

REPORT ABOUT OUR TRIP TO COTE D'IVOIRE JUNE 10 - JUNE 19, 2023

By Tom Neuhaus, CEO



SUNDAY, JUNE 11:



I left the NH Hotel in Blagnac Airport, Toulouse, at 7:30 AM. Peggie joined me at the gate in CDG airport (Paris) around 12:30 PM. We had lunch, boarded the plane around 2:00 PM, and flew to Abidjan. We landed at 7 PM and then spent one hour in line to get the paper version of our E-visa. By that time, the line through passports was quick. Mathurin Zougbo, VP of ONG-ASCAF, the non-profit we are working with, came to customs area, cheerfully said hello to his fellow customs agents (Mathurin is a customs agent at FedEx), and they waved us through without looking inside our suitcases.

We were met by:
David Logbo
Zigro, president of SOCOPLAN, & JP
(Director of SOCOPLAN), Roger (President
of ONG-ASCAF), Mathurin, the driver, and
Jean-Joël (translator for Peggie and also
communications advisor).



We ate dinner right next to airport. We all shared carp à l'Abidjanaise, which is grilled and then covered in shredded onions, cabbage, tomatoes, and hot chilies along with mayonnaise and chili paste. One of my favorite fish dishes.



MONDAY, JUNE 12

We started the day by meeting with David and JP plus Roger et al. Klaus took video and pictures. I filled them in on the manual and on the accompanying flash drives. I also talked about our hopes for the TechnoServe meeting to be held at noon. We adjourned the meeting at 11 AM. We agreed to meet in the hotel lobby at 11:40 so we'd have enough time to get to the TechnoServe offices.

We spent about half an hour looking for the offices. There had been a miscommunication about the location of the meeting, so we ended up arriving an hour late. We ended up in a building that houses USAID, so it's very fancy, complete with a small, attractive museum with African sculptures.

Jean-Michel Wronmy and Alexis Anouan represented TechnoServe. The Cémoi chocolate people did not attend as they had been detained by a large delivery. One person from CCC, the Conseil de Café-Cacao, which regulates the entire coffee and cocoa industries, did attend. We spent about 2 hours getting to know each other. I told them that our major interest is in setting up chocolate-producing cooperatives. I explained to them that while Fair Trade adds a small price boost¹ plus a small premium to cocoa sales, our system of Village Cocoa Chocolates, stands to add either 40% of Cost of Goods Sold (if sold wholesale) or 100% if sold locally and directly.

Afterwards, I polled everyone, and they assured me that the meeting went well. Jean-Michel repeated the importance of signing an MOU. He explained that they work on the billable hours system and that they can't devote labor to anything where there is not a clear money trail. The MOU allows them to set up a temporary exception to the rule.

After the TNS meeting, we drove to the Hyper U, where we bought a vacuum cleaner for the N'Douci project as well as a glass bowl, a couple rubber spatulas, etc.

At around 5:30 PM we got back to the hotel, where we were met by Alex Emmanuel, who is a well-known Ivoirian chocolatier (see <https://le-chocolatier-ivoirien.myshopify.com/>). He is interested in joining the board and is also interested in marketing village chocolates through his connections. He also knows how to ship chocolate to France for about \$7 per Kg (instead of \$20 that we currently pay to DHL).

¹ From 4 to 5% of retail price. The premium is \$200 per MT.



From the left: Zeze (David's brother), Roger, Axel, Tom, Jean Joël, Peggie, and David

TUESDAY, JUNE 13

Roger and I agreed that he would come to the hotel at 9 AM so we could go to the bank to get CFA's. Now, at this moment of writing, it's 10 AM and he's not here yet. Actually, Roger arrived at 11 AM because of traffic and David arrived at noon. So, we got on the road at 12:30 PM. We stopped for gas and then headed Northwest.

We arrived in N'Douci at 2:30 PM, checked into the hotel which does not have WiFi and then proceeded to the house that is our new center for cocoa instruction.



It was about 95 degrees. Everything arrived in really good shape. Here (left) are the two mélangeurs. David will pick one up next week.

It took about 45 minutes to assemble the craqueur/vanneur. This is Klaus posing with it. First, you turn on the vacuum cleaner. Then you introduce the roasted beans at the top and you turn the hand crank to break the beans into nibs and hulls. The vacuum sucks air up the lit up column (in front) and the hulls fly up and then down into the plastic basin. The nibs, which are heavier than the hulls, fall into the stainless steel drawer.

