



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

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.

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.

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.

Solutions

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 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 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**

II. Analysis Of The International Business Situation

A. Economic, governmental and legal analysis of the trading country

1. Economic System

Mixed Economy

Nigeria operates under a **mixed** economic system that balances state regulation with private enterprise, allowing **foreign** businesses to invest across major sectors. This structure **promotes innovation** while preserving government involvement in essential public-welfare areas. As shown in **Figure 2A**, public health and disease prevention remain important **economic priorities**. As Africa's **largest economy**, Nigeria recorded a nominal gross domestic product (GDP) of approximately **\$285 billion USD** in 2025 (all monetary values presented in US dollars). This signals a stronger **institutional** purchasing capacity, making the country **realistic** for a **prevention** technology. Because malaria prevention already receives **meaningful** government/NGO funding, the market doesn't depend on creating entirely new demand and LarvaLyte enters a space where **institutional buyers already** allocate budget toward prevention.

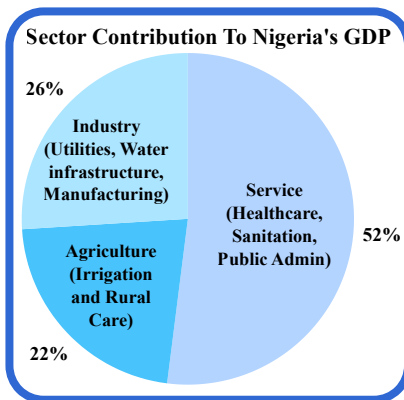


Figure 2A

Market Need and Economic Impact

Nigeria has a large and growing population of over **220 million** people who rely on shared or open water sources **highly susceptible** to mosquito breeding. From an **economic perspective**, this makes it a **strong investment opportunity** as **52%** of the population lives in **urban or peri-urban** areas, many of which are **exposed** to these sites. Furthermore, Malaria remains a **major economic burden** in Nigeria as it is expected to rise from approximately **1.6 billion USD** to **2.8 billion USD** by 2030 (**Figure 2B**). This burden is driven by rising healthcare costs, as inflation and unfavorable exchange rates **amplify** the **strain of malaria** treatment on Nigeria's healthcare system, demonstrating the **need** for preventive solutions that reduce mosquito breeding before infection occurs. Because Nigeria carries the highest malaria burden in the world, accounting for about **27% of global malaria cases**, even small reductions in transmission can translate into large economic **savings**, making LarvaLyte an **attractive investment** for cost effective and scalable prevention tools.

Foreign Investment

Nigeria continues to attract **foreign direct investment** (FDI). In the third quarter of 2025, FDI reached approximately

720
million USD

700%
quarterly increase

26%
rise from same period
in 2024

This reflects **growing** interest from **international capital**, especially in health-related sectors, creating a **favorable** environment for LarvaLyte. We fit into the diversification of foreign investment as the Nigeria implemented the **Sector-Wide Approach (SWAP)** in **2024**, coordinating federal and state funding to strengthen prevention and disease control. That investment climate supports our market entry and early scale-up plan.

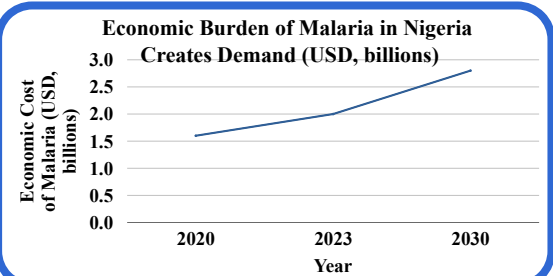


Figure 2B

2. Government Structure and Stability

Nigeria operates as a **federal presidential republic** under a three-branch system of government. This federal structure supports **public health** by allowing national policy and state-level implementation, while maintaining regulatory **oversight** of **private enterprise** (**Figure 2C**). This structure is especially important because it supports the government and public-health **distribution channels** described later in Section VII. This creates a more **reform oriented** environment, **beneficial** for LarvaLyte as it **lowers** entry **barriers** for foreign backed firms, supports local **distribution**, and enables **collaboration** with government and public health donors

Through the **Presidential Enabling Business Environment Council (PEBEC)**, Nigeria has pursued reforms to **reduce** bureaucratic **barriers** for private and foreign firms, making it **easier** for LarvaLyte to import specialized dispenser components.

Through the **Finance Acts**, Nigeria **simplified** tax compliance and standardized the Value Added Tax (VAT) at **7.5 percent** nationwide. That consistency improves pricing predictability, which is especially important for a venture balancing institutional bulk sales with future household affordability.

Under the **Nigeria Tax Act 2025**, Nigeria replaced the Pioneer Status Incentive with the Economic Development Tax Incentive. This **lowers** effective tax costs during early deployment and supports **reinvestment** in distribution and **long-term** malaria prevention.

Foreign Direct Investment (FDI) Inflows into Nigeria

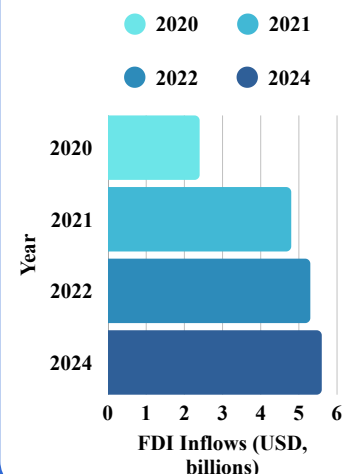
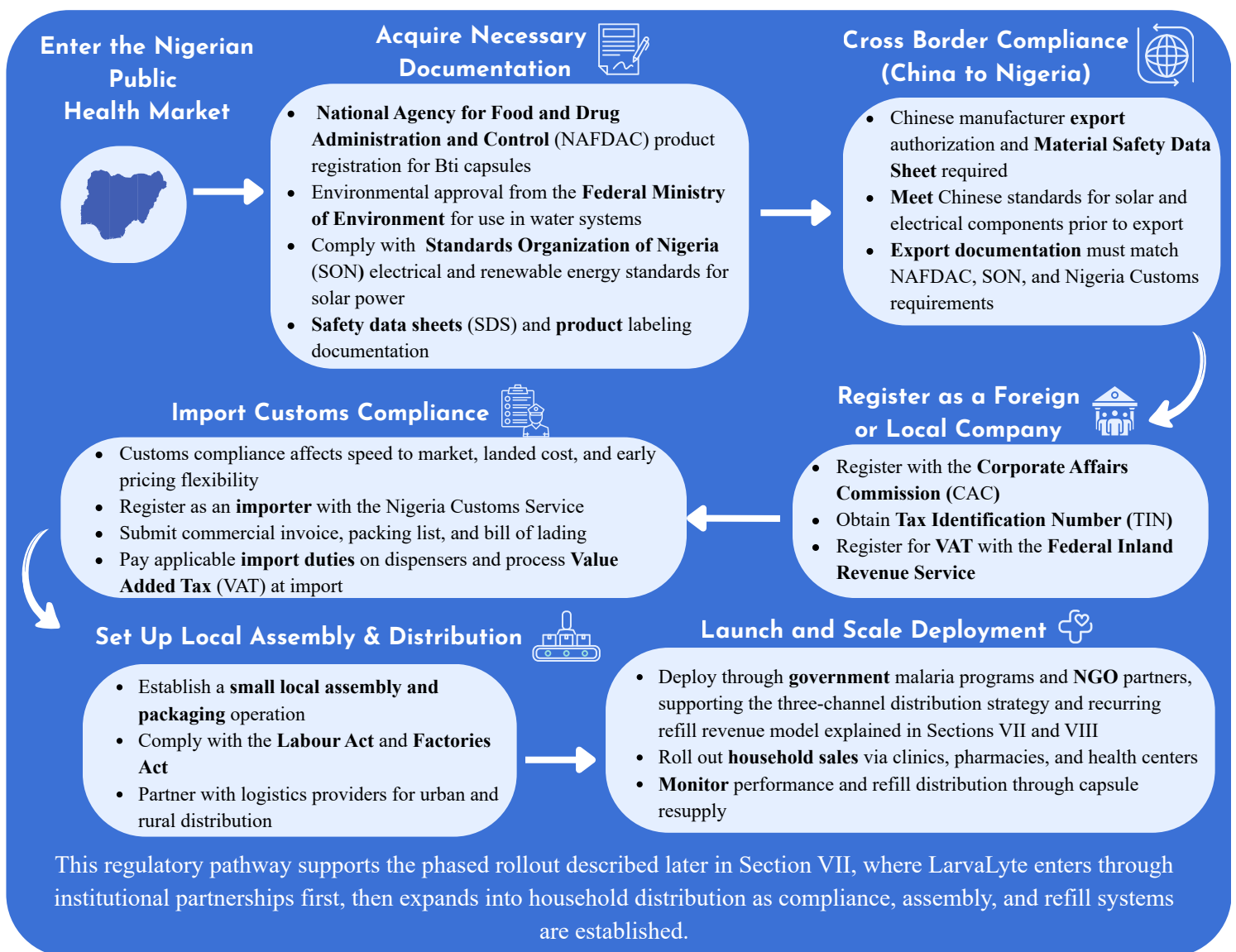


Figure 2C

3. Government Agencies and Regulations



Trade Regulations

Nigeria's membership in **Economic Community of West African States (ECOWAS)** and the **African Continental Free Trade Area (AfCFTA)**, improves long-term regional growth potential by reducing tariff barriers on manufactured goods. For LarvaLyte, that creates a more **favorable environment** for future cross-border distribution of dispensers and refill capsules after initial entry into Nigeria

Environmental & Public Health

The products primarily for public health and water are regulated by the **National Agency for Food and Drug Administration and Control** and the **Federal Ministry of Environment**. The biodegradable capsules and the larvicide must meet the environmental and **public health** standards due to their use in standing water and public drainage systems.

