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Title of Thesis:

"MITTCO, Trinidad and Tobago's Newest Steelpan Manufacturing Company and What Sets It Apart from Other Manufacturers".

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## **ABSTRACT**

This thesis explores the multifaceted landscape of the steelpan manufacturing industry, uncovering the personal narratives, challenges, achievements and future trajectories of key stakeholders within the sector. Through in- depth interviews and analysis, this thesis illuminates the diverse motivations that have led individuals to pursue careers in steelpan manufacturing, showcasing stories of passion, resilience and innovation. The challenges faced by the industry, such as sourcing quality materials locally are discussed along with innovative solutions and partnerships that have been developed to overcome these hurdles. This thesis also explores the importance of client care and collaboration initiatives in driving innovation and enhancing the industry's global presence. With an emphasis on MITTCO's role in shaping the steelpan manufacturing industry, this thesis provides a thorough overview of MITTCO as a leader in the industry, showcasing its journey, achievements, challenges and future aspirations.

**Keywords:** Steelpan Manufacturing, Steelpan, MITTCO,

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## **INTRODUCTION**

Steelpan manufacturing is a traditional craftsmanship which originated in Trinidad and Tobago. The art combines conventional artistry with modern techniques to produce instruments that are capable of producing a wide range of pitches and tones. The Steelpan, also known as the steel drum, or pan, is the only acoustic instrument invented in the 20<sup>th</sup> century (Taylor). The 55-gallon drum is the standard material for the production of steelpan. Pneumatic hammers or ball peens are used to sink the drums. Individual notes are then grooved into the playing surface, pre-tuned and finally it is burned which balances the metal's alloys that would have been disrupted during the manufacturing process. The steelpan has evolved from the ping pong and du-dup to a whole family of instruments fashioned after the western orchestra.

The Musical Instruments of Trinidad and Tobago, also widely known as MITTCO, is the most recent steelpan manufacturing company opened in Trinidad. Situated in Diamond Vale Business Park, Diego Martin, MITTCO's vision is to become the leading musical instrument manufacturer. Their goal is "to keep the authenticity of the steelpan manufacturing alive, here where it belongs, in its country of origin" (Leith). While numerous steelpan manufacturers exist, MITTCO stands out due to its commitment to steelpan manufacturing and setting a new standard in the steelpan industry.

## **RATIONALE**

The purpose of this thesis is to gather and compile information from various steelpan manufacturers and gain insight on the steelpan manufacturing industry from different perspectives. This work will explore the manufacturers vision for steelpan as an instrument, as well as highlight their successes and give an understanding as to how MITTCO has established their company so quickly and successfully in the steelpan industry. Discussing and reviewing their perspectives can shed light on how MITTCO's choices as a company has shown significant results and how they plan to move forward to eventually become the leading steelpan manufacturer in Trinidad and Tobago and by extension, the world.

**THESIS STATEMENT**

Title:

MITTCO, Trinidad and Tobago's Newest Steelpan Manufacturing Company and What Sets It Apart from Other Manufacturers.

Thesis Statement:

While numerous steelpan manufacturers exist, MITTCO stands out due to its commitment to steelpan manufacturing and setting a new standard in the steelpan industry.

## **PARAMETERS**

This research focuses on MITTCO and how they have distinguished themselves in the steelpan manufacturing industry despite having recently opened. Interviews with multiple persons and companies in that field were conducted to gather a viewpoint of those in the steelpan manufacturing industry as well as gaining insight on their company's vision in the steelpan industry. All interviews were conducted online due to the availability of persons to have a personal interviews or due to the distance of their workplace. The amount of interviews was also limited as a result of persons not being available or were unable to be contacted. This caused the focus group to be smaller which narrowed down the perspectives that could have been gained. Interviews were conducted via the ZOOM platform and Microsoft Teams platform and the perspectives of the persons interviewed are highlighted and referenced throughout this paper.

## **OBJECTIVES**

The objects of this study are to:

- Explore the successes of MITTCO
- Highlight other Steelpan Manufacturers
- Feature the perspectives of professions in the Steelpan Manufacturing Industry
- Share information that can benefit persons in the Steelpan Manufacturing Industry
- Highlight why steelpan manufacturing is important

## **METHODOLOGY**

For this Caribbean Studies Project, MITTCO, Trinidad and Tobago's Newest Steelpan Manufacturing Company and What Sets It Apart from Other Manufacturers, a qualitative research was the method chosen. I chose this method as I needed to gather participants' knowledge and experiences in the steelpan manufacturing industry as well as explore their perspectives in the industry. I interviewed experienced and well-known persons within the business: - Akua Leith, Terrence Shepperd, Mazzini Gill, Augustus Peters, Kyle Noel and Jimi Phillip and utilized their responses throughout this project. All interviews were recorded on a cell phone and lasted between thirty to forty minutes. For the interview questions, see the appendix.

## **CHAPTER OUTLINE**

This study consists of three chapters. Chapter one focuses on the manufacturing process of the steel pan and what tools or instruments are used within the construction of the instruments and briefly covers each step in the building stages. Chapter two will cover of some steelpan manufacturers and highlight their perspectives and experiences within the steel pan manufacturing industry. The third chapter will focus on MITTCO and their perspectives and goals within the steel pan manufacturing business.

## LITERATURE REVIEW

Steelpan manufacturing has a rich history of cultural heritage, technological innovation and craftsmanship. Having been the only new acoustic musical instrument invented in the 20<sup>th</sup> century. Drawing from seminal works in the field, this literature review will explore the multifaceted aspects of the steelpan manufacturing process.

The history of steelpan manufacturing is rooted in Trinidad and Tobago and can be traced back to the early 20<sup>th</sup> century where the people found creative ways to reuse discarded metal objects and turn them into musical instruments. Derek Gay's "Steel Drums to Steelpans" explores the historical evolution of the steelpan as instruments. The work covers the transformation of the discarded oil which were turned into musical instruments by the Afro-Trinidadian community. Gay documents the early experimentation of various drum sizes, tuning techniques and shapes while highlighting the brilliance of pioneers like Winston "Spree" Simon and Ellie Mannette in refining the steelpan.