We tried to get some cocoa beans but the person who brought the bag tried to sell us absolute garbage. Unfortunately, I did not take a picture but there were flat beans, broken beans, teeny beans, sticks and stones—useful for mulching your garden.

Around 6 PM the electrician arrived—only 4 hours late. Alexis, the Technoserve Field Agent, found the sticker on the mélangeur that showed single phase into the controller box and triple phase out.

Before he noticed that, we were informed that we would have to spend \$1,000 running 4 wires 30 feet from the pole and adding a new meter.



I was feeling pretty exhausted, so Peggie volunteered to take my place with the electrician. I sat down next to some representatives of another cocoa cooperative, CGERAHCCC, who are dying to work with us. They spent 30 minutes telling me all about the plight of the cocoa farmers, which of course I've spent the last 20 years studying. I explained to them that the easy part² is establishing production centers but the hard part is establishing a market for *Chocolat des Villages*³ but that we are hoping to work with TechnoServe to establish the new brand. I also told them that we are trying to do something that to my knowledge hasn't been done since humans established farms 8,000 years ago—giving the farmer control over the market.

But I believe it's possible if:

1. Farmers learn how to ferment cocoa beans and farmers pool their beans so that fermentation occurs in minimum 250 Kg batches. This requires cooperatives with knowledgeable staff and credible leaders who can manage large-scale fermentation and persuade farmers that they aren't being ripped off.
2. Someone like us uses social media to market the products globally, giving farmers access to international sales.
3. Chocolate is distributed by sailboat, reducing the fossil fuel footprint and the costs of transportation.

² By saying "easy part" I do not mean to discount how hard it's been to solve customs, purchasing, numerous Zoom calls, efforts of the board that have gotten us here. But the marketing part is where we have made the least progress and I believe the greatest challenges.

³ A possible brand name.

The chauffeur took me back to the hotel, as I was feeling tired. Peggie stayed there and contacted Monty and Balu at CocoaTown. At this writing, it looks like there's a chance the mélangeur and the torréfacteur will be hooked up tomorrow.

WEDNESDAY, JUNE 14

We began the day with two breakfasts, one for the Americans and the other for the Ivoirians. Peggie and I ate croissants and coffee at a Lebanese bakery. Then we drove to an Ivoirian spot and ate *Garba*—attiéké with grilled tuna. Guess which breakfast was far and away superior?

We drove to the cocoa study center and started rearranging machinery while we awaited the arrival of the electrician. It became immediately apparent that we would have to modify our schedule, go to Issia, visit SOCOPLAN (in Depa) and SCAP (in Pezoan) and then return to N'Douci.

But while we waited for the electrician, we moved the big table onto the porch. Then we put the roaster in the correct place. There are two parts: the roaster and the cooler. When we arrive back in N'Douci Saturday morning, a representative from the company will show us how to use the machine.



I met with the carpenter to describe the table we need to put the cracker/winnower on. We will be purchasing cocoa beans Saturday morning in order to roast them.

We moved the fridge into the wrapping room. This is a very used beverage fridge. It really cranks, though, which means the chocolate will set nicely.

I put the molds in the wrapping room. I told Roger that he will have to remove the toilet from the bathroom next to the wrapping room as the Ministry of Health would not like to see that. Also, he will hire a plumber to remove the teeny bathroom sink and replace it with a commercial sink where they can wash, rinse, and dry the molds.



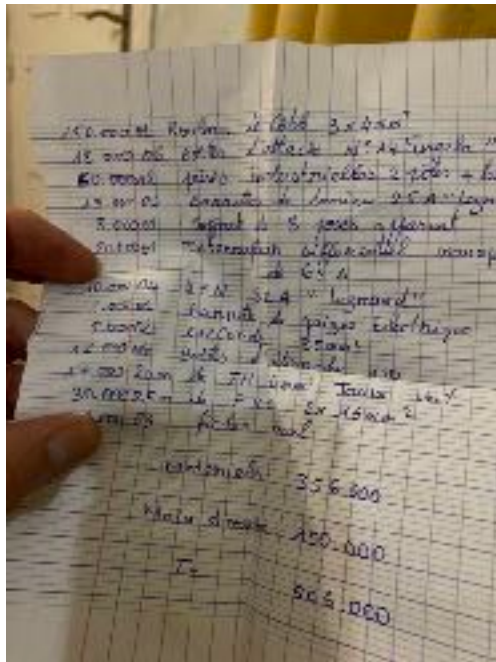
We drove to the bank and got the money to pay for the materials so the electrician can get started while we go to Issia. It's going to cost 506,000 XOF (\$836.00) to run a separate circuit

directly from the pole in order to feed enough power to the machine (mélangeur).

