



Flour Mills Of Nigeria

A LOOK INTO ALTERNATIVE FERTILIZERS

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Executive Summary

This report provides recommendations of a biofertilizer product development strategy for the golden fertilizer limited, a subsidiary of the Flour Mills Of Nigeria. Research findings outlines the problem with traditional synthetic fertilizers and analyzes where we stand as a company and the strategic fit of biofertilizers, a general product concept and a pricing and differentiation strategy are then developed. This is followed by an outline of how the fuzzy front-end methodology could be used to strengthen the product concept along with a corresponding fuzzy “back-end” manufacturing strategy, which is then followed by a discussion on quality control both in terms of product and employee performance.

The product concept will focus on increasing crop yield, crop resilience, enhancing sustainable agriculture and cost effectiveness through a results-based pricing strategy, various methodologies like risk assessment, raw material sourcing and production planning will then serve to reinforce innovation and manufacturing process. Standardized quality checks together with applied change management methodologies help to assure product and organizational functionality. The solution is however limited by financial, technical and operational constraints like personnel capability and production design quality.

Research Findings

Since our establishment in 1960, we have committed ourselves to being the leading food and agro-allied group in Africa by producing and supplying products of superior quality and value to the market. This involves the manufacture and distribution of agro-inputs, such as fertilizer. The recent strain on global supply chains and the increasing effects of climate change threaten to hamper output in our agro-inputs and distribution subsidiaries.

THE FERTILIZER PROBLEM

The price of fertilizer has been steadily increasing over the past few years, according to world bank data fertilizer prices increased by 80% in 2021 and are forecast to be higher still in to 2023(Swenson, 2022). The increase in price has been caused by a number of supply chain issues, affecting the three most widely used types of agricultural additives — nitrogen, phosphorus and potassium. Canada, the

top global producer of the world's potash, in March of 2022, saw workers with the Canadian Pacific Railway Ltd. vote to strike if their demands were not met(McGeeney, 2022), this had a substantial impact on potassium fertilizer supply for the 2022 growing season and the repercussions are expected to extend through 2023.

The bulk of the phosphorous used by farmers today is mined from a few sources of phosphate rock located in China, the US and Morocco(Mckie, 2023). China alone produces more than 40 percent of the total processed phosphates(McGeeney, 2022). In 2021, China banned the export of phosphate to protect supplies in the domestic market. Projections also show that phosphorous sources could run out in the next 50 to 100 years(Rosen, 2020). Recent estimates revealed that, China might only have a few decades left of supply while at the same time phosphate production in the United States has decreased by half since 1980(Rosen, 2021). The Haber Bosch process, invented in 1909 enabled us to produce ammonia by synthesizing nitrogen with hydrogen under high heat and pressure conditions.

The issue with nitrogen fertilizer production today is its dependence on natural gas. US natural gas prices saw a twofold increase between the summer of 2020 and the end of 2021(Smith, 2022), and have already doubled again since the start of 2022(Domm, 2022). The increase in natural gas prices across Europe has led to stalls in production for ammonia production. Increasing prices of coal in China have also forced fertilizer factories to cut production there.

As a result, export blockages have reduced nitrogen fertilizer supply. China, being one of the major exporters of the global urea supply, canceled all exports at the end of 2021. In 2021 Russia, which exports nearly 20 percent(Bourne, 2022) of the world's nitrogen fertilizers, imposed export quotas on nitrogen fertilizers to ensure domestic supplies and mitigate price escalations. Add to this the global supply shocks resulting from poor weather and the war in Ukraine, African farmers on average use the least amount of fertilizer per acre in the world(Gitau, 2022) and have some of the lowest yields in comparison(Nigatu and Hansen, 2022), especially for corn and other grains that constitute the majority of the continent's calories. This means that up to half the countries on the African continent depend on imported wheat depends on imported grains from Ukraine and Russia(Eziakonwa, 2022), despite having 60 percent of the world's arable land, with fourteen African countries getting in excess of half their wheat from the two nations. This impacts agricultural production and food security worldwide especially on the African continent where some countries are on the brink of a fourth season of crop failures caused by droughts(Paradis, 2022).

