

I  BAGUIO



SUSTAINABLE WATER INTEGRATED MANAGEMENT IN GOVERNANCE:

BAGUIO CITY'S INITIATIVES FOR WATER SECURITY

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Sustainable Integrated Water Management in Governance, The Case of Baguio City, Philippines



BAGUIO CITY

- ❑ Summer Capital of the Philippines
- ❑ It is known as the City of Pines
- ❑ It's average temperature is 18⁰ C
- ❑ tourist destination
- ❑ education center north of manila



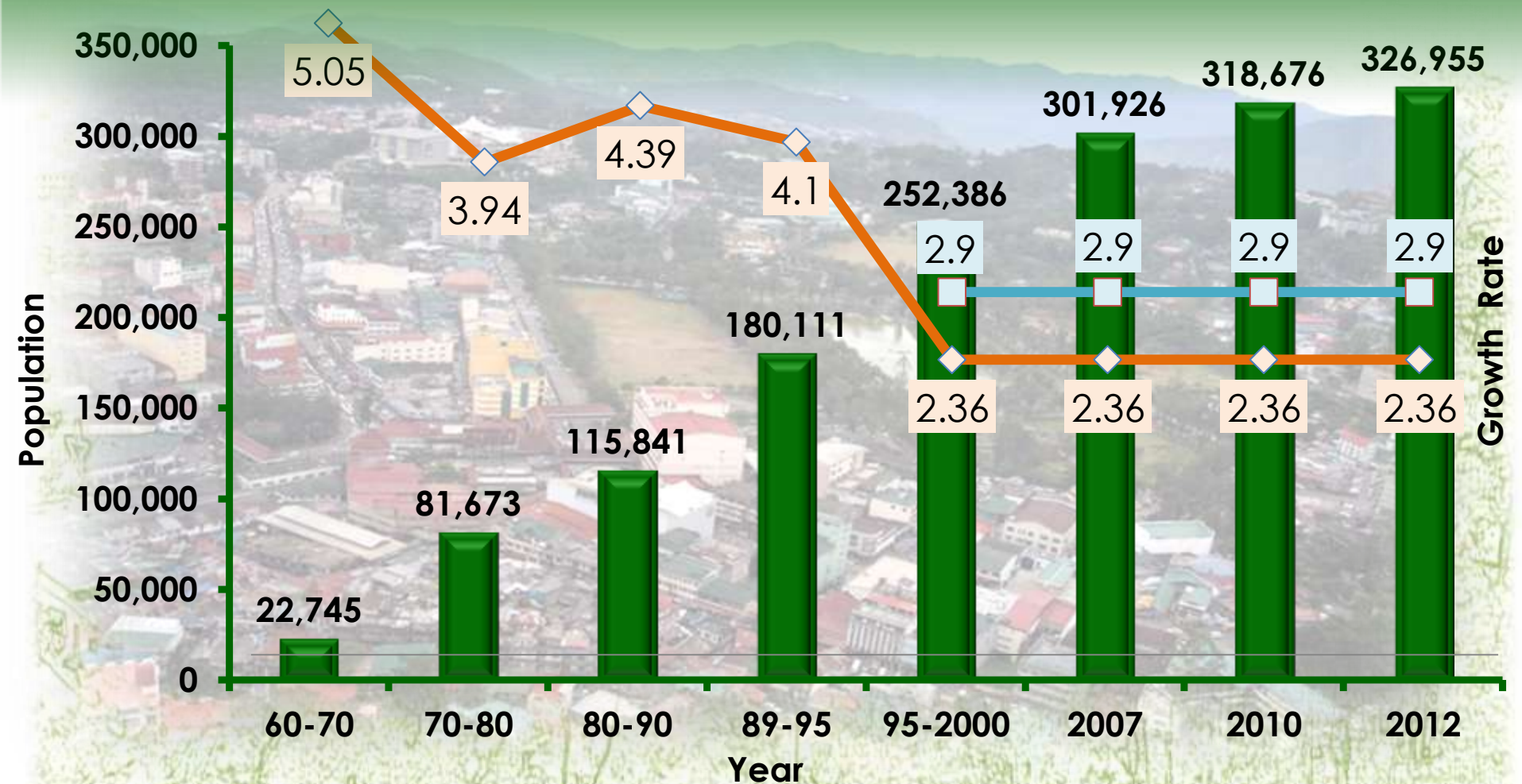
BAGUIO CITY

It is within the Cordillera, the watershed cradle of North Philippines.