Labor Laws

The **Federal Ministry of Labour and Employment** under the Labour Act, mandates minimum wages, regulates minimum working hours, and employee protections. It shapes the **labor framework** for LarvaLyte's field and operations staff. These regulations ensure **fair** compensation, **safe** working conditions, and **lawful** employment practices as LarvaLyte scales its operations.

Health and Safety Standards

Businesses operating in Nigeria must comply with the **Factories Act**, **Labour Act** and **occupational safety regulations**, including worker training and safe handling procedures for larvicide materials. These mandate **safe** working conditions, **risk assessments** and employee training to ensure a safe work environment, **reduce** operational risk, and maintain **compliance**.

B. Trade Area and Cultural Analysis

1. Geographic and Demographic Analysis

Nigeria presents an **ideal trade area** for LarvaLyte because of its **climate**, **water usage** patterns, and **malaria** prevalence. Long seasons of heavy rain create **stagnant** water in gutters, wells, and open drainage systems: a **perfect breeding** ground for mosquitoes, reinforcing the root causes discussed in **Section III**. With **36 states** containing both dense **urban** cities and large **rural** communities facing water infrastructure challenges, Nigeria gives LarvaLyte a **strategic advantage** by creating need across multiple environments.

Urban Nigeria

Generates over **32 million tonnes** of waste annually, and poor disposal often **clogs** drainage gutters, leaving **stagnant water** near homes throughout many **urban** communities.

Rural Nigeria

Around **70% of households** lack improved water supply, causing reliance on **open water** sources like rivers, streams, ponds, and **unprotected** wells for everyday **household** needs.

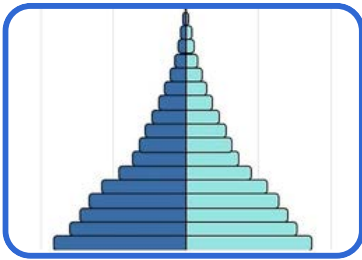


Figure 2D

Nigeria, with a population of over **230 million people**, contains a significant **market** for LarvaLyte. As shown in Figure 2D, **85.7%** of the population is made up of young individuals, making **Nigeria** one of the **youngest populations** in the world. This is especially important for LarvaLyte because children are more susceptible to malaria, and young children account for **76% of global malaria deaths**. Nigeria's **NGO and governmental program sector** has also grown to over **191,278 organizations**, up from 17,177 in 2019, with programs focused mainly on healthcare delivery to **underserved** communities and community empowerment. In addition, the **public health** sector is expanding through initiatives such as **PVAC** (Presidential Initiative on Unlocking Healthcare Value Chains) and **SWAP** (Sector-Wide Approach), including **\$2.2 billion** in PVAC funding and **\$1.2 billion** in SWAP funding, creating stronger institutional support and making Nigeria an especially **attractive** market for LarvaLyte's expansion.

Cultural Considerations, Customs, and Traditions

- 1 **Protecting young children** is a strong **family value**, making malaria prevention especially important.
- 2 **Storing water** around the home for daily use is a **common** household **practice** that can create breeding sites.
- 3 **Respect for elders, local leaders, and health workers** helps build **trust** in community-based **prevention** efforts.

Competitive Advantages and Disadvantages

1. Kills Before Transmission

Most alternatives attempt to prevent malaria by killing **adult** mosquitoes. LarvaLyte is more effective because it kills the larvae **before** they ever become adults and can **transmit** malaria.

2. No Daily Action Required

Current solutions require **consistent** spray using insecticides, which is very unreliable. LarvaLyte is **automatic**, making it much **safer** and **consistent** for families.

3. Uses Natural Ingredients

Current alternatives like insecticide spraying use **toxic** chemicals that are **harmful** to both humans and the environment. LarvaLyte uses **natural** Bt bacteria instead of **dangerous** chemicals.

Disadvantages: LarvaLyte may face **slower adoption** because it targets mosquito larvae **before** they become **visible adult** mosquitoes, so users may not **immediately** recognize its effectiveness. It may also face **resistance** due to its higher **upfront cost**, especially when compared with cheaper **short-term** solutions, despite offering greater **long-term value**.

2. Location Analysis

Lagos: Strategic Urban Hub

Lagos, Nigeria's **largest urban** center and **economic** hub, is the **strategic** location for LarvaLyte's initial **deployment** and distribution (Figure 2E). As one of the most **densely populated** cities in Africa, Lagos faces significant **malaria risk** because of stagnant water in gutters and drainage systems. Its strong **transportation** and **port access** make distribution more efficient, while its many NGOs and governmental **organizations** make expansion into **rural** areas more achievable through **partnerships**, especially where electricity and healthcare access may be **limited**.

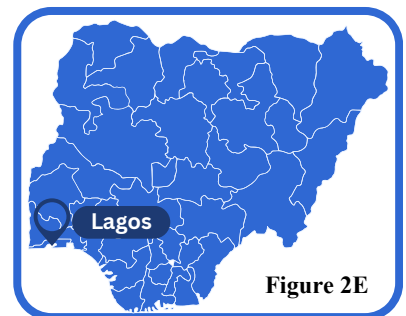


Figure 2E

Regulatory Compliance and Steps for Legal Market Entry

Because LarvaLyte is **manufactured** in **China** and **distributed** in **Nigeria**, it must comply with both Chinese export regulations and Nigerian import and public-health regulations, as outlined in the earlier flowchart in this section. This includes Chinese **export trade documents** such as a commercial invoice, certificate of origin, and export declaration, which **verify** the product's origin and intended destination. To be **legally** sold in Nigeria, LarvaLyte must also be **registered** with the National Agency for Food and Drug Administration and Control (NAFDAC), ensuring it meets public-health and safety standards, especially because it directly interacts with Nigerian water sources. In addition, **import permits** and product approval **documentation** are required so the dispenser and biodegradable pills can **enter** the country without regulatory or customs delays, supporting smooth **market entry** and building **trust** with **consumers**, local **partners**, health **organizations**, and Nigerian **communities**.

III. Problem

Widespread Malaria Threatens Health

97% of the population at risk of being infected	24.5 million confirmed cases by September 2025, surpassing all of 2023	27% of global malaria burden, representing highest share	1/3 of malaria- related deaths
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Key Issues

As shown by the **statistics** above, malaria remains a **major public health** concern in Nigeria, with **widespread** exposure, high case counts, and a **large** share of the global **burden** (Figure 3A). Malaria often begins in household environments and **open water** sources, where stagnant water creates **ideal breeding** conditions for mosquitoes to develop **quickly** and **unnoticed**. Current prevention methods are not fully **effective** because they do not target the **root** cause of the problem, mosquito breeding sites, allowing continued transmission and **persistently** high case numbers. **Poor health-seeking** behavior and **incomplete surveillance** further weaken malaria control, with potential annual cases estimated closer to the **68 million** reported in 2021, revealing a **reversal** of recent progress and an **unmet need** for a safe and **effective** solution.

Nigeria vs Top Malaria-Burden Countries

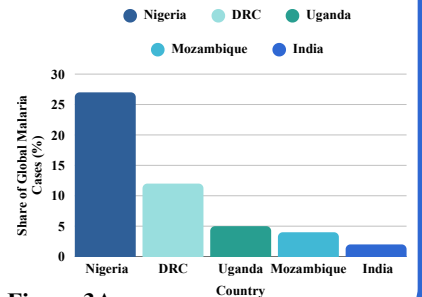


Figure 3A

Why Action Needed

This trend jeopardizes both **national** and **global** malaria initiatives and highlights the need for **immediate** action through stronger vector **control**. Existing alternatives are not sustainable or scalable across Nigeria's **large** population, placing a **heavy burden** on the healthcare system and **limiting** long-term effectiveness. Because these solutions do not **address** mosquito breeding at the source, malaria cases often **rebound** after previous control efforts, reinforcing the **urgent need** for lasting and effective prevention. This creates a clear **need** for **source-level intervention** that aligns with the **WHO's 2030 malaria elimination strategy** and supports malaria control in Nigeria.

Overreliance on Toxic Insecticides

60% of residents

in endemic areas for malaria regularly employ domestic **insecticidal products** for personal use. While these products provide **short-term** relief, they have drastic long-term **negative** consequences. Repeated exposure leads to **significant health** risks, especially for children.

200K people

die from the **toxic exposure** of pesticides per year across the world. There are many serious and **long-term illnesses** linked to pesticides, including cancer, Alzheimer's and Parkinson's **disease**, hormone disruption, birth **defects**, sterility, and neurological effects.

Key Issues

Mosquitoes are **increasingly** developing **resistance** to chemical insecticides as repeated use makes them **less effective** over time. This often leads individuals to spray more **frequently**, creating a cycle of **greater health** risks and declining effectiveness.

Why Action Needed

Nigeria needs a **safe**, chemical-free solution that stops malaria at the source. Dependence on **harmful** chemicals is driven by **limited awareness** and a **lack** of scalable, environmentally safe alternatives, while many **existing** solutions are **impractical** for household **implementation**.

