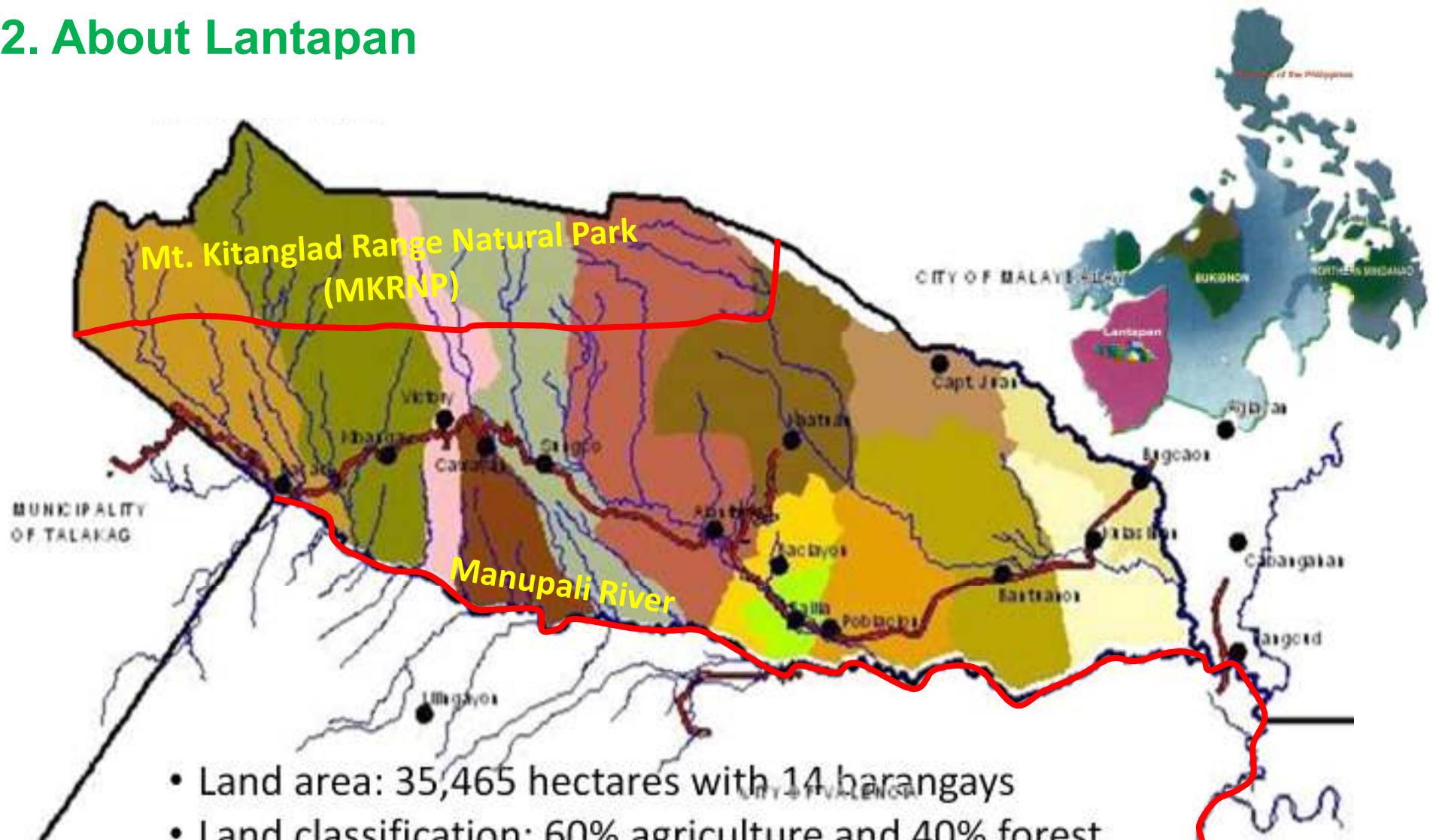


Securing watershed services in Manupali through multi-functional landscape and rewards-based system



