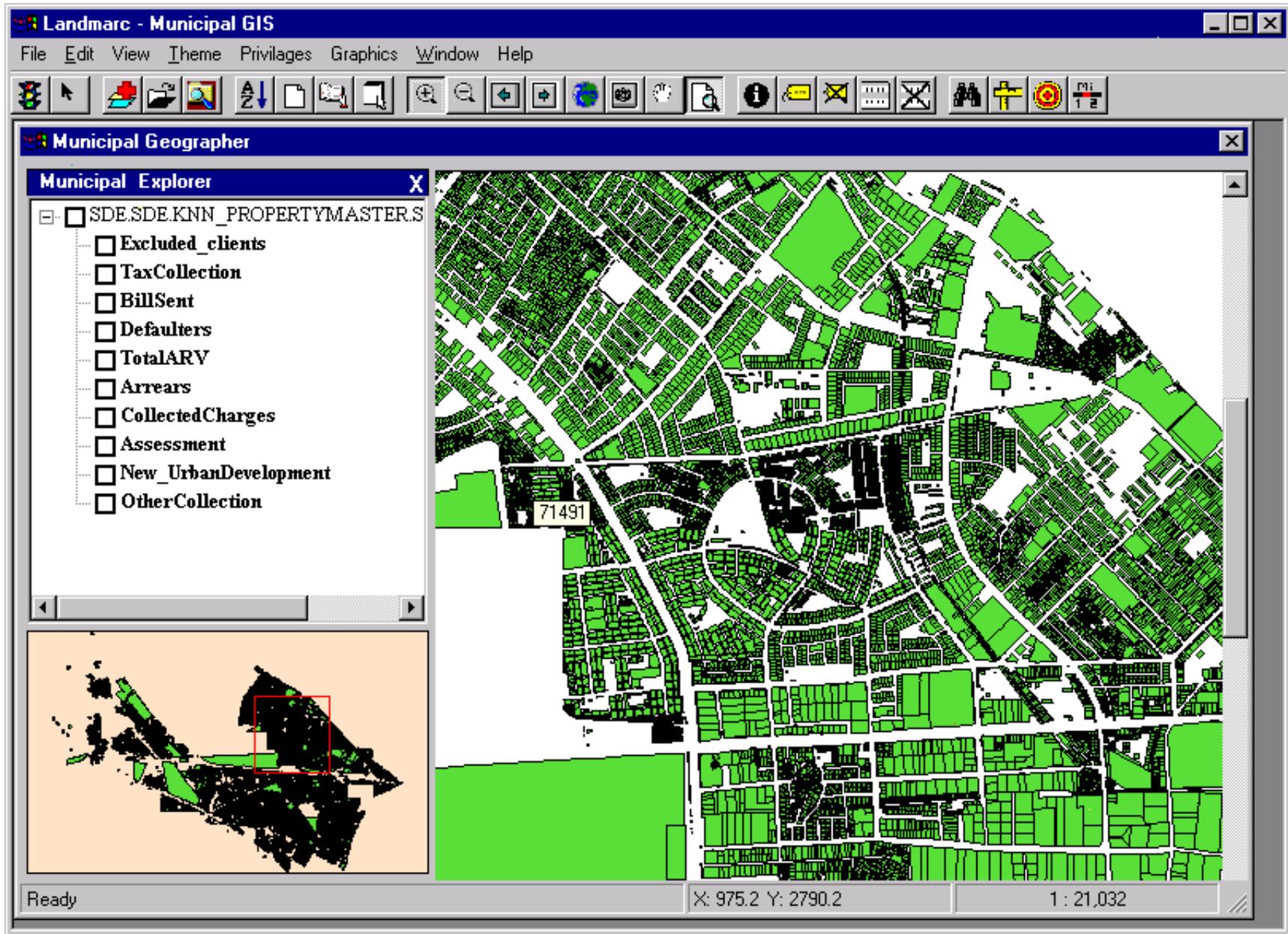
- n Progress of property valuation can be followed daily
- n Status report of work that is completed can be printed any time
- n Picture material can be collected to support valuation