- Temp. 18° Celsius
- Ave. rainfall: 462 millimeter
- It is within the rainiest zone of the country, visited by more or less 20 typhoons annually

POPULATION GROWTH



“**Water** requirement is growing at **2.9%** per annum compared to **2.36% Population growth**.”

The map displays Baguio City and its surrounding areas, divided into four distinct zones. The zones are color-coded and labeled as follows:

- BALILI** (Red): Located in the northern part of the city.
- GALIANO** (Green): Located in the western part of the city.
- BUED** (Blue): Located in the southern part of the city.
- AGNO/ AMBALANGA** (Purple): Located in the eastern part of the city.

Key geographical features and landmarks include Baguio City, Mican Hill, Baguio River Catchment, Bued River, and various roads and landmarks like Baguio Airport, Lookan, and Kias. The map also shows the surrounding areas of Lamtang, Insan, and Santo Tomas.

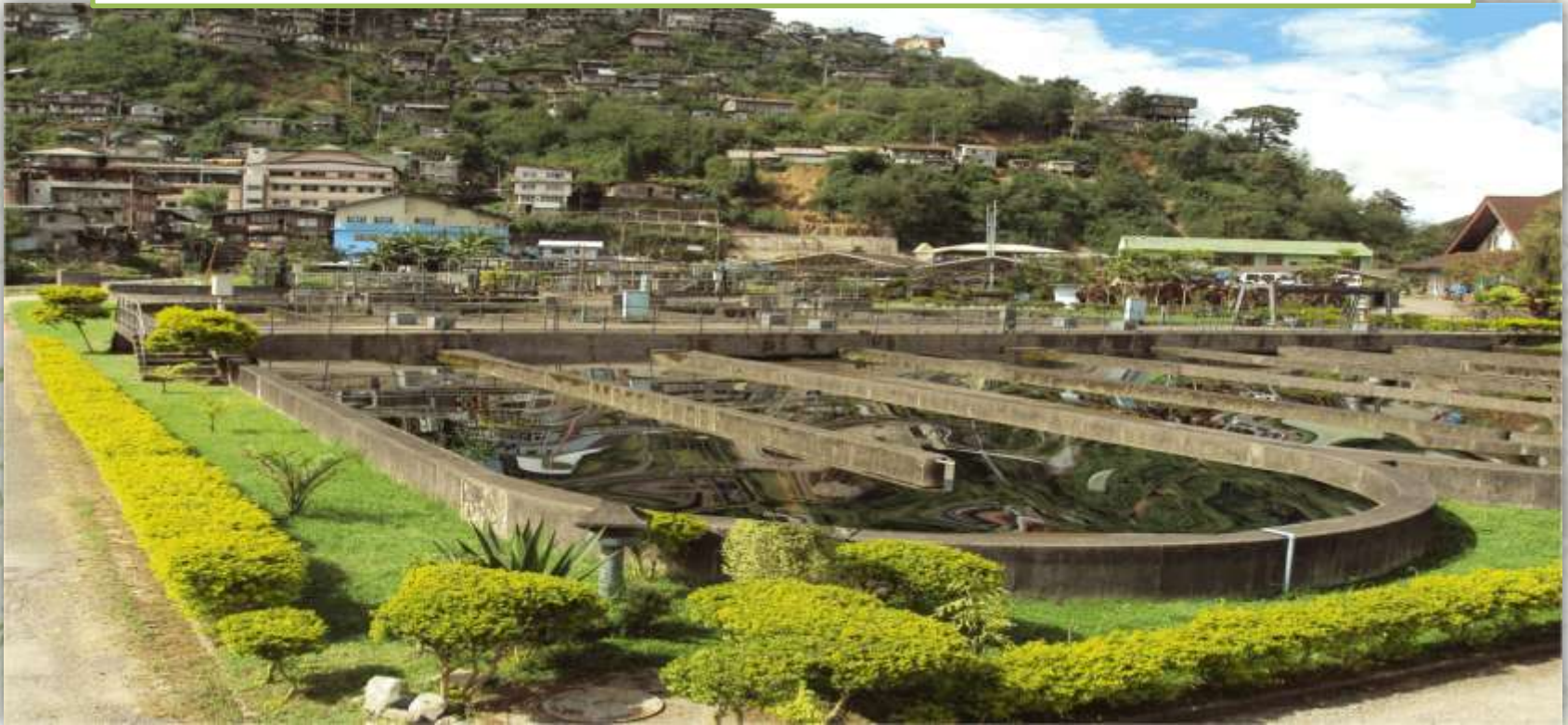
STATE OF THE WATER

- ☐ MAIN SOURCE OF WATER IS PRECIPITATION
- ☐ 85% OF WATER SUPPLY ARE DRAWN FROM UNDERGROUND SOURCES
- ☐ 85% OF THE POPULATION HAVE ACCESS TO PIPED WATER
- ☐ SYSTEM'S LOSS IS AT 35-40%



STATE OF THE WATER

- ❑ THE CITY OPERATES A SEWAGE TREATMENT PLANT
- ❑ THERE ARE 12 COMMUNAL SEPTIC TANKS THAT COMPLEMENT THE FACILITY
- ❑ THE REMAINING AREAS USE INDIVIDUAL SEPTIC TANKS





