Innoverde does not have an official website. The company’s information is stored on the Alterna website, an incubator and accelerator organization. Innoverde can be reached via Facebook at https://www.facebook.com/InnoverdeGuatemala/

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Profiling Businesses in the Care Economy

The care economy consists of paid and unpaid labor and services that support caregiving in all its forms. In Africa, Asia and Latin America, women spend between three to five times as many hours on unpaid care and domestic work as men. This represents 80 percent of a household’s total hours devoted to unpaid care work.

Care economy businesses can help recognize, redistribute, reduce and reward – also known as the 4 Rs - unpaid and paid care and domestic work in the following ways:

**Recognize:** Initiatives that increase visibility and recognition of paid and unpaid care and domestic activity as “productive” work that creates real value and contributes to economies and societies.

**Redistribute:** Services and initiatives that redistribute care work from individuals to public and private sector entities, and redistribute care and domestic work within the household.

**Reduce:** Products and initiatives that reduce the time spent on and burden of unpaid care and domestic work.

**Reward:** Products, services and initiatives that ensure that care and domestic workers are paid fairly and have professional growth potential. This provides them with financial reward and security.

The Care Economy Knowledge Hub aims to address the knowledge gap around care businesses by showcasing various business models and creating a resource base for relevant stakeholders. It also aims to raise awareness and increase knowledge of the state of impact-driven care economy business models and attract a broad range of funders to invest in care economy solutions by showcasing opportunities. These business profiles are intended to showcase said potential investment opportunities. They have been created from information and data provided by the business itself.

This project is supported by Canada’s International Development Research Center, in partnership with the Soros Economic Development Fund at the Open Society Foundations. Building on their track record and commitment to transforming the care economy and mobilizing finance for gender equality, they have jointly launched this action research program to help transform the care economy through impact business and investment.
Innoverde is a Guatemalan for-profit social enterprise that seeks to improve access to clean drinking water for rural, low-income households facing water scarcity. This is achieved through the introduction of water engineering solutions. Currently, the company offers rainwater harvesting systems, water filters, agricultural reservoirs, and agricultural and farm irrigation systems. These products are low-cost, environmentally friendly, and enable self-sufficiency. In addition, Innoverde conducts workshops on sustainable agriculture for female farmers from indigenous communities in order to enable them to establish orchards for commercial production. Innoverde’s services contribute to the provision of affordable solutions to reduce the time spent by family members, especially women and girls, on fetching water. To date, Innoverde has served customers in 20 villages in the western highlands of Guatemala. In 2021 the company generated US$9,000 in revenue and it currently has five contractors.

**Women Owned/Led:**
This enterprise is not women-owned/led, as it does not meet the criteria of having either a woman founder, or being 51% women-owned. Further, it does not have women in at least 30% of senior leadership roles (executive level/C-suite positions), or a board composed of at least 30% women.

**Company Contact**
Rony Alexander Baten, Founder and CEO
roneyalexanderbaten@gmail.com | LinkedIn Profile

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2 Innoverde water solutions for households are self-sufficient as they provide enough water to meet multiple needs without depending on a main water supply like the city water network.

3 Between 2016 and 2017 Innoverde developed the first water solutions prototypes. In 2017, it executed a pilot plan to evaluate the self-sufficiency of the systems in remote rural areas as well as the needs of the villagers. The company was officially registered as an enterprise and began to operate in 2019.

*According to 2X “women entrepreneurship” and “women leadership” criteria; 2X Challenge Criteria
1. About The Enterprise

1.1 Problem

The Guatemalan drinking water system is characterized by low and inconsistent coverage of water services, especially in rural areas. Access to improved water supply has slowly increased over the years. Between 1990 and 2015, coverage rose from 77% to 91% of the population. Despite the relative improvement in coverage, many rural Guatemalan households still access water from unprotected sources such as poorly constructed wells, rivers, or lakes. To date, more than 56% of Guatemalan rural dwellers do not have access to clean water in their homes and the remaining 44% receive an intermittent supply. This situation is aggravated during summer months as droughts hit. While private companies often provide water services through tanker trucks, the water offered is of poor quality and is often unaffordable for low-income families.