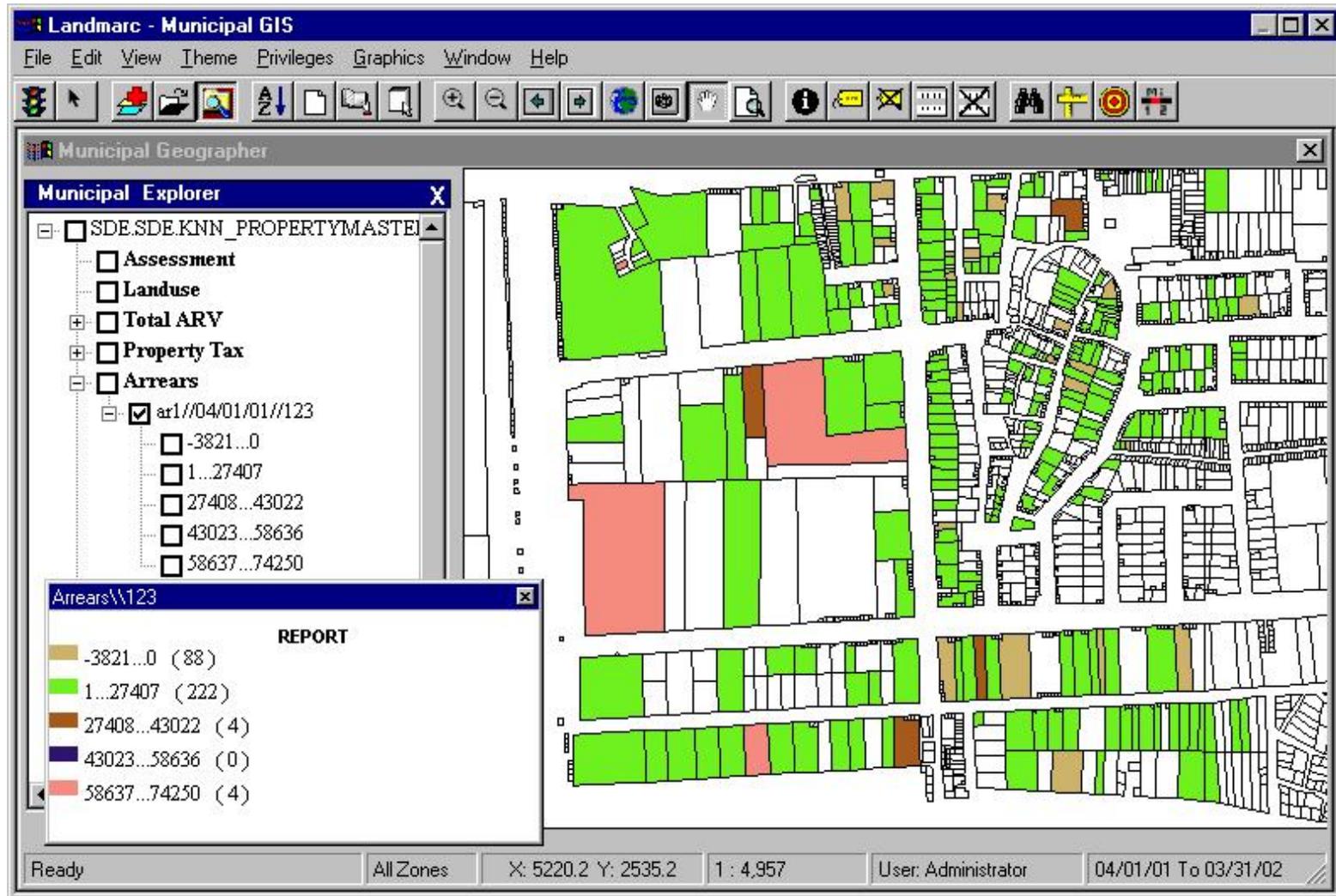
Tax Collector's Sample Sheet – Tax values

- n A hyperlink from each property unit to picture material can be built to verify valuation
- n Useful in dispute cases