Through cautious ethnographic work, Stephen Stuempfle's "The Steelband Movement: The Forging of a National Art in Trinidad and Tobago" offers an extensive analysis of the cultural significance of steelpan within the context of Trinidad and Tobago. Stuempfle dives into the economic, political and social factors that moulded the emergence of the steelband movement while emphasizing its background in the communities of post war Trinidad. Stuempfle annotates how steelpan has become a symbol of cultural pride, identity, and strength for Trinidadians which evolved into the national art form.

John Bartholomew book "The Steelband" dives into the technical areas of steelpan manufacturing while observing the tools, materials and processes involved. Bartholomew delves

into the complex craftsmanship needed to cut, shape, temper and tune steel drums into a tuned instrument that is able to produce a wide range of musical tones and pitches. The book also explores the technological innovations in the modernizing and standardizing the steelpan manufacturing process.

The steelpan industry has encountered noticeable growth and world-wide recognition but it also faces various difficulties in the 21<sup>st</sup> century. Derek Gar, Stephen Stuempfle and John Bartholomew have all touched on the economic pressures, environmental concerns and cultural commodification that affects the steelpan manufacturing. They discuss the need for efficient and sustainable practices, community engagement and educational initiatives to establish the strength and importance of the steelpan in the fast adapting world.

## **CHAPTER ONE**

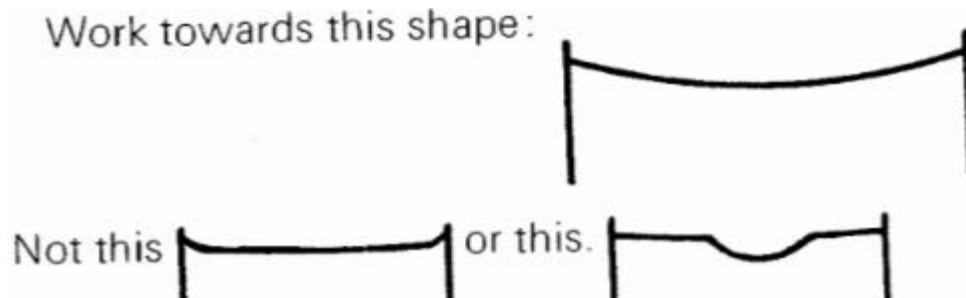
This chapter focuses on the manufacturing process of the steel pan. It briefly dives into each stage in building a steelpan and includes tools that may be used during this process.

To begin the building process, manufacturers have to select a drum which can be either new, recycled or made specifically for the production of steel pans. The standard drum used is the 55 gallon with the bottom of the drum being 1.2 millimetres (18 gauge) and the side either being 1.2 or 1.0 (20 gauge). The thickness of the metal is extremely important and the thicker drums are better suited for lower tuned instruments such as the cello, bass or guitar pans. Thick metal used for the tenor and other high pans such as the double tenor and double seconds, the smaller higher will be quite challenging to tune. “The thinner skirt will probably give the sound of the pan a better “ring” than the thicker one” (Kronman). The state of the drum is also highly important. Drums that have extensive rust and sharp dents are avoided.

### **1.1 SINKING AND MARKING**

Sinking the drum is the first step of steel pan building. The drum is sunken into a concave shape where the notes are later hammered up into convex dents. This sinking process can be broken into four steps, marking, lowering, shaping and smoothing. This is done so that the surface of the drum is enlarged to make space for the notes and so that the instrument has an applicable curvature for the notes of the various steel pans. To sink the drum a ball-peen is used to evenly stretch the surface from the centre toward the rims (see fig. 1). During the sinking process, the drum has to be opened so that the air can exist while hitting the surface. This can be done by either removing the whole top of the drum or removing the plug (see fig. 2). Any

irregularities are gently tapped out with a smaller hammer and until the drum is smooth to touch. The drum is then ready for the next stage of the process.



*Fig. 1. The general shape aimed for during the sinking process.*

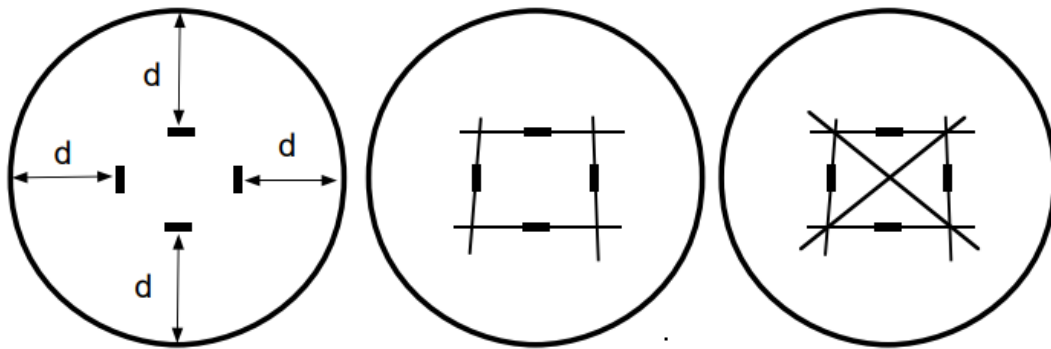
Source; Bartholomew, John. "The Steel Band", p. 29.



*Fig. 2. The removal of the plug to allow air out during the sinking.*

Source; Kronman, Ulf. "Steel Pan Tuning. A Handbook for Steel Pan making and Tuning". p. 17.

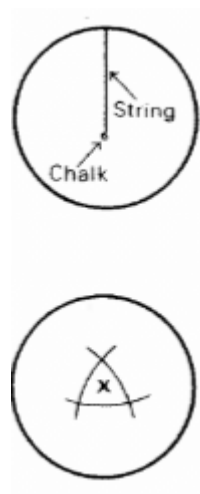
The builder often begins by tracing a pair of concentric circles on the surface to allow them to see the shape of the drum while it is being lowered. To draw the circles, the drum is marked with four equal lines from the distance from the rim. Two lines are drawn from the intersections of the four lines, followed by straight lines drawn through the markers (see fig. 3).



*Fig. 3. The marking process.*

Source; Kronman, Ulf. "Steel Pan Tuning. A Handbook for Steel Pan making and Tuning". p. 18.

