



# International Business Plan

LarvaLyte 



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# I. Executive Summary

## How It Began

LarvaLyte began with a phone call we never expected. When a family member in our **home country** became severely ill from **malaria** after exposure to mosquitoes, the **problem** stopped feeling distant and became **personal**. As we looked deeper, we saw how **overlooked** stagnant water around homes and in public spaces remained, even though it exposed **millions** to malaria every day. From that experience, LarvaLyte became more than a name. “**Larva**” reflects our focus on stopping mosquitoes before they mature and spread disease, while “**Lyte**” reflects our **mission** to shine a light on overlooked **communities** that need safer, more **reliable** prevention. More than just a product, LarvaLyte is a scalable malaria prevention solution that supports **long-term** transmission reduction and aligns with the **World Health Organization’s 2030** malaria elimination strategy.



Founders

## Description of LarvaLyte



LarvaLyte is a **malaria prevention product** that can be deployed by non-governmental organizations (NGOs), government organizations, and individual residents. It prevents mosquitoes at the larval stage, before they can transmit the disease as adults. Using **Bacillus thuringiensis israelensis (Bti)**, a natural and biodegradable biological agent, LarvaLyte automatically treats stagnant water through **scheduled intervals** from a **dispenser**, deploying a capsule once a **month**, with each capsule lasting the full month. This process eliminates the need for consistent human action and makes malaria prevention more reliable, only requiring the refill of capsules **4 times a year**. Powered by **solar panels**, LarvaLyte’s **patented** design functions in **low-resource** rural settings where access to electricity can be limited. The **natural ingredients** protect people, animals, water sources, and the surrounding environment unlike existing chemical alternatives. Designed to be both **accessible** and **effective**, LarvaLyte is **affordable**, with the dispenser and capsule set priced at **\$23** and refill capsule packs of three costing **\$3** for individuals. Bulk purchases include dispenser and capsule sets priced at **\$18.40** and refill capsule packs priced at **\$2.40**.

## Problems

## Solutions

### 1 Widespread Malaria

Nigeria has one of the **highest malaria** burdens in the world, with **97%** of the population at risk and potentially **68 million** cases in 2025. Mosquitoes breed in **stagnant** household and public water sources, but current prevention methods **fail to target mosquitoes at the larval stage**, allowing malaria transmission to persist at the community level.

### 1 Root Cause

LarvaLyte targets **stagnant water** at the source, killing mosquito larvae before they become adults. By stopping mosquitoes at the **earliest stage**, LarvaLyte provides a **proactive solution** that prevents mosquitoes from ever transmitting malaria in the first place.

### 2 Overreliance on Toxic Insecticides

Over **60% of residents** in Nigeria in malaria-endemic areas rely on insecticidal products, which are products that contain **harmful chemicals**. Not only do these methods pose serious health risks, but they are **increasingly ineffective** due to growing mosquito resistance.

### 2 Environmentally Safe

LarvaLyte uses **WHO-approved Bti** to target mosquitoes. Since it is **natural** and **biodegradable**, it poses no risk to humans, animals, or water sources. Unlike **chemical alternatives**, it eliminates **health risks** and provides a healthy and **safe** alternative.

### 3 Inconsistent and Unreliable Methods

Current mosquito prevention methods depend on **frequent** and consistent human action, which is often **unreliable** due to **limited time** and resources. This inconsistency can allow mosquito populations to rapidly **repopulate**, proving **ineffective** current solutions.

### 3 Automatic Release

LarvaLyte activates **automatically** at **scheduled intervals**, using a small motor to release **precise** doses of Bti into standing water. Powered by **solar panels**, it operates in off-grid areas. This ensures consistent mosquito control **without daily human intervention**, providing a **reliable** and effective solution to prevent mosquito repopulation.



# Why Deploy LarvaLyte in Nigeria

**1** High malaria risk due to stagnant water sources

**2** Densely populated cities increase malaria transmission demand

**3** Lagos central hub provides transportation and port access

LarvaLyte is deploying in Nigeria due to the significant challenges that the country faces. Over **70% of households** in rural communities **lack access** to improved **water** supply and rely on **open-source areas** like rivers, streams, ponds, and unprotected wells. These stagnant water sources are prime breeding grounds for mosquitoes, making them areas that are easily susceptible to malaria. In fact, Nigeria has the **highest burden** of malaria cases. Additionally, Nigeria is densely populated, with **230 million people** across **36 states**, which can facilitate **faster malaria transmission**, especially where infrastructure is limited. Lagos, a central **transportation hub** in Nigeria with port access, offers an ideal location to test LarvaLyte before expanding to rural areas. While there is not much **innovation** surrounding malaria control, Nigeria's **culture** focuses significantly on **health** safety, and there is a great need for a solution as **85%** of the people from our **survey** expressed **concern** for contracting malaria. With a **large market** in both **urban** and **rural** communities, Nigeria provides a perfect location for LarvaLyte to make meaningful impact while **expanding reach**.