Then we got on the road and drove from 1:00 PM until 6 :00 PM. There were lots of potholes and the driver was not feeling very well, although he's a real champ and hides his infirmities. Best driver in 14 years of doing this!

We drove straight to the hotel, passing both Depa and Pezoan and checked in. At 7:30 PM we went to the restaurant and sat around with Jean-Joël, waiting for others to show up. By the time the food was ready (90 minutes), we had conducted a really good meeting. Here are pictures of some of the participants.

Right, Servando and Prisca. I talked to Prisca about marketing, as she has



had a lot of success pushing SCAP's bars. There is great enthusiasm for the bars: the fudge centers are quite unique. Favorite flavor is candied ginger. Ivoirians love ginger, which they call "Gem Gem".

Peggie said, "We talked about the idea of revolutionary chocolate. Chocolate that is produced by the farmers cooperatives. This concept will bring more jobs to each small village and as a result of increased employment opportunities money can flow into the village common fund for municipal projects."

Peggie continued, "I explained that our donors need to see the records of business, to see what their donations are being used for. Also explaining that it is not Tom and I who have money but that we tell the story of chocolate and ask our friends, business associates and others to give for this cause."



"This idea is also what I am hearing echoed here from the growers to the processors. The growers want a tracking system that is fair. The growers have to wait a long time to be paid and want accountability. They want to be paid for their beans and not lost in the system. There is reluctance to combine beans for fermenting because they don't believe once they give their beans over they will be compensated fairly."

THURSDAY, JUNE 15

Right, we left the hotel at 9:15 after having breakfast and stopped in Pezoan to see Servando 2-month-old baby girl, Eve.



Left, we also visited the village chief, whom I've known since 2005. He is now 90 years old.



We arrived at SOCOPLAN headquarters. The building is in great shape, very clean and organized and best of all our first whiff of roasting cocoa beans! The beans are in very good shape compared to other beans we have seen indicating much better care during and after fermentation.

Then we piled into their air conditioned conference room where we spent an hour doing introductory remarks. JP Bolou started by talking about the day's activities. And then he showed us the Purchasing Register (Registre d'Achat).



REGISTRE D'ACHAT									
DATE	DE	QUANTITE	UNITE	PROVENANCE	PREPARE	REMARQUES	DATE	PREPARE	REMARQUES
2014/06/15	11	100	kg
2014/06/16	12	200	kg
2014/06/17	13	150	kg
2014/06/18	14	300	kg
2014/06/19	15	250	kg
2014/06/20	16	180	kg
2014/06/21	17	220	kg
2014/06/22	18	190	kg
2014/06/23	19	210	kg
2014/06/24	20	230	kg
2014/06/25	21	240	kg
2014/06/26	22	260	kg
2014/06/27	23	270	kg
2014/06/28	24	280	kg
2014/06/29	25	290	kg
2014/06/30	26	300	kg
2014/07/01	27	310	kg
2014/07/02	28	320	kg
2014/07/03	29	330	kg
2014/07/04	30	340	kg
2014/07/05	31	350	kg
2014/07/06	32	360	kg
2014/07/07	33	370	kg
2014/07/08	34	380	kg
2014/07/09	35	390	kg
2014/07/10	36	400	kg
2014/07/11	37	410	kg
2014/07/12	38	420	kg
2014/07/13	39	430	kg
2014/07/14	40	440	kg
2014/07/15	41	450	kg
2014/07/16	42	460	kg
2014/07/17	43	470	kg
2014/07/18	44	480	kg
2014/07/19	45	490	kg
2014/07/20	46	500	kg
2014/07/21	47	510	kg
2014/07/22	48	520	kg
2014/07/23	49	530	kg
2014/07/24	50	540	kg
2014/07/25	51	550	kg
2014/07/26	52	560	kg
2014/07/27	53	570	kg
2014/07/28	54	580	kg
2014/07/29	55	590	kg
2014/07/30	56	600	kg
2014/07/31	57	610	kg
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2014/08/02	59	630	kg
2014/08/03	60	640	kg
2014/08/04	61	650	kg
2014/08/05	62	660	kg
2014/08/06	63	670	kg
2014/08/07	64	680	kg
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2014/08/15	72	760	kg
2014/08/16	73	770	kg
2014/08/17	74	780	kg
2014/08/18	75	790	kg
2014/08/19	76	800	kg
2014/08/20	77	810	kg
2014/08/21	78	820	kg
2014/08/22	79	830	kg
2014/08/23	80	840	kg
2014/08/24	81	850	kg
2014/08/25	82	860	kg
2014/08/26	83	870	kg
2014/08/27	84	880	kg
2014/08/28	85	890	kg
2014/08/29	86	900	kg
2014/08/30	87	910	kg
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2014/09/28	116	1200	kg
2014/09/29	117	1210	kg
2014/09/30	118	1220	kg
2014/10/01	119	1230	kg
2014/10/02	120	1240	kg
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2014/10/04	122	1260	kg
2014/10/05	123	1270	kg
2014/10/06	124	1280	kg
2014/10/07	125	1290	kg
2014/10/08	126	1300	kg
2014/10/09	127	1310	kg
2014/10/10	128	1320	kg
2014/10/11	129	1330	kg
2014/10/12	130	1340	kg
2014/10/13	131	1350	kg
2014/10/14	132	1360	kg
2014/10/15	133	1370	kg
2014/10/16	134	1380	kg
2014/10/17	135	1390	kg
2014/10/18	136	1400	kg
2014/10/19	137	1410	kg
2014/10/20	138	1420	kg
2014/10/21	139	1430	kg
2014/10/22	140	1440	kg
2014/10/23	141	1450	kg
2014/10/24	142	1460	kg
2014/10/25	143	1470	kg
2014/10/26	144	1480	kg
2014/10/27	145	1490	kg
2014/10/28	146	1500	kg
2014/10/29	147	1510	kg
2014/10/30	148	1520	kg
2014/10/31	149	1530	kg	...					

