**Research Report on Gari Processing Companies in Bono East Region**

**Introduction**

This report presents the findings from a research study conducted on various gari processing companies in the Bono East region of Ghana. The study aimed to identify and address the pain points experienced by these processors, particularly in relation to the starch from cassava.

**Gari Processing Factories /Companies**

1. Aworowa Gari Processors (Association Owned)

2. Akrofom Gari Factory 1 (Individual Owned)

3. Akrofom Gari Factory 2 (Association Owned)

4. Asuye Gari Factory (Community Owned)

5. Ayeasu Gari Factory (Individual Owned)

6. Atrensu Gari Factory (Individual Owned)

**Pain Points Identified**

1. Uncomfortable Working Conditions

- Issue: The starch produced during gari processing stings and creates an uncomfortable working environment in the factory.

- Impact: This discomfort can reduce worker productivity and increase health-related absenteeism.

2. Environmental Pollution

- Issue: The starch is being channeled into the Aworowa stream, leading to environmental pollution.

- Impact: This pollution affects the local ecosystem and can lead to long-term environmental damage.

3. Regulatory Challenges

- Issue: Town guards frequently disturb the processors for polluting the stream and inappropriate discharge of the starch.

- Impact: These disturbances can lead to fines, legal issues, and potential shutdowns, affecting the processors' operations and profitability.

4. Lack of Effective Research Solutions

- Issue: Many researchers visit the processors but do not address their specific pain points.

- Impact: This leads to frustration and a lack of trust in research initiatives, hindering potential improvements and innovations.

5. Need for Proper Starch Discharge Methods

- Issue: There is a need for a proper way to discharge the starch to prevent environmental pollution.

- Impact: Implementing effective discharge methods can reduce pollution and improve compliance with environmental regulations.

6. Need for Drying Machines

- Issue: The factories need an average of 5 drying machines to enhance work efficiency.

- Impact: Acquiring drying machines would increase productivity and reduce processing time.

7. Waste Disposal of Cassava Peels

- Issue: There is a need for government and NGO interventions in the proper waste disposal of cassava peels.

- Impact: Proper waste disposal methods would reduce environmental pollution and improve sustainability.

General Observations

- Processing Capacity: It was estimated that the factories process on average 15 trucks of Hyundai KIA every month, each estimated at 50 to 60 metric tons, resulting in an annual processing capacity of 600 to 720 metric tons.

- Starch Storage: Akrofom 1, Akrofom 2, and Aworowa factories have reservoirs for temporarily storing the starch before discharging it. In contrast, Ayeasu, Atrensu, and Asuye factories do not have such reservoirs.

**Smallholder Farmers and Gari Processing**

- Self-Processing: Approximately 70% of smallholder farmers process the cassava to gari themselves.

- Purchased Processing: About 30% of the cassava is bought from smallholder farmers by processors who then produce the gari.

**Engagement with Opinion Leaders**

- Subsidy on Grating Costs: Our engagement with the opinion leaders of the factories suggested that 30% of the cassava grating cost would be subsidized as the benefit the farmers would gain from the starch we source from their gari processing if we can buy the starch at GH¢500.00 at 50 to 60 metric tons every month. The bio data of the smallholder farmers and gari processors have been captured for such purposes.

**Recommendations**

1. Improving Working Conditions

- Solution: Implement ventilation systems and provide protective gear to reduce the discomfort caused by starch particles.

- Benefit: Enhanced worker comfort and productivity, leading to a more efficient processing environment.

2. Environmental Management

- Solution: Develop a starch recycling system to prevent discharge into the stream. This could involve converting waste starch into bio-products or using it in adhesive production.

- Benefit: Reduced environmental impact and compliance with local regulations, improving the processors' public image and sustainability.

3. Engaging with Regulatory Bodies

- Solution: Establish a dialogue with town guards and local authorities to create a mutually beneficial waste management plan.

- Benefit: Reduced disturbances and legal issues, allowing for smoother operations and better community relations.

4. Acquiring Drying Machines

- Solution: Seek government and NGO support to acquire drying machines.

- Benefit: Increased productivity and reduced processing time.

5. Proper Waste Disposal

- Solution: Implement proper waste disposal methods for cassava peels with the support of government and NGOs.

- Benefit: Reduced environmental pollution and improved sustainability.

**Relevant Research Paper**

- Title: "Financial performance and constraints in gari production in Kumasi, Ghana"

- Authors: Fred Nimoh

- Source: African Journal of Food, Agriculture, Nutrition and Development

Year: 2020

**Growth Rate of Gari Processing Industry (2022-2030)**

According to various sources, the gari processing industry in Ghana is expected to grow significantly due to increasing urban demand and export market potential. The sector's growth rate from 2022 to 2030 is projected to be around 5-6% annually.

**Market Research Learnings**

Assumptions about Using Cassava Starch to Produce Adhesives:

1. Cost-Effectiveness: Cassava starch adhesives are more cost-effective compared to synthetic adhesives due to the lower cost of raw materials.

2. Environmental Benefits: Cassava starch adhesives are biodegradable and environmentally friendly, reducing pollution and waste.

3. Health Safety: These adhesives do not emit harmful chemicals, making them safer for workers and consumers.

4. Local Availability: Cassava is abundantly available in Ghana, ensuring a steady supply of raw materials for adhesive production.

5. Market Demand: There is a growing demand for eco-friendly adhesives in various industries, including packaging and construction.

**Assumptions about Plywood Companies Using Cassava Starch Adhesives:**

1. Adhesive Strength: Cassava starch adhesives provide strong bonding properties suitable for plywood manufacturing.

2. Cost Savings: Plywood companies can reduce costs by using locally sourced cassava starch adhesives instead of imported synthetic adhesives.

3. Sustainability: Using cassava starch adhesives aligns with sustainability goals and corporate social responsibility initiatives.

4. Regulatory Compliance: These adhesives help companies comply with environmental regulations and standards.

5. Consumer Preference: There is an increasing consumer preference for products made with eco-friendly materials, boosting the market for plywood bonded with cassava starch adhesives.