Another issue is the environmental concern around the production of nitrogen fertilizer, the process of ammonia production uses a substantial amount of energy, energy which comes from burning fossil fuels(Rudberg, 2022). Two-thirds of applied nitrogen and more than half of applied phosphorus is not used by crops, rain wash-offs trigger large-scale contaminations of water which create harmful algal blooms which decrease water oxygen levels and lead to dead zones where few aquatic animals can survive. Some of the world's biggest bodies of freshwater are now afflicted, including the Lake Victoria in Africa(Mckie, 2023).

WHERE WE ARE

The Golden Fertilizer Company(GFC) Limited as a subsidiary of Flour Mills of Nigeria is one of the foremost fertilizer blending, and distribution company in the country. The GFC currently offers a platform which provides a reliable and consistent supply of local raw materials for optimum utilization of the FMN group's processing capacity using explicitly defined Backward Integration Programs together with local procurement and aggregation efforts(Flour Mills Of Nigeria, 2022).

Through this value chain we ensure a closer relationship with farmers, providing them with agro-inputs such as seeds, fertilizers and storage solutions. Our product regime consists of a selection of NPK fertilizers targeted at Nigeria's re-emerging agricultural sector including the NPK 20-10-20 for grains and vegetables, the NPK 27-13-13 for maize, sorghum, millet, rice, cassava and yam, the Urea 46-0-0 for maize, upland rice, millet, cotton tomatoes, sugarcane and other special fertilizer blends. Our blending facilities in Lagos & Kaduna undertake a variety of NPK fertilizer production processes, all of which involve the use of fossil fuels(Flour Mills Of Nigeria, 2022). If not acted upon the volatile state of energy prices and increasing social scrutiny on climate degrading practices threaten the viability of our agro-input business.

ALTERNATIVE FERTILIZERS

Alternate fertilizers cover a spectrum of products and practices that provide nutrients to plants while reducing dependence on synthetic fertilizers derived from non-renewable resources. These alternatives place a higher priority on long-term sustainability, soil health, and environmental stewardship. They provide creative solutions to the problems that traditional fertilizers bring about, making them more and more popular with farmers, decision-makers, and consumers.

Examples in of popular alternative fertilizers include compost and green manure(Royal Horticultural Society, 2022).

By embracing alternate fertilizers, the company can align itself further with its commitment to sustainable, restorative and regenerative agricultural production, fostering greater food security in the country, mitigating environmental impacts, and safeguarding the well-being of our planet for future generations.

BIO-FERTILIZERS

Biofertilizers are microbial inoculants that aid in the growth of plants and maintain the sustainability of environment (Chakraborty and Akhtar, 2021), they consist of biologically active bacterial and fungal strains, which help to increase, conserve, and convert otherwise idle nutrients to a usable form. They help in increasing biodiversity by the addition of useful bacteria and fungi to the soil. Different microorganisms have demonstrated proficiency in the formulation of biofertilizers by providing the plants with the nutrients required to enhance growth and development, increase nutrient uptake and yield, prevent phytopathogenic attacks, increase plant tolerance to abiotic and biotic stress, improve soil fertility etc. The biodegradation of organic matter in the soil also helps in nutrient cycling which is beneficial for agricultural productivity (Bhardwaj et al. 2014; Ahmed et al. 2021; Fasusi et al. 2021; Jacob and Paranthaman, 2022). These processes also help to keep the soil environment rich in various kinds of micro and macro-nutrients. As a response to the global demand for sustainable food production, food safety, and green crop production technology, these biofertilizers' economical and environmentally friendly strategy has assumed paramount importance and is gaining popularity(Jacob and Paranthaman, 2022).

Biofertilizers can be classified into Nitrogen fixing bacteria – which help plants produce nucleic acids, vitamins, amino acids etc., (Saha et al. 2017; Fasusi et al. 2021; Jacob and Paranthaman, 2022), Phosphorus solubilizing and mobilizing bacteria – which protect plants from pathogens, Potassium solubilizing and mobilizing bacteria - which decompose silicates using organic acids which remove the metal ions and make it available to plants (Meena et al. 2014; Etesami et al. 2017; Nosheen et al. 2021; Jacob and Paranthaman, 2022), Sulphur oxidizing bacteria – which aid in plant growth and Zinc solubilizing bacteria which protect the plants by producing antifungal substances, antibiotics, phytochromes and vitamins (Goteti et al. 2013; Kamran et al. 2017; Dubey et al. 2020; Nosheen et al. 2021; Jacob and Paranthaman, 2022).