Then David talked about how he and I met and our first chocolate-making experiment. Below left: Peggie and Jean Joel listening to David's talk. Below right: David.



We adjourned to walk around the plant and see the equipment.

First we started in the warehouse. We inspected the beans that were in stock. These beans had received only a preliminary sort. I looked at them: lots of small beans, flat beans, and broken beans. That means they all need to be given a much better sort.



Left, just outside the warehouse is a table reserved for sorting beans.

Next comes the roasting step. Below left, the roaster from the outside. Below right, the doors have been opened.



Next comes the cracking operation. Below left is the cracking machine and below right is Peggie's hand holding beans that have been cracked. Note the hulls.



Below left: the screen that pulls out the uncracked beans that need to be run back through the cracker. Below middle: running the nibs through the winnower. The white portion of the winnower traps the hulls. The stainless steel drawer at the bottom holds the nibs. Below right: nibs ready to be ground into chocolate liquor.



The two old melangeurs. The Spectra 40, right, which is much older, still works. The ABI-50 CocoaTown (on the floor) is no longer usable.



Below, two grinders—one a hammer mill (right) and the other the grinder we brought from China. The hammer mill produces the superior product. David bought the hammer mill from a local Chinese company.





Above left, the cocoa press at work. David shows off cocoa butter. We tasted and smelled it. It was very mild and subtle.

We entered the cool part of the plant. Everyone was required to remove their shoes. In this room, chocolate is tempered, molded, and wrapped. Left is the wrapping room and right is the tempering machine. In the middle are the cooling shelves.





Above left, part of the cooling shelves, which are right across from the AC vent. Pretty clever set-up.

After the tour, we split into two groups. Peggie worked with JP in the office, going through the forms.

Peggy says, “Bolou has been keeping extensive records from the beginning. He and the accountant have created a very good system. As we were going through Monty’s forms Bolou showed me what he has. Every single thing is being very carefully tracked and recorded. Bolou said he will share it all. I think Monty and Bolou need to have a conversation because as far as i can tell there is already a very good accounting system in place. Bolou and his receipt book go everywhere together!”



I went outside and spent time with Jean-Baptiste Kipre, an old friend and the hero of the first videos we showed at the fundraisers as well as Roger Gnepoh. We enjoyed some sweet potato fries with one of the marvelous Ivoirian hot sauces (doesn't come from a bottle).



We returned to the conference room and finished with a summation of what we had talked about. Alexis of TechnoServe was there and he talked about putting together a project that can be sold to interested donors.



FRIDAY, JUNE 16

Today was to be our day with Pezoan. We had breakfast and then drove the 2 km from the hotel to the village. We walked to the PH&F building and entered the rice hulling room.



Left, the rice hulling room. The machine saves women two hours each day hulling rice for dinner.



Yesterday, I paid Servando for the demonstration ingredients and for the upcoming production days. They made bars (ginger, pineapple, coconut, peanut) as well as small solid chocolates.

Right, Filling silicone molds for the individual chocolates. This is Fallon, David's daughter. Next to her is Prisca, who has done such a fabulous job contacting potential customers.