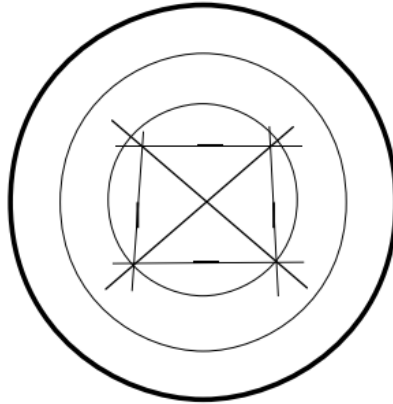
The intersected lines represent the centre of the drum. Measuring the distance, which equals the drum's radius (half of its diameter), is another way to determine its center. Using string and chalk, markings are made at the presumed centre from different parts of the rim.



*Fig. 4. Visual for the second method of marking.*

Source; Bartholomew, John. "The Steel Band", p. 30.

Using a compass, the two concentric circles are drawn. The radius of the first circle is drawn approximately  $\frac{1}{3}$  of the drum's radius and the second circle is approximately  $\frac{2}{3}$  of the entire drum radius. This is so that the drum can be divided into three equal sections (see fig. 5).



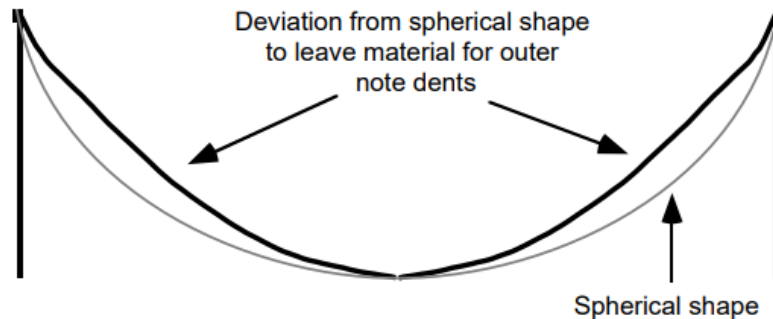
*Fig. 5. Division of the drum.*

Source; Kronman, Ulf. "Steel Pan Tuning. A Handbook for Steel Pan making and Tuning". p. 18.

## **1.2 LOWERING AND SHAPING**

A sledge hammer with a smooth, round head and a short grip is used to lower the drum. More recently, pan builders have been employing pneumatic hammers. It is vital that sledge hammer is smooth or else it will form indents that will create small cracks in the stretched metal. The first set of strokes are done in a circular motion near the outer circle or rim of the drum. After the first circular motions, strokes are placed closer toward the centre therefore working in a spiral like manner. During the process the drum needs to be standing on a flat, partly soft surface to keep it in a fixed position. Once the first set of spiral movements are complete, the process is repeated but closer to the rim and hitting softer while moving toward the centre. The drum is continuously worked in this pattern until the surface is shaped into a smooth bowl. Since the inner end of the outer notes will be placed here later in the procedure, the majority of the

lowering should be concentrated in the area between  $1/3$  and  $2/3$  of the drum's radius. After sinking the drum, there should have a lightly convex shape near the rim. This is where the outer notes are to be formed later. The shape should differ between the various pans; the longer and more convex, the larger the note will be (see fig.6).



*Fig. 6. Cross section of drum after sinking.*

Source; Kronman, Ulf. "Steel Pan Tuning. A Handbook for Steel Pan making and Tuning". p. 21.

The shaping stage of the sinking process involves adjusting the drum to its ultimate shape. The marked circles from the marking stage are mostly absent and need to be redrawn to continue the process. The drum is then adjusted by softly hitting the shape and smoothening the uneven surface. This is best done by using the same method described in the sinking process. Once the sinking depth is completed the surface should be smooth and shaped evenly.

### **1.3 MARKING THE NOTES AND BACKING**

Marking is the step where the bottom basin is separated into section that will later become the different notes. This is done by either coping measures for the notes using previously made pans or by using templates. This process begins by locating the centre of the bottom and marking the length of the outer notes along the rim. The lengths of the outer notes are measured with a straight ruler around the rim. Once the lines are marked around the lines, they are

lengthened towards the centre marking. The lines drawn toward the centre are marked where the radial groove is to stop. The inner boarder of the outer notes are indicated once all of their radical lines have been created. While manufacturing the layout of the drum, the welded side of the drum is placed toward the player and is done for aesthetic purposes.

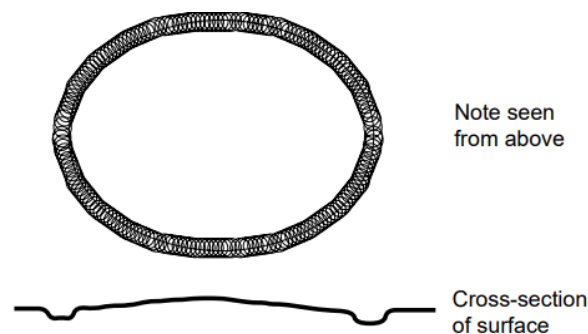
The layout for the inner notes begin by spreading out templates in their positions before the marking is done. The notes are placed as close to their octave counterparts as possible as this makes it easy to find the octave intervals and allowing the notes to vibrate together.

The process of giving the notes their convex shape is called backing. To do this, the intervals between the inner and outer notes are lowered, causing the note regions to curve outward and the drum's surface to remain concave. Presumably, the main goal of backing is to create note dents with a correct arch and internal tensions so that the grooving process will later preserve and to get the metal down between the note areas. The end result of this step should create smooth note dents that are "relaxed", or able to vibrate more freely than the surrounding areas.

#### **1.4 GROOVING AND LEVELING**

Grooving is the process where the note areas are acoustically isolated from one another and the remainder of the surface. A steel punch is used to hit the surface which separates the notes along its borders. The grooving is done to keep the vibration that each note produces to its own section of the drum surface. This allows the note to resonate freely by separating the surrounding surface's physical characteristics from the note area. This process also defines the working area for the tuning process.

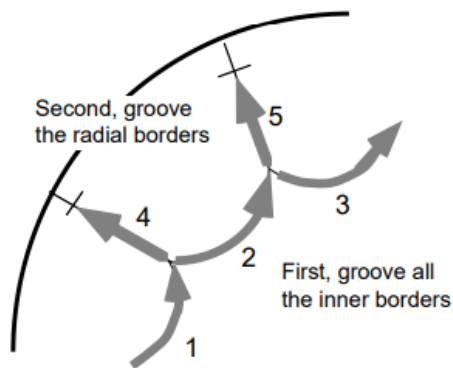
The grooving usually starts with the inner notes. If the border lines are rough, a smoothing hammer is used to even out the region along the lines. The ideal spot to begin is where the line is straight thus making it easy for both ends to meet when the note has been grooved (see fig 7). During this process, the drum needs to be standing steady to allow good control over the punching. All inner notes are grooved the same way and it is important to note that grooving will affect the surface of neighbouring notes, so it is best to smooth the metal along each note's marking just before grooving.



