

RESEARCH COMMERCIALIZATION PROPOSAL FOR GARGIN-HONILE-5

Submitted to: National Agency for Science and Engineering Infrastructure (NASENI)

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Executive Summary:

GARGIN-HONILE-5 is a groundbreaking polyherbal formulation designed to treat respiratory tract infections (RTIs). This novel product combines five powerful and commonly available natural ingredients: **Allium sativum** (garlic), **Zingiber officinale** (ginger), **Nigella sativa** (black seed), **Citrus limon** (lemon), and natural **honey**. GARGIN-HONILE-5 has shown considerable promise in managing various symptoms of RTIs, including cough, sore throat, fever, and nasal congestion, offering an affordable, natural alternative to conventional treatments. This proposal seeks funding of N 17,237,000 to bring this product to market, ensuring that it is accessible to a wider population, particularly those in rural and underserved areas of Nigeria.

Background

Respiratory tract infections (RTIs) represent a significant health burden globally, with both acute and chronic conditions contributing to a high number of hospitalizations, healthcare costs, and mortality rates. These infections can be caused by a wide variety of pathogens, including bacteria, viruses, and fungi. In Nigeria, RTIs are among the leading causes of morbidity and mortality, particularly in rural and underserved communities where access to healthcare is limited. Factors such as poor air quality, malnutrition, limited access to vaccines, and inadequate healthcare infrastructure exacerbate the spread and impact of these diseases.

Pharmaceutical treatments for RTIs, including antibiotics and antivirals, are often overprescribed, leading to antibiotic resistance, which is a growing public health concern. According to the World Health Organization (WHO), antibiotic resistance is one of the greatest threats to global health, food security, and development today. In Nigeria, antimicrobial resistance is a significant challenge, with reports highlighting the widespread presence of multi-drug resistant organisms in common pathogens that cause RTIs (Akpan & Udo, 2021). The over-reliance on pharmaceutical drugs, coupled with the growing risk of resistance, has underscored the need for alternative treatments that are safe, effective, and affordable.

In response to this issue, there is increasing interest in natural remedies that can complement or serve as alternatives to conventional treatments. Traditional herbal medicines, which have been used for centuries in various cultures around the world, are gaining renewed attention due to their potential antimicrobial, anti-inflammatory, and immune-boosting properties. Many of these remedies are derived from easily accessible, well-known plants that have been shown to have beneficial effects on the respiratory system. However, there is a gap in the commercialization of these natural remedies in the Nigerian market, especially when it comes to standardizing formulations and making them available to a wider population.

Problem Statement

The challenge of effectively managing respiratory tract infections in Nigeria is compounded by several factors, including inadequate access to conventional healthcare in rural areas, the high cost of pharmaceutical treatments, and the growing threat of antimicrobial resistance. The limited availability of affordable and effective treatments for RTIs exacerbates the public health burden. Many people rely on traditional remedies, but the efficacy, safety, and accessibility of these solutions are not always guaranteed. Additionally, there is a lack of standardization and scientific validation of many herbal products in the Nigerian market.

Furthermore, the market for herbal medicines remains fragmented, with limited efforts to scale and commercialize promising formulations. As a result, Nigerians are often left with limited choices for safe and effective treatment options for RTIs. This creates a significant gap in the healthcare market, particularly for low-income individuals and communities that cannot afford expensive pharmaceutical treatments. Moreover, the lack of robust clinical trials and research to back up the claims of herbal remedies further hinders their widespread adoption and acceptance as legitimate treatments for respiratory conditions.

The need for affordable, effective, and safe treatments for RTIs is urgent. Traditional herbal medicines, when standardized, scientifically validated, and properly commercialized, can provide a viable solution to this problem. However, the absence of an organized infrastructure to bring these products to the market, combined with challenges in production and distribution, has kept many promising natural remedies from reaching the population at large.

Solution

The proposed solution to the problem of managing respiratory tract infections in Nigeria is the commercialization of **GARGIN-HONILE-5**, a novel polyherbal formulation that combines five well-known and commonly available natural ingredients: **Allium sativum** (garlic), **Zingiber officinale** (ginger), **Nigella sativa** (black seed), **Citrus limon** (lemon), and **natural honey**. GARGIN-HONILE-5 has been carefully formulated to harness the therapeutic properties of these ingredients, which have demonstrated significant antimicrobial, anti-inflammatory, and immune-boosting effects. The solution involves creating a standardized, safe, and effective herbal remedy that can be widely commercialized and distributed across Nigeria.