Inconsistent and Unreliable Prevention Methods

Most common prevention methods are **inconsistent** and **unreliable** because they rely on constant **human action** and remembrance (Figure 3B). Mosquito **spray** requires people to **remember** to spray regularly while also draining water or cleaning gutters **consistently**, making protection **difficult** to maintain over time. **Fogging** provides only short-term relief and can be delayed by weather or labor shortages, while **mosquito nets** require meticulous **daily maintenance** and frequent repairs to remain effective. These methods are often **inefficient** due to lack of **resources**, limited **time**, or human **error**. Even short gaps in prevention can allow mosquitoes to breed again and spread malaria, since a mosquito egg takes only **10–14 days** to develop into an adult. In fact, to **protect** a community from malaria, at least **80% of households** in an area must receive insecticide spray. With **uneven** and unreliable prevention, reaching that level consistently is unpredictable and challenging, allowing continued transmission. **Repeated** human-action methods also **increase costs** because they require constant **reapplication**, maintenance, and repairs.

Current Prevention Methods

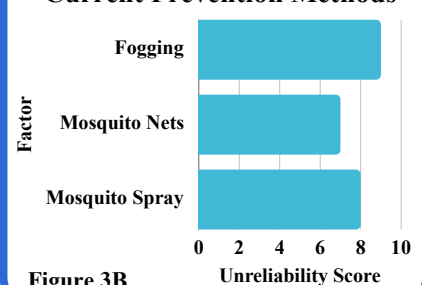


Figure 3B

Together, these failures create a clear **market need** for source-level prevention like LarvaLyte, which, as detailed in Section VI, is designed to eliminate these **3 critical gaps** and support the **WHO's 2030 malaria elimination strategy** through scalable prevention.

IV. Customer Segments

Primary Market

Demographics

- **Type:** Government agencies and NGO buyers
- **Size:** Medium to large, with multiple field teams and regional program managers
- **Annual Budget:** \$50,000–\$500,000 dedicated to malaria prevention and public health initiatives

Geographics

- **Operations:** Primarily urban centers like Lagos for high population density
- **Secondary Focus:** Rural and peri-urban areas with high malaria prevalence
- **Program Reach:** Households and stagnant community water sources across targeted areas

Psychographics

- **Mission-Driven:** Focus on reducing malaria prevalence and improving public health
- **Safety:** Prioritize environmentally-safe products for humans and animals
- **Efficiency-focused:** Seek solutions that require minimal maintenance and can scale easily

Behavioral

- **Adoption Behavior:** Integrates products into community and educates local staff
- **Monitoring:** Tracks usage and impact through field teams
- **Procurement Approach:** Prefers bulk purchasing or subscription-based models for consistent supply

Sample Consumer Profile - Governmental Programs



- **Organization:** Lagos State Malaria Control Programme
- **Location:** Lagos, Nigeria
- **Annual Budget:** ~\$50,000–\$100,000 for local malaria prevention initiatives
- **Mission:** Reduce malaria prevalence through community engagement and health infrastructure
- **Program Scope:** Works with households and community water sources to educate and distribute malaria prevention tools
- **Adoption Behavior:** Facilitates adoption in communities through education, trains local health workers, and ensures proper use of LarvaLyte
- **Challenges/Interests:** Needs solutions that are low-maintenance, safe, and compatible

Sample Consumer Profile - NGOs



- **Organization:** Malaria No More
- **Location:** Lagos, Nigeria
- **Annual Budget:** ~\$75,000–\$150,000 for local malaria prevention programs
- **Mission:** Reduce malaria through community outreach, education, and preventative interventions
- **Program Scope:** Support household and community-level prevention through distribution of solutions like larvicides and bed nets
- **Adoption Behavior:** Partners with local communities to implement prevention tools like LarvaLyte, trains volunteers, monitors adoption rates
- **Challenges/Interests:** Seeks affordable, safe, and easy-to-deploy solutions to maximize community impact

LarvaLyte's **primary market** consists of **governmental** and **NGO buyers** focused on malaria **prevention** and improving public **health** for residents, with field teams, program managers, and procurement leaders who have the authority and budget to implement **large-scale solutions**. In Lagos alone, approximately **2,000 NGOs** with malaria-focused initiatives represent a **\$6.4 million addressable market** at an average contract value of **\$3,200**. Lagos is a key region for deployment due to its high **population** density, malaria prevalence, and **widespread stagnant** water in households and public areas, making **LarvaLyte** especially relevant. These organizations **prioritize** safe, environmentally-friendly, and **low-maintenance** solutions that create measurable impact across communities. Because these buyers already introduce public health products, educate residents, and support prevention efforts, they represent the **ideal market** for LarvaLyte's **bulk-purchasing** and **subscription-based** refill model, directly supporting the channels in **Section VII** and revenue model in **Section VIII**.

Secondary Market

While LarvaLyte's primary consumers are governmental and nonprofit organizations, **our survey** of individuals in **malaria-prone countries** found that **80% were concerned** or very concerned about malaria affecting their family, presenting households as a **large secondary market**. These households are typically **middle-to-low** income families with **young children** who want safe, low-maintenance solutions to protect themselves from malaria. LarvaLyte's **solar-powered model** allows it to work in homes with or **without electricity**, making it practical for both **urban** and **rural** households. By serving both individual **consumers** and **large organizations**, LarvaLyte can **maximize** its **reach** and impact while supporting **widespread adoption**.

Sample Consumer Profile - Individuals



- **Age:** 34
- **Gender:** Female
- **Location:** Lagos, Nigeria
- **Income:** \$3,400 USD per year
- **Occupation:** School Teacher
- **Household:** Lives with her husband and two young children
- **Interests:** Family health, sustainable living, community well-being
- **Purchasing Behavior:** Wants to invest in household solutions for health, and prioritizes products that are safe for children and are environmentally friendly

V. Unique Value Proposition

Why LarvaLyte Is Unique

“LarvaLyte is the only fully automated, solar-powered larvicide system that stops malaria at the source before a single mosquito becomes an adult, delivering reliable protection in low-infrastructure communities.”

-Interview feedback from a Lagos small-business owner, 2026

Top 3 Unique Value Factors

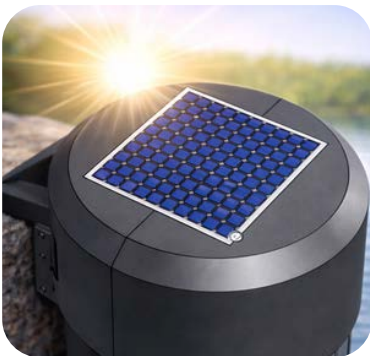
1 Source-Level Protection

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 targeting mosquitoes only after they are already able to **spread disease**. This means mosquitoes can still **continue transmission** even after treatment, making many current methods less dependable over time. Instead of reacting after mosquitoes emerge, LarvaLyte interrupts the **mosquito life cycle** earlier, reducing mosquito populations before they become a **threat** to households and communities. This gives customers a more consistent and **long-lasting** form of malaria prevention, making LarvaLyte especially **valuable** for those seeking stronger **protection** rather than temporary relief.



Automatic Operation 2

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, limited time, or inconsistent follow-through. Instead, LarvaLyte activates at **scheduled** intervals to treat stagnant water automatically, reducing the chance of missed prevention and making protection more reliable over time. This allows effective and **consistent treatment** without requiring daily attention, which is especially important in communities with limited time or **resources**. As a result, LarvaLyte provides customers with a more **dependable**, low-maintenance, and scalable malaria prevention option across **urban** and **rural** areas.



3 Environmentally Safe

LarvaLyte is unique because it delivers safe and **effective control**, targeting mosquito larvae without posing any risk to humans, animals, or drinking water. LarvaLyte's **natural** treatment prevents chemical buildup and environmental contamination, making it a **safer** alternative to conventional insecticide-based methods. Many **current** solutions on the market rely on harmful chemicals to **kill** mosquitoes, and while they may provide **short-term** relief, they can also create health and environmental concerns while becoming **less effective** over time due to resistance. This makes LarvaLyte especially **valuable** for buyers who want effective malaria prevention **without** the risks associated with **chemical** alternatives.



VI. Solution

Targeted Solution to the Root Cause

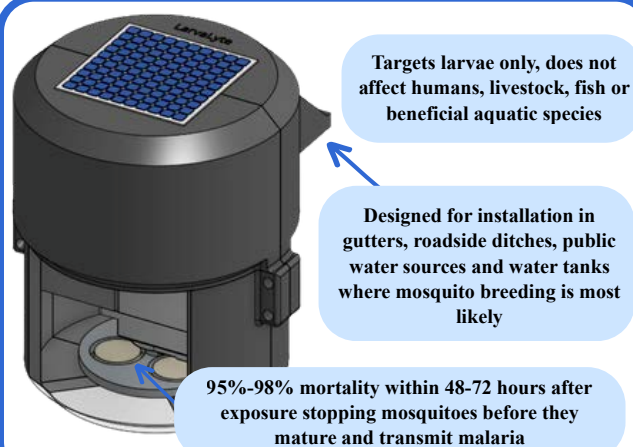


Figure 6A

All models were designed using Computer Aided Design (CAD) to represent the engineered structure and layout prior to physical prototyping.

LarvaLyte **addresses** the core **weakness** of conventional mosquito control by treating breeding water **before** mosquitoes **mature** and transmit malaria. Designed for **quick** installation by trained field teams in breeding sites, instead of reacting after adult mosquitoes emerge, the dispenser **deploys** tablets **directly** in public water sources. This makes LarvaLyte a **prevention-first** solution, not reactive. Through phased implementation Lagos, consistent larval control could realistically **reduce** malaria transmission by **20–30%** over just a few years.

Breeding Sites

Designed for placement in gutters, roadside ditches, and public water sources where mosquito **breeding** is **common**. Each tablet releases gradually to cover a **wider** water area, creating more **consistent larvicide exposure**. The three-month interval is supported by the **scheduled** tablet system and **controlled** water-exposure design.