*Fig. 7. Overview and cross section of grooved inner note.*

Source; Kronman, Ulf. "Steel Pan Tuning. A Handbook for Steel Pan making and Tuning". p. 33.

To create the outside notes, groove the innermost borders of each note first, followed by the radial lines (see fig. 8). The inner border of the outer notes has been raised and reshaped by the grooving of the inner notes, so a backing hammer is used to correct the surface before grooving. All outer notes are grooved by working the joint between the straight radial line and the inner curve (see fig. 9). The outer notes' radial lines are grooved from their inner end in the direction of the rim and stops approximately 5cm before the actual rim. Hit the final, strong stroke at the 5cm point. Once this is completed around the entire pan, the grooving is finished.



*Fig. 8. Grooving order for outer notes*



*Fig. 9. Creating a groove on an outer note's inner boarder*

Source for both images; Kronman, Ulf. "Steel Pan Tuning. A Handbook for Steel Pan making and Tuning".

p. 30.

Levelling is the process where the playing surface of the pan is hammered to its final shape using a backing hammer. Every octave pair of inner and outer notes runs through four interconnected steps: final shaping, flattening the grooves, removing the fat and levelling the notes. Smoothing the pan's whole surface is the last stage of the levelling. This brings the pan back to its original shape it had before the grooving.

During the grooving process, the pan's surface became somewhat "puffed", see cross section in fig. 7. Now the space between the notes have to be smoothen into a concave shape again. This process is called "taking out the fat". To flatten the grooves, each note is worked in pairs and the surface near the boarders gets hit down until it is levelled with the groove. The outer notes are then completed by striking the fat between the inner and outer notes and progressively rising up between them once the inner notes have been flattened. After the surface is smooth, lightly tapping the note will adjust the grooves down to the level of the surface between them. The groove therefore fattens and becomes lower.

The inner notes are shaped and raised to their final form after the grooves are level. Ensuring the curve covers the whole note and the outside notes have a smooth arch is crucial. The finished product must have a smooth surface devoid of any accidental buckles or jagged edges. Tiny buckles have acoustic resonances that could negatively impact the harmonics, making it challenging to tune the pan. The pan is then levelled, which is done the same way as shaping but there is a stronger emphasis on the relative position of the notes. The pan is worked around in octave pairs, levelling the notes the notes in the same octave with one another. This is the final chance to sculpt the overall shape of the pan. The outcome of the final levelling is crucial. Each note's boarder must have a specific curvature in order to have the proper geometry to produce overtones that can be tuned to harmonics.

### **1.5 CUTTING THE DRUM AND TEMPERING**

The drum skirt needs to be at the appropriate pan length before the pan is tuned. Longer cuts are made for the lower range pans to increase the resonance of the lower tuned pans' sound. The correct length of the drum must be marked; the pan can then be cut to the desired length using an electrical saw after an entry hole has been made in the drum's side with a hammer or chisel.

It is necessary for the pan to be hardened and allow the tensions to be removed. During the sinking and backing, the pan's surface became stretched and soft. The grooving and levelling has also forced local tensions in the pan. To remove these tensions, the pan is to be heated and cooled. This process is called tempering. When heat is applied, the molecules in the metal can move around causing the crystals to reorganize and change locations in response to the changed conditions within the metal. Thus, the notes will have an evenly distributed tension along their

whole surface. Another reason for tempering is to harden the surface between the notes and make them stiff which will allow them to behave as individual resonators for the various notes.

There are three physical processes done during the tempering; removal of tensions – which reconstructs the crystal structure in the metal, oxidation – where some of the carbon content makes the metal more cohesive and hardening or “freezing” the new crystal structure of the pan by cooling. During tempering, the pan has to be placed upside down on a stand above a large fire and cooled by either using cold water or allowing the drum to cool on its own. Once the pan has cooled, the rust and soot from the burned paint is cleaned off with a brush using soap and water.

## **1.6 TUNING AND FINE TUNING**

Tuning a steelpan involves intricate adjustments of pitch and timbre, making it a complex process compared to tuning other instruments. The tuner must carefully control both the fundamental pitch and the harmonics to achieve the desired sound quality. The tuning process comprises of three main steps: course tuning, fine tuning and blending, each contributing to refining the instrument’s overall sound.

In course tuning, the initial step focuses on softening the metal of the notes to enhance their flexibility and independence in sound. This involves striking the notes repeatedly with specific hammers to flatten and restore them, ensuring they reach the correct pitch while maintaining a steel-like timbre. During the tuning, the pan is placed on a stand designed to have the instrument on its skirt (see fig. 10) Typically, a padded wooden box with the sides the same length as the pan’s diameter is used to achieve this. Softening is particularly critical for larger outer notes, requiring a systematic approach across the entire surface. Tools like bent irons or

wooden wedges aid in this process, especially near the rim where hammering can be challenging see fig. 11).

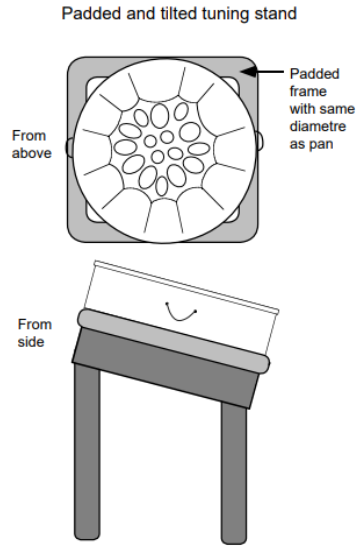


Fig. 10. Illustration of tuning stand.

