



BRIDGING THE GAP IN LOBITOS

A COMMUNITY LED INITIATIVE TO ADDRESS HEALTH AND
GENDER INEQUALITIES IN NORTHERN PERU

PROJECT AIM: To create a community health worker (CHW) programme that will bridge the community of Lobitos with existing health care services, improving health education and behaviors of the local population.

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SUMMARY OF PROGRAMME

There are extreme disparities in health status and access to health services both within and across countries. In Peru, the organization of health financing, provision, human resources, and governance is unevenly distributed across the country, leaving many impoverished towns with healthcare infrastructures that significantly lack the capacity to respond to the increasing prevention, diagnosis, and treatment of non-communicable diseases. This situation has drastic consequences for the health status of entire communities, especially pregnant women, and children.

Concurrently, misinformation accumulates in rural areas where the gap in health education is large, making entire communities even more vulnerable to poor health.

This is the case of the community of Lobitos, home to just over 1,376 people, a small, isolated fishing village in the Northern coastline of Piura, Peru. In Lobitos, there exists just one medical post that has among the lowest levels of healthcare services and provision. Lobitos' small population leaves the district as a low priority to the regional government that controls healthcare funding, making equitable distribution of resources difficult. As a result, the public medical center is extremely ill-equipped to attend to the community's health needs, and individuals and families suffer its consequences.

This programme proposed by EcoSwell aims to bridge the existing gap of healthcare in Lobitos by employing a cohort of local women to be trained and work as Community Health Workers. They would work alongside the staff of the medical post to conduct home visits and ensure continuity of care for those in Lobitos with risk factors for - or a current diagnosis of - three common chronic health conditions: **hypertension, diabetes** and **anemia**. This would allow the people of Lobitos to receive sufficient monitoring, treatment and advice for their condition, and also advice and education on the prevention of these very preventable diseases. With proper prevention education, we hope to see a significant decrease in such conditions in coming years.

Community Health Worker (CHW) programme AIMS:

1. address public health concerns in Lobitos
2. address gender equity concerns in Lobitos
3. reduce the burden on the town's under-resourced medical post

The community will be educated about nutrition, healthy living, and the primary prevention of hypertension, diabetes, and anemia through a series of workshops and house visits facilitated by 4-6 local women trained as CHWs. The CHWs will also collaborate with the medical post in Lobitos to identify and treat illnesses sooner, and promote the Seguro Integral de Salud (SIS) enrollment process to ensure more citizens have access to affordable healthcare.

THE PROBLEM

1. The medical problem

With increasingly frequent and severe rainfall events, in combination with an already desertic climate, access to clean, safe water and agricultural options for a healthy, varied diet in Lobitos are limited. Here, diets consist mostly of sugary drinks, fried foods and white rice, leading to hypertension, diabetes, malnutrition and anemia becoming more and more frequent.

1.1a. Disease prevalence

Based on patient records and reports from the Primavera Medical Post from January 2023 to the 7th of June 2023:

- Hypertension
 - 46 patients (some of which are repeats)
 - based on number of individuals prescribed Losartan
- Diabetes
 - 22 patients (some of which are repeats)
 - based on those prescribed Metformin
- Anemia
 - 2 adults based on the prescription of sulfate
 - 7 children- based on a testimonial from the head of the medical post (Luisa)

1.1b Statistics on anemia in PIURA

The numerical data below is included because levels of anemia are severely underreported within the clinic (at around 5% of individuals from a population of 1376).

Only 7 children were seen within the clinic and diagnosed with anemia despite a 2022 report from the official government website stating that in Piura, 43.8% of children between 6 and 35 months have anemia^[1]. At a national level, 40.1% of children between the ages of 6 to 35 months suffer from anemia (see figure 1). This

represents almost 700 thousand children under 3 years old who are anemic out of 1.6 million nationwide.

Underdiagnosis is not the only problem we face, as there is also little indication on the severity of anemia when given a diagnosis. This is owing to a lack of visitors to the clinic, as well as a lack of resources available to accurately diagnose anemia.

In addition to children, a report conducted by the World Health Organisation in 2011 found that in Peru, 21.1% of adult women and 28.8% of pregnant women suffer from anemia^[2].