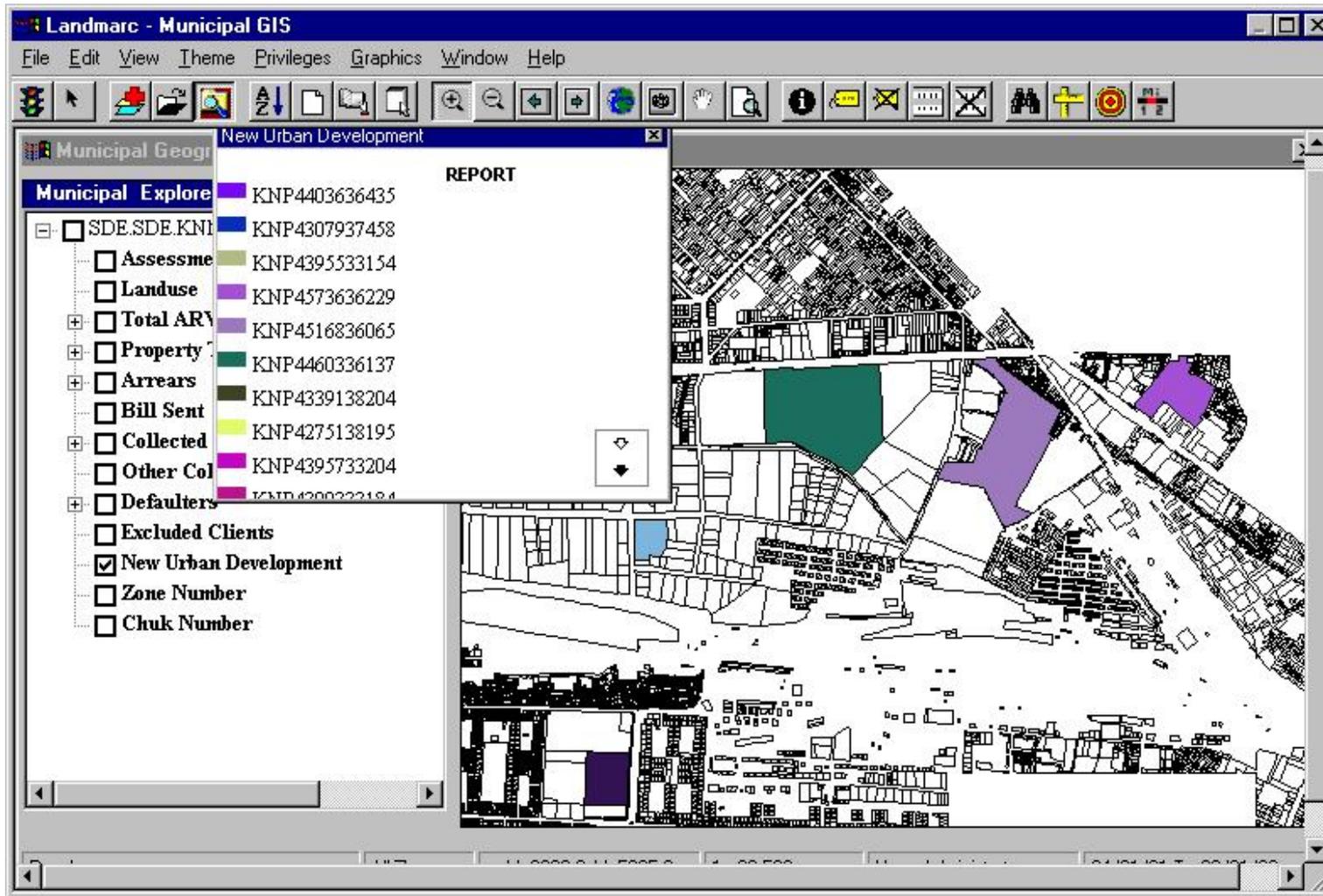




Example of thematic map: Arrears

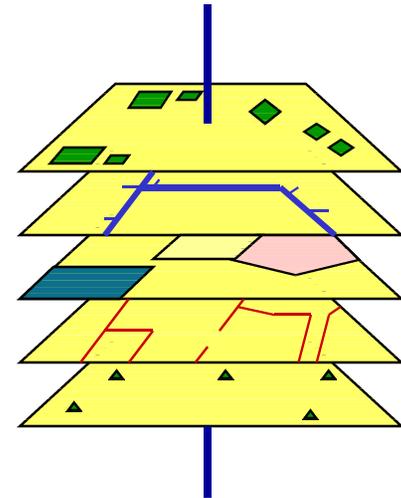


New urban development to be included



SLIM Benefits

- n Enhancement of property taxation
 - Efficiency
 - Equal treatment of all taxable units
 - Monitoring of billing and tax collection
- n Enhancement of GIS capabilities
 - support for citywide GIS
 - support for management and planning of projects
- n Transparency
 - Increases fairness of the taxation system
 - Transparent administrative procedure
- n Improvement of LGU finances
 - Business tax included in the system
 - Improvement of LGU services
 - Local services get more operation budget
 - Local services can utilize the GIS map
 - Public utility companies can be linked to GIS map
- n Base for informal settlement development
 - Map for informal settlement planning
 - Existing infrastructure, buildings, services etc.
 - Share of increased revenues could be directed to informal settlement schemes



Development of Poor Urban Communities Sector Project (DPUCSP) - Philippines

n ADB-project, with three components

- Part A: **Site Development and Tenure Distribution**
- Part B: **Microfinance for Low Income Communities**
- Part C: **Capacity Building and Implementation Support**

Financed by
ADB

- C1 Sector strengthening and project implementation support.