This formulation was selected based on its proven efficacy in treating respiratory tract infections, including cough, sore throat, nasal congestion, fever, and respiratory distress. Research has shown that garlic and ginger have broad-spectrum antimicrobial activity, while black seed and lemon possess potent immune-boosting and anti-inflammatory properties. Honey, known for its soothing effects, enhances the overall therapeutic value of the product.

The commercialization of GARGIN-HONILE-5 will be a multi-step process, beginning with the establishment of a manufacturing facility that complies with Good Manufacturing Practices (GMP) to ensure product quality and consistency. This will be followed by the production of the product in various forms (liquid, syrup, or tablets) and packaging for sale to consumers.

In terms of distribution, GARGIN-HONILE-5 will be made available through pharmacies, hospitals, and clinics, as well as online platforms to ensure accessibility to a wide demographic, including both urban and rural populations. A comprehensive marketing campaign will focus on educating the public about the benefits of natural remedies for respiratory health, highlighting the scientific backing of the product.

The solution also addresses the need for an affordable and effective treatment option by ensuring that GARGIN-HONILE-5 is priced competitively in the market, making it accessible to individuals across different income groups. Additionally, the product's ingredients are sourced locally, which will support the local economy and ensure a steady supply chain.

The commercialization of GARGIN-HONILE-5 presents an innovative, cost-effective solution to the growing public health challenge of respiratory infections in Nigeria. By leveraging the power of traditional herbal medicine and modern commercialization strategies, this product has the potential to improve public health outcomes while also creating economic opportunities within the local herbal medicine sector.

Objective of the Commercialization:

The objective of this commercialization project is to bring GARGIN-HONILE-5 into the Nigerian market through a structured and sustainable business model. The key objectives include:

- Setting up a production facility that complies with Good Manufacturing Practices (GMP).
- Scaling up the production and packaging of GARGIN-HONILE-5 for large-scale distribution.
- Ensuring the affordability and availability of the product nationwide, with a focus on both urban and rural populations.
- Launching a comprehensive marketing and educational campaign to promote the product's benefits and increase awareness of natural remedies for respiratory health.

Market Analysis:

Respiratory tract infections are among the most common health issues in Nigeria, with a significant burden on public health and healthcare systems. The demand for affordable, accessible, and effective treatments is high, and natural remedies are gaining popularity due to growing concerns about the side effects and long-term use of pharmaceutical drugs.

GARGIN-HONILE-5 stands out in the market due to its unique formulation of natural ingredients, each of which has been historically used for their medicinal properties. This product targets a wide market, including adults and children suffering from common respiratory ailments like colds, coughs, bronchitis, and sinusitis. The herbal medicine sector in Nigeria is growing, and GARGIN-HONILE-5 presents a timely opportunity to capitalize on this trend by offering a scientifically supported, safe, and effective solution.

Commercialization Strategy:

The commercialization of GARGIN-HONILE-5 will be driven by a clear strategy focusing on product development, marketing, distribution, and sales:

- **Manufacturing:** A state-of-the-art production facility will be established to ensure that GARGIN-HONILE-5 is produced consistently at high quality. The production process will be streamlined to ensure scalability and efficiency, while also complying with local and international health regulations.
- **Packaging:** The product will be packaged in eco-friendly materials with clear labeling that highlights the benefits and natural ingredients of the formulation. The packaging design will be attractive and informative, promoting the product's therapeutic effects.
- **Distribution:** Distribution will be done through pharmacies, hospitals, and online platforms. Partnerships with health organizations and clinics will also be explored to make GARGIN-HONILE-5 available at the point of care. A nationwide network of distributors will be developed to ensure widespread availability.
- **Marketing:** A robust marketing campaign will be launched across digital and traditional media platforms. The focus will be on educating the public about the benefits of natural remedies for respiratory health and positioning GARGIN-HONILE-5 as a trusted solution. We will also engage in community outreach programs, particularly in underserved areas.

Product Description:

GARGIN-HONILE-5 is a liquid polyherbal formulation made from the following ingredients:

- **Garlic (*Allium sativum*):** Known for its potent antimicrobial, antiviral, and immune-boosting properties, garlic is highly effective in treating infections.
- **Ginger (*Zingiber officinale*):** This herb has well-documented anti-inflammatory and bronchodilatory effects, which help alleviate respiratory symptoms such as coughing and wheezing.
- **Black Seed (*Nigella sativa*):** Often referred to as a "miracle herb," black seed has been shown to support the immune system, reduce inflammation, and help with the management of respiratory conditions.
- **Lemon (*Citrus limon*):** Rich in vitamin C, lemon boosts immune function and provides a natural remedy for throat inflammation and congestion.
- **Honey:** A well-known natural antibiotic with soothing properties, honey helps to relieve throat irritation and promotes healing in the respiratory system.