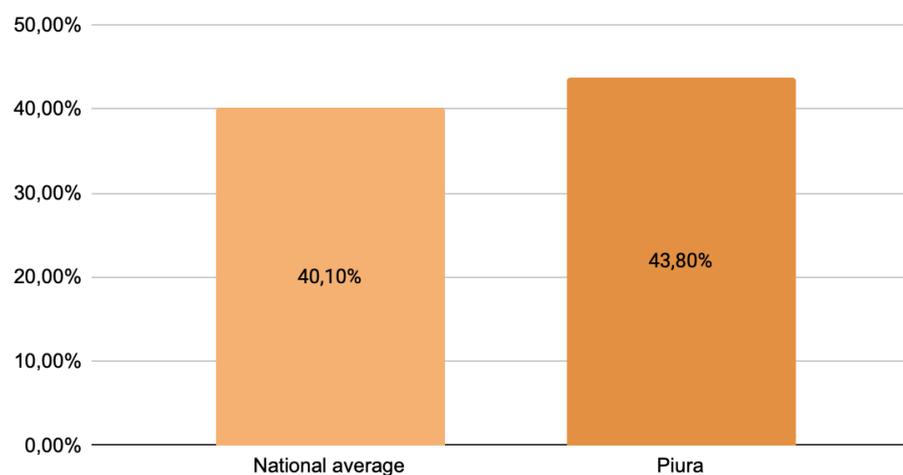


Figure 1: graph illustrating the prevalence of anemia in Piura in relation to the national average.

These numbers are critical - examining the Table included below (see Table 1), one can see that the Piura region has a notably high prevalence of anemia. Piura, the second most populated region of Peru, represents 36.7% of cases of anemia in children under 5 years of age. This statistic represents a significant percentage of children who suffer from anemia. Globally, the frequency of anemia decreased in children by 3.5 percentage points (43.5% down to 40.1%) between 2018 and 2019. However, in Piura the level decreased only miniscuallly from 44.2% to 43.8% within the same years. Therefore, this needs to be tackled - while world numbers of anemia are slowly declining, we must aim to reduce the incidences in Piura as well.

Table 1: cases diagnosed by type of anemia in the eight provinces of the Piura region^[3].

Province	Mild Anemia	Moderate anemia	Severe anemia	Standard
Ayabaca	1159	448		2858
Huancabamba	1043	421	5	2038
Morropón	668	210	2	4061
Paita	173	58		1325
Piura	2376	914	3	15737
Sechura	469	238	2	2635
Sullana	782	264		5510
Talara	411	169		1785

1.2. An under-resourced medical post

The lack of skilled physicians at the single medical facility in Lobitos, as well as the absence of programmes or infrastructure that might inform the populace about healthy lifestyle options, attest to the clear need for increased public health measures.

The lack of resources and opportunities in rural communities render them particularly vulnerable to poor health outcomes with many barriers to care, whether due to too few educational opportunities, poor health literacy skills, or to a lack of health insurance and social support.

The health services in Lobitos, as introduced above, are lacking the capacity to respond to the increasing prevention, diagnosis and treatment of non-communicable diseases such as hypertension and diabetes. This is due to a number of reasons, with the most significant being the lack of human resources and equipment. Currently (as of June 2023) there are only two staff members at the medical post in Primavera working full time, and two which rotate yearly. The post is not only understaffed, but underfunded - with little more being covered than basic supplies.

Funded by the Ministry of Health, the current medical post currently hosts 4 full-time team members: Luisa Cosio, the Chief of the post and a qualified Obstetrics and Gynaecology nurse; Johanna Campos, a pediatric nurse; Claudia Cruz, a dentist; and Milagros Ancajima, another trained nurse. The Municipality employs two qualified paramedics, Socorro Pazos and Silvia Periche.

It is important to note, as above, that the medical post in Primavera lacks a GP (resident Doctor). While nurses are generally not able to prescribe, due to the

situation, the head nurse at the medical post (Luisa) has been granted a special license so that she may prescribe much needed treatments e.g. Metformin, Losartan, etc. Even something such as an aspirin requires a prescription. This is why Luisa is so crucial to the health post; however, if she is sick, the post suffers in her absence.

2. A lack of opportunities for women

Another challenge in Lobitos is the lack of professional opportunities for women. Excluded from the fishing industry, they are typically restricted to the home despite seeking jobs to provide financial independence. EcoSwell employees have provided evidence that when educated and empowered, the women of Lobitos are highly motivated and extremely effective in professional roles. For example, Quenni Carreño, a resident of Lobitos, was hired by EcoSwell with no professional experience and little education. Over only a few years, she has gained more responsibilities, risen to being the Project Coordinator and House Administrator, and has learned to use a computer and speak English.

OUR SOLUTION

1. What

The Community Health Worker (CHW) programme that EcoSwell proposes, seeks to address both the **public health** and **gender equity** concerns in Lobitos, and reduce the burden on the town's under-resourced medical post.

The programme aims to bridge the existing gap of healthcare in Lobitos by employing a cohort of local women to be trained and work as Community Health Workers. They would work alongside the staff of the medical post to conduct home visits and ensure continuity of care for those in Lobitos with risk factors for - or a current diagnosis of - three common chronic health conditions: **hypertension**, **diabetes** and **anemia**.