Due to the lack of access to clean water sources at home, 95% of water is collected on foot and villagers (primarily women and girls) must walk for hours to reach springs. The amount of time spent gathering water results in Guatemalan women and girls being unable to attend school or earn an income. It is estimated that Guatemalan villagers travel an average of 180 meters to the closest water supply, requiring approximately 30 minutes (round trip) per day. In more remote areas, the distance to the nearest water supply can range between 3.2 and 6.5 kilometers, requiring over 3 hours round trip. Guatemalan families are thus pressured to

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choose which children in the household (if any) will be able to attend school, as children are expected to assist with fetching water. This decision is frequently based on gender roles and stereotypes, with the assumption that girls have less of a need for education. As a result, boys attend school while girls assist their households with water collection, amongst other domestic chores.\(^\text{16}\)

In 2020, 95% of surface water sources\(^\text{17}\) in Guatemala were contaminated,\(^\text{18}\) putting the health of the rural population who depend on these sources at risk.\(^\text{19}\) Evidence suggests that consumption of contaminated water correlates to high levels of malnutrition, respiratory and gastrointestinal diseases, and increased mortality rates in children.\(^\text{20}\) To date, Guatemala has the highest child mortality rate amongst Central American countries, largely due to water contamination.\(^\text{21}\) As a result, children are more prone to illnesses. The burden of care for sick family members falls on women, therefore they are prevented from working, studying, or enjoying leisure time.

Moreover, poor water, sanitation, and hygiene (WASH) practices elevate the risk of waterborne diseases\(^\text{22}\) like cholera. Women are at a higher risk of contracting these diseases, as they are exposed to contaminated water more often through their role in water provision.\(^\text{23}\) Likewise, poor WASH and menstrual health management (MHM) practices can lead to urinary tract infections (UTIs). Health concerns result in school absences and an overall reduced education. This then translates to higher levels of domestic work for young women.\(^\text{24}\) Data reveals that 47% of rural schools do not have access to clean water. This is one of the main factors preventing Guatemalan girls from attending school during their menstruation. As such, girls regularly miss approximately 20% of the academic year.\(^\text{25}\) Therefore, access to clean water is not only critical to promoting health and reducing the care and domestic burden for women and girls, but also for their educational attainment.\(^\text{26}\)

\(^\text{17}\) Surface water is water located on top of land forming terrestrial water bodies.
\(^\text{25}\) Flores, G. (2021). Factores que limitan el acceso y continuidad educativa en niñas, adolescentes y mujeres en Guatemala
1.2 Solution

Innoverde addresses the lack of access to clean drinking water by providing affordable and environmentally friendly (engineered) water solutions to low-income households in rural areas. The company offers rainwater harvesting systems that direct water from large surfaces (e.g. roofs) into either underground or over-ground holding tanks. Installations can be designed for households, neighborhoods, and villages. Rainwater harvesting systems are suitable for domestic use, human consumption, and agriculture. In addition, Innoverde provides agricultural reservoirs that capture and preserve winter rainwater to consume when summer droughts hit.

These efficient rainwater harvesting systems allow rural families to access water for cooking, drinking, and bathing at home. In doing so, villagers (especially women) are able to redirect time away from water collection and towards investment in income-generating and family activities. Evidence suggests that access to water infrastructure and water technology has a positive effect on female labor market participation. Moreover, children (primarily girls) do not have to leave school to help with water collection. Therefore, engineered water solutions contribute to reducing the time spent by women and girls on domestic work.

Furthermore, Innoverde provides water filters specifically designed to remove unwanted impurities from water, such as: sediment, taste, odor, hardness, and bacteria. In addition, the filter removes heavy metals such as mercury, lead, and arsenic, all of which result in better-quality water. Finally, the filter traps any harmful microorganisms in the water, decreasing the risk of contracting diseases from contamination. Water filters can be installed in households, schools, and other facilities. The filters have been proven to reduce gastrointestinal distress and illness, especially amongst children, as well as the risk of UTIs in adults (particularly women). Likewise, reports have shown that water filters remove 99% of pathogens, making it safer for drinking and cooking by reducing waterborne diseases like cholera.