Source; Kronman, Ulf. “Steel Pan Tuning. A Handbook for Steel Pan making and Tuning”. p. 44

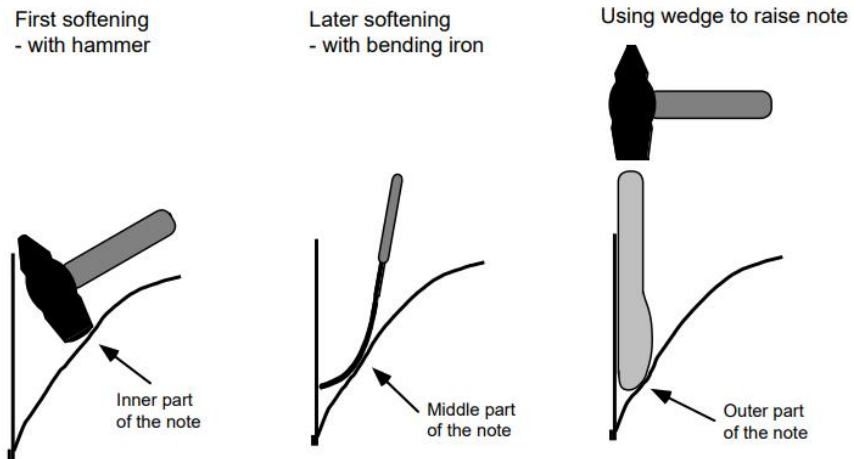
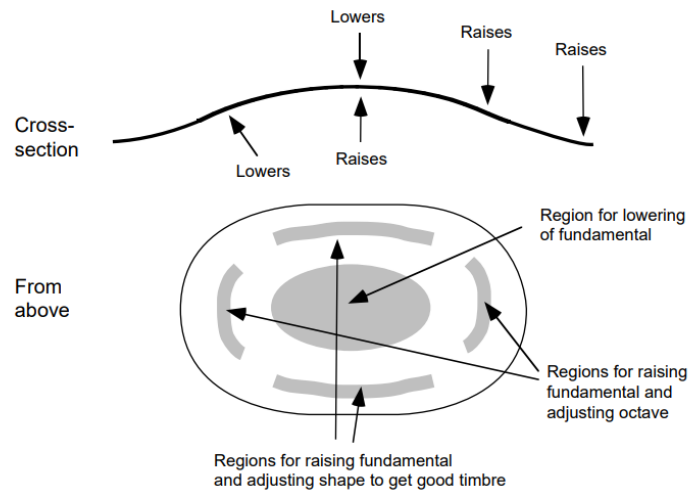


Fig. 11. Method for raising outer notes for softening.

Source; Kronman, Ulf. “Steel Pan Tuning. A Handbook for Steel Pan making and Tuning”. p. 47.

Fundamental tuning follows, primarily adjusting the pitch to a lower level through precise hammer strikes from above and below the notes. This cycle of raising and lowering the notes is repeated until each note produces an independent, distinct sound. As the tuner lowers a note, they estimate how much it needs to be raised in the next iteration, adjusting the raising amount to stretch the metal for a better tone upon lowering (see fig.12). Octave tuning is then integrated, ensuring harmony between notes in octave pairs and correcting any mistuning that could disrupt the overall sound quality.



*Fig. 12. Adjusting the foundation. Summary of the note.*

Source; Kronman, Ulf. "Steel Pan Tuning. A Handbook for Steel Pan making and Tuning". p. 49.

Throughout the tuning process, the tuner relies on their ear for accurate pitch discrimination, using specialized hammers and tuning sticks to manipulate the notes. The tuning stand plays a vital role in facilitating the tuning process, providing stability and allowing for precise adjustments.

Blending, the final stage, involves adjusting the pitch, timbre and loudness of the notes to ensure they sound harmonious together, especially in ensemble settings. This step completes the tuning process, creating a balanced and cohesive sound across the steelpan.

Overall, tuning a steelpan requires a combination of technical skill, careful observation and an acute ear for pitch and timbre. Each step in the process contributes to refining the instrument's sound and ensuring it performs optimally in various musical settings.

## **1.7 FINISHING**

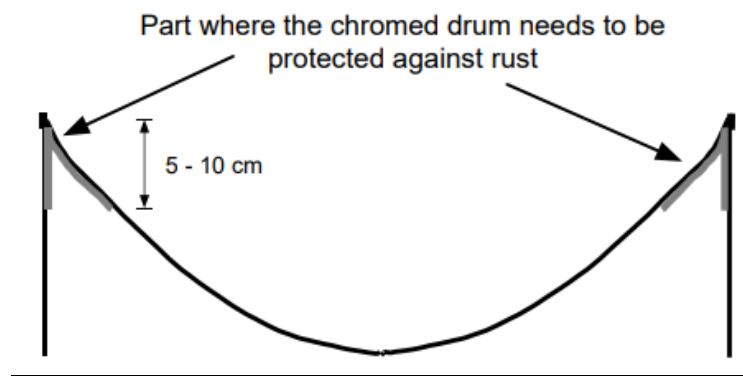
Crafting and burning a steel drum often removes most of the paint from its bottom, leaving the bare metal vulnerable to rust when exposed to moisture in the air. Over time, rust can impact the drum's sound quality and eventually damage it. To preserve the drum, electroplating with zinc or chromium has become common practice, particularly for smaller drums like tenors and seconds. Larger drums, like bases, are typically painted on the sides and have the playing surface coated with a thin layer of wax for protection.

Before electroplating, any remaining paint must be removed, ideally with calcinated soda. Grinding may be necessary for hardened lacquer paint. Acid baths are also used to remove paint and fat residues. Chroming or zinc covering done through electrolytic processes, is usually outsourced to specialized factories, particularly in Trinidad where they understand the nuances of drum making. Finding suitable facilities elsewhere can be challenging due to the drum shape and size, requiring extra measures like support anodes for even coating. The electroplated layer must be thin and soft to avoid tone alternation or peeling during tuning. Excessive thickness or hardness can negatively impact sound quality. Some coatings are designed for hardness and shine, but they are not suitable for drums. The electrolytic process coats the drum with a thin

layer of chromium or zinc, excluding the narrow area between the outer notes and the skirt from coverage (see fig. 13). This area needs separate rust protection, typically achieved by promptly applying a thin paint layer post-chroming or using rust-eater if rust has developed.

When painting the playing surface, using a thin paint layer is crucial to preserve harmonics and prevent dull sound. Thick paint can also cause rattling, especially in the upper angle between notes and the skirt. Spray-paint or diluted paint is recommended, and for chromed pans, painting a section up to 5-10 cm on the playing surface and skirt suffices.