Scalable Program

Because many mosquito-control methods in Nigeria are **difficult to scale**, coverage is often **inconsistent** and cases **rebound**. LarvaLyte can be integrated into existing government and NGO malaria programs, allowing broader **institutional expansion** across Lagos **without** proportional **increases** in **labor** or **cost**.

Environmentally Safe

LarvaLyte uses **Bacillus thuringiensis israelensis** (Bti), a World Health Organization (WHO)-approved biological larvicide that targets mosquito larvae only **without posing risk** to humans, livestock, fish, or beneficial aquatic species. This approach is **especially effective** in Nigeria, where **chemical spraying can be unsafe** in shared water environments and difficult to maintain consistently. As **awareness** of environmentally friendly mosquito control solutions remains **low**, LarvaLyte pairs its product design with **strategic** education and outreach through **Operation LARVA marketing**.

No Waste or Buildup

The **biodegradable** Bti capsules **dissolve** fully and break down **naturally** after deployment, preventing chemical buildup and making the system **suitable** for **long-term** use in **shared water** environments.

Low Energy Design

The dispenser runs on **low-energy** solar input, **eliminating** the need for fuel, batteries, or grid electricity and allowing operation in off-grid or low-infrastructure settings **without emissions or electrical waste** (Figure 6B).

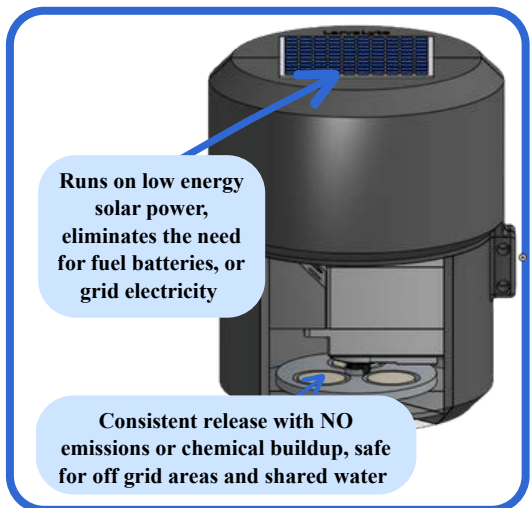


Figure 6B

Solar-Powered Automated Prevention

LarvaLyte is designed as a **solar-powered automated** prevention system, operating **without grid electricity** or repeated manual treatment. A built-in **timed release** exposes one capsule at **scheduled intervals**, improving prevention consistency and **reducing** missed treatment. This makes the system especially practical for **rural** and **underserved** communities with **limited** mosquito control or **access**. By reducing labor demands and improving consistency, it's a more practical **long-term prevention** model for **large-area deployment**. Because the system is fully **energy independent**, LarvaLyte can be deployed across shared community water sources **without** added **infrastructure** or **operating costs**. Easy refill and automated operation make the model more **practical** for community-scale and institutional use (Figure 6C).

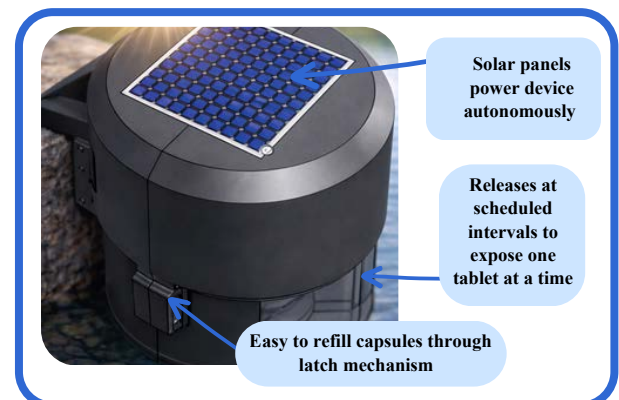


Figure 6C

VII. Channels

Analysis of Distribution Channel

Nigeria Malaria Prevention Market by Distribution Channel

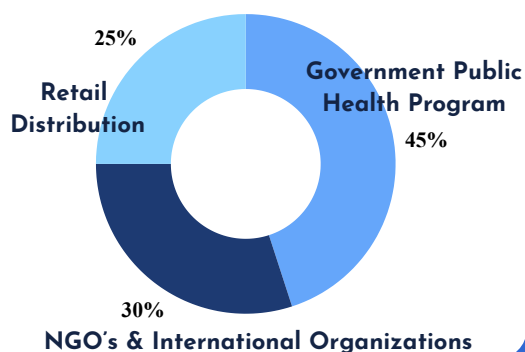


Figure 7A

Malaria prevention in Nigeria requires **large scale coordination**, repeated intervention, and community level access. Thus LarvaLyte's **channels** are designed around this **exact strategy**. Unlike traditional consumer products, LarvaLyte's **success** depends on reaching **shared water** sources and **high risk** environments **consistently**. Therefore this company will use a **three channel distribution strategy** to ensure that it directly aligns with how it plans to see through its revenue model.

Government Programs

LarvaLyte enters through **government agencies** first because public malaria programs **already fund** prevention at scale in high-risk urban areas.

NGOs

NGO partnerships support **early deployment** because these groups already **deliver trusted malaria interventions** in rural and **underserved** communities.

Retail

Mass **retail expansion** begins after **institutional trust** is established, making LarvaLyte **accessible to households** while creating recurring refill revenue.

Distribution Channels



Government Public Health Programs

The primary distribution pathway for LarvaLyte is through **Nigerian federal and state public-health agencies**, particularly the **National Malaria Elimination Programme (NMEP)** under the **Federal Ministry of Health** and **state sanitation authorities** such as the Lagos State Environmental Protection Agency (LASEPA). These agencies already oversee large-scale malaria prevention and vector control, making them the **most practical first-entry channel** for an **institutional prevention** product. LarvaLyte would be sold through **bulk** procurement contracts tied to public-health and vector-control programs, with dispensers installed in high-risk breeding areas such as drainage systems and public water sites. Because dispensers are a one-time installation while biodegradable Bti capsules require scheduled replacement, this channel also **supports recurring refill revenue** through follow-up procurement.

Pathway: LarvaLyte → public-health agency procurement → installation in breeding hotspots → recurring refill contracts



NGO's and Nonprofit Organization Partnerships

LarvaLyte is also distributed through **NGOs and nonprofit organizations** actively **involved** in malaria prevention and community health across Nigeria. Key partners could include organizations such as Malaria No More, Society for Family Health (SFH), Malaria Consortium Nigeria, and Catholic Relief Services (CRS), all of which **already implement donor-funded health programs in rural and underserved communities**. This channel is especially **valuable** where reliable electricity and repeated follow-up treatment are less consistent. NGOs would purchase LarvaLyte through **bulk community-health contracts** and deploy it through **rural outreach programs** and village-level interventions. This allows the product to reach household water-storage areas, community wells, poorly drained zones and other breeding hotspots that are **often missed by conventional** mosquito-control programs.

Pathway: LarvaLyte → NGO bulk purchase → community deployment → refill resupply



Retail Sales

LarvaLyte's retail channel is designed as an **expansion** pathway once **institutional deployment has established product trust** and public **visibility**. At that stage, the product can reach households directly through community pharmacies, household supply **shops** and sanitation **retailers** in urban areas, starting in Lagos. Potential examples include **pharmacies** such as HealthPlus, MedPlus, independent chemist shops, neighborhood stores, and hardware/household stores that already sell **water or sanitation-related products**. Under this model, the dispenser is sold as a **one-time household purchase**, while Bti refill capsules are restocked through the same retail outlets at regular intervals, creating a **long-term recurring revenue stream**.

Pathway: LarvaLyte → pharmacy/hardware sale → household purchase → refill restocking



Marketing Channels

Operation LARVA supports LarvaLyte's **customer segments** and **distribution strategy** by turning awareness into **institutional adoption, retail purchases, and recurring refill demand**. Its vision is to make LarvaLyte the **most trusted** prevention-first mosquito control solution in Nigeria by combining community education, institutional credibility, and long-term customer engagement.



Local Advertising

LarvaLyte installs **billboards** and **wall posters** along major commuter roads, markets, bus stops, and drainage corridors in Lagos where standing water is visible. These placements function as **location-based marketing**, ensuring the product is advertised exactly where malaria risk is most apparent. By visually linking a familiar gutter or drain to a LarvaLyte installation, the ads immediately **communicate relevance** and **problem-solution fit**, increasing **recall** and prompting households to seek the product through **retail** or community channels. **Billboard placements and sanitation-linked outreach are projected to reach 15,000+ monthly impressions and 500+ QR interactions.**



Awareness and Education

LarvaLyte runs **radio segments** in Pidgin and English during peak listening hours and reinforces these messages through **trade shows, clinics, and NGO-led education outreach** events. We use **education-based** marketing to explain how mosquitoes breed in standing water and why source-level prevention is more effective than treatment after infection. Trade shows and outreach events allow for **live demonstrations** and **direct engagement**. **Community events are projected to reach 500+ households per quarter, while trade shows and health presentations will reach 1,500+ attendees annually with 25+ follow-up meetings**



Retail Packaging

LarvaLyte's packaging is designed for **point-of-sale marketing** in pharmacies and neighborhood shops where purchase decisions are made **quickly**. Clear icons show installation, refill timing, and protection duration, while visual comparisons demonstrate how one dispenser replaces repeated chemical spraying. This packaging converts **awareness** into **purchase** by communicating **value, ease of use, and long-term effectiveness** directly at the shelf. **Packaging is designed to support a 20–25% stronger shelf conversion goal and 80% customer comprehension.**



