

AGRICULTURE & MINING

for shared development

ayninakuy
agro en acción





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01

CONTEXT

APURIMAC, AN AGRICULTURAL AND MINING REGION

Apurimac, one of the regions in Peru with the highest potential for mining investment, is expected to produce 20% of Peru's annual production of copper¹ in the next ten years, according to the Ministry of Energy and Mines (MINEM). Despite having one of Peru's highest rates of economic growth in 2016, Apurimac exhibits alarming levels of poverty.

Agriculture in the region consists primarily of subsistence farming with low levels of productivity, a limited variety of crops, vulnerability to water scarcity and restrictions to market access. However, given that farming is the most prevalent economic activity of rural and low-income families in Apurimac, the region's primary development challenge is to define and implement strategies to improve smallholder agriculture by capitalizing on the economic opportunities provided by mining. Confronting this challenge requires different sectors and stakeholders to work in a coordinated manner towards a common goal.



In 2016 it was identified as the **second fastest growing region** in Peru



In provinces such as Cotabambas, **37%** of the population lived under the **poverty** line²



37.5% of its children under the age of 5 are **anemic**³



It is the **second-to-last region** in transport and communications infrastructure⁴

¹According to the Rumba Minero portal, Apurimac will record 8 billion dollars in mining investment in the next 10 years. (URL:<http://www.rumbominero.com/noticias/mineria/cartera-minera-de-apurimac-superaria-los-8800-millones-de-dolares-para-los-proximos-diez-anos/>, Visit: 1/03/2018).

²National Statistics and Informatics Institute. Provincial and District Poverty Map, 2015.

³National Health Institute. Nutritional Status Information System, 2016.

⁴CENTRUM Católica. Regional Competitiveness Index of Peru, 2016.



02

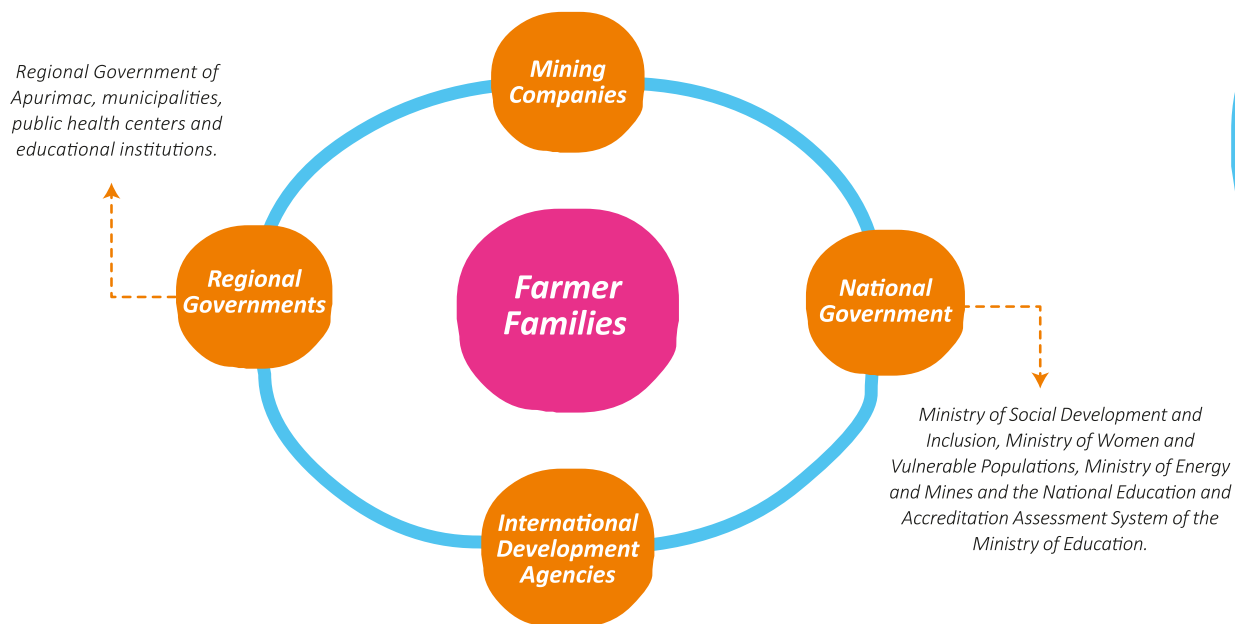
THE PROJECT



AYNINAKUY, AGRICULTURE IN ACTION

As a way to take advantage of potential opportunities brought about by mining in Apurimac, the Ayninakuy project actively involved both the public and private sectors to promote joint initiatives that strengthened subsistence farmers' capabilities, to turn farming into a sustainable source of food and income.

