WHAT I LEARNED
SUPPORTING
COMMUNITY WASH PROJECTS
IN RURAL PANAMA

L. Nicole Arellano, Peace Corps Masters International
Size: 29,157 mi²  
Population: ~4,000,000  
• 9 provinces, 3 indigenous territories  
  --8% indigenous  
• 70% urban, 30% rural  
  ---~50% Panama City  
• Poverty: 65% of rural population, 95% of indigenous population
ZUMBADOR, COCLE

Population ~200

Founded in 1915 with school

Subsistence agriculture and artisanship

Housing: ~50% cinder block, 50% traditional “quincha” (mud and straw)
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### Seasonal Calendar

<table>
<thead>
<tr>
<th>Month</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td></td>
</tr>
<tr>
<td>Feb</td>
<td></td>
</tr>
<tr>
<td>Mar</td>
<td></td>
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<tr>
<td>Apr</td>
<td></td>
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<tr>
<td>May</td>
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<tr>
<td>Jun</td>
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<td>Jul</td>
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<tr>
<td>Aug</td>
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<tr>
<td>Sep</td>
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<tr>
<td>Oct</td>
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</tr>
<tr>
<td>Nov</td>
<td></td>
</tr>
<tr>
<td>Dec</td>
<td></td>
</tr>
</tbody>
</table>

#### School Year (Trimesters)

- **Jan**: Carnivals
- **Feb**: Holy Week
- **Mar**: Patriotic Holidays
- **Apr**: Religious Holidays
- **May**: School Year (Trimesters)
- **Jun**: Dry Season
- **Jul**: Rainy Season
- **Aug**: Plant Corn, Rice
- **Sep**: Plant Yucca, Name
- **Oct**: Harvest Yucca
- **Nov**: Harvest Name
- **Dec**: Dry Season

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### Seasonal Activities

- **Dry Season**: Work outside community or more time working on sombreros
- **Rainy Season**: Buy school supplies
  - More tourism in Penonome
  - Harvest depends on the rain (may vary by year)
  - Less access to water in the community

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### Daily Schedules

<table>
<thead>
<tr>
<th>Time</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:00</td>
<td></td>
<td><em>Cook breakfast</em></td>
</tr>
<tr>
<td>6:00</td>
<td>Eat breakfast</td>
<td>Eat, do dishes</td>
</tr>
<tr>
<td>7:00</td>
<td>Work on the farm or work on sombreros</td>
<td>Do laundry</td>
</tr>
<tr>
<td>8:00</td>
<td></td>
<td>Clean the house</td>
</tr>
<tr>
<td>9:00</td>
<td></td>
<td>Weave sombrero</td>
</tr>
<tr>
<td>10:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00</td>
<td></td>
<td><em>Cook lunch</em></td>
</tr>
<tr>
<td>1:00</td>
<td>Eat lunch</td>
<td>Eat, do dishes</td>
</tr>
<tr>
<td>2:00</td>
<td>Work on sombrero</td>
<td>Weave sombrero</td>
</tr>
<tr>
<td>3:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:00</td>
<td></td>
<td><em>Cook dinner</em></td>
</tr>
<tr>
<td>6:00</td>
<td>Eat dinner</td>
<td>Eat, do dishes</td>
</tr>
<tr>
<td>7:00</td>
<td></td>
<td>Spend time with the family</td>
</tr>
<tr>
<td>8:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM</td>
<td>9:00</td>
<td>Rest</td>
</tr>
</tbody>
</table>

*Those who have children in secondary school in Penonome*

- 4:00 AM - Earlier breakfast; 2 PM - Later lunch, or 10:00 AM - Earlier lunch; 7 PM - Later dinner

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*Women’s activities are performed by both women and men.*

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**Note:**

- Women and men perform many activities together, but not all.
- Some activities are specific to women or men.
- The daily schedules are a general guideline and may vary based on specific circumstances.