Blending, the final tuning stage, involves adjusting the pitch, timbre and loudness for harmonious sound among notes, especially in ensembles. Blending follows the same techniques as fine tuning, focusing on octave pairs and compensating for weight changes caused by chroming. Octave blending begins with the higher note, ensuring perfect pitch alignment with its octave before fine tuning the lower note. This circular stepwise process is vital as adjustments to one note can affect neighbouring notes.



*Fig. 13. Cross section of the area where the drum needs separate rust protection.*

Source; Kronman, Ulf. "Steel Pan Tuning. A Handbook for Steel Pan making and Tuning". p. 60.

## **CHAPTER TWO**

Chapter two will explore the personal perspectives and stories of some well-known steelpan manufacturers within the industry and learn why they chose this particular career as well as highlight the challenges they have faced within the industry and how they overcame them along with their successes as manufacturers. This chapter will also give a brief insight on their company and what it offers to clients and collaborations they have done. All interviewees have been in this industry for at least 5 years and specialize in building and or tuning all types of steelpans.

### **2.1 JOINING THE STEELPAN MANUFACTURING INDUSTRY**

Stepping into the realm of steelpan manufacturing is akin to embracing a rich tapestry of culture, innovation and craftsmanship. The steelpan has transcended its origins to become a global symbol of musical expression and artistic ingenuity. Joining the steelpan manufacturing industry is not merely about producing musical instruments; it is about preserving tradition, pushing boundaries in engineering and design and contributing to a vibrant musical landscape that resonates with people across continents. This industry beckons passionate individuals to blend tradition with modernity, craftsmanship with technology and creatively with precision and crafting instruments that enchant and inspire musician and audiences

Each interviewee had their reasons for joining this industry. Terrence Shepperd says, “What started off as a hobby, became a life journey.” He began making steelpan in a church project under Ronald Matthews. Mathews was the main musician at his church and they wanted to start a steelband. He took Terrence and other willing participants to his home where he taught them the manufacturing process. In the course of time, Terrence was the only one who remained and continued making steelpans. He has been in the industry for the past 15 years and specializes in making all steelpans.

Jimi Phillip, who is a prominent builder, tuner and innovator, began his career approximately 58 years ago. He says it wasn’t his intention to be in this industry and that it was the “changes in life” that brought him here. “It just so happen that my trade was electrical insulation. I just imagined that if I had a pan and I travel somewhere and it goes out of tune, how will I fix it? I didn’t have a pan to practice on so I got a drum and started to sink it from what I saw people do. I tried the sinking, it wasn’t good, I tried the grooving it, wasn’t good, the pan wasn’t looking nice but I kept trying until I met Wallace Austin and I started working and sinking pans for him and I kept practicing. I never planned to be a pan builder or tuner, I just wanted to conquer this thing and tune a pan. In doing so, I started getting better and eventually business started to happen” (Jimi Phillip). To this day, Jimi Phillip has created multiple innovations that has aided the steelpan community.

Mazzini Gill is the director of Gills Pans Limited and has been in the industry for more than 35 years. The company was founded by his father Merlin Gill who is an arranger and decided to start the business as people would ask him for steelpans at various ports while he worked on cruise ships. He decided to make a few pans every tour he went on and would deliver them to the ports on consignment and collect money when returning home. Gills Pans Limited

has supplied steelpans for primary and secondary schools across the nation and to local and foreign steelbands.

Augustus Peters and Kyle Noel both had similar experiences when they first entered the field. Augustus attended San Juan North Secondary and Kyle attended South-East Port of Spain where their music teachers encouraged them to participate in a steelpan tuning course sponsored by B.P. They both were reluctant to join the course but as they were already passionate about music and already involved in the schools' pan program, they decided to try. "Let me take a shot at it, not knowing that I would've liked it and eventually it became a part of my life. There are many times I wanted to give up in the learning process but there was a drive in me that was yearning to perfect the craft and to this day I still think there's a lot of room for improvement" (Kyle Noel). Kyle says that Augustus was someone who motivated him to continue with the program as many students dropped out during the program's running. Rudolph Charles was another person who played a big role in influencing Kyle, as they both came from Laventille, Kyle looked up to him as a motivational figure and an idol in the steelpan community. Both Kyle Peters and Augustus Peters began their businesses after years of more training and specialize in building and/or tuning the various steelpans.

## **2.2 SOURCING MATERIALS AND MANUFACTURING**

Sourcing drums for steelpan making has been a recent challenge for manufacturers in Trinidad and Tobago. Majority of drums being used are sourced from other countries Like England or Canada as locally produced drums from Pan Trinbago are not of the best quality or are out of stock at times. Drums can also be sourced from other factories once they have the specific specs needed for steelpan making. Thankfully, the internationally sourced drums are

specifically made for steelpan manufacturing and can be used to make two steelpan instead of one as the drum itself is two-sided. “I can get one 55-gallon drum and make a double second out of it but the unfortunate scenario is that we have to order these drums from other countries” (Kyle Noel). Experienced craftsmen like Jimi Phillip have also made steelpans using sheets of metal from the hardware (see fig. 14 and 15). “I could go by the hardware and get the material and I weld, cut and sink it, so I have no problem. We should be bonding together and purchasing the materials needed to make a drum, it’s no big thing to make a drum” (Jimi Phillip). The locally made drums are still used once they are available as they are easily accessible and at a lower cost than the internationally produced drums but all interviewees have expressed some concern with the drums produced within Trinidad and would rather purchase them from foreign countries as they have already built connections with their distributors and are sure of the material quality.



*Fig. 14&15. Bases made from metal sheets.*

Source; Phillip, Jimi. Photograph. 2 Apr 2024. JPEG file.

After the selection of the drum, the manufacturing begins. Each process demands a different skill set and requires a set amount of time for each stage to be done successfully. Depending on the type of pan being made, the time requirement will differ. For example, the tenor pan needs to be sunken at a depth of 8 ½ inches, manually this can take anywhere from three to five hours but with the use of a pneumatic hammer this process can take thirty to forty-five minutes. The time taken for each process will differ from manufacturer to manufacturer but generally once the drum has been sunken, each stage after can take forty minutes or at least two hours to complete. Each step during the manufacturing process is carefully done to ensure that the final product is ideal. If a step is done incorrectly, it can result in the entire drum being wasted. “For different stages of the manufacturing process we have stencils to ensure that each stage meets the requirements. During the process, we use the stencils like a diagram. If there’s an issue along the way, once it can be corrected, it will be, if not, it will be discarded” (Mazzini Gill). The craft is done precisely to avoid any errors within the final product. If the drum is damaged during the sinking process, it can often be welded together but this usually leaves a defect on the drum which may lead to it either being discarded or sold at a lower cost.