Left, filling the silicone molds.

They were also candying pineapple, ginger, and roasting coconut to put in the bars. Below left, candied ginger. Below right, toasted coconut bits.



A few years ago, Servando had the walls painted very attractively.

Our hero, the cocoa pod. The larger refrigerator was purchased by one of the two California rotaries that we worked with. Also, the room was lightly air-conditioned, thanks to another Rotary donation.



Left, my personal hero, the intrepid Tintin, who was always doing the right thing—in all 25 French comic books. He not only served as a mentor for me, but I read those comic books (in French) throughout my youth to retain my knowledge of the language from 1962 until I moved back to France in 1970 and then worked in four restaurants where I learned a

more colorful form of French (ahem).



I went in the chocolate cooling room. Here (left) is a mold that I just bought them with 3 100-g bars—so they can test the market.



They made some of the individual chocolates that they sell. They bought this silicone mold themselves.



Left, they were also making peanut butter for the peanut fudge bars.

Right, Servando modified the label I had made so that the foil is not exposed. They were having problems with the sun heating up the exposed foil ends.



Left and below: Candying the pineapple.



They started to make the fudge-filled bars. Servando enlisted the help of Peggie Bates (left).



Right, Servando shows how to empty out the mold in order to form the outer shell.

Scraping the mold before vibrating it—to make the mold less messy on top and on the edges.



Right, vibrating the mold to knock out air bubbles so the shell has no holes.



Left, then they turn the mold over and vibrate the chocolate back out of it to make a thin shell.



Above left, dusting the counter with cocoa powder so they can roll the fudge out. Above right, chilling the mold to set the shell.



Above left, filling with fudge. And right, pushing bits of candied fruit (ginger, pineapple, or coconut) into the fudge.



Left, peanut-filled fudge bars. Shell, fudge, peanut butter, peanuts. This offers a lovely contrast of crunchy and creamy.

Then the bars are sealed with chocolate and set in the cold room.





Left, bars chilling in cold room.

Peggy says, “The fudge bar is a nice product—maybe one that could be developed on a larger scale with the help of CCC and TechnoServe.”



Left, while they were filling molds and I was photographing them, Peggy got started with Monty’s wonderful Excel files.



Peggy says, “Servando’s group has a Secretary and treasurer and have some receipt forms and recipe cost forms. I went through production sheet 1 w them and explained batch numbers. The forms they had downloaded do not work on their computer so I said we would figure it out and send them forms that are compatible w their Dell/Microsoft computer.



Left, it was time for our meeting with some village representatives. On the way, we passed rice and cocoa beans drying.

Below, Antoine, the chief's spokesman. In yellow, the chief pro-tem, as the chief is too ill to be part of the proceedings



We had a lovely lunch for about 12 people. Chicken in a spicy sauce with a machoiron stock (local fish). Served with local rice (hulled in our mill).



Left, Right before leaving, Servando showed us the working well that we paid for maybe three years ago. The well is maybe 40 feet from the factory, so it would be a good place to set up a water tower, as the factory has no running water.

Right, Here's where they re-did the roof and gave it more pitch, as water was pouring in. We paid for the repairs. Now they need some wood members to be replaced.



We left Pezoan, went to the hotel, checked out, went back to Pezoan to say goodbye, then we drove to nearby Depa where we picked up 20 Kg of sorted cocoa beans for roasting in N'Douci and 5 Kg of already roasted beans to show Roger how to use the cracker/winnower and the small mélangeur.



Left, a friend in Cordes had lent me a refractometer, so we opened a few cocoa pods to check the sugars. High sugar level equals fast and good fermentation. This pod is a little overripe; the Brix is 16.5 (%).

Right, this pod is mature-ripe and the sugar content is 19.7% or Brix. This produces a better tasting fermented dried bean.



We got on the road about 5:30 PM. We had only an hour of light left, which we needed in order to avoid cracking an axle in one of the numerous deep pot holes between Issia and Gagnoa. By 6:30, we were in Gagnoa, and the road was safe after that. We arrived back in N'Douci at 9:30 PM.

SATURDAY, JUNE 17

We started our day with our last dish of Garba: Attiéké (Fermented cassava) with grilled Tuna and a mixture of oil, onions, and hot chillies. Breakfast of Champions or Champignons (mushrooms), depending on your sense of humor.

Then we went to the cocoa center. The rest of the day was hot, exhausting, and confused. We waited a long time for the representative from the torrificateur manufacturer to come. But by 10 PM, we had a 15 Kg batch of chocolate going in the mélangeur.

