Tierra Despierta: A Social and Physical Study of the Agriculture Land in Santa Cruz, Galapagos, Ecuador

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1. OBJECTIVES

Can farming and conservation of land co exist in the island of Santa Cruz, Galapagos?

- Enhanced the understanding of the socio-econ info on the Island of Santa Cruz to be used as baseline data for the physical analysis of the agriculture sector.
- Assess the agricultural buffer lands of the Galapagos National Park (G.N.P.) and determine their potential to help protect the natural resources of the Park while providing recommendation for farming livelihoods.

2. BACKGROUND & CONTEXT

- Santa Cruz: 15,000 permanent inhabitants.
- The Charles Darwin Research Station and the headquarters of the Galápagos National Park Service located in Puerto Ayora.
- Agricultural and cattle raising villages on outskirts of the city.
- Human history in the Galapagos dates back to 470 years.
- In the island of Santa Cruz 11.60% devoted to agriculture. Agricultural area 20 km long from east to west and 5-7 km wide.

Social Analysis Data:

Soil in the highlands reaches a depth of three meters but becomes increasingly shallow toward sea level. The pH level ranges from very acidic to acid neutral. The soil is not arid.

About 4% of the rural population has access to piped water; 96% collects water through rain barrels or water tanks. No sewer system in the rural area.

Climate change, plagues, lack of water and poor planning constrain agricultural production → Farmers unable to compete with food imports from the mainland.

3. METHODOLOGY

SOCIAL (interviews, research, surveys) ↔ **PHYSICAL (landscape architecture and planning)**

Government and community input → Compile socio-economic data

Site inventory, analysis, and synthesis → Create master plans for agricultural buffer land.

Ecuador Tierra Viva
Improve the quality of life of neediest communities by providing water, health and educational services"

Field practicum Development question:
Can farming and conservation of land co exist in the Agricultural area in the island of Santa Cruz, Galapagos, Ecuador?

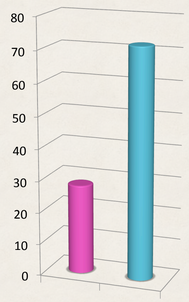
With the practicum deliverables, create future recommendations to improve livelihoods of farmers and conserve agricultural buffer zones

4. SOCIAL ANALYSIS & RESULTS

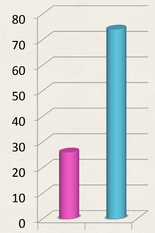
Utilization of agricultural production in Santa Cruz*

- Animal use 40%
- Seeds for sale 11%
- Other uses 11%
- Sell of crops 11%
- Home use 27%

Are farms self-sufficient?



Do farms have a clear vision for the next 5 years?

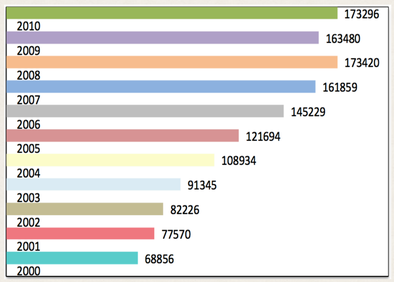


Do you buy products from the agricultural land?

- Yes 100%

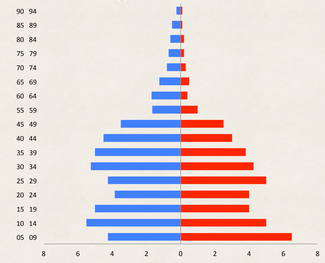
DAIRY
EGGS
HENS
LEGUMES

Number of tourists per year: 2000 to 2010*



* Ordenamiento Territorial, Santa Cruz

Population in Bellavista by age and sex*



Majority of pop. 16 to 25 yrs old

5. PHYSICAL ANALYSIS & RESULTS

Site Analysis

Agricultural Zones

- Opportunity for forest and agri.
- Opportunity for agriculture
- Opportunity for conservation

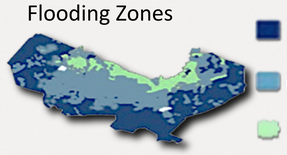
Vegetative Zones

- Maintain conservation area
- Eradicate invasive species zone
- Maintain existing forest

Erosion Zones

- Good area for agri. and consv.
- Not great for agri. or consv.

Flooding Zones



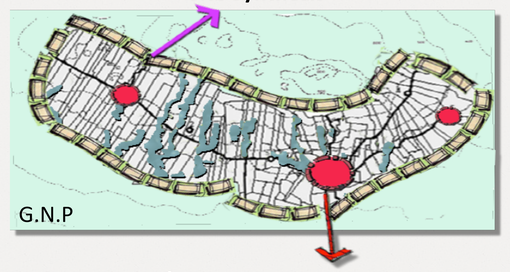
- Moderate for agri. or consv.
- Good area for agri. or consv.
- Best area for agri. or consv.

Roads and Towns

- Maintain main paved road
- Maintain secondary dirt roads
- Maintain population hubs for human expansion

N NTS

Site Synthesis



- Opportunity for: Endemic and native vegetattive buffer
- Opportunity for: Population growth expansion
- Opportunity for: Corridor expansion
- Constraint due to: High traffic main road to the north to Baltra airport.
- Constraint due to: High traffic main road to Puerto Ayora

Conceptual Master Plan

- Existing corridors
- Existing towns
- Proposed corridors
- Proposed urban expansion
- Existing corridors
- Exist. conservation
- Existing intervene forest
- Existing roads

6. RECOMMENDATIONS & CONCLUSIONS

Wildlife corridor | Easement | Agriculture plot

- The farmers are encouraged to work in cooperatives and with the local government to implement a plan for local transportation of crops from the highland estates to Puerto Ayora.
- Strive to incorporate greenhouses to solve the issues of short cycle. production → Implement sustainable agriculture practices.
- Implement wildlife corridors at a minimum width of 304 meters (1,000 feet)
- If housing or agriculture practices are near the wildlife corridor, put conservation easements on adjacent lots to exclude structures bordering the corridor.
- Develop strict lighting restrictions to avoid light pollution into corridor.
- Work with public policy experts to recognize key policy controls at national and local levels that will endorse conservation purposes.
- Farmers can adapt sustainable agricultural practices and incorporate agro tourism strategies if needed.