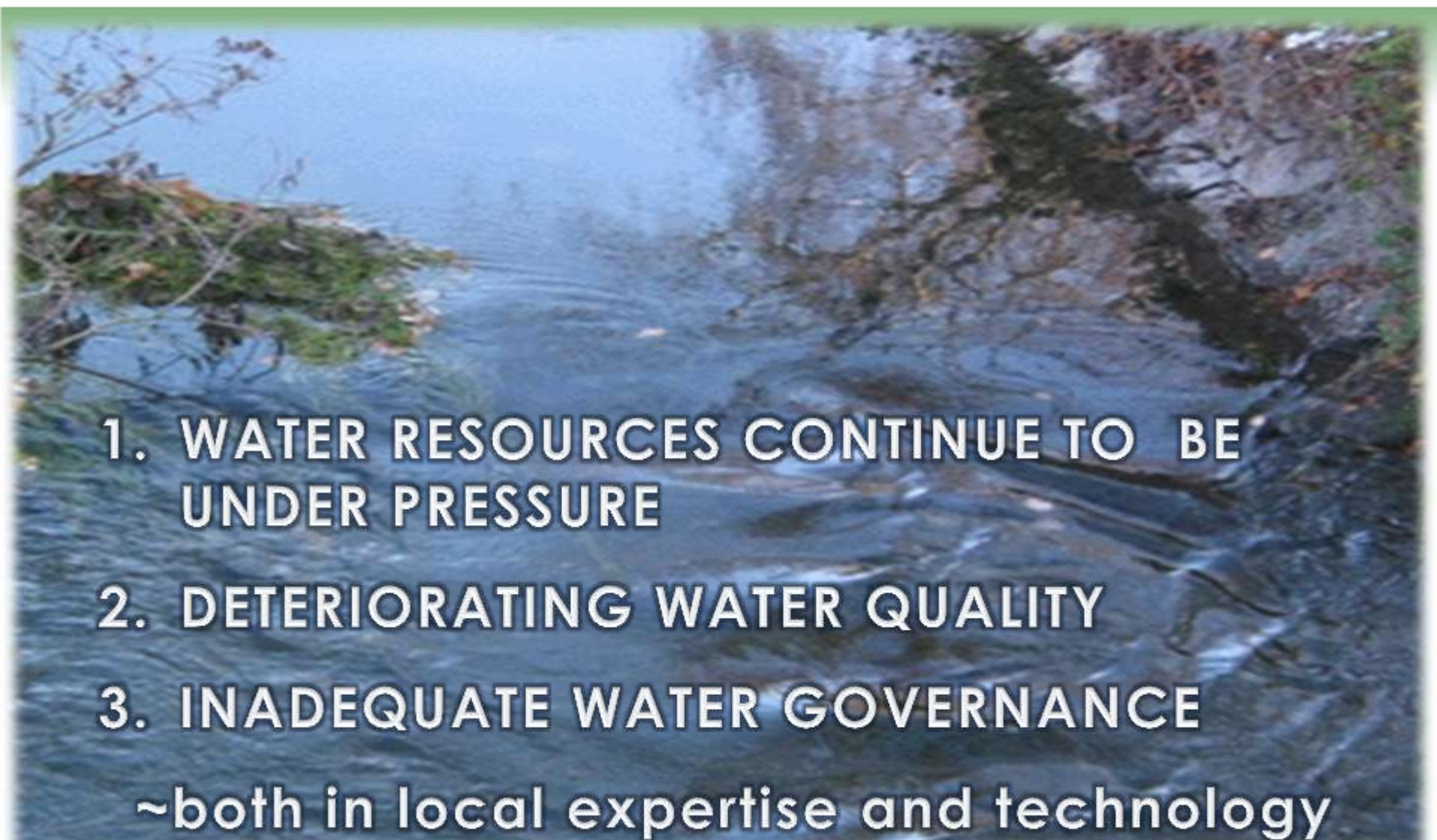
A topographic map of Baguio City and its surrounding areas. The map shows various geographical features including mountains, rivers, and roads. A large area in the center, representing the city proper, is shaded in pink and labeled 'BSTP Coverage'. Several smaller, irregularly shaped areas are shaded in yellow, representing 'Area using septic tanks'. These yellow areas are located in the western part of the city, near the mountains, and in the southern part, near the Bued River. The map also shows the Baguio River Catchment, Benguet River Catchment, and other nearby catchments. The map is oriented with North at the top.

**BSTP
Coverage**

**Area using
septic tanks**

Coverage of the
BSTP, CST & ST

THE CITY'S WATER SECURITY CHALLENGES

- 
1. WATER RESOURCES CONTINUE TO BE UNDER PRESSURE
 2. DETERIORATING WATER QUALITY
 3. INADEQUATE WATER GOVERNANCE
- ~both in local expertise and technology