Key Stakeholders Engaged in the Project



Ayninakuy means "let's cooperate" in Quechua.



The Ayninakuy project was implemented under the leadership of International Finance Corporation (IFC), a member of the World Bank Group, in partnership with the Government of Canada with the collaboration of the consortium Lutheran World Relief and the Centro de Investigación y Capacitación Campesina (Farmers' Research and Training Center). Additionally, the project received support from other partners, mining companies and government entities at the local, national and regional levels.

The Ayninakuy project, through “Yachachiqs” – trained community technical leaders, advised and accompanied families in the identification of much-needed productivity improvements and strengthened their capacity to improve their agricultural practices and living conditions.

Yachachiqs also helped families adopt simple, accessible and more efficient production technologies and promoted the implementation of best practices. These built upon past experiences of the Haku Wiñay program implemented by the Peruvian Social Development Fund (FONCODES) of the Ministry of Development and Social Inclusion. The project coordinated its activities around three lines of action:



Enhance agricultural production and productivity.



Improve nutrition and housing practices.



Establish linkages with local markets.

THE SITUATION OF FAMILIES AT THE START OF THE PROJECT⁵



84% of family plots depended exclusively on rain for crop irrigation.



97% of families solely produced for their consumption.



43% had severe nutritional insecurity.



Average annual income per household member was **S/125** (Peruvian Nuevo Sol), less than half the national average.

PROJECT'S SCOPE:



Districts: Coyllurqui, Challhuahuacho, Progreso and Mara.



Provinces: Cotabambas and Grau.



Families: 300 farmer families of 17 communities.



Ayninakuy communities are located between 3000 and 4800 meters above sea level

FARMING FAMILIES: PROTAGONISTS INSPIRING CHANGE

Participating families became agents of change by identifying and prioritizing needed improvements in agriculture and animal husbandry, family nutrition, home improvements and the sale of crops.

Hand in hand with the Yachachiqs, they implemented new culturally-adapted productive techniques in their plots and made improvements to their homes. They learned in a practical, hands-on manner and shared their learnings and experiences with other communities via participation in training events, fairs and internships.



Families Teaching Families

Learning about the changes and benefits of the project directly from families that have gone through the experience helped inspire other communities in similar conditions. Ayninakuy producers participated in a variety of internships and learned how their peers implemented practices to improve productivity and nutrition, to sustainably manage resources and to better produce and commercialize their products. As a result of these experiences, families implemented several actions, such as:



Cultivated fruits, vegetables and flowers to sell in local markets.



Developed agreements to facilitate transport of products to local fairs.



Refurbished homes, including painting, organizing and managing solid waste.



Adopted technological innovations in their plots.



YACHACHIQ: HE WHO KNOWS, HE WHO TEACHES⁶

The Yachachiqs are technical leaders selected by their communities. They are recognized for their expertise and their ability to help families adopt improved farming and commercialization techniques as well as better housing and family nutrition practices.

Through a farmer-to-farmer methodology, the Yachachiqs value their inherited knowledge, which is further empowered by the inclusion of new production technologies.





Vito, the Yachachiq who sells the most

Member of the Community of Callahuaro, Vito stood out from the beginning because of his drive, ability to innovate and ability to motivate the families of his community to continue learning. In addition to commercializing his greenhouse production at Coyllurqui's Sunday fair, he expanded his sales to the neighboring district of Cotabambas where he gets a better price for his vegetables. Together with his wife Joselyn, Vito plans to invest in a larger greenhouse and more cages for guinea pigs to increase his production. His activities have awakened the curiosity and interest of his neighbors in Callahuaro, and he has been motivating them to accompany him to the fairs and to look for new markets.