The global biofertilizer market has garnered momentum in the last few decades as a result of increased awareness of sustainable agriculture issues and better environmental management practices even though it makes up only a small portion of the global chemical fertilizer market. The global biofertilizer market between 2020 and 2025 is expected to reach 4 billion dollars, however, the relatively poor(or non-existent) reputation of biofertilizers still persists. As the sector is comparatively new, many growers and advisers lack knowledge(Altman, 2021). Despite these limitations research has shown that biofertilizers are very effective in increasing microbial biodiversity, enhancing soil fertility, helping plants to survive in various stress conditions and managing disease in plants (Ritika and Uptal, 2014).

THE STRATEGIC FIT

The company currently occupies market spaces through the Food(62% of net sales), Agro- Allied(21% of net sales), Sugar(14.1% of net sale) and Support service(2.9% of net sales) business divisions, offering a wide range of products including instant noodles, spaghetti, macaroni, layer mash, chick mash, grower mash, granulated brown sugar, white granulated sugar, carrier bags, open market bags and blown film. In 2022, the company reported strong financial results: a net-income growth of 44% in the fourth quarter, primarily fueled by the improving trend in price and the volume growth mix across our food, agro-allied and support segments carried over from the preceding year. Our profit before tax in the fourth quarter was N6.57bn and we made N16.42bn in the first nine months of 2022 down from N25bn in the previous year(Flour Mills Of Nigeria, 2021 and 2022).

Particularly for the Agro-input subsidiaries, our company has committed to continual backward integration to mitigate further reliance on imports and exposure to external volatility in the food business. The need to create value in the supply chain and reduce dependence on imported raw material is a strategic imperative that our company has been committed to achieving, however more could be done, by promoting the use of biofertilizers, the company can contribute to enhancing agricultural productivity. Biofertilizers in helping improve soil fertility, nutrient absorption, and crop yield also help to increase the production of key agricultural commodities, such as wheat, maize, or rice, which are essential for Business operations. Biofertilizers reduce reliance on synthetic chemical fertilizers, by promoting eco-friendly farming methods, the company can contribute to sustainable agricultural development in Nigeria.

Moreover, incorporating biofertilizers into our product portfolio can help differentiate the company from competitors. As consumers become more conscious of the environmental impact of agricultural practices, offering products that promote sustainable and organic farming can be a unique selling point. This also opens the gate for introducing value added services related to biofertilizers, this could involve providing education and training programs to farmers on the benefits and proper use of biofertilizers. The company can also establish partnerships with agricultural research institutions or companies specializing in biofertilizer production to ensure the availability and quality of these products. The integration of biofertilizer production and distribution into our supply chain could also help streamline operations and provide a more comprehensive solution for our customers.

Environmental sustainability	Reduce the negative effects of agricultural activities on the environment by encouraging the use of natural and organic materials and limiting the use of synthetic chemicals, which can lead to soil erosion, water pollution, and other environmental problems.
Soil health and fertility	Enhance soil health/ fertility by introducing beneficial microorganisms that promote nutrient availability and plant growth. Facilitate the restoration and maintenance of soil biodiversity, improve soil structure, and increase nutrient absorption by plants ensuring long-term productivity and sustainability of agricultural systems
Sustainable farming practices	Supporting the adoption of sustainable farming methods by incorporating biofertilizers into the agricultural value chain.
Market differentiation	Increasing regional customer demand for eco-friendly and sustainable products by including biofertilizers in our product line and gaining a competitive edge in the market.

Corporate social responsibility	Demonstrate our company's commitment to addressing environmental concerns, supporting sustainable agriculture, and contributing to the well-being of local communities.
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Summary Of Target Strategic Arenas

Product Concept

Our Biofertilizer product will be both a specialized and brand product, meaning it should be a product that consumers actively seek to purchase because of unique characteristics and/or loyalty to our specific positive brand connotation. Our Product will be introduced as a revolutionary biofertilizer designed to enhance plant growth and yield while promoting sustainable agriculture practices. This advanced biofertilizer harnesses the power of beneficial microorganisms and natural ingredients to provide a holistic and eco-friendly solution for farmers and gardeners alike.