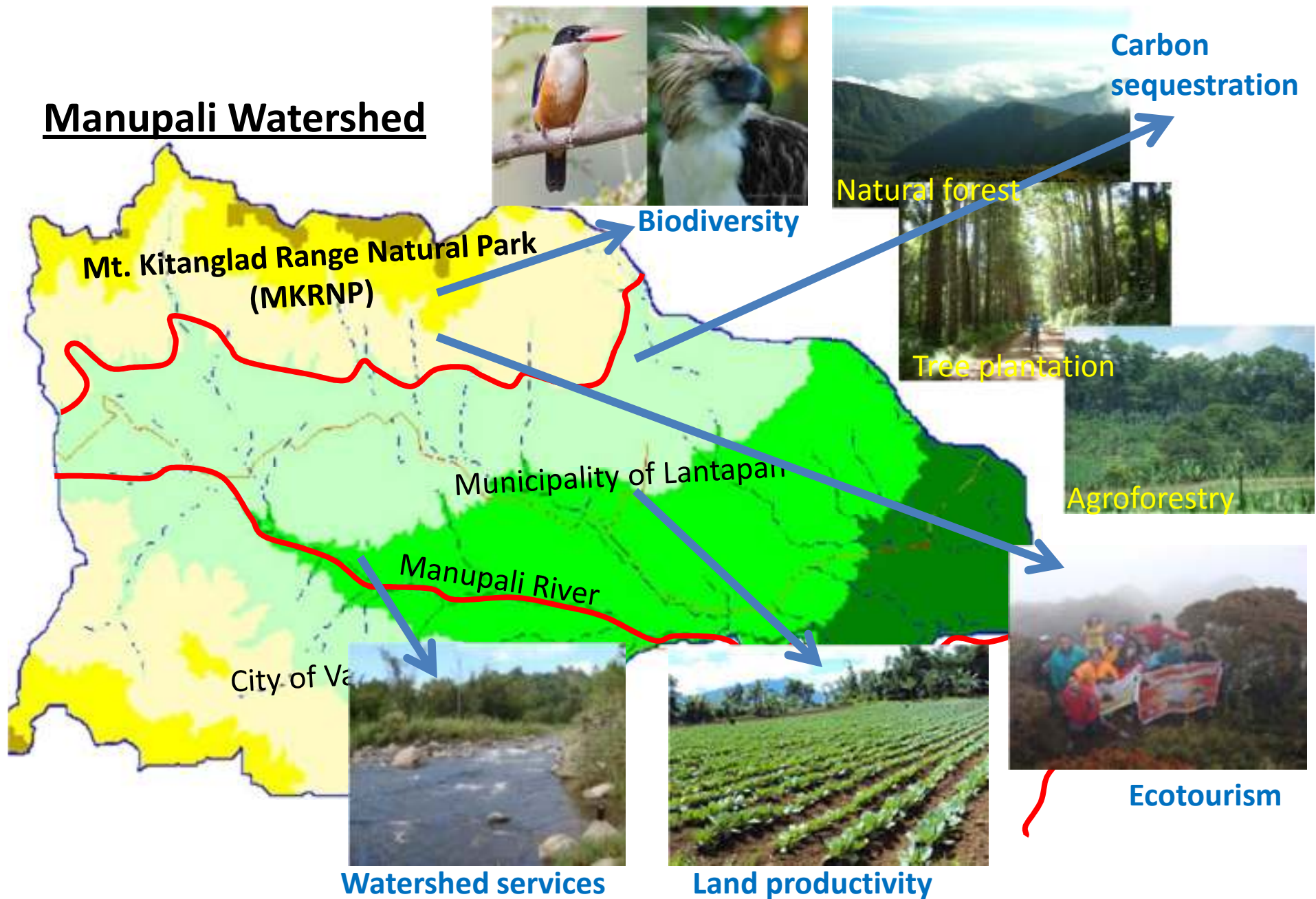
Mayor Godofredo I. Balansag
Lantapan, Bukidnon

2. About Lantapan



- Land area: 35,465 hectares with 14 barangays
- Land classification: 60% agriculture and 40% forest
- Maximum annual rainfall: 2,522 mm (1987-2005)
- Elevation: 320 to 2,954 masl (Mt. Dulang-dulang)
- 70% has slopes greater than 18%
- Population: 55,627 people (NSO 2010)