Through its services, Innoverde contributes to enhancing access to improved drinking water, especially in remote areas. Its products improve the health and well-being of rural families in Guatemala. The company also contributes to reducing the domestic care burden on women, as well as the school absenteeism of children.


1.3 Customer Segment

Services can be purchased directly by households (for their own use), non-governmental organizations (NGOs), municipalities, community action boards, or other entities seeking to solve the issue of water scarcity experienced by rural families in extreme poverty (especially those belonging to indigenous communities).

<table>
<thead>
<tr>
<th>Customer Segment</th>
<th>Product / Service Provided</th>
<th>Paid / Unpaid</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGOs, municipalities, community action boards, and households</td>
<td>Rainwater harvesting systems: This service includes design, product supply, and installation of the rainwater harvesting system. The service is customized depending on the household’s exact needs or the stage of village development concerning public services. The system only requires maintenance twice a year and households can do it themselves. Large systems can provide water for the whole year. Smaller systems have the capacity to provide water for 8-9 months per year.</td>
<td>Paid: All services are delivered through B2B, B2G, or B2C contracts. Payments are made upfront on installation, in a single payment.</td>
</tr>
<tr>
<td></td>
<td>Water filters: This product includes the installation of the most appropriate filter solution depending on the quality of the water source.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Waterproofing of water tanks: This service includes internal waterproofing of old water tanks. The process involves a thorough repair of all cracks, leaks, and other joints prone to leakage. Prior to the repair, the water tank is thoroughly cleaned of dirt, oil, and other loose material.</td>
<td></td>
</tr>
<tr>
<td>Farmers</td>
<td>Agriculture irrigation systems: This service includes system design, product supply, and system installation. Innoverde determines the water needs based on the landscape and installs the irrigation system by following water conservation principles. Depending on the crops’ needs, the system installed may be drip irrigation or micro-sprinklers. The irrigation system can be purchased in combination with the rainwater harvesting systems.</td>
<td>Paid: Services are delivered through B2C contracts. Payments are made upfront, in a single payment.</td>
</tr>
</tbody>
</table>

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29 B2B: Business to Business
30 B2G: Business to Governments
31 B2C: Business to Customer
<table>
<thead>
<tr>
<th>Customer Segment</th>
<th>Product / Service Provided</th>
<th>Paid / Unpaid</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Agricultural reservoirs:</strong> This service includes the planning, material supply, and professional installation of the reservoirs. The reservoirs are designed to meet the water security needs of the farms and include the management of both water and sediment. The size of the reservoirs depends on the crops’ needs. The system is designed to collect water throughout the winter, to be used later in summer.</td>
<td></td>
</tr>
<tr>
<td>Local governments</td>
<td><strong>Consultancy:</strong> This service provides expert consulting services in environmental impact studies, including: evaluation of forest regencies, environmental and forest management, and agriculture. This service focuses on the development of strategic forest and environmental management plans in order to ensure long-term and responsible forest stewardship, as well as the protection of critical watersheds.</td>
<td><strong>Paid:</strong> This service is delivered through B2G contracts.</td>
</tr>
<tr>
<td>Women farmers from indigenous communities</td>
<td><strong>Training:</strong> This service provides training on sustainable agriculture, including: how to prepare organic fertilizers, sustainable production of specific crops, installation of small-scale irrigation systems, and how to establish family orchards for commercial production. The sessions take place once a week, for 8 weeks, in each indigenous community. All materials are provided by Innoverde.</td>
<td><strong>Unpaid:</strong> Women farmers received this service free of charge.</td>
</tr>
<tr>
<td>Small organizations that suffer from water scarcity</td>
<td><strong>In-kind donations:</strong> Innoverde makes donations of engineered water solutions to small organizations, such as schools in indigenous communities and forest tree nurseries suffering from water scarcity. The type of product donated is determined by an assessment of the needs of the organization.</td>
<td><strong>Unpaid</strong></td>
</tr>
</tbody>
</table>

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32 This service is offered as part of an agreement between Innoverde and Sk2 Fund as a method to repay 40% of the debt incurred by Innoverde. For more details see section 3.2.

33 Forest nursery is a managed area, designated to produce tree seedlings grown under favorable conditions until they are ready for planting.