Key Features:

1. **Microbial Powerhouse:** A diverse consortium of beneficial microbes, including either nitrogen-fixing bacteria, phosphate-solubilizing bacteria, or mycorrhizal fungi which work symbiotically with plant roots to improve nutrient uptake, enhance soil structure, and boost overall plant health.
2. **Nutrient-Rich Formulation:** The biofertilizer is enriched with essential nutrients, including organic matter, humic substances, and trace elements carefully selected to address specific soil deficiencies and ensure balanced nutrition for plants and which are vital for plant growth.
3. **Environmentally Friendly:** Promotes sustainable farming methods by reducing reliance on synthetic fertilizers and minimizing environmental impact. The biofertilizer enhances soil fertility, reduces nutrient leaching, and prevents the accumulation of harmful chemicals in the environment.
4. **Versatile Application:** This biofertilizer works for a wide range of crops, including vegetables, fruits, cereals, and ornamental plants. It can be applied through various methods such as seed treatment, soil incorporation, or foliar spray, making it convenient for different farming systems and gardening practices.

5. **Increased Crop Resilience:** By enhancing the plant's natural defense mechanisms, our fertilizer helps crops withstand biotic and abiotic stress factors such as pests, diseases, drought, and extreme temperatures. It strengthens the plant's immune system, leading to healthier, more resilient crops.
6. **Yield Enhancement:** Regular use of our Biofertilizer improves overall crop yield and quality. The biofertilizer enhances nutrient availability, stimulates root development, and optimizes plant physiology, resulting in increased productivity and improved market value for farmers.
7. **Cost-Effective Solution:** The Biofertilizer offers a cost-effective alternative to traditional fertilizers. Its long-lasting effects and reduced fertilizer requirements lowers the input costs for farmers, while its sustainable approach contributes to long-term soil health and productivity.

Pricing Strategy and Differentiation

A study by KPMG in 2016 on wheat-based consumer foods in Nigeria indicates that the Flour Mill of Nigeria, Olam, Dangote, Chorghoury and Honeywell — have been controlling 32%, 24%, 19%, 11% and 10% of the flour milling market share in the country, respectively, while all other small millers combined had 4%. The three largest players in Nigeria's flour milling market account for up to 75% of total revenues, according to the report. The report also indicates that we hold the greatest market size by capacity(32%) in the industry. In the agro-input division our major competitors Indorama Eleme Fertilizer & Chemicals Limited, Dangote Fertilizer Limited and Notore Chemical Industries Plc mainly offer a Urea based fertilizer product, Notore also offers NPK fertilizers but they make the most profit selling Urea fertilizer(Notore, 2019).

Research in 2021 by Okpiaifo Et Al on consumer preferences for sustainable rice(a staple food in the country) production practices, they assessed Nigerian consumers' perceptions of the SRP(Sustainable Rice Platform) sustainability indicators using the Best-Worst Scaling approach to rank SRP sustainability metrics according to their preference shares and examined the effects of demographic characteristics and rice purchasing habits on these shares. The results indicated that Nigerian consumers have a strong preference for sustainability indicators associated with food safety and health and safety, and that these preferences are robust across different households' demographic and consumption characteristics including consumer education, income, and markets.

Moreover, an article by Resilient Food Systems on how farmers in Nigeria improve productivity through sustainable farming methods outlines the stories of 3 different farmers across east-central Nigeria who received training from the United Nations Development Program (UNDP) and the Global Environment Facility (GEF), with support from the Federal Ministry of Agriculture and Rural Development (FMARD) on climate-smart agricultural practices, all three farmers indicated an uptrend in crop yield and soil fertility, this indicates a strong willingness amongst smallholder farmers to practice sustainable agriculture given they have the tools.

The price of Urea in Nigeria ranges from 8000 NGN to 10000 NGN per 50kg bag while for NPK fertilizer prices range from 6500 NGN to 10000 NGN per 50kg (AfricaFertilizer, 2020). The production costs of biofertilizer will of course depend on various factors including production scale, raw material sourcing, production process, labor costs, equipment and infrastructure investments, and quality control measures. We can price the fertilizer using a combination of penetration pricing and value-based pricing, meaning we set an initial lower price to gain market share and attract customers then as the product matures the price will be based on the perceived value our biofertilizer provides to farmers, taking into account increase in crop yields and overall profitability farmers can achieve with our product. This combined strategy allows us to prioritize farmer needs, quality of the product and product differentiation while also securing long-term income flows. Moreover, the strategy allows customers to better trust the solution before buying, due to the results-based approach.