Value Communication

This focuses on targeted **email outreach** to NGOs and government public health agencies using verified contact lists and procurement channels. These campaigns clearly **communicate** LarvaLyte's measurable **impact**. Email outreach allows LarvaLyte to **share** concise **impact data, pilot results, and cost-effectiveness** metrics in a format that is easy to review and forward within organizations. This channel supports **formal** follow-ups, proposal requests, and meeting scheduling. It helps government and NGO partners **evaluate LarvaLyte** as a scalable prevention solution, **targeting 18+ procurement meetings, 10+ proposals, and 3–5 pilot agreements support institutional adoption.**



Active Social Media

LarvaLyte uses WhatsApp community groups, Instagram Reels, Facebook posts, and YouTube to share **real footage** of installations, refills, and mosquito reduction over time. This functions as **social proof marketing**, allowing communities to **see the product working** in environments similar to their own. Peer sharing through WhatsApp and local pages reinforces trust, sustains engagement, and drives repeat refill purchases. Hashtags like **#LarvaLyteOut** boosts views and encourages **more engagement** with the company by acting as a catchy, action-driven message. It targets **posting 2–3 times weekly across Instagram, Facebook, LinkedIn, and WhatsApp, LarvaLyte targets 800K impressions, 75K–120K video views, 8K–12K profile visits, and 300–500 inbound inquiries in Year 1.**



These marketing channels were **chosen over** broader traditional advertising because LarvaLyte is a **public-health product** that depends on **trust, education, and procurement-based adoption rather than impulse** buying. Local advertising targets high-risk areas, awareness campaigns explain source-level prevention, retail packaging drives point-of-sale conversion, value communication supports procurement decisions and social media expands low-cost reach and credibility. Together, these channels match how LarvaLyte is actually **discovered, evaluated, and adopted** across **institutional and household markets.**

VIII. Revenue Streams

Revenue Models

Through **3 distinct distribution** channels, LarvaLyte generates revenue through **bulk institutional** sales and **recurring refill** demand, allowing the model to create **large upfront** sales and long-term customer value (Figure 8A).

Governmental Programs

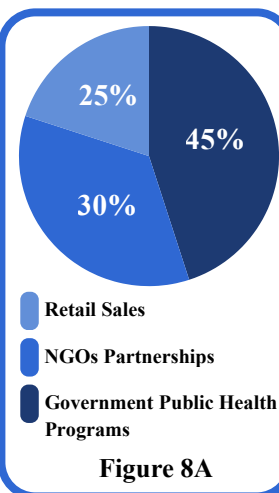
LarvaLyte's **primary revenue** stream comes from **bulk** contracts with Nigerian federal and state public health agencies that already spend over **\$1 billion** on malaria prevention. Instead of relying on **harmful** chemical alternatives, these programs can **redirect spending** toward LarvaLyte, a **natural**, source-level **solution** for large-scale deployment in gutters, tanks, and communal water sources across Lagos.

NGO Partnerships

LarvaLyte's **second revenue** stream comes from **partnerships** with NGOs in Nigeria funded through **grants** and **aid** programs. These organizations can **distribute** LarvaLyte to **high-risk** rural and urban communities, while **bulk pricing** discounts encourage high-volume purchases and broader **access**.

Retail Sales

LarvaLyte's **third revenue** stream comes from **retail** sales to **households** in Lagos through pharmacies, clinics, local vendors, and community **health centers**. A low **upfront cost** and **subscription refill** option make LarvaLyte **affordable** while creating a **recurring** revenue stream beyond institutional **programs**.



Standard Pricing

Dispenser



\$23

One-time purchase

Generates both fixed and recurring revenue

Refill Pack



\$3

per pack

Estimated 4 packs/year

Bulk Pricing

20%

Discounts for NGOs, non-profits, and government organizations who purchase more than 500 units

Dispenser: \$18.40

Refill Pack: \$2.40

- Encourages **large-scale** deployment and **widespread** installation
- Ensures **affordability** while creating **lasting** impact on malaria-prone communities

Unit Cost Assumption:

Each dispenser costs **\$8.50 to produce** and **sells for \$23**, while each refill capsule pack costs **\$0.50 to produce** and **sells for \$3**.

Lifetime Values

Primary Consumers (Organizations & Programs)

S	Avg. Value of Sales	\$3,200
T	# of Transactions	4
R	Retention Time (Yrs)	10 yrs
Lifetime Value	$LTV = S \times T \times R$	\$128,000
PM	Profit Margin	63%
Customer Lifetime Value	$CLV = LTV \times PM$	\$80,640

Figure 8B

LarvaLyte's estimated **lifetime value** per government or NGO customer is **\$128,000** (Figure 8B), reflecting strong long-term revenue from large-scale malaria prevention programs. This is based on a **\$3,200 average sale** from **20% discounted 500-unit orders**, with 4 transactions per year over a **10-year** retention period. The refill model creates recurring **long-term** value while maintaining **affordability** for public health agencies. With a **63% profit margin** from LarvaLyte's detailed financials, the estimated customer lifetime value is **\$80,640**, and each institutional customer can represent **thousands** of households through large-scale **deployment**.

Secondary Consumers (Individuals & Households)

S	Avg. Value of Sales	\$8
T	# of Transactions	4
R	Retention Time (Yrs)	10 yrs
Lifetime Value	$LTV = S \times T \times R$	\$320
PM	Profit Margin	63%
Customer Lifetime Value	$CLV = LTV \times PM$	\$201.60

Figure 8C

LarvaLyte's estimated **lifetime value** per household or individual customer is **\$320** (Figure 8C), reflecting **affordable** household malaria prevention and long-term **recurring** revenue. This is based on an **\$8 average** transaction, **4 yearly** transactions created by **3-month** refills, and a **10-year** retention period. The **lower-cost** model makes adoption more **accessible** while refill purchases create strong recurring **long-term** value for homes. With a **63% profit margin** from LarvaLyte's detailed financials, the estimated customer lifetime value is **\$201.60**.

IX. Cost Structure

Customer Acquisition Cost

LarvaLyte will invest **\$14,845** in Year 1 marketing to acquire **3,224** customers during its launch in Nigeria. Customer acquisition cost is **calculated** by dividing total annual marketing expenses by the number of customers acquired, resulting in an average CAC of **\$4.60**. Trade fairs (\$8,000) and billboards (\$3,000) are among the **most expensive channels**, but they are **critical** for building institutional credibility and increasing public visibility in high-risk areas

Marketing Activity	2026 - Year 1		2027	2028
	Cost Per Unit	Units Per Year	Year 2	Year 3
Email Marketing	\$0.05	2000	\$100	\$48
Instagram Promotions	\$0.20	400	\$80	\$96
Facebook Ads	\$0.15	600	\$90	\$115
Newspaper/Magazine Ads	\$40.00	10	\$590	\$864
Radio Ads	\$25.00	25	\$640	\$663
Physical/Print Ads	\$2.50	600	\$1,500	\$2,881
Billboards	\$1,500	2	\$3,000	\$8,643
Trade Fairs	\$2,000	4	\$8,000	\$3,842
Education Outreach Event	\$150	7	\$1,050	\$288
Total Marketing Cost			\$14,845	\$17,440
Customers Acquired			3,224	9,656
Customer Acquisition Cost			\$4.60	\$1.81

Figure 9A

Unit Economics

A healthy CAC:LTV ratio is **3:1 or higher**, meaning each customer generates at least **three times** their acquisition cost. For government and NGO customers, LarvaLyte's CLV is \$80,640, while CAC is only a small fraction, **resulting in a ratio well above 3:1**. For household customers, CLV is \$201.60 and CAC drops to \$1.81 by Year 3, resulting in a ratio **well above 3:1**. This reflects earlier **customer segment patterns**, where government and NGO buyers drive larger contracts and households create long-term repeat demand.

Market Strategy Shift

During the first year, CAC costs are focused on **government and NGO channels** such as trade fairs, email outreach and educational events to establish **credibility** because **institutional trust** must be established before large scale deployment. By **2027**, marketing efforts to shift toward **household-focused channels** including physical ads, billboards and digital promotions to **drive adoption**. This **aligns** with CAC benchmarks for **public health products** in Sub-Saharan Africa, where institutional marketing through trade shows typically ranges from **\$3–\$8** per customer acquired. This shift lowers CAC over time and demonstrates strong product market **fit** and a **scalable** marketing strategy as LarvaLyte acquires more customers while spending **less**. It **matches** with our **rollout** across **institutional and household markets**.

Distribution Costs

LarvaLyte's distribution model **prioritizes** efficiency, flexibility, and low fixed overhead during early expansion. LarvaLyte's Year 1 distribution model is built to keep **fixed overhead low** while still supporting delivery across government, NGO, and household channels in Lagos. Instead of maintaining its own fleet or warehouse, LarvaLyte would rely on **outsourced logistics** and shared storage, such as **DHL Supply Chain**, which offers warehousing, transport, and packaging services for business customers. They would support the **transportation** of LarvaLyte dispensers and refill capsules to **government agencies, NGO programs, pharmacies, and household supply retailers**, reducing the need for upfront investment in fleet ownership and delivery management. DHL would also help with order fulfillment, including storage coordination, packing, shipping, and distribution system management, allowing LarvaLyte to adjust operations more **easily** as demand changes across institutional and household channels. This keeps Year 1 distribution costs limited to **\$44,000**, including **transportation, warehousing, and packaging**.

