AASD J-Term Deliverable — Gold Team

Communities: Chumpe & Poques
Issue: Soil Quality
Sub-Issues: erosion, pests, weak plants, low production, trouble at market, difficulty growing feed, less guano available

Research Question: Does Reforestation positively affect soil quality and its associated issues of erosion, pests, etc.?

Methodology

- Target Population
  - Cross-comparative study of Chumpe and Poques
  - Examine effects of reforestation on soil nutrients, erosion, wind breaks, watersheds, animal life, pest/plagues, etc.
  - Chumpe shows initiative in reforestation and improving soil quality
  - Both high altitude growing communities
    - Work with both communities year after year to track progress
  - Work 50/50 at community and individual levels
- Data Collection
  - 50% SSI, 15% survey, 15% focus groups, 10% field tests, 10% GIS analysis
  - Visit more farmland (soil tests)
  - Audio for interviews and surveys, video for soil testing
  - Qualitative v. Quantitative
    - 65% qualitative, 35% quantitative
    - Use interviews to learn opinions, knowledge, techniques, etc.
    - Use raw data and mapping to make sense of it all
  - Timing/Order
    - Conduct major tests before and after planting/harvesting
    - Survey
    - Soil quality testing
    - SSI
    - Focus groups
    - GIS
  - Moving forward
    - Time-lapse of forest growth
    - Continue soil testing through community training and involvement
- Optional Processes for Data Collection
  - Use past survey data
  - Work w/ IEP students
  - Work w/ Peruvian gov't in conducting field tests

    - Community involvement in collection of soil test data and as general advisors
    - Involve specialists from the area (agroecologists/dendrologists)

Community Participation

- Design
    - Advise in creation of survey (language and beta testing)
    - Involve community leaders to rally support before testing begins
    - Get involved in assemblies to make purpose known before testing begins
- Collection
    - Train communities to test soil and monitor quality for data collection and personal use/benefit
    - Work with local students: teach them soil testing methods to bring home to their families
    - Incentivize data collection @ community level

Team Creation and Collaboration

- National scientific community (Cusco/Lima)
- Ministerio de Agricultura y Riego del Perú
- IEP/DPP
- Soil-focused researchers (SoilCares)
- Local Municipality
- METALab (data cleaning)

Fundraising/Secondary Research

- Funds
    - Pay-to-attend workshops
    - Collaboration with mushroom-growers
- Research
    - Meta-study of reforestation, soil quality, and erosion studies
    - Natural, simple methods of testing soil quality
    - Erosion reduction projects
    - Any Andes-based soil research