Baguio City's Adaptation Policies Initiatives towards Water Security

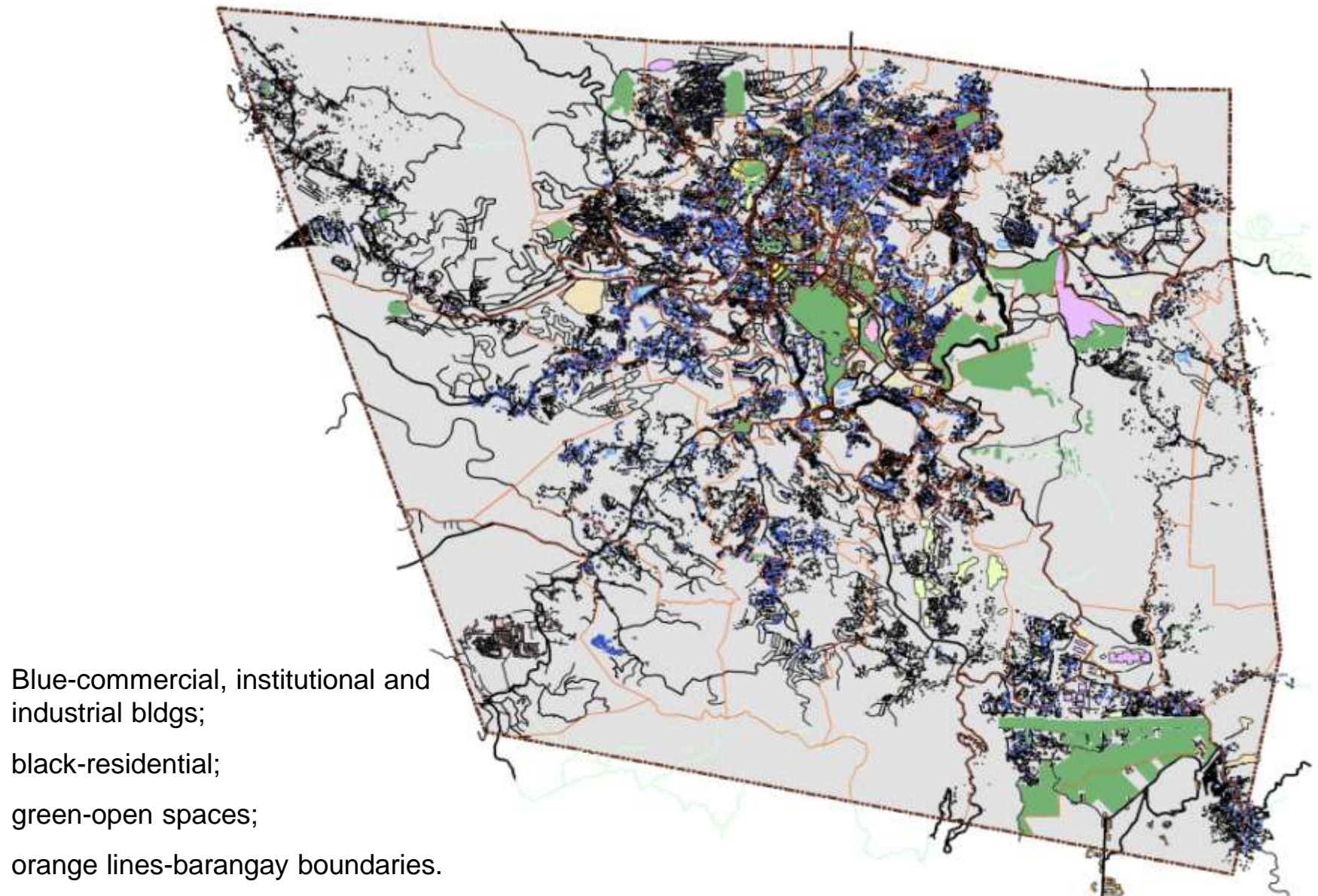
| STRATEGY 1 | INTEGRATION of WATER MANAGEMENT INTO POLICY & GOVERNANCE |
|--|--|
| CLUP | Water sensitive development framework and policy |
| Adopting a Water Policy: Environment Code: DRRM: Investment Code: Climate Change: Adaptation and Mitigation Plan | Low water consuming industries. Provides for rain harvesting facilities for new constructions. Provides for the development of a Drainage Master Plan to properly direct rainwater and help harvest/harness run-off into impounding systems for future use. Provide incentives to green manufacturing and industries. Local legislation reinforcing the DRRM Plan. |



| STRATEGY 2 | ENSURING WATER FOR ALL BY 2016 |
|---------------------------|---|
| Target | <ul style="list-style-type: none"> ❑ Ensure access to safe water of the remaining 25% of the cities households ❑ Reduce non-revenue water from 35-40% to 20-25% |
| Action and Results | <ul style="list-style-type: none"> ❑ Rehabilitation & expansion covering 147 kms. of water lines by the Baguio Water District. ❑ Intensified campaign against water pilferage |