Cities Alliance
and German
grant funds

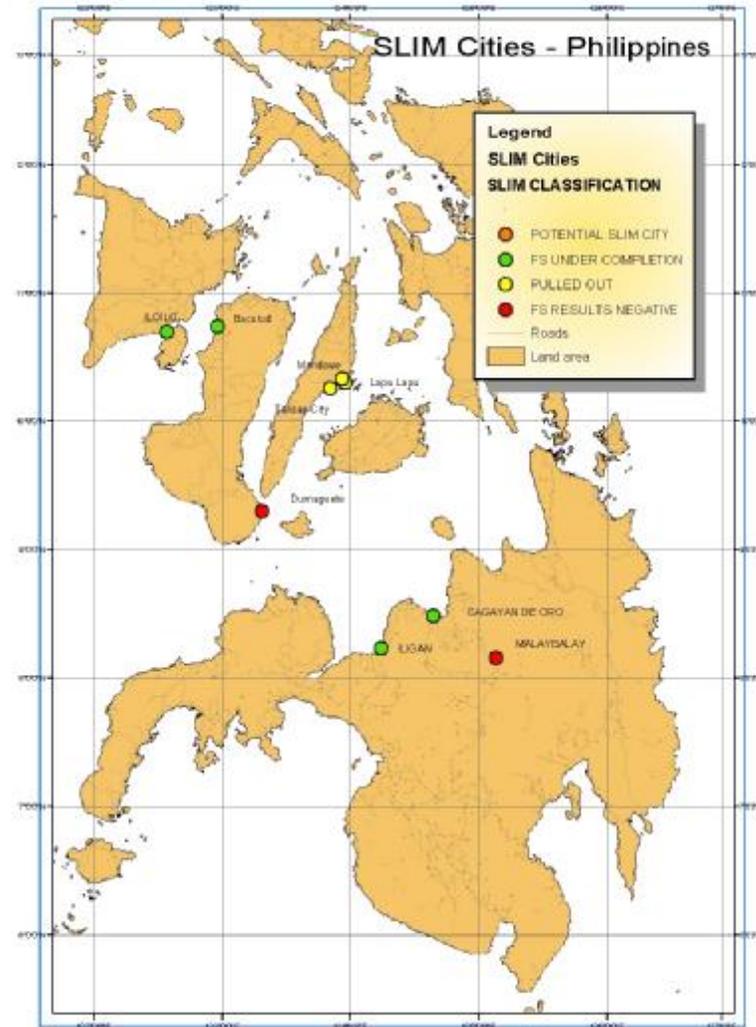
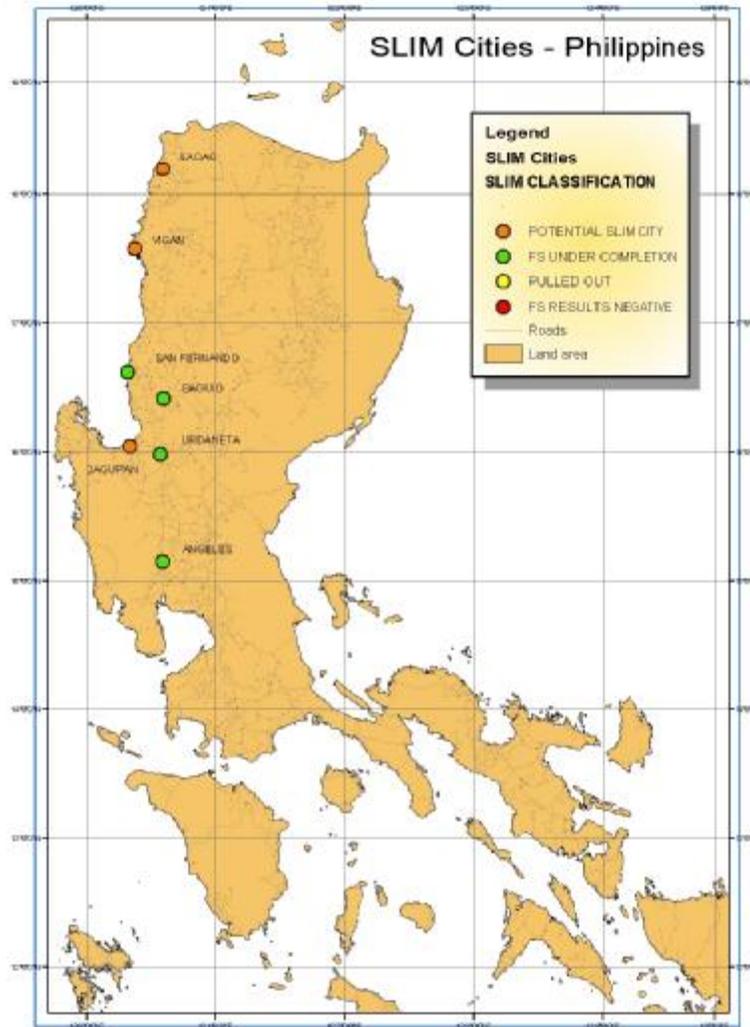
- **C2 Developing capability in GIS based mapping for property and other tax enhancement**