Along with this we could also develop a soil testing service where we go out and test customer soil fertility before and after buying our product, this will not only reinforce our results based price approach but it will help to know the nutrient deficiency in order to recommend the right biofertilizer dosage, balance in fertilizer use will reduce the cost the farmer and improve yield, this would require investment in testing equipment, capable lab technicians and developing specialized test site facilities. This could also involve establishing mobile soil testing labs to provide soil testing for farmers in more remote parts of the country. At the same time, we could also offer training and workshops to educate farmers, gardeners, and agricultural professionals about the benefits and best practices of using biofertilizers. We would cover topics such as product application methods, dosage guidelines, timing for optimal results and hands-on training and demonstrations to ensure proper implementation. This would of course incur some employee costs, teaching facility costs, transportation costs in the case of personnel going out to reach customers in more remote areas.

Innovation and manufacturing Strategy

Our blending facilities in Lagos and Kaduna currently have a combined capacity of 450,000 Million Tonnes Per Annum(MTPA) coupled with a wide distribution network(Golden Agri Inputs, 2020), manufacturing biofertilizers does not necessarily mean creating new dedicated facilities, in the short term we can look to expand the capacities of our current facilities to incorporate the production of biofertilizers along with the current fertilizer shortage and in the long term as the biofertilizer product reaches the mainstream and starts to grow into maturity, we can look into creating dedicated facilities and/or discontinuing the NPK fertilizer production and shifting our focus and efforts to biofertilizers. However, the manufacturing strategy still has significant unknowns without a structure for innovation, up to this point the concept of the biofertilizer product has remained relatively broad and has no mention of the specific make up, manufacturing technologies or crop base(i.e., used for maize, rice etc.) of the biofertilizer.

A linear fuzzy front-end process should be undertaken in order to refine and expand the product concept till it is judged ready to enter the structured development process: -



8-Stage Fuzzy Front-End Process

Stage 1: Define relevant goals and objectives for the biofertilizer development process, including the target market, desired product characteristics, and potential benefits over existing biofertilizers.

Stage 2: Conduct brainstorming sessions involving a multidisciplinary team, including scientists, agronomists, and engineers, to generate a wide range of ideas for the biofertilizer. Innovative approaches should be developed which incorporate novel microbial strains, optimized nutrient ratios, and other beneficial components.

Stage 3: Evaluate the generated ideas based on criteria such as technical feasibility, market potential, environmental impact, scalability and cost-effectiveness prioritizing the most promising ideas and eliminating those that do not align with the project goals or have significant limitations.

Stage 4: Develop detailed concepts for the selected ideas, including the formulation, manufacturing process, and packaging considerations. Test the viability and efficacy of the chosen concepts in small-scale trials and preliminary laboratory studies. Consider potential partnerships or collaborations with research institutions, universities, or other experts in the field to gather additional expertise and resources.

Stage 5: Conduct a thorough market analysis to identify the target market segment, customer needs, and competitive landscape. Explore potential regulatory requirements or certifications needed for the biofertilizer to comply with industry standards and regulations.

Stage 6: Perform a preliminary cost analysis to estimate the production costs, including raw materials, manufacturing processes, packaging, and distribution. Analyze the biofertilizer product's potential return on investment (ROI) and financial viability, taking into account elements including production volume, cost, and market demand.

Stage 7: Identify potential risks and challenges related to the development, production, and market adoption of the biofertilizer and develop relevant contingency plans and risk mitigation strategies to address these challenges effectively.

Stage 8: Based on the evaluation of all the above factors, make a final decision regarding the feasibility and potential of the biofertilizer concept. Decide whether to proceed with further development, refine the concept, or revisit earlier stages of the fuzzy front-end process (consider the final product's congruence with the product concept outlined in this report).

Upon **successful** evaluation, the corresponding fuzzy back-end process:

Closing Phase 1: Evaluate the existing resources and capabilities of the flour mill and fertilizer blending facilities that can be leveraged for biofertilizer manufacturing. This includes the availability of raw materials, production facilities, equipment, and skilled labor.

Closing Phase 2: Identify the best manufacturing technology for producing the biofertilizer product considering factors such as production efficiency, scalability, quality control, and environmental impact. If necessary, explore partnerships or collaborations with technology providers.