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### Priority Matrix - Men

<table>
<thead>
<tr>
<th>Priority</th>
<th>Fixing roads/ Passing of river</th>
<th>Water/ The aqueduct</th>
<th>Health Center</th>
<th>Communal House</th>
<th>More Unity</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixing roads/ Passing of river</td>
<td>X X X X</td>
<td>X X X</td>
<td>X X X</td>
<td>X X X</td>
<td>X X X</td>
<td>20</td>
</tr>
<tr>
<td>Water/ The aqueduct</td>
<td>X X X</td>
<td>X X X</td>
<td>X X X</td>
<td>X X X</td>
<td>X X X</td>
<td>22</td>
</tr>
<tr>
<td>Health Center</td>
<td></td>
<td>X X X</td>
<td>X X X</td>
<td>X X X</td>
<td>X X X</td>
<td>4</td>
</tr>
<tr>
<td>Communal House</td>
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<td></td>
<td></td>
<td>X X X</td>
<td>X X X</td>
<td>6</td>
</tr>
<tr>
<td>More Unity</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>28</td>
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</table>

### Priority Matrix - Women

<table>
<thead>
<tr>
<th>Priority</th>
<th>Fixing roads/ Passing of river</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Fixing roads/ Passing of river</td>
<td>X X X X X X X X</td>
<td>X X X</td>
<td>X X X X</td>
<td>X X X X</td>
<td>X X X X X</td>
<td>25</td>
</tr>
<tr>
<td>Water/ The aqueduct</td>
<td>X X X X X X X X</td>
<td>X X X</td>
<td>X X X X</td>
<td>X X X X</td>
<td>X X X X X</td>
<td>29</td>
</tr>
<tr>
<td>Health Center</td>
<td></td>
<td>X X X X</td>
<td>X X X X</td>
<td>X X X X</td>
<td>X X X X X</td>
<td>8</td>
</tr>
<tr>
<td>Communal House</td>
<td></td>
<td></td>
<td></td>
<td>X X X X X X X</td>
<td>X X X X X</td>
<td>8</td>
</tr>
<tr>
<td>More Unity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40</td>
</tr>
</tbody>
</table>
Local Water Committee

- President
- Vice president
- Operator
- Secretary
- Treasurer
- Fiscal
- Vocals (2)

Have not received formal training, but are held accountable for fulfilling their individual responsibilities.

Water Situations

- 46 houses connected to the community aqueduct
- 9 houses independent of the community aqueduct

Common problems:
- Lacking a water tank
- Water doesn’t arrive to the house due to distance/elevation
- Need for materials and technical assistance
- Lack of water treatment at household level

Many use other water sources when water from the aqueduct is lacking.

Water system:
- Gravity-fed aqueduct
- 1 Tank, 4,000 gallons
- 1 spring capture, decent condition

Treatment:
- Chlorination 1X/month
- Water quality tests

Monthly cleaning
- New spring source
  - 8 gal/min
  - lacks structure to capture water, which is carried via PVC to the original spring capture
- Original spring source
  - dried summer 2015, this summer it is resupplying water

2 water sources

New Project
- Source-use agreement with landowner to construct the new spring capture, which will be joined to the original

Financial records
- Financial information recorded and shared with the community

Elections
- (4 year terms)

Meetings
- ~4/year

Disunion: Lack of community-wide participation

The Ministry of Health

- Water fee $1/month; some consistently pay late
- Fees not sufficient to cover all costs associated with aqueduct operation and maintenance

Financial records

Governmental and local rules and regulations

Some older community members have noted local climate change and worry about this will affect their water resources.

The majority of users lack sufficient water supply during the summer.

They use water sources closer to the community.

The Ministry of Health

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ACCOMPLISHMENTS

Enhanced technical capacity
• Community trained in design, construction, maintenance

Enhanced system reliability
• Less days without water in 2018 than in each of the previous five years
• Less instances of unequal water pressure between sectors (less complaints)

Enhanced unity
• Zumbador and Tranquilla
• Community water committee and community members with private water systems
What about behavior change?
More regular access to health care and information

Health committee, MINSA technician partnership

Seven installed soak pits

Sense of pride, ownership

- Health post: community contribution 47% of total $7,767.42 cost
- Soak pits: designed, built by community leaders
KEYS TO SUCCESS

Community motivation
Volunteer integration
Connections!
LIMITING FACTORS

Community committees
- Need more structure, better-defined roles
- Need confidence building activities
- Need diverse work styles among members
- Need more communication between different committees