Financing from
Government of
Finland

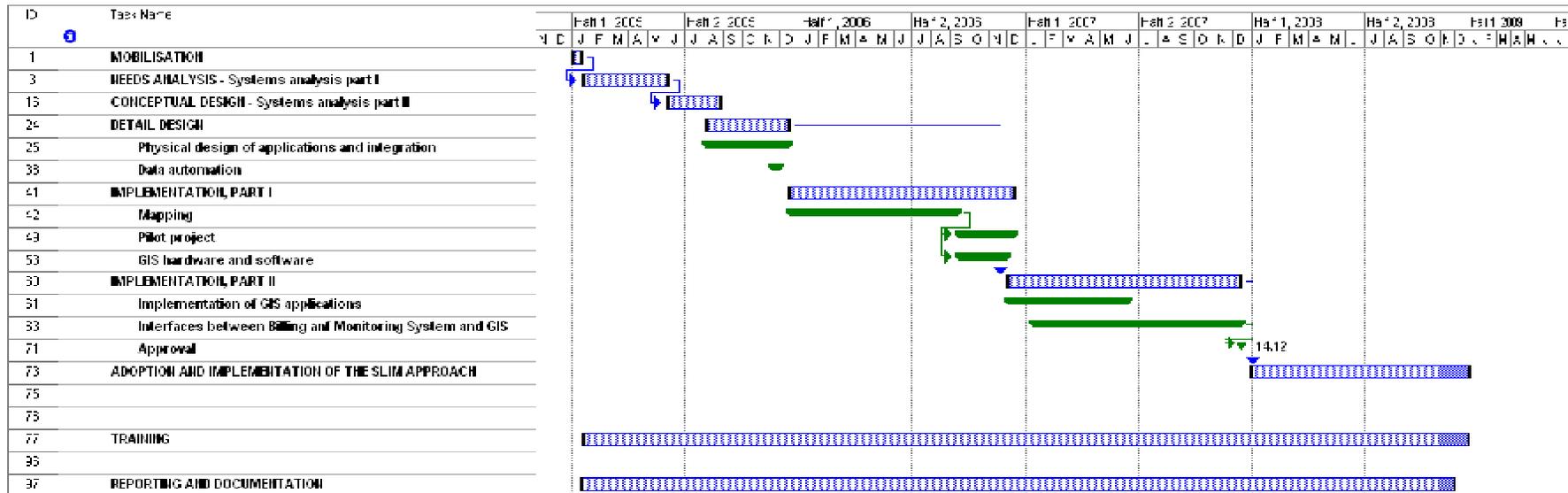
Contents of the project - Philippines

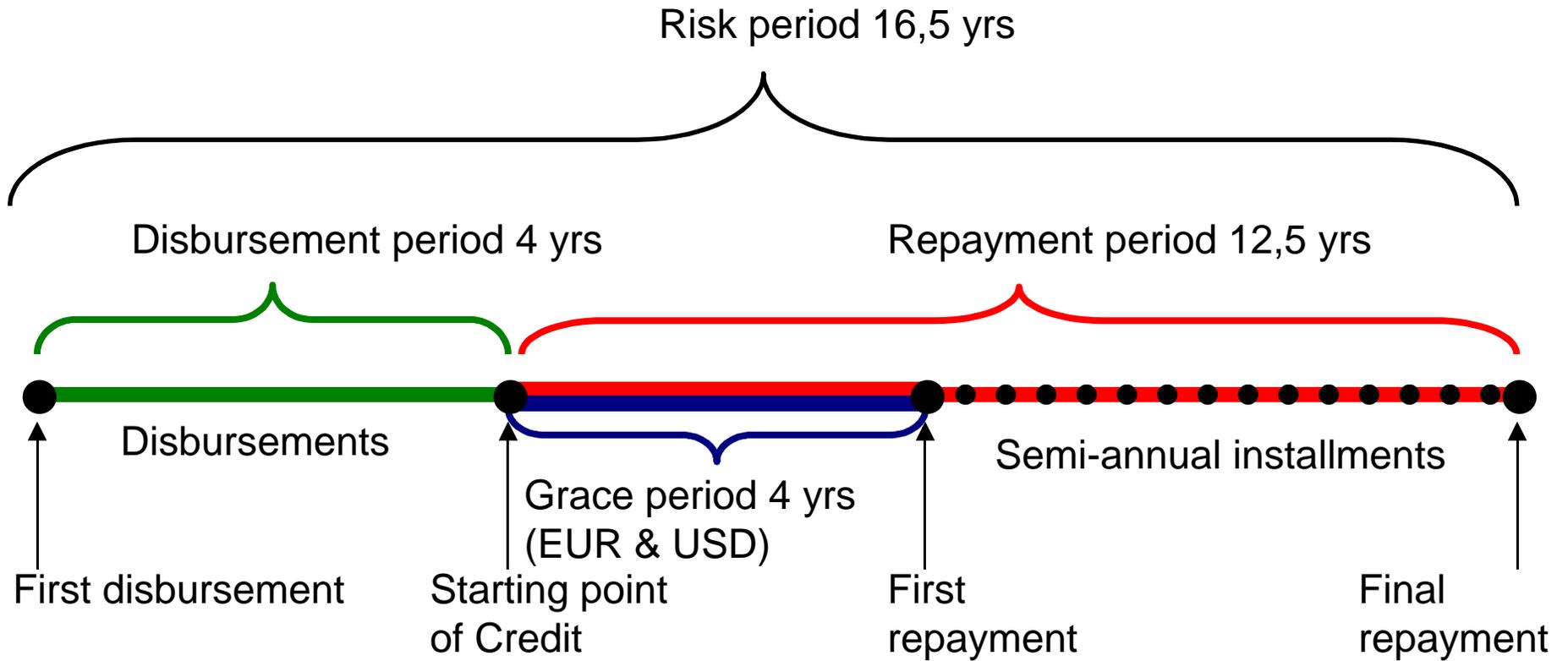
- n Urban management issues – DPUCSP linkages (ADB)
- n Philippines Regional Municipal Development Project (PRMDP - AusAID)
- n SLIM Approach
 - GIS platform development
 - GIS oriented, focus on tax revenue collection
 - Strategic Planning and Informal Settlements
- n Contents will be different in each LGU
 - Work package is tailored to fit the actual needs of each LGU
- n Builds on the existing data and applications (e.g. TRACS = Tax Revenue Assessment and Collection System – AusAID)
- n First Step - Feasibility Study
 - Completed in December 2003
 - Interviews, data collection
 - Appraisal by Government of Finland in April 2004
- n Approval by Finnish Government June 2004, OECD July 2004
- n Next steps
 - Participating cities selected (6 candidates already in the short list)
 - Work program to be finalized in cooperation with LGUs, Borrower, DILG
 - Financial agreement by the end of 2004 (EUR 7 Million)
 - Commencement of project 2005