Survey and Inventory of Built-Up Structures



STRATEGY 3: PROTECTING VITAL SYSTEMS



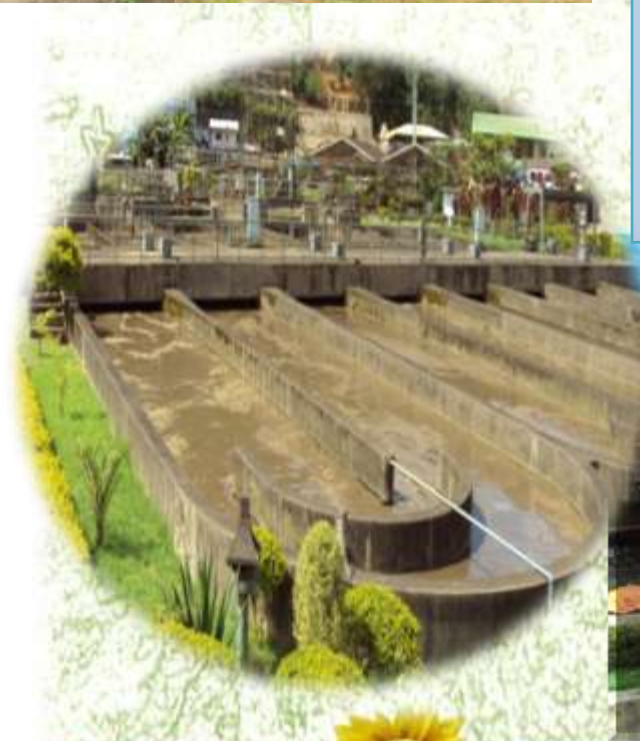
A satellite map showing a large, irregularly shaped brown area representing the Busol Watershed. The area is surrounded by a dense forest. To the left of the watershed, there is a residential area with many small houses and buildings. Several roads are visible, including Ambukiao Rd, EBayan Park Rd, and EBayan Park Rd. The text "Busol Watershed" is written in large, bold, orange letters across the center of the brown area.

Busol Watershed

STRATEGY 4: PROVIDE ADEQUATE SANITATION



| | |
|---------|--|
| Action | <input type="checkbox"/> The City has prioritized the Baguio City Sewage Treatment Plant (BSTP) for development investment allocations for the past 3 years |
| Results | <input type="checkbox"/> The City has allocated an aggregated \$3 M for the development and expansion of the BSTP for 2012. <input type="checkbox"/> Maintained Zero plant breakdowns <input type="checkbox"/> BOD has been maintained at the levels of 2009 of 9mg/l as against the standard 5-6mg/l. |



STRATEGY 5 : WATER AS AN ECONOMIC GOOD

TARGET:

Establish Sustainable Financing through Cost Recovery & User's/Polluter's Pay principle in the design & implementation of capital intensive water programs and projects

RESULT:

Willingness to pay studies were completed;
On-going negotiations for the water service provider to collect for the City, tariffs for sewer fees based on volume of water usage;
Forged an agreement with CDIA for technical assistance in Green and Integrated Wastewater Management

| 6 | FORGING PARTNERSHIPS |
|--------|---|
| Target | COLLABORATION WITH ADJOINING LGUs ON WATER CONCERNS |
| Action | ❑ Establish linkages with neighboring LGUs to resolve common trans-boundary issues on water |



Baguio City



La Trinidad



STRATEGY 7

CREATING POPULAR AWARENESS & UNDERSTANDING

Target

ALL COMMUNITIES ARE MADE AWARE
ON SUSTAINABLE WATER MANAGEMENT

Action

Institutionalized the “Water Dialogues”
as a community based mechanism for
feedbacking, monitoring & evaluation
on concerns relative to water.

❑ Water Dialogues across 128
Barangays
in the City.





**Thank you and
Good day!!**