Transportation

LarvaLyte uses **outsourced** short-haul truck rentals and **contracted** delivery services to **reduce** fixed overhead and avoid the cost of fleet ownership.

Monthly: \$450

Annual: \$5,400

Warehousing

Shared warehouse space near Lagos distribution corridors **lowers** storage expenses and supports **efficient** batch turnover without temperature-control requirements.

Annual storage & handling: \$1,800

Packaging and Labeling

Bulk Orders: \$0.50 per unit

24 orders × 500 units = 48,000 units sold

Total Cost: \$24,000

Retail (Household): \$1.00 per unit

12,800 units sold

Total Cost: \$12,800

Total Annual Cost: \$36,800

Distribution Expenses for Year 1	Annual Cost
Haul-Truck Rentals/Delivery	\$5,400.00
Shared Warehouse	\$1,800.00
Packaging and Labeling	\$36,800.00
Total Cost	\$44,000.00

Figure 9B

Organized Cost Structure

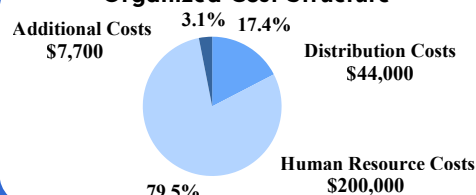


Figure 9C

Human Resource Costs

LarvaLyte has created an **impact-focused human resources structure** for its initial operations, designed to support **large-scale** prevention of malaria while **minimizing operational costs**.

\$200,000
total annual payroll

Corporate Hierarchy and Salary

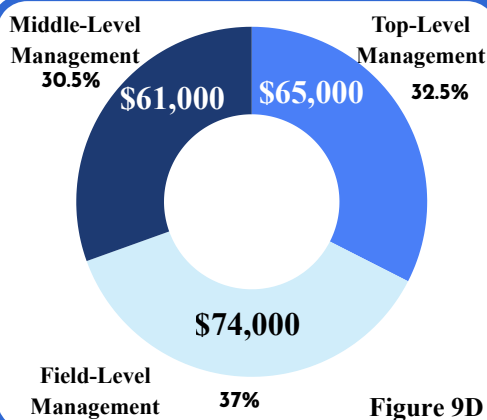
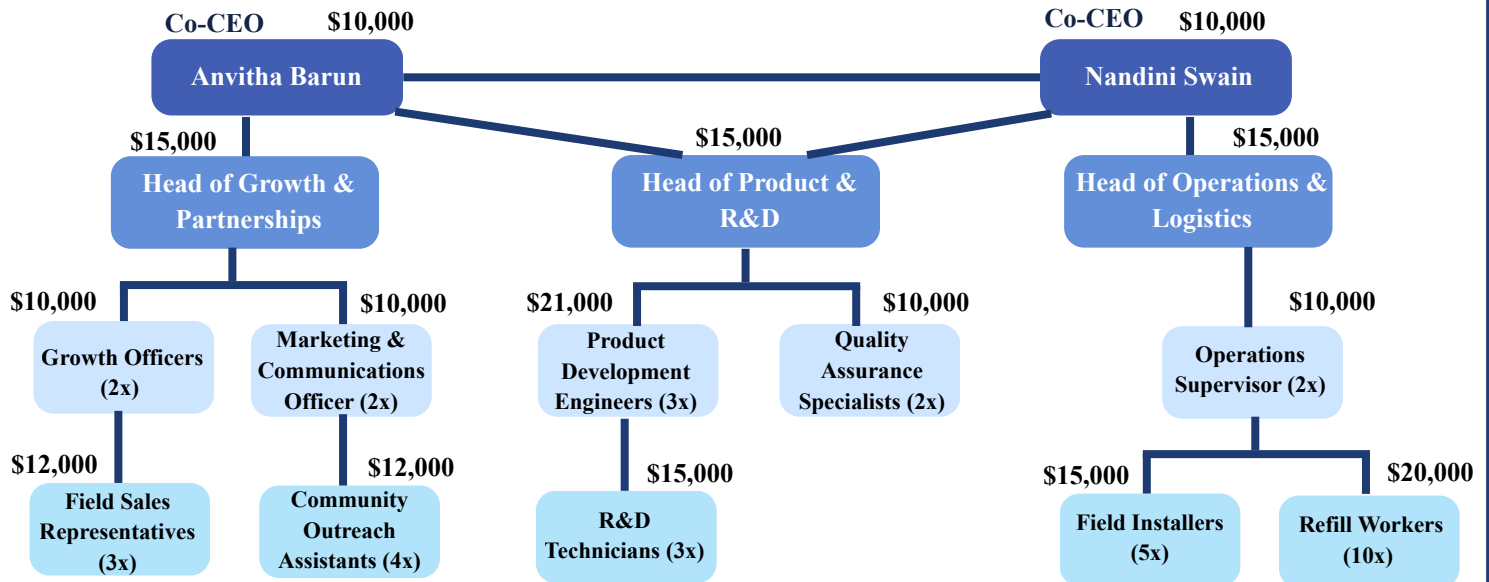


Figure 9D

LarvaLyte's **total annual payroll** is approximately **\$200,000** and is distributed across **three main levels** of workers: **top-level** leadership, **middle-level** management, and **field-level** staff. Top-level payroll accounts for **\$65,000** annually and includes both **Co-CEOs**, **Anvitha Barun** and **Nandini Swain**, along with the department heads responsible for **growth** and partnerships, product and R&D, and operations and logistics. Both Co-CEOs will begin with **\$10,000** per year as a starting salary to **reduce costs** during LarvaLyte's early deployment, with **compensation** increasing as operations in Nigeria **scale** and stabilize. Middle-level management represents approximately **\$61,000** of annual payroll and plays a **critical** role in overseeing **partnership** execution, logistics, and **quality** control. Field-level staff account for approximately **\$74,000** and are essential to LarvaLyte's **community-based** model, interacting directly with households, installing dispensers, supporting refills, and driving **outreach** in affected **communities**.

LarvaLyte offers wages that are competitive within the **Nigerian labor market** and align with **local economic** conditions, while **prioritizing job creation** in communities affected by malaria (**Figure 9D**). This structure represents LarvaLyte's **minimum viable Year 1** team for launching in Lagos, with core leadership, product, and operations roles remaining **fixed**, while field installation, refill, sales, and outreach roles **scale** as **adoption** grows in **Years 2 and 3**. The company also includes employee benefits such as **National Health Insurance Authority-approved** health insurance, paid sick leave, transportation allowances, performance bonuses, and field safety protections, all aligned with **local labor regulations**. These benefits are included in **salary costs** and, as LarvaLyte grows, will **expand** to include retirement and **enhanced healthcare**, reflecting its **commitment** to employee welfare and a **sustainable workforce**.

Additional Costs

These **additional costs** cover essential expenses that go beyond customer acquisition, distribution, and resource costs. They support **continued operations**, equipment maintenance, and legal compliance in Nigeria. **R&D testing** is important as it ensures LarvaLyte is **safe** and **effective** before public use, especially as it is used in a public health setting. **Operations and logistics** ensures products are **stored safely** and distributed on time. These costs also demonstrate LarvaLyte's commitment to **operational efficiency** and **workplace stability**, and are necessary for **legal operation** in Lagos and eventually **scaling** to other locations within Nigeria (**Figure 9E**).

Breakdown Expenses For Year 1	Cost
Office Rent	\$960
Utilities	\$360
Legal & Regulatory Fees	\$450
Insurance	\$240
Product R&D and Testing	\$2,900
Business Registration & Licensing	\$320
Operations & Field Logistics	\$2,470
Total Additional Costs	\$7,700