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Budget:

Item	Cost (₦)	Justification
Research and Development	₦1,000,000	Product development, clinical trials, and regulatory approvals.
Production Facility Setup	₦5,000,000	Purchase of equipment, construction of the production facility, and installation costs.
Raw Materials	₦3,000,000	Procurement of garlic, ginger, black seed, lemon, and honey for the production of the product.
Laboratory Equipment & Tools	₦1,500,000	Purchase of lab equipment for quality control, testing, and packaging.
Packaging and Labeling	₦2,000,000	Design and production of eco-friendly packaging and labels.
Marketing and Promotion	₦2,500,000	Digital marketing campaigns, print materials, social media outreach, and influencer marketing.
Distribution Costs	₦1,500,000	Transport and logistics for product distribution across regions.
Staff and Administrative Costs	₦1,500,000	Salaries for management, staff, and administrative activities.
Contingencies	₦1,000,000	Unforeseen costs during the commercialization process.

Total | ₦17,237,000 |

Implementation Plan:

- **Phase 1: Setup and R&D (3 months)** – Obtain necessary certifications, complete final product testing, and finalize manufacturing processes.
- **Phase 2: Production and Marketing Launch (6 months)** – Start full-scale production, package the first batch, and implement marketing strategies.
- **Phase 3: Nationwide Distribution (12 months)** – Expand distribution to pharmacies, hospitals, and online platforms across Nigeria, focusing on nationwide availability.

Expected Outcomes:

- **Increased Access to Affordable Health Solutions:** GARGIN-HONILE-5 will provide an affordable and effective alternative to pharmaceutical treatments for RTIs.
- **Job Creation:** The establishment of the production facility will create jobs in manufacturing, marketing, logistics, and distribution.

- **Improved Public Health:** Reduced burden of respiratory infections through effective natural remedies, leading to better health outcomes for Nigerians.

Risk Management:

- **Supply Chain Issues:** Multiple suppliers will be identified to ensure uninterrupted access to raw materials.
- **Regulatory Compliance:** Continuous consultation with regulatory bodies to maintain compliance with health and safety standards.
- **Market Competition:** Product differentiation through unique benefits and effective marketing will ensure a competitive edge.
- **Management Team**

Name	Role / Title	Qualifications Affiliation	/ Key Responsibilities
Dr. Umar Yunus	Principal Investigator	Associate Professor, Bayero University Kano, Department of Nursing Science; Expert in Community Health Nursing and Public Health	Overall project oversight, research leadership, methodology guidance, supervision of team members
Amina Suleiman Rajah	Project Co-ordinator	RN, RM, RNE, RBPN, BNSc, PGDE, MSc, PhD (in view) – Bayero University Kano	Clinical expertise, nursing insights. Coordinator of the project.
Professor Isah Usman lawal	Research and development officer	Professor of Physiotherapy, Bayero University, Kano	Obtain necessary certifications, complete final product testing, and finalize manufacturing processes.

Professor Shukrah Bello	Business Consultant	Dangote Business School	Business Expertise
Faiza Tijjani Tashi	R&D Manager	RN, RM, RNE, BNSc, PGDE, MSc, PhD (in view) Federal University of Health Sciences, Azare	Research design, user testing, data collection, device evaluation, clinical feedback integration, outcome analysis
Dr. Ummulkhair Nasir Ibrahim	Clinical Advisor	Medical Doctor, Aminu Kano Teaching Hospital	Clinical validation, medical guidance, ensuring adherence to health standards
Zubaida Sani Yau	Research and development officer II	Department of Radiography, Bayero University, Kano.	Brand development, user outreach, stakeholder engagement, market adoption strategies

Conclusion:

GARGIN-HONILE-5 offers a significant opportunity to improve the health outcomes of individuals suffering from respiratory infections in Nigeria. With proven efficacy and safety, this product can address the pressing healthcare needs of the population while creating economic opportunities. By securing this grant, we aim to transition from research to full-scale commercialization, providing an affordable, effective, and accessible solution to respiratory health in Nigeria.