At several points I wasn't sure it would all work. And even now, it's going to take Roger et al. a lot of perseverance to get it right. At this writing, Sunday morning, we have to temper the chocolate. I still have one machine to master—the temperer. And I dread it, because I don't know the machine.



At the very least, we will be able to temper chocolate in the bowl and make disks and bars and wrap them. And any chocolatier must know how to temper by hand anyway.

We started by waiting for the electrician, as none of the new circuits were live. While we waited, we got started cracking and winnowing the 5 Kg of roasted cocoa beans that David had sold us. Without the 5 Kg of roasted unpeeled beans and 20 Kg of fermented dried beans, I don't know what we would have done. That 5 Kg of roasted beans saved the day, because we could get started on a small batch of chocolate while we waited for the electrician.

We started by testing the yield on the beans. We weighed out 200 g at a time, cracked and winnowed them, and then reweighed them.

Then we set about the cracking and winnowing operation.



I discovered that using a plunger is not a good idea. The beans should self feed. Using a plunger means you're feeding them too fast or they are too wet and are gumming up the gears or they are too warm and the cocoa butter is making them sticky.





Left, you can see , if you look carefully, how separation occurs. The nibs are falling into the stainless steel pan and the hulls are being blown back out the top.



Once we had cracked and winnowed the 5 Kg of roasted beans, we did a 2 Kg batch of 70% chocolate:

1.2 kg nibs
0.2 Kg melted cocoa butter
0.6 Kg unrefined sugar



Roger melted the cocoa butter in the microwave and poured it into the mélangeur. Then we added the nibs gradually but not too slowly.

Once we had added all the nibs and were grinding away and as the heat of the day rose, the little mélangeur started to turn itself off. This meant that the motor was overheating. But it would turn back on whenever the motor cooled off a bit. I checked the little circuit breaker at the back, but it was clearly defective.

Meanwhile, we couldn't get the big mélangeur to turn on. Peggie called Balu in Georgia and he walked us through it. The emergency off switch was just a little flaky and was preventing the machine from turning on. So, thanks to Peggie and Balu, we managed to troubleshoot that. Our number-one concern was addressed.

We went on a shopping trip as we needed some items. We bought a fan to cool off the little mélangeur. We had bought the mélangeur to show basic principles and to make it possible to make small batches in order to test the flavor of future batches of beans.

We also bought a new gas regulator, because the old one was spewing propane into the room. Or, it was a butane regulator being used on propane.

The fan solved the cutting off problem; we turned the machine around so the wind could penetrate the vent holes and cool the motor. This worked.



And the new gas pressure regulator also worked, so the torr facteur man was able to get the machine lit up.

As you can see, the gas burns yellow, which is a sign that it is not getting enough oxygen. This is

rather concerning, as a natural outcome of poorly combusted gas is carbon monoxide.

Fortunately, the window is wide open as well as the double door. Needless to say, I have a low opinion of this machine.

Ultimately, it took 45 minutes to properly roast the beans. We had to thread a fairly small needle. If we over-roast, the chocolate will taste smoky. If we under-roast, the soft beans gum up the cracker. I had to take many samples, cracking them in my mouth and feeling the texture.

I made a point of passing beans around and talking about the importance of threading the needle—of roasting until the beans were properly dry and would crack easily.

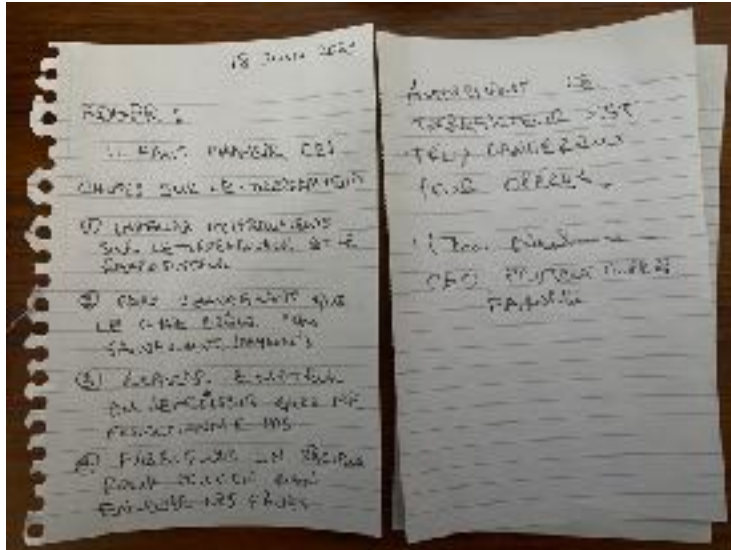
I finally decided the beans met the standard and we opened the door and allowed them to spill out. At this point, I found out that there is no way to actually completely empty the machine. You have to make your own wooden rake and thread it through the exit door to scrape out the last beans so they don't damage the flavor of the next batch.