Feasibility Study – Participating LGUs

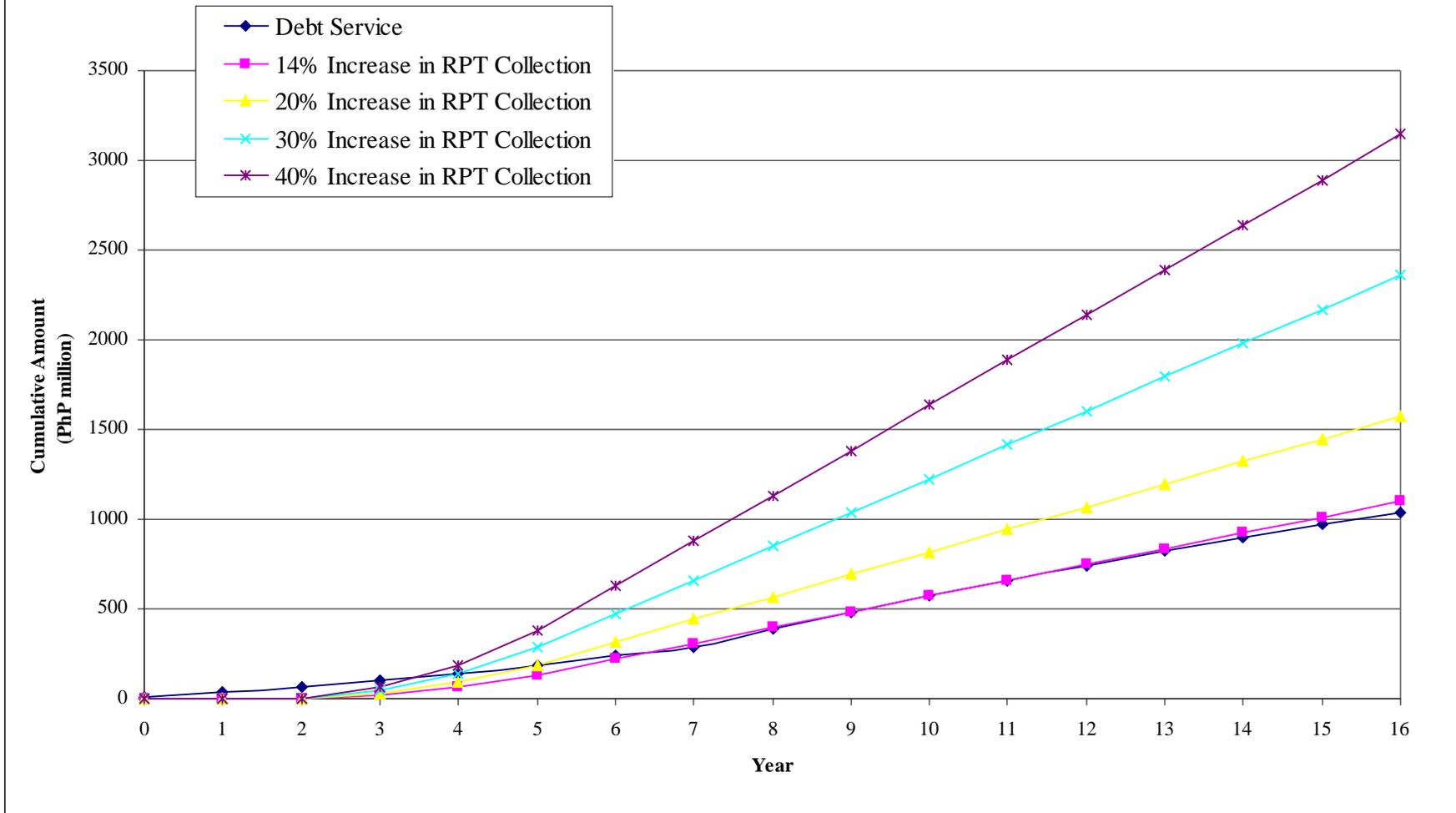


Project Implementation

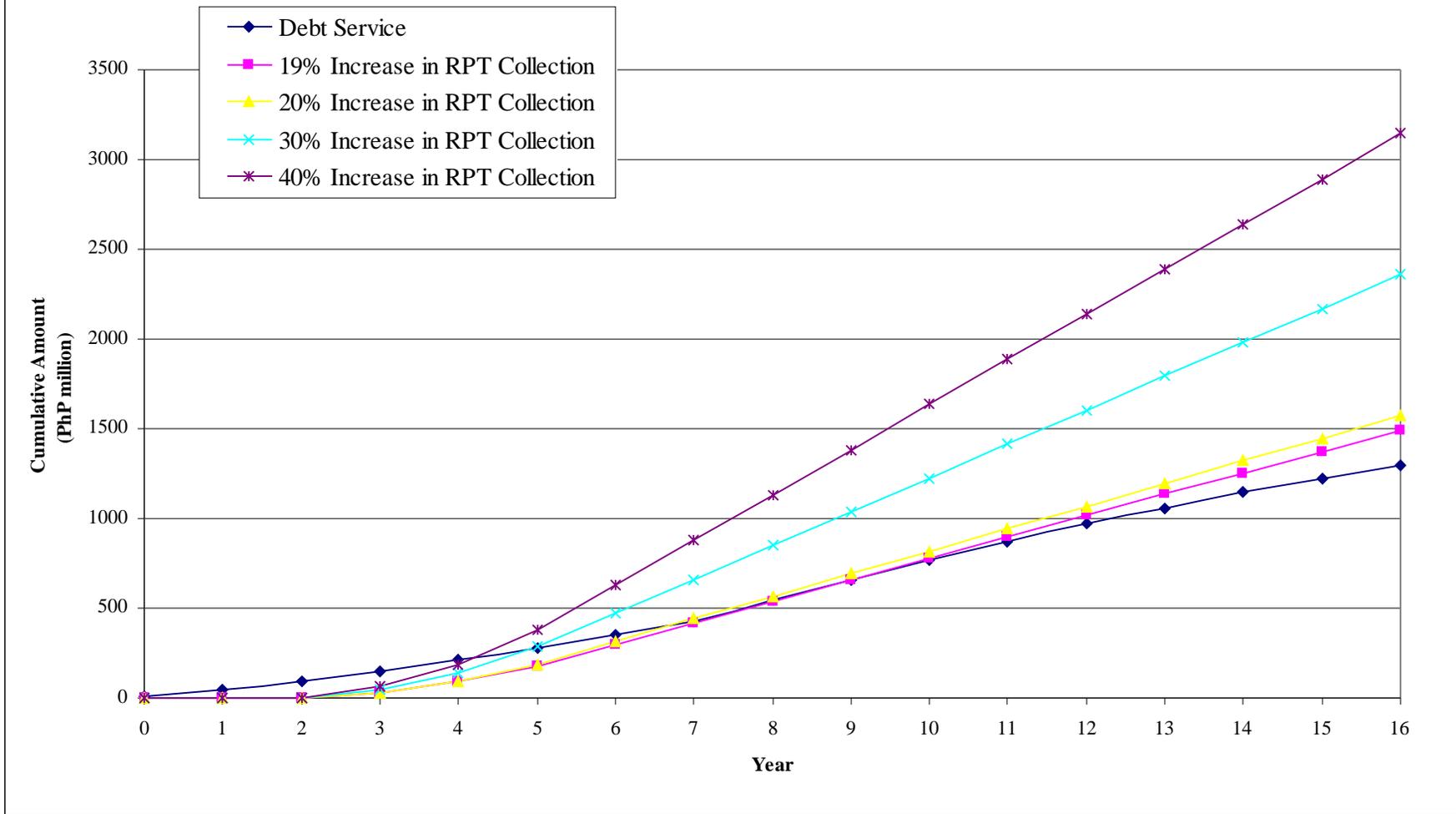




Appendix 8A
Debt Service (at 8.1% Interest) + O&M Versus Increases in Real Property Tax Collection
Over-all (6 LGUs)



Appendix 8B
Debt Service (@ 12% Interest) + O&M Versus Increases in Real Property Tax Collection
Over-all (6 LGUs)



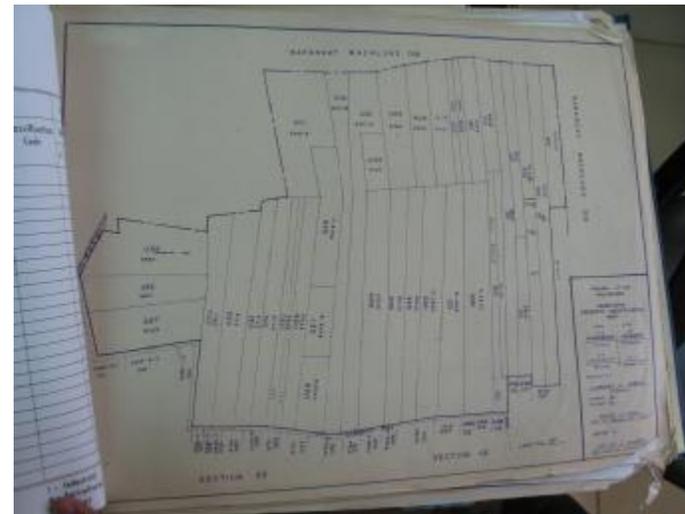
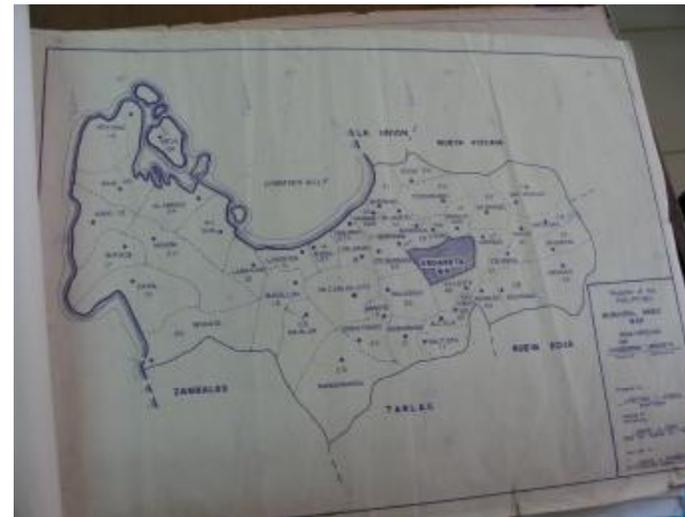
Present property tax assessment practice I

Practice

- n Follows systematic method usually developed by the Assessor's Office
- n Assessment of taxable real property units by Assessor's Office (manual tax mapping)
- n Tax collection by Treasurer's Office
- n Different locally developed systems were used to keep track on property tax collection (TRACS or own system – computerized)

Problems:

- n Accuracy ?
- n Updating of tax map based on voluntary declaration of the property owner
- n Straightforward computerization repeats already made mistakes
- n Room for corrupt practices



Present property tax assessment practice₂

- n Often hand drawn maps
- n No coordinates
- n Manual registration of changes
- n Not in scale
- n New map only every 3-4 years