Figure 9E



X. Detailed Financials

A. Projected Income and Expenses

Annual Income Statement

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2026	2027	2028
Operating Revenue															
Government Programs	8,000	9,000	10,000	11,000	12,000	13,000	14,000	15,000	16,000	17,000	18,000	36,200	179,200	224,000	284,480
Nonprofit Organization Partnerships	6,000	7,000	8,000	9,000	10,000	10,500	11,000	11,500	12,000	13,000	14,000	16,000	128,000	160,000	203,200
Retail Sales	3,500	4,500	5,000	6,700	7,100	8,600	9,400	10,300	11,180	12,000	12,050	12,070	102,400	130,048	167,762
Total Operating Revenue	17,500	20,500	23,000	26,700	29,100	32,100	34,400	36,800	39,180	42,000	44,050	64,270	409,600	514,048	655,442
Cost of Goods Sold:															
Dispenser	9,500	9,700	10,100	10,300	10,500	10,700	10,900	11,100	11,300	11,500	11,700	11,900	129,200	142,120	163,438
Capsule Packet	1267	1,380	1,493	1,607	1,720	1,833	1,947	2,060	2,173	2,287	2,400	2,633	22,800	25,080	28,842
Total Cost of Goods Sold	10,767	11,080	11,593	11,907	12,220	12,533	12,847	13,160	13,473	13,787	14,100	14,533	152,000	167,200	192,280
Gross Profit															
Total Gross Profit	6,733	9,420	11,407	14,793	16,880	19,567	21,553	23,640	25,707	28,213	29,950	49,737	257,600	346,848	463,162
	38%	46%	50%	55%	58%	61%	63%	64%	66%	67%	68%	77%	63%	67%	71%
Operating Expenses															
Payroll, taxes, and benefits	16,674	16,666	16,666	16,666	16,666	16,666	16,666	16,666	16,666	16,666	16,666	16,666	200,000	210,000	220,500
Office Rent	80	80	80	80	80	80	80	80	80	80	80	80	960	989	1,018
Interest Expense	\$225.00	222.40	219.78	217.15	214.51	211.85	209.18	206.50	203.80	201.09	198.37	195.63	2,525.26	2,129.02	1,708.36
Insurance	20	20	20	20	20	20	20	20	20	20	20	20	240	247	255
Utilities	30	30	30	30	30	30	30	30	30	30	30	30	360	371	382
Marketing	700	700	700	900	1,500	1,600	1,700	1,700	1,500	1,400	1,300	1,145	14,845	15,854	17,440
Distribution	2,500	2,700	2,900	3,100	3,300	3,500	3,700	3,900	4,100	4,300	4,500	5,500	44,000	45,320	46,680
Product R&D and Testing	200	210	215	220	230	235	240	255	260	270	275	290	2,900	3,016	3,137
Operations & Field Logistics	155	170	185	190	195	200	205	210	220	235	245	260	2,470	2,544	2,620
Legal & Regulatory Fees	38	38	38	38	38	38	37	37	37	37	37	37	450	450	450
Business Registration & Licensing	320	-	-	-	-	-	-	-	-	-	-	-	320	320	320
Total Operating Expenses	20,942	20,836	21,054	21,461	22,274	22,581	22,887	23,105	23,117	23,239	23,351	24,224	269,070	281,240	294,509
Income/ Loss before tax	(14,209)	(11,416)	(9,647)	(6,668)	(5,394)	(3,014)	(1,334)	536	2,590	4,974	6,599	25,513	(11,470)	65,608	168,652
Tax Expense	(2,842)	(2,283)	(1,929)	(1,334)	(1,079)	(603)	(267)	107	518	995	1,320	5,103	(2,294)	13,122	33,730
Net Income [Loss]	\$ (11,367)	\$ (9,133)	\$ (7,717)	\$ (5,335)	\$ (4,315)	\$ (2,411)	\$ (1,067)	\$ 428	\$ 2,072	\$ 3,979	\$ 5,279	\$ 20,411	\$ (9,176)	\$ 52,486	\$ 134,922
	-65%	-45%	-34%	-20%	-15%	-8%	-3%	1%	5%	9%	12%	32%	-2%	10%	21%

Cash Flow Projections

	2026												2027	2028
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2027	2028
Beginning Cash Balance	\$ -	\$ 53,112	\$ 43,456	\$ 35,212	\$ 29,349	\$ 24,503	\$ 21,558	\$ 19,954	\$ 19,843	\$ 21,374	\$ 24,808	\$ 29,540	\$ 49,400	\$ 95,066
Cash Inflows:														
Owner Funds	20,000													
Loan Proceeds	45,000													
Sales	17,500	20,500	23,000	26,700	29,100	32,100	34,400	36,800	39,180	42,000	44,050	64,270	514,048	655,442
Total Cash Inflows	82,500	20,500	23,000	26,700	29,100	32,100	34,400	36,800	39,180	42,000	44,050	64,270	514,048	655,442
Available Cash Balance	82,500	73,612	66,456	61,912	58,449	56,603	55,958	56,754	59,023	63,374	68,858	93,810	563,448	750,508
Cash Outflows:														
Inventory Purchases	10,767	11,080	11,593	11,907	12,220	12,533	12,847	13,160	13,473	13,787	14,100	14,533	167,200	192,280
Payroll, taxes, and benefits	16,674	16,666	16,666	16,666	16,666	16,666	16,666	16,666	16,666	16,666	16,666	16,666	210,000	220,500
Office Rent	80	80	80	80	80	80	80	80	80	80	80	80	989	1,018
Insurance	20	20	20	20	20	20	20	20	20	20	20	20	247	255
Utilities	30	30	30	30	30	30	30	30	30	30	30	30	371	382
Marketing	700	700	700	900	1,500	1,600	1,700	1,700	1,500	1,400	1,300	1,145	15,854	17,440
Distribution	2,500	2,700	2,900	3,100	3,300	3,500	3,700	3,900	4,100	4,300	4,500	5,500	45,320	46,680
Product R&D and Testig	200	210	215	220	230	235	240	255	260	270	275	290	3,016	3,137
Operations & Field Logistics	155	170	185	190	195	200	205	210	220	235	245	260	2,544	2,620
Legal & Regulatory Fees	38	38	38	38	38	38	37	37	37	37	37	37	450	450
Business Registration & Licensing	320	-	-	-	-	-	-	-	-	-	-	-	320	320
Tax Expense	(2,842)	(2,283)	(1,929)	(1,334)	(1,079)	(603)	(267)	107	518	995	1,320	5,103	13,122	33,730
Subtotal	28,642	29,411	30,498	31,817	33,200	34,299	35,258	36,165	36,904	37,820	38,573	43,664	459,432	518,812
Other Cash Outflows:														
Loan Principal	520.78	523.38	526.00	528.63	531.27	533.93	536.60	539.28	541.98	544.69	547.41	550.15	6,820.34	7,241.00
Loan Interest	\$225.00	222.40	219.78	217.15	214.51	211.85	209.18	206.50	203.80	201.09	198.37	195.63	2,129.02	1,708.36
Subtotal	746	746	746	746	746	746	746	746	746	746	746	746	8,949	8,949
Total Cash Outflows	29,388	30,157	31,243	32,563	33,946	35,045	36,004	36,911	37,650	38,566	39,319	44,409	468,382	518,812
Ending Cash Balance	\$ 53,112	\$ 43,456	\$ 35,212	\$ 29,349	\$ 24,503	\$ 21,558	\$ 19,954	\$ 19,843	\$ 21,374	\$ 24,808	\$ 29,540	\$ 49,400	\$ 95,066	\$ 231,697



Three-Year Plan & Planned Growth Summary

Once LarvaLyte secures its **\$45,000** financing in addition to the **\$20,000 personal investment** from the founding team, it will have the **capital** needed to launch in Lagos and maintain **stability** through its first year. This funding will support LarvaLyte in reaching its projected first-year operating revenue of **\$409,600**, while preserving an ending cash balance of about **\$49,400 despite upfront launch and scale-up costs**. These investments will also help LarvaLyte acquire **3,224 customers**, establish early government and NGO partnerships, and build a strong foundation for continued expansion, with revenue projected to grow **25.5% in 2027 and 27.5% in 2028** as the company moves toward long-term **profitability** and broader **public-health impact**.

Year 1: Pilot Deployment

LarvaLyte will focus on **proving** product effectiveness, establishing **institutional credibility** and building its first **revenue base**. It will deploy dispensers in high-risk breeding areas across Lagos, track mosquito reduction, refill frequency and installation performance to **build trust** through government and NGO partnerships and health **trade shows**. Revenue is projected to come **75%** from government and NGO procurement and **25%** from retail sales, with limited household purchases helping **test early retail demand**.

Year 2: Scale

LarvaLyte will focus on **expanding distribution** across Lagos, **reducing** unit costs, and **strengthening** customer acquisition by entering **additional** districts based on Year 1 pilot results. We will secure **multi-year** government and NGO contracts, improving manufacturing **efficiency to lower unit costs by 20 to 25%**, and **growing** household sales through digital advertising, print outreach, and community education campaigns. Revenue is projected to come **65%** from government programs and NGOs and **35%** from household sales.

Year 3: Profitability

LarvaLyte will focus on strengthening **profitability**, **expanding** beyond Lagos, and scaling **long-term** impact by using pilot and procurement results to support **public-health bids** and **larger institutional agreements**. We will prepare expansion into other high-risk regions in Nigeria through **proven deployment systems**, increase **household sales** and refill demand through a **stronger retail** presence. Revenue is projected to come **60%** from government programs and NGOs and **40%** from household sales.

B. Proposed Plan To Meet Capital Needs.

Personal and Internal Sources

LarvaLyte's **personal** and **internal** resources include an **initial \$20,000 investment** from the **founding team** to support early-stage product development, manufacturing, and deployment. These funds are **allocated** toward dispenser **production**, capsule **formulation**, regulatory **compliance**, and partnerships with nonprofit and governmental **organizations**, with no interest or borrowing costs, making early market entry more manageable. LarvaLyte is projected to achieve **21% revenue growth** by 2028 (**Figure 10A**), and as sales **increase**, a portion of profits from dispenser and capsule pack sales will be **reinvested** into expanding manufacturing capacity, **improving** product durability, and supporting community education. This reinvestment supports **sustainable** growth, reduces **long-term** costs, and strengthens LarvaLyte's ability to **scale** its malaria prevention efforts.

Projected Revenue Growth

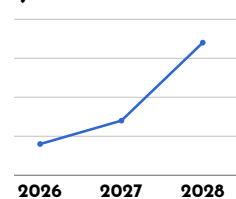


Figure 10A

External Sources

Public Health Grants

LarvaLyte will seek non-repayable public-health grants to fund monitoring. In Nigeria, this includes research and innovation grants from the **Tertiary Education Trust Fund** and health-sector intervention financing from the **Bank of Industry**, which support public health innovation but do not purchase units.

Development Finance

As LarvaLyte expands, it can access development finance through the **Nigeria Sovereign Investment Authority** and **African Development Bank** Nigeria programs, which provide growth **capital** for public-health systems rather than serving as direct customers.

Long-Term Borrowing

LarvaLyte's long-term borrowing includes a **\$45,000 loan** to support initial market entry and early scale-up. Additional support comes from **donors** such as the **Global Fund** and **USAID President's Malaria Initiative Nigeria**, which fund pilots but are not procurement buyers.

Plan to Repay Borrowed Funds

Repayment and Use of Funds

LarvaLyte will repay the loan over a **6-year term** through fixed monthly **principal** and **interest** payments of about \$746 per month. Loan proceeds are used mainly in early 2026 to cover **upfront** working capital needs, including inventory purchases, payroll, and distribution costs, while preserving a **working capital buffer**.