Roger will have to take care of that. He's going to have to interact with the manufacturer and request that they install switches on the outside of the machine so that the operator can safely turn off the drum motor and the cooling motor.

Also, the cooling motor was cobbled together and the housing protecting the operator from the cooling fan couldn't even be fastened on as it was from another motor. So the housing just fell off, and we had to take care avoid the whirring blades. Once we opened the end of the roaster, the beans fell out into the cooling tray, but the motor stopped working and we couldn't stir them. So, we transferred the beans to a container and spread them out on a piece of cardboard and the rest on a sheet of plastic in a thin layer so they would cool.

Here is a note that I wrote to Roger about the torr facteur:



“Roger, the following things have to be changed on the torr facteur:

1. Install on/off switches on the roaster and cooler
2. Make changes so the gas burns blue rather than yellow.
3. Repair the cooling motor on the bean cooler, as it is broken.
4. Make a stick for scraping out the last beans.

Otherwise, the roaster is too dangerous to operate.”

We found that freshly roasted beans are hard to crack and winnow, as there is still a little residual softness that



causes the cracker gears to gum up. It got so bad, that I put the cracker in the refrigerator along with the beans to chill the fat so it wouldn't bind the nibs

together and block the cracker.



Right: laying the beans out to cool them. It was about 95 degrees, but they cooled anyway.

Finally, we got a bowl of beans cold enough that we could start the cracking and winnowing process. We needed to prepare 9 Kg of beans. I decided to start the batch with 1 Kg of cocoa butter and 4.5 Kg of nibs,

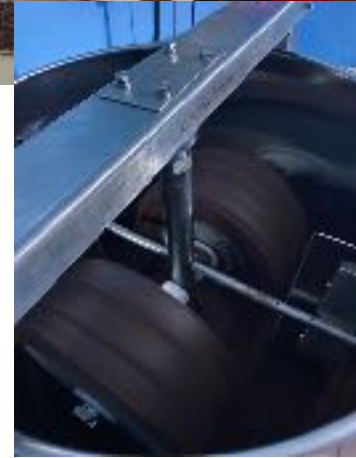


get that running, then go out to eat, and then come back and finish the batch off.

Left are two of Roger's workers cracking and winnowing. The man in the corner is our illustrious driver.



Right, the enormous *mélangeur* at 33% capacity. It holds 100 lbs of chocolate and we were making 15 Kg or 33 lbs.



Once we got 4.5 Kg of nibs and 1 Kg of cocoa butter in the *mélangeur*, we went out to eat—at 8 PM. Peggie went back to the hotel, as the heat had really tired her. I had my last dish of carp à l'Abidjanaise and then we returned to the center. Klaus, bless his heart, had cracked another couple kilos of beans, so I added them to the chocolate, which was considerably smoother and runnier than when we left. I added the 2 Kg of beans and all the sugar (4.5 Kg of sugar) and then I went to help Klaus finish the last beans.

The entire batch was complete and we returned to the hotel at 10 PM, allowing the machine to run overnight.

SUNDAY, JUNE 18

We left the hotel at 10 AM and went to the bank, which is in a nearby town, Tiassalé. I needed to get 640,000 CFA to pay the hotel bill, lunch, gas, and Roger and Jean Joel. I had only 300 euros in my wallet. To get that amount, I needed to pull out 500,000 CFA from the account. So I tried 500,000. Nope. 300,000 CFA. Nope. 100,000 CFA. Yup. Then I did that four more times and voila! I had the cash to finish the trip!

Then we had a quick breakfast. I bought two roasted plantains and a bag of peanuts to go with my bottled water—through the car window.

When we arrived at the center, the *mélangeurs* were spinning away, although they had quit during the night during a power outage. Fortunately, Klaus who was sleeping on the tile floor in the next room, restarted the machines. Klaus is a real blessing.