Closing Phase 3: Develop the composition of the biofertilizer product, taking into consideration the specific nutrient needs of Nigerian crops and soil conditions. Work with agronomists and other experts in the field to optimize nutrient composition and bio-availability.

Closing Phase 4: Render a manufacturing process for the biofertilizer product. Outline the steps involved, required equipment, production capacity, and relevant quality control measures, optimizing the process for efficiency, cost-effectiveness, and consistent product quality.

Closing Phase 5: Identify reliable and sustainable sources of raw materials required for biofertilizer production. Consider factors such as cost, quality, availability, and environmental sustainability. Establish partnerships with suppliers or explore options for local sourcing to reduce costs and enhance supply chain efficiency.

Closing Phase 6: Render a production plan that optimizes the use of raw materials, equipment, and labor considering variables such as production volume, seasonal variations in demand, and inventory management. Implement production scheduling and capacity management techniques to meet market demand efficiently.

Closing Phase 7: Design appropriate packaging for the biofertilizer product considering factors such as product safety, ease of handling, and branding. Develop labeling that complies with regulatory guidelines and provides essential information to customers (consider the product concept outlined in this report).

Closing Phase 8: Develop a production-to-market strategy determining the optimal distribution channels, including direct sales, retailers, or partnerships with agricultural input suppliers. Also Consider logistics, storage, and transportation requirements to ensure timely delivery and minimize product deterioration.

Quality Control

The quality of biofertilizers can be verified through both viability of the recommended strain and the level of contamination (Maan and Garcha, 2021). Quality control checks should be performed throughout the production process ensuring that the product meets all the regulatory criteria before moving on to the next production step. Biofertilizer quality control involves adjusting factors such as medium composition, temperature, pH, moisture content, aeration, and agitation (Herrmann and Lesueur, 2013; Maan and Garcha, 2021). The company

already possesses a number of certifications on quality including ISO 9001, FSSC 22000 and SON-MANCAP(FMN, 2021), we can also accommodate other product development methodologies like applying the principles of Hazard Analysis and Critical Control Points(HACCP) to identify and control potential hazards in the production of biofertilizers, developing comprehensive Standard Operating Procedures(SOPs) for each stage of biofertilizer production, including raw material selection, formulation, fermentation, packaging, and storage, performing rigorous testing and validation of biofertilizer products at various stages, including raw materials, intermediate stages, and the final product, ensuring the final product meets all necessary standards, labeling requirements, and safety regulations to build trust and confidence among consumers and embracing a culture of continuous improvement by collecting feedback from customers, farmers, and stakeholders.

We also need to consider quality control in terms transitional performance of personnel, the expansion of our product line could mean moving resources from one section of the business to another, potential lay-offs, new production processes and hiring new production management personnel. Implementing change reinforcement tools and methodologies like clear communication of objectives, organizational sensitivity to any objections personnel may have, incentives for performance, offering training programs and celebrating and sharing employee success will be crucial in moving personnel across the change curveⁱ quicker.

Conclusions

Food safety and environmental degradation remain a major concern globally and especially on the African continent in particular, biofertilizers present an opportunity for our company to provide regional farmers with the tools and training that could enhance crop yield, reduce eutrophication, support sustainable farming practices and increase soil fertility.

The key takeaways from this report include:

- 1. Biofertilizer products should be centered around themes of environmental sustainability, cost effectiveness and soil health/fertility.**
- 2. A results-based value perspective should be taken in terms of product pricing, this could be done by launching services alongside biofertilizers like soil testing and training for proper application.**

3. Out of the box and creative thinking during product formulation should be followed by rigorous evaluation and put into actuality using appropriate technology, sustainable sources of raw materials, optimized production plans, clear distribution strategy, standardized quality checks and extensive employee performance management.

The implementation of this strategy is however limited due to the Lack of knowledge for regulatory acts and facilities for quality control of bio-fertilizers, lack of sufficient popularization of bio-fertilizers and low level of farmer acceptance due to lack of public awareness, equipment, laboratory, production, and storage space, financial constraints, technical personnel and quality of production units and effectiveness of regulatory and quality control specifications.

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ⁱ The Kubler-Ross change curve, Source: siobhaindanaher.com, The Art Of Positive Change(2019).