3. Lantapan's environmental services (ES)

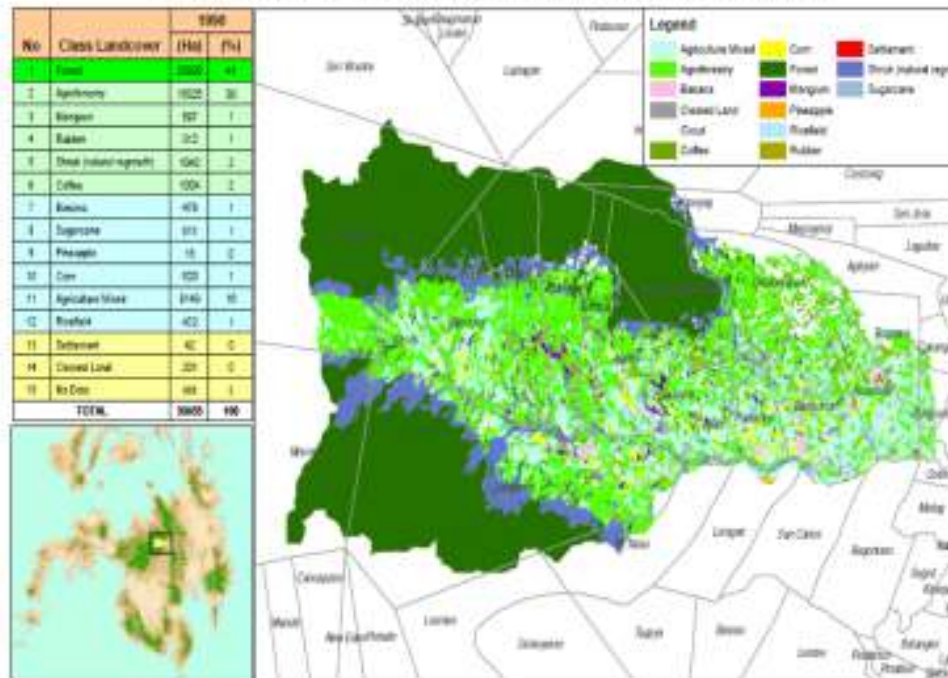


4. Main environmental service: WATER

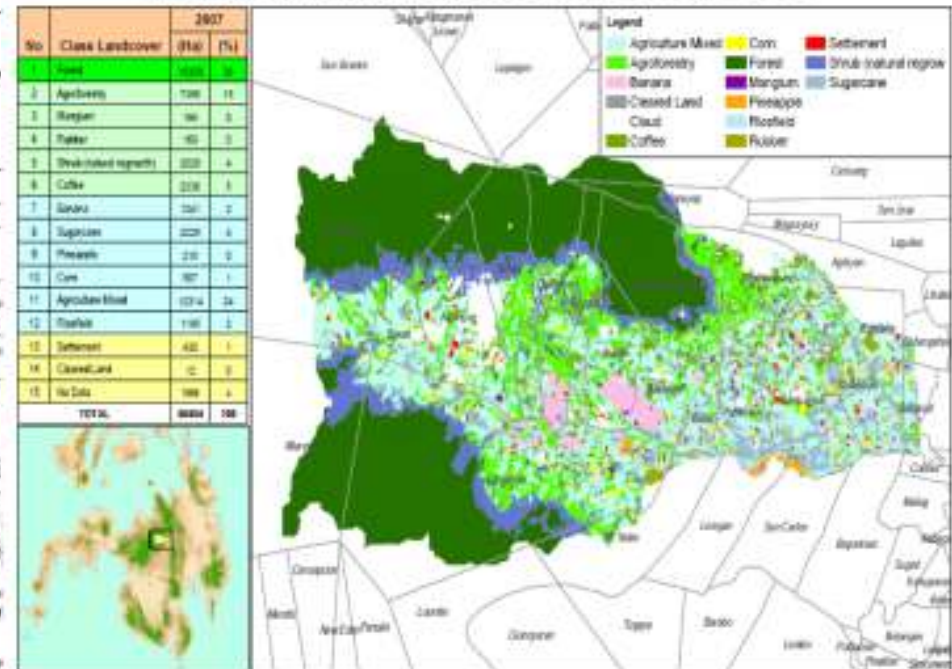


5. Land use, land use change and forestry

Manupali Watershed Land Cover 1990



Manupali Watershed Land Cover 2007



Overall trend: **Agricultural land expanded while forest lands decreased**



Effect: **Upstream land use affect the quantity, quality and timing of water flows**

6. Water balance

Table 1- Average water balance of Alanib and Kulasihan sub-watersheds during a 12-year GenRiver simulation (MEK results)

No.	Dynamics of water	Alanib sub-watershed		Kulasihan sub-watershed	
		Computed (mm)	Simulated (mm)	Computed (mm)	Simulated (mm)
1	Precipitation	2272.36	2272.36	2300.67	2300.67
2	Evapotranspiration		760.42 (34)		1058.50 (46)
3	Other losses		667.58 (29)		261.82 (11)
4	River flow		844.98 (37)		980.35 (43)
	• Run-off	496.12	516.49 (23)	535.20	536.90 (23)
	• Soil quick flow		≥0.00		31.00 (1)
	• Baseflow		328.49 (15)		≥0.00
	• Surface quick flow		-		412.45 (18)