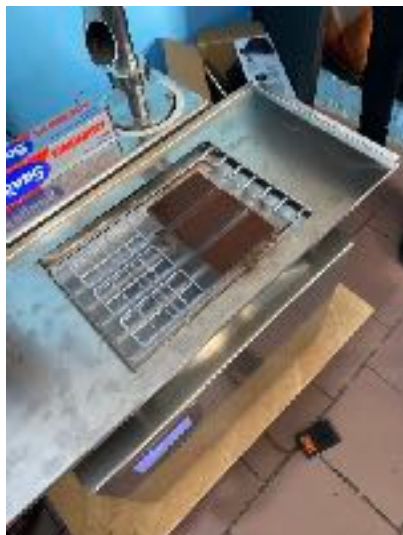
OK, it was time for tempering and molding class. First, I started by emptying the small mélangeur into a bowl. Then I showed them (Klaus, Roger, and Antoine) how to take the chocolate's temperature using the thermometer gun that we had bought.



I also showed them how to pull chocolate out of the new mélangeur—by removing the cotter pin and pulling on a lever. We then tipped the bowl forward and removed some chocolate. I put some of the chocolate in the new tempering machine, but we were unable to get it to spin. I could hear the refrigerator working, however. I told Jean Joël that this would be his first “next” job for PH&F—contacting the manufacturer (Balu) and asking him to show us how to use the machine. CocoaTown does not ship any literature with their products, so we

have to look things up online or call them. It being Sunday, this was not possible.

David and JP Bolou stopped by with their truck. I was so busy teaching, I didn't even notice how they managed to put the very heavy mélangeur into the truck. Anyway, it was good to see them. I was concerned when they asked for the papers, as these were with Mathurin, who had taken care of the customs details and therefore not immediately available. Apparently Gagnoa is a place where officials stop you when you have something showing in the back of your truck. But they had no troubles. Probably because it was Sunday and the officials were at church. The picture is of the tail-end of the truck turning the corner, with David riding in back for 5 hours over rutted roads!

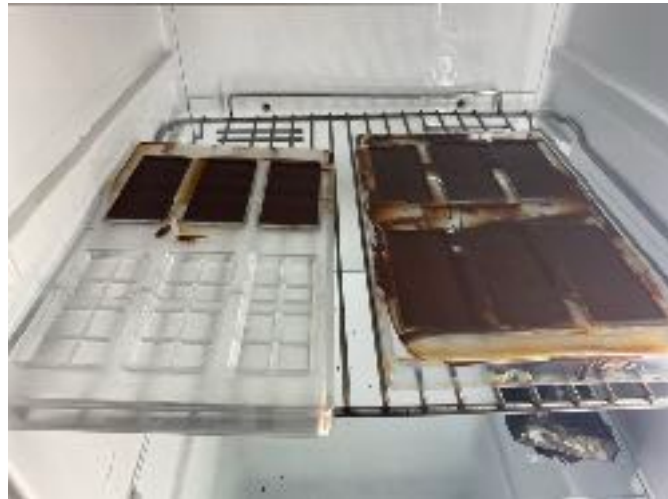


Left, we could use the vibrator on the tempering machine, however. I showed Roger, Klaus, and Antoine how it knocks air out of the chocolate and makes the top surface of the bar more attractive.

I also showed them how to tell when the chocolate is almost ready for un-molding—by turning the mold over. The clear parts are where the chocolate is pulling away from the plastic. When the bottom is 100% clear, the chocolate is ready for un-molding.



Left, Roger learns the importance of reheating the chocolate so it isn't too thick when you spread it in the mold.



Right, the teacher's bars and the student's bars. I explained that just as one cannot become a lawyer after one day of study, one cannot become a chocolate maker after merely a day either

Right, the 100-g bar mold, filled.



The 100-g bar mold shows the chocolate beginning to pull away from the plastic.





Left, disks beginning to pull away from the mold.



We wrapped disks and bars in foil. Roger will have to contact a printer to get help designing the paper sleeves.



Our tasks completed, we finished around 2 PM, ate lunch, went to the hotel, showered, and headed southeast toward Abidjan.

In Yopougon, which is northwestern Abidjan, we went to the Cosmos to buy an air conditioner for the wrapping room—where surfaces and products must be cool so the appearance of the chocolates isn't ruined by greasy fingerprints. Unfortunately, the fancy store wouldn't accept credit cards. So, we'll have to send a bank transfer.

We arrived at the airport with plenty of time. I spent an hour and a half in line, which was not easy. Once I'd checked in, I went back out into the front room and spent 45 minutes with Roger and with Dr. Brou who is the president of the Yedie cooperative. We agreed to meet in September when perhaps I'd have some news about our project with TechnoServe.

Well, it was a very productive trip. We have sown some more seeds. Thanks to the Board of PH&F for their support! And thanks to Peggie for adding so much richness to the trip. She was very much appreciated by our hosts. Onward and Upward!

Tom