This would enable adequate monitoring, care, and guidance for their condition, and the provision of education surrounding these very preventable diseases. With proper prevention education, we hope to see a significant decrease in such conditions in coming years.

2. Why

Due to the limited resources at the health post and the increased risk of hypertension, diabetes, and anemia in lower income areas - especially in Hispanic communities - preventative health practices are **crucial**. Encouraging disease prevention and health promotion practices will reduce the burden on the health post and improve the overall health of the community. In addition, the World Health Organisation (WHO) advocates for women to be employed as CHWs. Through this programme, they will act as an easily-accessible source of information and guidance for the community, empowering them through education, professional development, and employment.

Low-cost, high-yielding investments in public health education concerning hygiene, nutrition, and other healthy behaviors can help entire communities to sustainably and effectively achieve better health outcomes. Health education is key in allowing people to have agency over their health through preventative health action. Through community workshops, educational materials, and school curricula, EcoSwell seeks to facilitate the transfer of knowledge related to health literacy. This will be carried out with the aim to promote behavioral change, particularly with regard to nutrition-related issues. This concept corresponds to the needs of the locality based

on insight provided in qualitative interviews. These interviews guided each aspect of the project to be culturally relevant. A situational analysis of the locality was imperative to the sustainable design and implementation of the project, which will also be informed by EcoSwell's work directly in the community over nine years (see appendix).

Topics covered will include anemia and nutrient-deficiencies, breastfeeding, and hypertension and associated illnesses. The target population includes mothers, small children, and pregnant women. Poor health among mothers leads to poor health among babies and limits children from reaching their full potential, thus affecting their physical, educational, and future economic prospects. Special consideration is given to these populations because of evident connections between long-term chronic illness and perinatal and early-life conditions.

Within this program, EcoSwell fortifies the commitment to health as a human right and demonstrates the holistic and collaborative approach needed for sustainable change. In light of this information, EcoSwell is contributing to the following SDG3 indicators of success (SDG3 =Sustainable Development Goal 3, *Good Health and Well Being*) which directly concerns reducing child mortality, improving maternal health, combating communicable diseases, and achieving universal health coverage:

3.b.3 Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis

3.3.5 Number of people requiring interventions against neglected tropical diseases.

3.8.1 Coverage of essential health services (definition includes child health).

Enhancing the collection, reporting, and monitoring of accurate health data is another crucial component to facilitating equitable healthcare resource distribution and policy development, bringing an overlooked population into the scope of the wider healthcare system. In fact, CHW training empowers local women through education, leadership, professional development, and employment, heightening the role of women in the health field and community. For EcoSwell, this program

expands opportunities for public health and medical elective students to engage in rural health, aiding in the under-staffed Medical Post.

Table 2: Basic Programme Information

Title	Community Health Worker Program (CHW)
Duration	Program: Jan. 2023 - Jun. 2023 Monitoring: Jul. 2023 - Jun. 2024
Country and sector	Peru, Lobitos (Piura)
Funding request	CAD \$25,900
Contact name, title and email	Alejandro Pizarro, alejandropizarro@ecoswell.org
Signatories	Alejandro Pizarro
Partners	<ul style="list-style-type: none"> - Fishermen’s association, Lobitos - Medical post, Lobitos - Ministry of health (regional) - Lucky Iron Fish - Doulton Water Filters, UK

3. How

The plan is to implement the Community Health Worker programme in 3 core stages:

Stage 1: Recruitment and Training

- Create a team of CHWs from the local population and equip them with the necessary knowledge and skills for their role.

Stage 2: Education Through Workshops

- The CHWs will conduct workshops with the community to educate them on nutrition, lifestyle and personal health responsibility.
- At the first two workshops, a screening service will be offered to attendees for the 3 main diseases outlined in this programme.
- Workshop presentations will be complemented with take-home educational content about the topics to reinforce the desired behavior

change. The same educational content provided at the workshops will also be provided to healthcare workers at the Lobitos Medical Post to distribute during home visits to patients to further our knowledge outreach.

Stage 3: Integration into Current Health System and Monitoring

- The CHWs will commence their daily roles in Lobitos alongside the staff at the medical post.
- They will also conduct short surveys with the patients involved to assess the progress made by the programme thus far, and levels of patient satisfaction

Together with our two partners (see table 2 above) we also want to tackle the nutrition problem among 50 families. It is undisputed that clean drinking water has a great impact on nutrition and people's health. For this reason, EcoSwell wants to provide all families of the first semester with water filters from the company Doulton Water Filters (UK). Furthermore, to prevent iron deficiency, EcoSwell would also like to use part of the fund to provide families with Lucky Iron Fish. The small iron fish can be used when cooking to increase the iron content of the food.