"As a Yachachiq, I have learned new agricultural techniques and how to handle technologies. I adapt them to whatever can be done in my community. I'm going to get certified to be able to provide my services to other communities and organizations."

• **Vito Guillen**, Community of Callahuaro.



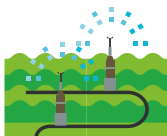
03

CHANGES ACHIEVED



PLOTS WITH INCREASED VARIETY AND QUANTITY OF FOODS

Accompanied by the Yachachiqs, the families identified limited access to water and lack of access to technical improvements as their main challenges to increasing the quantity and variety of crops and small animals grown. Technological and production changes required each family to make investments in their homes and plots. After two years, the families and the Yachachiqs have achieved the following results:



300 families employ new production techniques, such as micro-reservoirs and spray irrigation systems which allow them to store and use water efficiently.



254 bio-gardens with greenhouses now produce a greater variety of nutrient-rich vegetables throughout the whole year.



Improved and irrigated grass allows them to raise more guinea pigs and chickens for consumption or sale.



The **surplus** produce is **exchanged or sold** in local markets.

Investing together to improve access to water

"Now, we always have water. We're already eating a little chard, corn and onions. My parents and my cousins want to build a bigger well to supply the whole family."

• **Fredy Limo**, Community of Lahuani

Fredy is a member of the community of Lahuani, which had a severe problem of remote and limited water sources for their crop plots. In conjunction with the Yachachiq and an agricultural technician, Fredy found a solution by digging a 500-meter trench from which to pipe water, ensuring access for his newly built greenhouse.

With the support of the project, Fredy collaborated to obtain the necessary materials, providing the opportunity for his neighbors to enjoy the connection to a central pipeline.



REFURBISHED, CLEAN AND ORGANIZED HOMES

The work carried out to improve homes relied on developing a close relationship of trust with the families, as well as listening to their wishes for change and improvement. Many homes did not have separate spaces for parents and children, nor adequate areas to raise animals or to store and cook food. The families, with the support and motivation of the Yachachiqs, achieved the following improvements in their homes.



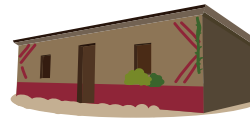
Improved kitchens,
with less exposure to smoke and
heat which allowed for **time
and kindling savings.**



Increased sanitation
by **installing sinks** to
facilitate regular washing of hands,
food, and appliances.



Increased cleanliness by
**installing pantry
cabinets to store food
and kitchen utensils.**



Happier households by
**decorating their
houses** with colorful Andean
figures that increased the
**families' pride and
self-esteem.**

Huaraqueray, an example of collective change

Working with the community of Huaraqueray was not easy at first. Families did not believe in the changes or the proposed implementation timeframe. Local Yachachiq Horacio decided to teach through example, renovating his own home first to motivate his neighbors.

He built a separate area for raising his guinea pigs, fixed the kitchen with cabinets, a stove and a sink and painted and decorated the facade. Upon seeing the results and how they made his family proud, the whole community, with the support and guidance of Horacio, did not take long in replicating these improvements in their own homes.



INTRODUCING NEW FOODS TO IMPROVE FAMILY NUTRITION

Improving children's nutrition is essential, especially for subsistence farming families with limited varieties of food. Under the guidance of a nutritional Yachachiq and other health personnel, families can now grow a wider variety of crops in their plots and raise animals more effectively. These actions significantly increased their dietary opportunities such as:



Improving access to **micro-nutrients and animal proteins**, including new varieties of fruits and vegetables, as well as guinea pigs and chickens.



Improving the sanitation habits

of families, in partnership with health centers, to strengthen practices such as washing hands.



Learning to combine new products to **prepare healthier meals**, especially for pregnant mothers and infants younger than 3 years old.



Nutritional Yachachiqs motivating change

Griselda is a nutritional Yachachiq of the community of Acpitan who is always seeking the best for the families and communities she guides. Her job is not easy: she spends days away from home, takes long trips and faces the initial mistrust on the part of families; but nothing disheartens her.

With support from the local health centers, she implements what she learned in the Ayninakuy trainings and carries out demonstration sessions on food preparation to promote better family nutrition practices. Seeing how families improve their eating habits fills her with pride and drives her to keep up the effort.