### **2.3 CLIENT CARE AND COLLABORATIONS**

In the dynamic world of steelpan manufacturing, the ethos of client care and collaborative partnerships stands as pillars for success and innovation. Beyond the craftsmanship and technical prowess involved in creating these iconic musical instruments, nurturing strong relations with clients and fostering collaborations with artists, educators and industry experts are paramount. Effective client care goes beyond mere transactions; it involves understanding the unique needs

and aspirations of musicians and institutions, providing personalized solutions and ensuring exceptional post-sale support. Collaborations, on the other hand, spark creativity, drive technological advancements and broaden the horizons of steelpan design and performance. Together, client care and collaborations form a foundation upon which the steelpan manufacturing industry thrives and creates meaningful connections within the global musical community.

From interviewing persons within the industry, it seems that there are a lot of similarities when it comes to client care. From the selection of ranges for the steelpans to engraving personalized designs to choosing the type of finish clients may want for their pans; whether it is a powder coat, paint or chrome finish, these customizations elevate the instrument's significance to the players and add their personal touch. Cost reductions on slightly damaged pans are also offered to clients who seek quality instruments but at a more affordable price. "According to quality of the chrome, some pans may come out looking little bad because they may have had some rust and the chrome wouldn't have hold so they would see little dimples and I will sell that at a lower price" (Jimi Phillip). Care packages and maintenance guidelines are offered to ensure the longevity and optimal performance of the steelpan. These care packages may include polish, microfiber cloths, instructional manuals for cleaning the pan and even pan sticks. Full pan kits are also offered at additional costs to clients but they can receive pan stands, sticks and cases for their instrument. These comprehensive services and offerings by steelpan manufacturers underscore their commitment to craftsmanship, customer satisfaction and the ongoing evolution this musical tradition.

Steelpan manufacturers play a pivotal role in providing instruments for solo musicians, primary and secondary schools as well as steelbands on both local and international stages. As

mentioned previously, Gills Pan Limited has provided steelpans for many primary and secondary schools in Trinidad as well as steelbands like Sforzata, Scherzando, Newtown Playboys, Gonzales Sheikers. They have also collaborated with bands in Puerto Rico, France and the United States. Kyle Noel, Jimi Phillip and Augustus Peters have also achieved similar collaborations by providing steelpans in Canada, the United Kingdom, and Japan, along with steelbands within Trinidad and Tobago such as Starlift Steel Orchestra, Phase II Pan Groove, Desperadoes and many more. These collaborations not only promote the instrument's cultural significance but also contribute to its continued evolution and innovation within the global music landscape.

## **CHAPTER THREE**

This chapter will give an introduction to the Musical Instruments of Trinidad and Tobago Company Limited better known as MITTCO. It will explore and highlight the multiple aspects of the company as well as feature their successes and vision for the future of the company.

### **3.1 INTRODUCTION TO MITTCO**

MITTCO began its story in 2019 when Akua Leith approached Mario Joseph, David Hackett and the Hadad brothers. Leith shared his vision for a comprehensive steelpan ecosystem which has since materialized into a fully functional steelpan manufacturing facility. Today, MITTCO sets a new benchmark for steelpan production, showcasing the synergy between entrepreneurial spirit and skilled craftsmanship. Their steelpan instruments exemplify perfection, representing the high-quality musical craftsmanship of their artisans. MITTCO prioritizes using top-tier steel drums specially crafted for their instruments, ensuring a superior starting point for each pan. From tenors to full bass sets, MITTCO offers customization option to suit clients' preferences. During the manufacturing and upon completion, each instrument undergoes meticulous quality control before receiving the MITTCO seal of approval (see fig. 16), ready to be enjoyed by music enthusiast worldwide.



*Fig. 16. MITTCO logo*

Source; <https://mittcott.com/>

The ecosystem that Akua Leith envisioned are built upon various pillars which would eventually shape the company and its trajectory. The first pillar is the manufacturing, which is MITTCO, the second is conservatory or institute where persons will learn the basics of playing, arranging and composing skills as well as the basic of manufacturing steelpan. When persons' reach an apprentice stage, they will then get the opportunity to work alongside a professional and eventually go into the profession themselves. The third pillar is a private orchestra, which acts as a marketing agent toward the first two pillars and also puts forward its own productions. This is an opportunity to use the people that would have been trained in previous pillars and use the instruments that are manufactured. Pillar four is a museum; "I think it is very important for everyone to understand where the instrument came from and see the evolution from three notes to five notes, different notes and stages, all the different evolutions the instrument would have gone through, we should be able to map that out using dates and names for persons to understand. We need to have a hall of fame for who was responsible, where we acknowledge who would have engendered this instrument and tell the story of this person" (Akua Leith). The fifth pillar is research, development and scholarships. This is for persons to be funded for further research and studies and be able to come back and bring that expertise to the industry. The research and development aspects are to continue research on the best metals, chrome and

materials used in the manufacturing process. “I think with research and development program; the instrument can improve in multiple ways in the future” (Akua Leith). Pillar six is festival based. This festival will showcase what persons can do with the instrument and display the creative ability and direction one can take with the steel. It allows participants to bring talent to the table that isn’t bound to a specific criterion. “I love panorama where everything is a competition and everyone is buying in for first place but the rubric keeps us in a box, it keeps us trying to do the things to win. I think we need to balance that profit of festival, not festivals like Pan is Beautiful, this would be a festival where creativity wins, it is not a competition; less competition, more creation” (Akua Leith). The final pillar is performance based where viewers can interact with the performer in multiple capacities. “We need a space where persons can have a different experience towards the performer. Most of the time they see our faces or see us having a good time but they never really get to see what happens behind the scenes” (Akua Leith). These are the pillars that Akua envisions that would be necessary to get the steelpan fraternity to a place where persons can benefit via having a valuable career path and space of cultural expression and work.