34 This service is offered as part of an agreement between Innoverde and Sk2 Fund as a method to repay 40% of the debt incurred by Innoverde. For more details see section 3.2.
1.4 Team And Governance Structure

Innoverde currently employs five contractors: four men, who are part of the installation team, and one woman, who is in charge of the accounting. The board currently comprises only the CEO/founder, who is a man.

1.5 Enterprise Policies

<table>
<thead>
<tr>
<th>Policy</th>
<th>Yes / No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall HR Policy</td>
<td>No</td>
</tr>
<tr>
<td>Equal pay for equivalent work policy</td>
<td>No</td>
</tr>
<tr>
<td>Non-discrimination / Equal employment opportunity / Diversity and inclusion policy (gender, LGBTQ, PWD, etc.)</td>
<td>No</td>
</tr>
<tr>
<td>Anti bullying and sexual harassment policy / Respectful workplaces</td>
<td>No</td>
</tr>
<tr>
<td>Whistleblower policy / Employee grievance mechanism</td>
<td>No</td>
</tr>
<tr>
<td>Maternity / Paternity leave policy</td>
<td>Yes</td>
</tr>
<tr>
<td>Safeguarding policies for vulnerable groups (children, elderly, PWDs)</td>
<td>No</td>
</tr>
<tr>
<td>Safeguarding policies for the environment or to reduce detrimental impact on the environment (covers reducing carbon footprint, reduced water consumption etc.)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

2. Impact

2.1 Mission Statement

Innoverde’s mission is to increase access to improved drinking water amongst rural and disadvantaged families suffering from water scarcity.
2.2 Intended Impact

Innoverde currently creates the following impact:

- It reduces the time households dedicate to fetching and purifying water by providing water engineering solutions.

2.3 Monitoring And Measurement

Innoverde measures the following indicators for service outreach:

- Number of installed products or services
- Number of customers (B2B and B2G)
- Number of villages benefited
- Number of women that received training
- Number of liters of water provided through Innoverde systems
- Number of hours of water retrieving saved per family

2.4 Results To Date

Innoverde’s outreach results from 2019 to 2021 are as follows:

- Number of installed products or services: 100
- Number of customers (B2B and B2G): 6
- Number of villages benefited: 20
- Number of women that received training: 30, from two indigenous communities
- Number of liters of water provided to households through Innoverde solutions: 1/2 million liters per year, calculated as annual rainfall (in millimeters) x the roof surface area (in square meters)\(^35\)
- Number of hours of water retrieving saved per family: around 730 hours per year\(^36\)

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\(^{35}\) The rainwater harvesting system collects approximately 10,000 liters of water, and the tank or reservoir can be filled 3 times a year, providing each family with 30,000 liters of water per year.

\(^{36}\) The time reduction depends on the size of the tank installed. If the tank has capacity to provide water for the whole year the time reduced is around 2 hours every day. Smaller tanks have the capacity to provide water for 8 to 9 months per year.
Innoverde’s work is aligned with the following Sustainable Development Goals (SDGs):

1 NO POVERTY
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES

3. Financials

3.1 Financial Status

Since Innoverde has relatively low fixed costs and large variable costs, it operates on a fixed-profit margin business model. Currently, the company has a profit margin of 35% on all its contracts.

While Innoverde is profitable at the operational level, it is not yet large enough to sustain the salaries of all employees (particularly the CEO), who must rely on other sources of income. The company aims to be profitable within the next three years.

<table>
<thead>
<tr>
<th>(Amounts in US$)</th>
<th>FY2019</th>
<th>FY2020</th>
<th>FY2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Revenue</td>
<td>15,000</td>
<td>9,000</td>
<td>9,000</td>
</tr>
<tr>
<td>Total Expenses</td>
<td>9,750</td>
<td>5,850</td>
<td>5,850</td>
</tr>
<tr>
<td>EBITDA OR Profit/Loss</td>
<td>5,250</td>
<td>3,150</td>
<td>3,150</td>
</tr>
<tr>
<td>EBITDA Margin</td>
<td>35%</td>
<td>35%</td>
<td>35%</td>
</tr>
</tbody>
</table>
3.1.1 Revenue Streams

Innoverde’s revenue comes from commercial activities. The graphic below depicts past revenue details reported by the company. Between 2019 and 2020, Innoverde’s revenue decreased by 40%, whereas between 2020 and 2021, its revenue remained steady.