"I feel a great responsibility in sharing with others what I know, so that they can also improve their nutrition and that of their children and have better lives."

• **Griselda Letona**, Community of Acpitan

IMPROVED FAMILY INCOME FROM NEW PRODUCT SALES

The income of most families in the project was significantly lower than the average of subsistence farmers at the national level. The project's baseline (2016) revealed that less than five percent of producers sold their products in a local market regularly. The Ayninakuy initiative trained and helped organize the Yachachiqs, communities and producers to access local markets through commercialization committees. As a result:



Families have started taking their produce to **Sunday fairs**, experimenting for the first time with the **benefits** of selling in local markets.



Other families **exchange products** in their community, gaining access to a more extensive **variety of foods**.



Some **50 families** commercialize the surplus from their production on a weekly basis, having tapped into a new source of **income** to improve their **family finances**.



It is mainly women who take on the responsibility of selling the **surplus** production and **decide** on how to use the associated income, which has allowed them to gain **confidence** and increase their **self-esteem**.

Communities and families organizing to sell

"I have already learned to sell. I go together with other ladies early in the morning so that at 6:00 a.m. we're already in Progreso because people buy early. If you arrive late, you don't sell. When we only take lettuce, we'll get 35 or 40 Soles. With onions, we get up to 50 Soles".

• **Marta Palomino**, Community of Chacapampa

Marta is a member of the Community of Chacapampa. She understood that by working as a team with her neighbors, they could collect, select, transport and exhibit their products in local markets in ways that would maximize sales and profits.

To this end, the Ayninakuy initiative supported the establishment and empowerment of Production and Commercialization Committees, which allowed their members to plan and organize sales that could generate sustainable income. Having had a taste of success, families such as Marta's now want to keep learning and working as a team with their neighbors.



WOMEN DRIVING CHANGES IN THEIR HOMES AND COMMUNITIES

Within the area of the project, it is men who usually decide on the use of any income. However, women play an essential role in caring for the family and the home, as well as in agricultural activities.

The improvements in the production of vegetables and raising small animals, together with the strengthening of women's productive, nutritional and commercial capabilities, have provided new opportunities including the following:



Women are **learning to grow vegetables** in their bio-gardens and adopting **improved agricultural practices** that allow them to extend the range of items grown.



Women are learning to sell their **products** in nearby markets, generating **additional income** over which they have ownership.



A group of **Yachachiqs and female nutrition leaders** act as agents of change, promoting practical, nutritional improvements among families of their communities.

Women gaining confidence and self-assurance

"I now sell every Sunday. No longer just vegetables, but also nutritious meals I make. My family is happy because we have extra income that helps us with the expenses."

• **Maria Guillen**, Community of Acipitan

Maria has started to see improvements in the production of her new bio-garden as a result of the tips and advice of Braulio, the Yachachi of the Community of Acipitan. For the past two years, she has been producing vegetables like beets and carrots and has incorporated them into her family's diet.

The idea of selling her surplus produce excited her, but she needed to overcome her timidity regarding offering her products in public. Ayninakuy helped women such as Maria believe in themselves; they now have the confidence to sell products in Sunday fairs such as the one located in Coyllurqui. She is now able to decide what to do with her earnings, and she prioritizes the purchase of products for her home.



LOCAL, REGIONAL AND NATIONAL STAKEHOLDERS ACTING TOGETHER FOR FAMILIES TO ADOPT CHANGES

Ayninakuy promoted the coordinated participation of local, regional and national stakeholders, involving them in concrete actions to drive the productive and social development of farming families. This engagement consisted of mobilizing activities targeted at achieving common goals. The most relevant achievements in this regard occurred at various levels:

Local representatives of government sectors:

- Promoting healthy eating practices specific to pregnant mothers and children under the age of three in 17 communities (preparation, combination and consumption of healthy foods). These actions will continue to be implemented by 6 health centers.
- Training 32 teachers from eight schools, who now promote practices necessary for handling bio-gardens and healthy nutrition, in partnership with the local education management units. Thanks to this, 340 trained students are now agents of change in their homes and communities.
- Mayors and municipal officials facilitating initial contact and engagement with participating communities to leverage the potential of families to start and maintain new productive and commercial practices.