An evaluation of the program's efficacy will be based on the set objectives. In the workshop stage, data such as number of attendees, surveys, and outreach will be assessed directly, complementing qualitative commentary received during workshop interactions. Additional quantitative data can be acquired during EcoSwell's planned surveys in 2022, which can include questions to measure change in individual knowledge and behavior for comparison. Sustainability, public health, and nutrition are increasingly interrelated concepts that have drastic effects on people's lives. EcoSwell seeks to create a model for healthy lifestyles to influence the community's perceptions of health for more positive health outcomes.

4. When

Programme Implementation: Jan. 2024 - Jun. 2024

Monitoring of Progress: Jul. 2024 - Jun. 2025

- Stage 1: 4 months
- Stage 2: 2 months

- Stage 3: 12 months

FINANCES & RESOURCES

1. Finances

CAD \$15,900 - Stage 1

- Specialist recruitment costs for CHW training - workshops and content planning
- Content and workshop planning
- Equipment - blood pressure cuffs, scales, waist and wall tape measurers, hemoglobin tests
- Training materials (guidebooks, informational content)
- Report 1 hours
- 60 Lucky Iron Fish (iron supplement for anemia)
- 50 Doulton water filters (50 * CAD \$68)

CAD \$7,500 - Stage 2

- Salaries for CHW attendee recruitment
- Communications/ community educational material
- Location rental
- Providing food during workshops
- Specialist recruitment costs for community workshops
- Report 2 hours

CAD \$2,500 - Stage 3

- CHW salaries for monitoring visits
- CHW interviews for evaluation of project
- Merchandise
- EcoSwell Information management
- Report 3 hours

With financial support, monetary incentive and compensation our desired outcomes could be feasible and could ensure economic sustainability for families engaging in the project. This model works to complement efforts of the local municipality and open up opportunities for long-term collaboration with healthcare professionals and institutions working towards the same goals.

CONCLUSION

This programme would be invaluable to the vulnerable community of Lobitos, who have been often overlooked regarding provision of essential medical resources. The current medical post makes astounding contributions to the lives of those in Lobitos, but their efforts are still not enough to provide a suitable level of care to the community. The plan proposed by EcoSwell would make an astounding difference to the statistics that currently exist, and would ensure that less people become ill from diseases that are entirely preventable, and protect those already suffering from unnecessary complications and risks from illnesses that can be easily managed with the correct resources and attention. As a small organisation, EcoSwell have been working very hard to provide support to the medical post, but Ecoswell, and the people of Lobitos, need your help to kickstart this programme and create a fair balance of medical access to those in Lobitos, so that they are no longer so disadvantaged in comparison to the rest of the country.

REFERENCES

1. Reporte Regional de Indicadores Sociales del Departamento de Piura [Internet]. Ministerio de Desarrollo e Inclusion Social; 2023 [cited 2023 Aug 30]. Available from:
<http://sdv.midis.gob.pe/redinforma/Upload/regional/PIURA.pdf>
2. Cuatro de Cada Diez niños tiene anemia en piura: IPE [Internet]. 2020 [cited 2023 Aug 30]. Available from:
<https://www.ipe.org.pe/portal/cuatro-de-cada-diez-ninos-tiene-anemia-en-piura>
3. Peña-Cáceres OJ, Chunga-Zapata EA, Basurco-Chambilla TR, Cayo-Cabrera GH, Villegas-Paz AD. A machine learning study to classify the type of anemia in children under 5 years of age. Proceedings of the 8th Brazilian Technology Symposium (BTSym'22). 2023;488–97. doi:10.1007/978-3-031-31007-2_46

Appendix

,Community Health Worker'- program: The challenges, the objective and our approach

THE CHALLENGES

- Lobitos' healthcare infrastructure significantly lacks capacity to respond to the increasing prevention, diagnosis, and treatment of non-communicable diseases
- just one medical post center with the lowest level of healthcare services and provision
- Poor health of mothers leads to poor health of babies and limits children reaching their full potential, thus affecting their physical, educational, and future economic prospects

THE OBJECTIVE

- Facilitate a transfer of knowledge of health literacy- encompassing health related knowledge, attitudes, motivation, and behavioral intentions concerning health lifestyles- through community workshops, educational content, and school curricula to influence behavioral change specifically on topics related to nutrition
- Empower local women through education, leadership, professional development, and employment, heightening the role of women in the health field and community

OUR APPROACH

- Interactive workshops for each of the topics, ideally informed or led by specialists, engaging the target population in the community
- Take-home educational content about the topics
- Female community members undergo specialized training to act as an easily accessible educational resource directly in the community
- The target population are mothers, small children, and pregnant women



We need financial support for the second phase of our ,Community Health Worker'- program