RESULTS



Kulasihan River during dry months



CAUSES



Banana plantation in Alanib village



Water diversion for banana plantations

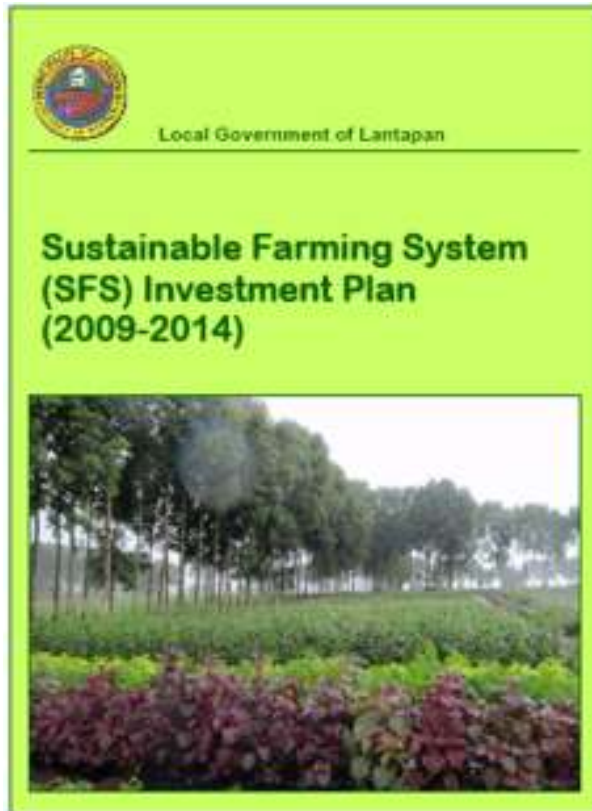
8. Potential response options

Response Option 1: Land-use policies and incentives for sustainable land use

Response Option 2: Regulated water rights allocation, effective coordination between water management institutions, and complementary policies

Response option 3: Watershed-level collective action for co-investment, and equitable and fair benefit sharing

9. Response #1.1: Implement Lantapan SFS Incentive Program (Reward system)



- Adopted the **incentive/reward-based mechanism to encourage adoption and investment on sustainable farming systems (SFS)**
- Enacted the Municipal Ordinance No. 114 entitled **'Incentive-support system for farmers adopting or investing in SFS in Lantapan, Bukidnon'**
- Objective: **To give incentives/rewards to deserving farmers and farmer organizations for adopting or having adopted sustainable farming practices**
- Goal: **Multi-functional landscape that improves farm productivity, increases farmer's income and sustains environmental services.**

10. Response #1.2: Watershed services-enhancing activities



Municipal and barangay tree nurseries



Municipal and barangay tree parks



Solid waste management



River cleaning



Bamboo planting



Tree planting



Annual Recognition of Model Farmers



Watershed-related training



11. Response #2: Watershed-level collective action for co-investment, and equitable and fair benefit sharing

On-going negotiation with NAPOCOR-Pulangui 4 for reforestation and agroforestry development in Alanib sub-watershed



PROTECT MANUPALI WATERSHED TO SUSTAIN WATER FOR HYDROPOWER GENERATION



How can I/we support the Lantapan Sustainable Farming System (SFS) Incentive Program?

If you are interested to support and invest on this program, please fill-up this form and return to any of the persons below from the Local Government of Lantapan.

Name: _____ Company: _____

Address: _____

Email Add: _____ Contact #: _____

I wish to extend my/our support for Lantapan's SFS Incentive Program:

<u>Incentives</u>	<u>Estimated Amount</u>
<input type="checkbox"/> Provide input subsidies for crop production	_____
<input type="checkbox"/> Provide NRM-based livelihood projects	_____
<input type="checkbox"/> Provide micro-financing support	_____
<input type="checkbox"/> Provide infrastructure support	_____
<input type="checkbox"/> Sponsor community-based activities (e.g. tree planting)	_____
<input type="checkbox"/> Provide capacity-building activities (e.g. training, cross-visit)	_____
Others: _____	_____

Thank you very much....

MR. ROMEO R. DIANA
MENRO, 09152999475

MR. BAYANI G. SANTOS
MAO, 09162640649