How Repayment Happens

The loan is repaid through **operating cash flow**, using **revenue** from government procurement, NGO partnerships, household dispenser sales, and **recurring refill purchases**. Government and NGO contracts provide the **initial** revenue base, while refill sales create **repeat income** that supports ongoing debt service.

Why It Is Realistic

Even after scheduled debt payments, LarvaLyte maintains **positive ending cash balances** in the projections, reaching about \$49,400 by the end of **2026**, \$95,066 in **2027**, and \$231,697 in **2028**. This shows that **repayment** is supported by **business revenue** while the company continues to scale.



XI. Key Metrics

LarvaLyte will consistently monitor **5 key activities** to evaluate the **effectiveness** and **performance** of the solution during **deployment in Lagos** and **expansion** to the rest of Nigeria. These metrics will allow us to **track efficiency** and **growth** and be able to make **data-driven decisions** to further **improve** performance of LarvaLyte.

Metric	Equation	Goal	Why It Matters	How To Achieve
Location Adoption Rate	$\frac{\text{Active LarvaLyte locations}}{\text{Target locations}}$	30% adoption in communities	Shows how widely LarvaLyte is being adopted across communities in Nigeria	- Government installations - Community health education - Local NGO partnerships
Mosquito Larvae Reduction Rate	$\frac{(\text{Baseline larvae count} - \text{Post-installation count})}{\text{Baseline count}}$	70% reduction in treated water sources	Measures LarvaLyte effectiveness in reducing mosquito populations	- Bti treatment - Automatic capsule release - Monitoring at treated sites
Recurring Refill Rate	$\frac{\text{Households purchasing refills}}{\text{Total installed households}}$	80% quarterly refill retention	Reflects continued use of LarvaLyte and indicates long-term sustainability as product expands	- Subscription options - Selling in local shops - Affordable refill pricing
Revenue Growth Rate	$\frac{(\text{Current Revenue} - \text{Previous Revenue})}{\text{Previous Revenue}}$	5-7% monthly growth	Helps determine whether LarvaLyte's expansion in Nigeria is financially sustainable	- Expansion of government contracts - Increasing bulk orders - Household sales
Customer Satisfaction Score	Average satisfaction survey score	85% satisfaction	Measures how well LarvaLyte meets community need and ensures strong user trust	- Household surveys - Rapid response for failures - Stable capsule availability - Discount programs

XII. Competitive Advantage

Difficult to Replicate

LarvaLyte's **competitive advantage** lies not only in what it does, but in **how difficult it would be for competitors to enter the market** and **replicate** it effectively. New entrants would face barriers in regulatory approval, product development, institutional trust, and proof of impact.

Barriers to Entry



Regulatory Barrier

LarvaLyte operates in a regulated public health space, which creates a significant barrier for new entrants. LarvaLyte also has **patented technology**, making its design more **difficult** for competitors to directly **replicate**. A competitor could not simply copy the product and begin selling it, because it would first **need to complete the approval and compliance process** required for mosquito control solutions in Nigeria. In many cases, NAFDAC approval can take **18 to 24 months**, which **slows imitation** and gives LarvaLyte time to **establish credibility**, secure institutional partnerships, and build distribution before similar products could legally enter the market at scale.

Proprietary Development



LarvaLyte's proprietary hardware requires **independent CAD development**, automated dispensing design, and durability testing for real drainage and water-storage conditions. A competitor would need to **recreate both the physical product and the technical performance** behind it, making replication **more costly** and **time intensive** than copying a standard spray or trap.

Institutional Relationships



LarvaLyte's deployment model depends on **trust-based relationships** with NGOs and public health stakeholders. A competitor would need to **build the same partnerships** required for large-scale deployment and community acceptance, making **replication more difficult** because those relationships take time, credibility, and sustained outreach to establish.

First-Mover Credibility



LarvaLyte's early survey **research**, market validation, and impact-focused positioning **create first-mover credibility that competitors would struggle to match**. A later entrant may imitate parts of the product, but it would still **lack the early proof of demand** and validated concept needed to **gain the same level of trust** from partners, funders, and public health agencies.

To further support these barriers to entry, LarvaLyte conducted a **70-response survey** across households and public health NGOs, including NGOs we **directly contacted in Nigeria**, to evaluate **demand** for an automated mosquito-prevention solution and **identify deployment priorities**. India was also used as a **proxy** household market due to similar mosquito-borne disease conditions. The survey played a **critical role** in **reducing uncertainty** around adoption and scaling, which is one of the **main** risks in public health technologies. Rather than assuming that existing malaria control challenges would automatically translate into demand, the survey allowed LarvaLyte to **test whether current solutions were meeting user needs** or leaving critical **gaps**. The results showed strong demand for solutions that are automated, easy to use, and environmentally safe, helping **validate LarvaLyte's design** and reduce uncertainty around adoption.

LarvaLyte Survey Questions and Results

1

Would you be willing to use a low-cost device that treats standing water automatically to prevent mosquito breeding?

2

How concerned are you about malaria affecting your family or community?

3

How important is it that a mosquito-prevention solution works automatically without requiring people to spray or clean regularly?

4

How important is it that a mosquito-prevention solution does not harm the environment?

94%

said automatic operation is important or very important



8 in 10



people are concerned or very concerned about malaria affecting their family or community



97%

said environmental safety is important or very important

	LarvaLyte	Raid Spray	Municipal Fogging	Vestergaard Net
Innovation				
Automated larvicide treatment	✓	✗	✗	✗
Prevents mosquitoes at larval stage	✓	✗	✗	✗
Long-term deployment	✓	✗	✗	✗
Ease of Use				
Requires no continuous manual effort	✓	✗	✗	✗
Low-maintenance refill-based system	✓	✗	✗	✗
Suitable for households and community sites	✓	✗	✗	✗
Environmental & Health Safety				
Does not contribute to insecticide resistance	✓	✗	✗	✗
Safe for use near people/pets/water sources	✓	✗	✗	✓
Scalability & Deployment				
Scalable through NGO/government programs	✓	✗	✓	✗
Dense urban and low-infrastructure areas	✓	✗	✗	✗
Cost-effective for large-scale	✓	✗	✗	✗
Monitoring & Impact Tracking				
Generates data for public health reporting	✓	✗	✗	✗

Figure 12A

Secondary market research was conducted to formulate a table of the **strengths** of LarvaLyte and what makes it **stand out** compared with its **main competitors**. The competitive comparison shows that **current solutions** in Nigeria address only **part** of the malaria **problem**, while LarvaLyte is **harder to copy** or replace because it combines multiple advantages in one system. **Raid** and **Baygon Nigeria** kill adult mosquitoes after they enter homes but require frequent reapplication and do not reduce breeding. **State Ministries of Health fogging programs temporarily** reduce adult mosquito populations but are **costly**, **labor-intensive**, and **ineffective** in stagnant water where mosquitoes reproduce. **Vestergaard PermaNet** protects against bites but does **not** stop breeding or reduce mosquito populations at the community level. In **contrast**, **LarvaLyte** combines automated release timing, larva-specific treatment, durable hardware for Nigerian drainage and water-storage conditions, and distribution through NGOs and government agencies (**Figure 12A**).

XIII. Conclusion

Request for Financing

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

Why the Loan Is Needed

While LarvaLyte is projected to end Year 1 with positive cash, the \$45,000 loan remains necessary to maintain a **minimum operational buffer** during early scale-up. Because government and NGO procurement cycles **often involve timing delays**, this financing ensures LarvaLyte can continue funding **without interrupting operations**. The loan will directly fund the most **capital-intensive launch costs** in Lagos, including manufacturing dispenser units and producing Bti refill capsules before contracts are fulfilled so **inventory is available and deployment is not delayed**. It will also cover **early payroll** for field technicians and operations staff and will support **transportation** to deployment sites and **servicing** in public spaces.

How the Loan Will Be Repaid

Repayment will come directly from LarvaLyte's operating cash flow, with the **\$45,000** loan repaid over **6 years** through fixed monthly payments of about \$746 funded by government and NGO contracts, household dispenser sales, and recurring refill purchases. This reduces reliance on future financing and creating stable monthly cash flow. By using **long-term borrowing** rather than equity, LarvaLyte preserves **ownership** and a more conservative capital structure. Proving the model in Lagos establishes a **blueprint for 40+ other high-burden malaria countries**, positioning LarvaLyte as a financially strong and globally **scalable** public-health venture.

Long-Term Impact and Scale

By expanding prevention-first deployment in Nigeria, LarvaLyte can **strengthen** manufacturing, distribution and community reach while potentially **reducing malaria cases by 20%** through more consistent source-level intervention. In the broader context, this **aligns with the World Health Organization's Global Technical Strategy for Malaria 2016–2030**, which calls for **major reductions in malaria incidence and mortality** through stronger prevention and country-level implementation.



Figure 13A

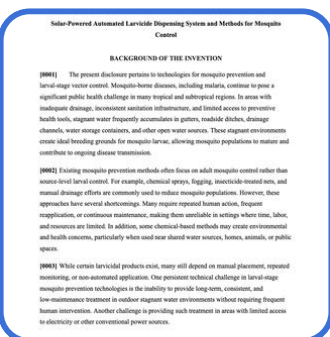


Figure 13B

With your investment, LarvaLyte has the potential to become not only a financially scalable venture, but also a transformative public-health solution capable of protecting millions of lives in one of the world's highest-burden malaria markets.

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