## Customer Segments

### Primary Market

#### Demographics

- **Type:** Governmental organizations and NGO
- **Size:** Medium to large
- **Annual Budget:** \$50,000–\$500,000

#### Geographics

- **Operations:** Urban, peri-urban, urban areas
- **Program Reach:** Households and stagnant water sources

#### Psychographics

- **Mission Driven:** Reducing malaria prevalence
- **Safety:** Environmentally-safe products
- **Efficiency:** Minimal maintenance and scale easily

#### Behavioral

- **Adoption:** Products into community and education
- **Monitoring:** Track usage
- **Procurement:** Bulk-purchasing and subscriptions



**malaria**  
**NO MORE**

### Secondary Market



**Individual households** represent the secondary market. They are usually **middle-to-low income** families who can afford to purchase LarvaLyte for themselves. These families are **health-conscious** and usually have **young children** who are **more susceptible** to malaria. LarvaLyte's **solar-powered** model works without electricity, allowing use for families that live in both **rural** and **urban** areas.

## Unique Value Proposition

### Source-Level Protection

LarvaLyte is unique because it targets mosquito larvae **before** they are able to mature and transmit malaria. By **treating** stagnant water where mosquitoes breed, LarvaLyte works **earlier** than most existing prevention methods, which often focus on mosquitoes only after they are already able to spread disease. This gives customers a more **consistent** and **long-lasting** form of malaria prevention rather than **temporary** relief.



### Automatic Operation

LarvaLyte also stands out because it activates **automatically**, without the need for repeated human involvement. Other prevention methods often depend on **consistent** spraying, draining, or cleaning, but these actions can be unreliable due to human **error** or **inconsistent** follow-through. This gives customers a more **dependable**, low-maintenance prevention option, especially in communities with **limited** time or **resources**.



### Environmentally Safe

LarvaLyte is unique because it delivers safe and **effective control**, targeting mosquito larvae without posing **risk** to humans, animals, or drinking water. Unlike conventional chemical-based methods, LarvaLyte's **natural** treatment prevents **chemical** buildup and contamination. This makes it especially **valuable** for customers seeking malaria prevention without the risks associated with harmful **chemical alternatives**.





# Channels

## Distribution Channels

### Government & Public Health Programs

LarvaLyte partners with **federal and state malaria programs** to deploy dispensers in high-risk public drainage systems, starting in Lagos. Bulk purchasing enables **large-scale coverage** through **existing vector control operations** while generating recurring revenue through capsule refills.

### NGO and Health Organizations

NGO's distribute LarvaLyte in **rural and underserved communities** where chemical spraying and electricity access are limited. Deployment is integrated into **existing community health programs**, allowing NGO field teams to install dispensers quickly for sustained mosquito control.

### Retail Sales

LarvaLyte is sold through community health **clinics**, neighborhood **pharmacies** and **shops**, **local market stalls** and household **supply vendors** to households. Low upfront pricing and refill subscriptions support **affordability and recurring revenue**.

## Marketing Channels

### Local Advertising



### Value Communication



### Awareness/Education



### Active Social Media



### Retail Packaging



## Our Proposal

LarvaLyte is requesting a **\$45,000** long-term loan at a 6% annual interest rate over 6 years

All financial figures in this proposal are presented in **U.S. dollars** with costs converted from **Nigerian Naira** using **current exchange rates** (1 NGN = 0.00072 USD). These funds will support **payroll, manufacturing and importing dispensers and refill capsules, local assembly, packaging, and Operation LARVA marketing**. Repayment will come from operating cash flow through monthly payments of \$746 funded by government/NGO contracts, household sales and recurring refill sales. Despite ending Year 1 with about \$29K in cash, LarvaLyte still needs the loan to maintain a **working capital buffer** during procurement delays and early scale-up. By Year 3, LarvaLyte is projected to reach approximately **21% net profit margin**, showing a financially **scalable** model with **measurable public-health impact**.

## Profits and Expenses (USD)

LarvaLyte's **detailed financials** (page 16) show the total operating revenue of **\$409,600 in the first year**. Our total expenses for the first year add up to **\$269,070**, going towards human resources, distribution, acquisition costs and additional costs. LarvaLyte's **business model** combines **institutional** demand from government programs and NGO organizations with **household** demand through retail, while refill purchases create long-term revenue. **Initial losses** occur as the company absorbs upfront costs for manufacturing dispensers and refill capsules, local assembly and packaging, payroll, distribution and marketing. As **institutional deployment grows** and **household adoption** strengthens, revenue is projected to increase by **25.5% in 2027** and **27.5% in 2028**, while net profit rises to **\$52,486** and **\$134,922** respectively, demonstrating LarvaLyte's ability to **grow from an early-stage launch into a financially scalable venture with measurable public-health impact**.

## Three Year Projected Business Plan

### Year 1

- **75%** revenue from **NGO and government** pilots in Lagos, and **25%** from **retail**
- **Marketing** through email outreach, trade shows, and sanitation forums
- Product **validation** and regulatory **approvals**

### Year 2

- **Expand** procurement contracts across Lagos
- Marketing **scales** via public installations, community education, and radio
- Build **household** trust
- **65%** government/NGO, **35%** retail revenue

### Year 3

- **Prepare** for expansion **beyond** Lagos
- **Marketing** leverages impact data for **national bids** and **investor** outreach
- **40%** retail revenue and **60%** from **government and NGO's**