

Reinventing adlai

From indigenous staple food
to sustainable income source



A case study from Mindanao, the Philippines



Ministry of Foreign Affairs

Adlai has been grown as a staple food by indigenous communities in Mindanao for centuries. Despite the grain's nutritious properties and suitability to the Philippine highlands, its cultivation largely disappeared in favor of white rice. Since a few years, the communities of Pawagaon and Magsaysay are reviving adlai production to supply high-end markets, bringing much needed income to the remote rural area.

Deforestation and lack of income opportunities

The inhabitants of Pawagaon and Magsaysay mainly belong to the indigenous Talaandig tribe, or 'people of the slopes'. Living in the southern foothills of Mount Kitanglad, they have witnessed alarming changes to their natural environment over the past decades. Large-scale logging, agricultural expansion and wildfires caused mass deforestation across the region, leading to altered rainfall patterns, devastating landslides and downstream flooding.

Until recently, poverty rates in the communities were high, with most households earning less than PHP 6000 (~EUR 100) per month. One of the few income opportunities in the area was day labor on nearby farms, but this was often only seasonal and underpaid. Community members explain they would earn PHP 100 (~EUR 1.70) for a full day of farm work – around a third of the legal minimum wage for the agricultural sector. Some families planted corn, beans or carrots, which they sold to middlemen at low prices.

Adlai as part of the solution

Since 2018, the Hineleban Foundation partners with the communities of Pawagaon and Magsaysay to restore and protect Mount Kitanglad's rainforests, while improving the lives of 50 families involved. The foundation implements a 3-step approach. First, assistance is provided to the project participants on growing a variety of food crops, to meet the nutritional needs of a family year-round. After food security is ensured, the families are supported in building sustainable livelihoods through the production and sale of adlai and other high-value crops. Once the families' basic needs are met, they are empowered to lead the reforestation of degraded lands surrounding their communities.

The initiative is part of the 6-year 'Ridge to Coast, Rain to Tap' (R2CR2T) project, co-funded by the Dutch Government through the Sustainable Water Fund (FDW). The project serves as a pilot for the reforestation of the Cagayan de Oro River catchment area and aims to demonstrate effective and sustainable ways for addressing the causes of downstream flooding.

What is adlai?

Scientifically called Jobi Coix Lacryma, adlai is a gluten-free grain that looks and tastes like rice but has a texture similar to corn. The grain has a low glycemic index and is high in iron, calcium, potassium and dietary fiber. Originally grown as a staple food by indigenous tribes in Mindanao, adlai has gained popularity among health-conscious Filipinos as a nutritious superfood and substitute for rice.



“I like adlai. In the past I used to grow corn, which is a bit easier. But I can earn much more with adlai, because the price is much higher.”

– Letecia Abpet, project farmer



Under the project’s sustainable livelihoods component, the Hineleban Foundation trained the families in producing high-quality adlai, using sustainable, organic and climate-resilient farming methods. Emilie Agcito, one of the project farmers, explains: “We learned to apply contour farming on sloping lands, so that the soil will not get washed away by rain. I did not know about that before. Even though I do not have a degree I learned a lot”.

After a growing period of 7 months, the grains are ready for harvest. An abandoned asparagus warehouse near the communities has been transformed into a bustling adlai processing facility, where the grains are dried, sorted, milled and packaged, before they are transported to Manila for distribution to high-end markets. The Kalugmanan Agri-Development Corporation (KADC), Hineleban’s corporate partner, is responsible for the logistics and marketing, and has committed to buy all the adlai produced by the project farmers at a guaranteed minimum price.

Adlai boosts farmer incomes

In 2020, the first 40 families received support to plant an initial half hectare of adlai each, or 20 hectares in total. Combined, they sold over 33 thousand kilos of adlai to the KADC, at PHP 55 (~EUR 0.93) per kilo. Some families kept part of their harvest for their own consumption, thereby strengthening their food security.

The project was well received by the community members. Adlai has a higher market value than the more common crops grown in the area, allowing the families to supplement their

incomes considerably. The first adlai harvest led to a total income of PHP 1,827,328 (~EUR 31,000), or PHP 45,700 (~EUR 775) on average per family. Using their newfound knowledge and skills, many farmers have since expanded their adlai production areas, adding another 60 hectares to the total.

“I earned around 100,000 pesos from my first adlai harvest. I used the money to renovate my house and to buy a cow for ploughing my field. Sometimes I bring my cow to help other farmers in preparing their land. I can earn 300 pesos per day for that.”

– Criston Samia, project farmer

Explaining the success

At the start of the project, the Hineleban Foundation obtained consent from the communities through a Participatory Cultural Impact Assessment (PCIA) – an inclusive process which involved dialogues and Talaandig rituals. The community members were informed about the project objectives and invited to share their ideas and concerns. The process helped to build trust and harness broad support from the communities, which was critical for the success of the intervention.

Once the project was approved, the communities formed the ‘Kaliwawa Salawagan Talaandig Tribal Agriculture Cooperative’ (KASATATRIACO), which plays a key role in leading project implementation and safeguarding the interests of its members. The cooperative has an office in the former

asparagus warehouse, from where it coordinates monthly meetings, farmer trainings, seed distribution and adlai sales. The KASATATRIACO has been registered with the Cooperative Development Authority and functions independently from project funding, which means it can continue to operate after the project ends.

Another success factor is the direct link between the cooperative and the KADC. The Hineleban Foundation describes this relationship as a ‘Transformational Business Partnership’, which is geared towards transforming lives, the landscape and the way business is done. Besides providing market access and sharing its profits with the communities, the KADC also conducts research and development to support the farmers in maximizing adlai yields and quality while conserving the environment.

A pressing need for market expansion

As adlai production steadily increases, so does the KADC’s need to expand into new markets. The company’s current market is concentrated in Manila, which has been hit hard by the COVID-19 crisis. Faced with prolonged lockdowns and income losses, part of the company’s consumer base gave up the healthier but more expensive adlai and went back to rice, causing a drop in adlai demand.

To sustain the prices KADC pays to its partner farmers, the company is committed to expand its market through export, initially to the USA, Canada, and the UK, where the demand for premium superfoods is much larger than in the Philippines and continues to increase. The company is currently working on obtaining the necessary certificates and licenses.

The way forward

As a next step, the Hineleban Foundation will support the project families to grow high-value arabica coffee, following sustainable agroforestry principles. This will allow the families to diversify their income sources, which will reduce risks and enhance their resilience to market shocks and extreme weather events. Planting coffee trees in the shade of the forest canopy is part of Hineleban’s long-term strategy to protect and restore the buffer zone of the remaining upland rainforests.

The project fostered a growing sense of pride among the families of Pawagaon and Magsaysay for their environment, their culture and their role as custodians of the rainforest. They have strengthened their capacities to earn a sustainable income from their fields, and are now sharing their indigenous staple food with the rest of the world – all while protecting and reforesting the slopes they call home.

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The ‘Ridge to Coast, Rain to Tap’ project aims to reduce flood risks and vulnerability in the Cagayan de Oro River Basin in Mindanao, the Philippines. It is a Public-Private Partnership between Cagayan de Oro Water District, VEI, Unifrutti, Hineleban Foundation, Bukidnon Indigenous Peoples Advisory Council, Cagayan de Oro River Basin Management Council, Wetlands International, FITC, Philippines Red Cross and Netherlands Red Cross, co-funded by the Netherlands Ministry of Foreign Affairs and administered by the Netherlands Enterprise Agency (RVO) through the Sustainable Water Fund (FDW).