3.1.2 Expenses

The following pie-chart provides details of the key past expenditure areas by Innoverde in 2022:

- Personnel: 23%
- Training: 2%
- COGS/Cost of Raw Materials: 53%
- Other (Transportation and Logistics): 22%

3.2 External Funding Sources (Past and Current)

Innoverde has raised a total of US$11,900 in grants and private funds. In 2017, before the formal establishment of the company, Innoverde received US$1,000 of seed capital. This was provided in the form of a grant through the Pomona AG TECH Program from Pomona impact, a Guatemalan incubator and investment fund. This grant was used to execute a pilot evaluation of the self-sufficiency of water systems in remote rural areas, as well as a survey of villagers’ needs. The same year, the company received a grant of US$1,900 through the Awareness Program by Alterna, a Guatemalan incubator, accelerator, and investment fund. The grant was used to purchase equipment (i.e. electric generator and tools). In 2021, the company received approximately US$9,000 in debt-type investment (a soft debt with no interest) to purchase machinery and equipment from the Sk2 Fund, an investment fund that supports social enterprises. Currently, 10% of the accrued debt must be repaid through monthly transactions, 40% through in-kind donations of water solutions, and the remaining 50% through the provision of training to female farmers from indigenous communities.
4. Path To Scalability

4.1 Potential Avenues For Growth

Innoverde is seeking to grow the number of services it delivers each year. It is planning to scale up through five main avenues:

- **Development of new services**: Innoverde is currently working on the development of foldable tanks made of geomembrane, which allows the tanks to be sent through the postal service. This significantly cuts the cost of transportation. In doing so, the new service will contribute to decreasing product prices, making them more accessible for households in remote areas.

- **Development of new payment systems**: Innoverde seeks to build partnerships with financial institutions, allowing low-income households from rural areas and indigenous communities to access Innoverde’s water solutions. Proposed financial solutions include installment payment plans with low (or no) interest.

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37 Geomembranes are made from impermeable geosynthetic material consisting of thin continuous sheets of polymers.
4.2 Risks And Challenges

Innoverde has identified the following challenges:

- **Financing challenges**: Lack of access to external capital to import raw materials.
- **Operational challenges**: Due to its geographical location and geological characteristics, Guatemala is threatened by natural disasters. These can be both geological (such as earthquakes, volcanic eruptions, and landslides) as well as climatic (hurricanes, floods, and landslides). These extreme weather events (alongside the mountainous geography) pose a risk to Innoverde’s operations, as access to rural areas and indigenous communities is commonly disrupted and blocked – preventing the company from installing its products.
- **Competition**: Due to Innoverde’s lack of capital to import raw materials, the company must acquire them from local firms at higher costs, making it impossible to compete with larger corporations for large-scale projects.

4.3 COVID-19 Impact On The Enterprise

Innoverde has identified the following relevant impacts as a result of the Covid-19 pandemic: (i) longer raw material delivery times, delaying operations; (ii) a drastic decrease in the number of services requested (as well as the number of new clients); (iii) access to rural areas and indigenous communities was completely closed, preventing products from being installed; (iv) an increase in expenses due to a rise in transportation prices; and (v) an increase in aids for small businesses from the central government and financial organizations, of which Innoverde was one of the beneficiaries.
4.4 Support Received To Date

Innoverde has received technical assistance support from multiple organizations, including: the bootcamp program run by Enactus, in collaboration with Pantaleon and the Alterna Awareness Program. Innoverde also received business model guidance from Pomona Impact, as well as financial and legal support from Fundación Paso 2 (in collaboration with Alegalis). Furthermore, the Ministry of Economy funded product development training, which was delivered by Isla Urbana Mexico under the entrepreneur program.

4.5 Inputs Required For Growth

- **Financial support:** Innoverde is seeking US$20,000 to import raw materials, especially geomembrane from Asia. The company favors grants and soft debt over equity.
- **Non-financial support:** Innoverde is open to any non-financial support. The company is particularly interested in technical training on the use of thermofusion equipment for geomembrane molding, as well as guidance to develop a marketing strategy focused on growth.