Yachaywasi- EcoTechnological Center

IFC and the Government of Canada promoted the implementation of the first phase of the Cotabambas Yachaywasi – Ecotechnological Center, located in the district of Coyllurqui. It is a center for learning, training, Yachachiq certification and promoting the use of productive technologies. It provides technical assistance to families in the area.

The center is a public-private collaboration which involves Prosynergy (a private entity with experience in this arena), the Regional Government of Apurimac and the District Municipality of Coyllurqui. These institutions are developing the second phase of the Yachaywasi for which the regional government has already approved the funding.

Central Government



- FONCODES served as a reliable partner for the definition of the Ayninakuy strategy by openly providing information and a methodology validated in the field, as well as facilitating close coordination with local teams.



- In partnership with FONCODES and the National System of Evaluation, Accreditation and Certification of Educational Quality, a National Certification Norm for Productive Yachachiq was created and approved in December 2017. This certification provides formal recognition of local agricultural leaders and consolidates the supply of more than 3,000 Yachachiqs as rural extension workers at the national level. The accreditation also contributes to the Ministry of Agriculture and Irrigation's National Rural Talent Promotion Strategy to 2021.



- Ayninakuy's technical team and the Yachachiqs identified situations of domestic violence within the communities which needed expert and particular attention. Ayninakuy coordinated with the Ministry of Women and Vulnerable Populations to provide training and tools for Yachachiqs, who are now able to address issues of domestic violence in their communities. This experience was systematized into a guide that FONCODES will deliver among Yachachiqs across the nation.

MINING SECTOR ENGAGEMENT

One of the most significant challenges faced by mining companies is getting and maintaining their social licenses to operate. It entails performing early outreach efforts with communities and generating a relationship based on respect, transparency and coordination. Ayninakuy developed a platform to make it easier for mining companies to effectively reach small farmers, which contributes to generating strong relationships with farming families.

Ayninakuy and MMG-Las Bambas Alliance

A strategic alliance allowed MMG to support the training activities of Yachachiqs who helped farmers in the area increase production and sale of agricultural products. The project collaborated on:



Strengthening of sales capabilities of Yachachiqs from 21 communities, adapted to gain access to local markets.



Increasing the possibility for trained families to sell their vegetables in the Sunday fair of Challhuahuacho, the main central area of influence of the mining company.



Generating the opportunity for a group of producers to sell lettuce, chard and strawberries to the restaurant association and the primary food vendor of the mining company.

Engagement and Commitment of Minera Antares Peru, Subsidiary of First Quantum Minerals

Minera Antares Peru participated in Ayninakuy project implementation in six communities in its area of influence, resulting in:



Reinforcing families' understanding and buy-in on their role as **change agents to improve their quality of life.**



Families' understanding of the role a **mining company** can play as a **partner** to support them in the improvement of their living conditions.



Helping families understand the **value of the shared resources committed** for the adoption of improved practices.



Securing the **commitment of mining companies to the sustainability** of the change adopted by families, connecting such processes to their community engagement efforts, with a long-term, shared-development vision.





04

FINAL REFLECTIONS



SHARED DEVELOPMENT

Benefiting from opportunities brought by mining, with a focus on the development and well-being of local families, does not happen quickly or easily. It requires the coordinated action of multiple stakeholders. The Ayninakuy experience, as a concerted multi-stakeholder effort, proves that this is possible after benefiting from well-executed communications that allowed for a clear understanding of each party's role and interests so that connections developed based on trust and credibility.

Strengthening local capabilities and fostering development mechanisms was a requirement for achieving results. The

Yachachiqs became change agents, and the families valued the benefits of the proposed practices, not only making them their own but also committing their own resources to them.

The legitimacy earned by key stakeholders involved in the Ayninakuy project was crucial to building the necessary alliances for the formation of new practices.

The progress achieved thus far is just a first step. Going forward, the work needs to continue to focus on consolidating this type of joint initiative with a shared vision for the further development of Apurimac and its communities.



Ayninakuy is a project led by the International Finance Corporation, a member of the World Bank Group, and the Government of Canada. It promotes collective action at the three national government levels, mining companies and international cooperation agencies, to improve farmer families' livelihoods in Apurimac. It also promotes the agricultural sector as a profitable and sustainable source of income for the population.