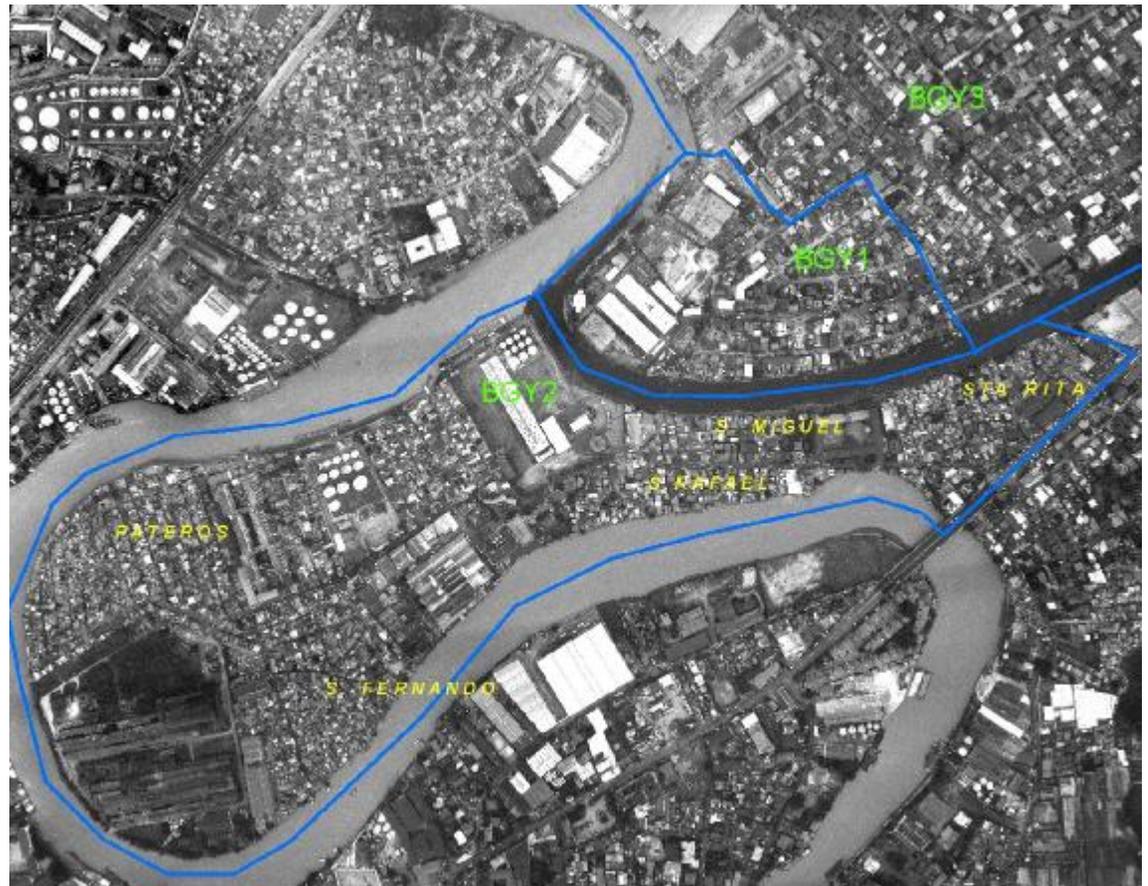
Iligan City

- n Effort to overlay existing property tax map
- n Ortho photo from year 2001
- n Property material from year 2003



SLIM example: Strategic Planning

- n Need to digitize administrative areas:
 - Barangays
 - Census enumeration areas
 - Informal Settlement areas
- n Data entry utilizing existing data bases:
 - Census
 - Socio-economic surveys
 - Household surveys
- n Production of material for decision making and strategic LGU planning



SLIM example: Informal Settlements

- n Location of Informal settlements will be identified
- n Each Informal Settlement will get their own database



SLIM example: Informal Settlements

- n Updated base image will be used for locating key elements of the Informal Settlement
 - Walkways
 - Drainage
 - Garbage collection points
 - Water points 
 - Schools etc. 
- n Basis for sites and services planning
- n Can be used for monitoring of Micro Finance schemes



Local Government Units

LGU	POPULATION 2000	LAND AREA SQ.KM	NUMBER OF REAL PROPERTY TAX UNITS	NUMBER OF BUSINESS LICENSES
BAGUIO	252,386	57.49	88,000	11,300
ANGELES CITY	263,971	62.15	80,000	9,000
BACOLOD	429,100	161.46 65.88	120,000	11,200
ILOILO	450,000	72,00	122,000	7,000
CAGAYAN DE ORO	462,000	488.85 63.12	158,300	14,600
ILIGAN	285,100	775.76 14.24	100,000	12,000

Existing Systems (Conditions at the Project Site)

Name of LGU	Availability of GIS	Computer systems for tax collection	Digital maps	Use of GIS for tax collection
Angeles	No	Yes	No	No
Bacolod	Yes	Yes	Yes/ not accurate	Limited
Cagayan de Oro	Yes	Yes	Yes/ not updated	Yes / with old digital maps
Malaybalay	Yes	No	Yes/ not owned by LGU	No
Iligan	Yes	Yes	Yes/ not updated	Yes / with old digital maps
Iloilo	No	Yes/ limited	No	No
Dumaguete	No	No	No	No
Urdaneta	No	Yes/ limited	No	No
Baguio	Coming	Yes/ limited	No	Not yet
San Fernando	No	No	No	No

Previous revenue enhancement projects

Kanpur 1999-2001:

- n “Non-contact” survey for taxable units
- n Local coordinate system defined
- n Seamless digital maps
- n ArcView and Arc SDE application to be built
- n Recovery of investment during first two years
- n **Change of administration à discontinued**



Gaza 2000-2001:

- n Digital orthophotos to identify the taxable units
- n Field updates on building data and tax evaluation of buildings
- n Intergraph GeoMedia was used as GIS software
- n Recovery of investment during first two years
- n **War à no information of present situation**