### **3.2 CHALLENGES, ACHEIVEMENTS AND GOALS**

Navigating the intricate landscape of the steelpan manufacturing presents a myriad of challenges, opportunities and ambitions for companies and persons in this industry. From sourcing high-quality materials to mastering intricate crafting techniques, MITTCO faces the constant challenge of maintaining excellence while meeting market demands. Amidst the challenges lie remarkable achievements that showcase the resilience and artistry of MITTCO. Their goals revolve around continuous improvement, sustainability practices and preserving the rich cultural heritage embedded within their steelpan.

Similar to steelpan builders mentioned in the second chapter, MITTCO also struggled and complained about the unavailability of quality drums for steelpan manufacturing. They were able to acquire drums through Mario Joseph, a certified tuner and co-founder of MITTCO, who had a connection with a supplier in Japan. This partnership allowed MITTCO to purchase quality two-sided drums specifically made for steelpan manufacturing. The 2021 fire at the chrome factory presented another difficulty. “It was blessing in disguise. We found a pan and tracked the coater and then we made contact and went out to Iowa to do a workshop with the company A.I.H to really understand how their pan was made almost glass-like. It was based on the pans’ preparation to chrome so we came back home and set up a polishing shop and started a relationship with A.I.H to chrome our pans” (Akua Leith).

With the company officially opening in 2022, MITTCO has already accomplished a number of career milestones. As a result of their sponsorship of the Caribbean Premier League in their first year of opening, MITTCO was able to reach millions of spectators and spread awareness of their brand and the steelpan. From there, they were able to pique people’s interest and present their brand and its products to the viewing and participating nations. Additionally, they worked to sponsor the final Machel Monday and provide Siparia Deltones with steelpans for their presentation during the event. Collaborating with the “Kids So Amazing” is another achievement of theirs. MITTCO was able to visit multiple schools across Trinidad and teach the students about the history, development and performance aspects of the steelpan. Some other notable achievements and collaborations are their partnerships with Miss World and Pan Trinbago, where they have supplied instruments for pageants and do the playing of the national anthem for panorama. MITTCO has also experienced overwhelming support from the public and

is being recognized to have Khadine Cadogan who is the only woman in the steelpan community that grooves steelpan.

### **3.3 FUTURE PLANS**

Future plans in the steelpan manufacturing industry encompasses a multifaceted approach which involves advanced material research for enhanced instruments, integration of digital technologies for precision and customization and eco-friendly practices to minimize environmental impact. Moreover, there is a growing emphasis on educating and cultural institutions to preserve tradition while pushing the boundaries of artistic expression. These forward-looking strategies are not only shaping the future of steelpan manufacturing but also reaffirming its significance as a cultural heritage and a symbol of music excellence on the global stage.

When presented with the question, “What is the company’s vision for the future?” Akua says their plan is to become the major steelpan manufacturer in the world with the mission of having steelpan in every school across the globe. Duplicating and franchising the business into various aspects in Trinidad and Tobago by utilizing and incorporating the several pillars that the company envisions as well as exporting talent, not only in manufacturing but in teaching and performance for Trinidad and Tobago’s musicians see steelpan as a viable career path and by extension the world. “We want to be able to support those things and have opportunities come in and work alongside us in engendering that. In fifteen years, we want to be definitely established, profitable and giving back to the space of steelpan in many ways, not just in terms of instrument, but also in terms of policy, sponsorship and infrastructure. When you see MITTCO, you should

see MITTCO as a leader in research and development and a leader of customer service and distribution.” (Akua Leith).

Building on the manufacturing and education aspects that MITTCO plans to explore, they have been in discourse with MIC Institute of Technology to set up their manufacturing processes alongside MITCCO’s. This is for when persons are finished with their training at the institute, they can come into the industry already knowing to use the various equipment. They are also in converse with U.T.T to manage their tuning program out of MITTCO which allows them to become a branch for the U.T.T campus and students will have access to all the resources available at MITCCO. “This is increase the experience for the students and show them the possibilities for the future when it comes to a viable career” (Akua Leith).

## CONCLUSION

This thesis delves into the personal narratives of notable figures in the steelpan manufacturing industry, shedding light on their motivations, challenges and successes. Through interviews with seasoned professionals like Terrence Shepperd, Jimi Phillip, Mazzini Gill, Augustus Peters and Kyle Noel, this project uncovers diverse pathways into the industry, ranging from initial curiosity and hobbyist beginnings to a familial influences and educational programs. These insights reveal a deep-rooted passion for the steelpan craft and a commitment to excellence which drives these manufacturers.

The challenges faced by the industry, such as sourcing high-quality materials and navigating market fluctuations are also explored. Despite hurdles like the unavailability of quality drums locally, manufacturers like MITTCO have demonstrated resilience and innovation by forming strategic partnerships and exploring alternative sourcing options. While numerous steelpan manufacturers exist, MITTCO stands out due to its commitment to steelpan manufacturing and setting a new standard in the steelpan industry. They have placed an importance in driving innovation and enhancing the industry's global presence. MITTCO's

vision of becoming a global leader in steelpan manufacturing, coupled with efforts to promote education and talent development, underscores the industry's potential for growth and impact. By fostering partnerships, MITTCO aims to not only elevate manufacturing standards but also nurture a new generation of skilled professionals in the steelpan community.

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## **APPENDIX**

### **SAMPLE QUESTIONNAIRE:**

1. What is your full name, and qualifications and how long have you been in the steel pan manufacturing business?
2. What made you join the steelpan manufacturing business?
3. What types of steel pans do you specialize in manufacturing?
4. What materials do you use in the construction of your pans? Where and how do you source them?
5. How do you ensure the quality of your steel pans during the manufacturing process?
6. What measures are implemented to address any potential defects or issues in the finished product?
7. Are there any features, tools or improvements you've introduced in your manufacturing process?
8. Approximately how long does each process take in the building stages? (The sinking, burning tuning etc) and how do you ensure that your manufacturing processes meet or exceed the industry's regulations?
9. Are there any partnerships or collaborations that you have engaged in that may enhance your steel pan designs?

10. How do you stay updated on the current market trends and customer preferences in the steelpan industry?
11. Do you offer customization options for clients, and if so, what kind of customization can be made to your steel pans?
12. How long would a client have to wait for a steelpan and how do you facilitate large orders?
13. Do you offer packages for clients? (Pan cases, sticks, stands etc)
14. How do you handle waste and recycling in your steel pan production?
15. Have you collaborated with steel band leaders or musicians? And if so, who?
16. What are your future plans in the steel pan manufacturing industry?
17. What are the most significant achievements or break-throughs?