**Fed1CC - Ir. Agronomist Fedecacao, Marcella - 23-6-2022**

**You already explained quite a lot about the production, but I would like to understand the system better. There are many producers, and I would like to know where they sell their cocoa, and how is the process from the land until the export.**

It depends on the area where the producers are located. For instance, in the Santander Department, precisely because it is the department where the largest cacao production is concentrated, there already exists a more established commercialization chain. They sell the cocoa bean to either individuals, to associations of producers, or purchases that are in the area. For example, the National Federation has some points of sale in Santander. When the cocoa is projected, that it has been sold for export, it must comply with some rules that are included within regulation 12-52, which is the ICONTEC. Then, the whole issue is done there, at the point of sale, everything related to quality is checked to verify if it is met. And the purchasing dynamics is that, once the producer has harvested, has gone through the entire processing, the cocoa is carried in sacks to the municipal centers or heads in order to proceed to the sale of dry cacao beans, and depending on their quality, in some areas there is a reward that acknowledges that difference in quality. That is my knowledge. In some areas, as for instance, the Arauca area, some associations of producers are buying cocoa beans in pulp form (“in slime”) with the aim of having a single process of fermentation and drying, which will allow them not to have different processes, but a single one to unify quality. In other places, the cocoa is received as dry beans, as we saw in the fermenter. Then a direct purchase is made there from the producers, in those two forms, the cocoa as pulp or the beans already dry.

**From the association it goes to the cooperative, and then to the Federation. Or how does that work?**

There are also other companies here that make purchases, such as *Casa Luker* and *Nacional de Chocolate*, which are industries that have financial muscle and are present in many parts of the country, where they buy and also process cocoa beans. So, there is the National, they are the first commercialization front, and depending on the quality of the grain, they use it for the national industry, and the one that is of better quality, for export.

**What is the role of Fedecacao in the process of selling and exporting cocoa?**

The federation has… We also export dry beans. In the region, our role is, through the Technology Transfer Program, to accompany producers in the dynamics of improving harvesting and processing practices. In other words, from the very moment of harvesting the cob, what is the optimal harvest point, how should fermentation be done, and how should drying be done, with the possibility that those who transform or want a better quality could easily access the product. That this process that has been carried out in the crop, in the already established crop, the quality is not lost in the post-harvest. It is, as I had mentioned before, the Federation has some points of purchase, in Santander, primarily because of the volume it handles. In other areas, it has not been considered because cocoa production is very dispersed at the national level, so that must be linked to production. In the case of Santander, the last year, of the 69,040 tons that were produced, 28,000 were provided by Santander, so that is why the points of purchase are centered there because there is a bigger volume of production there. So, we advance and accompany in the production chain, and already in terms of post-harvest, sales/purchases and exports, specifically in Santander. We are bearers, and we are aiming to improve the quality of the beans, but we know that there must be joint efforts from everyone because if there is something that encourages the producer, it must be that price differentiation so that he improves the practices of his cultivation and post-harvest.

**What do you consider challenges in the system now in this sector?**

The challenges that we are currently working on is the improvement of productive trees, what we call renewal. In other words, that is, that those old hybrid plantations, we can renew them with materials that have already been identified, that are already products of research with aim of improving productivity and reducing the incidence of pests and diseases, and that we increase the production of fine cocoa regarding flavor and aroma. That is one of the targets that the Federation has. And here, there is an urgent need in the sector of improving the commercialization that the producers can be more... That they present a greater interest to that point, that is crucial. We have a big interest; many focuses in accompanying all these families. Also, obviously, increase the sowed areas, the areas that are currently established, which are close to 180,000 hectares. That we can increase those areas that we currently have established in different parts of the country because we are located, as I had already mentioned, in a wide coverage here in Colombia, doing all the technical support.

**From a social perspective, what challenges are producers facing?**

Challenges that we find a lot when we go to the properties, we find elderly farmers. Farmers who, mainly, already have a mindset and a way of working, and it is difficult in some parts and some regions, for them to implement a renewal of productive trees because they feel that if pruning is done, they are going to lose the harvest, and that their trees are probably not going to be the same again. However, what we intend there is to increase production, and at the same time, improve the quality of life of the producers because precisely as rural managers and promoters, we cannot only focus on production, on the trees, but just, as it has always been, the farmer must be the main actor in any production chain, and the social aspects have to work together with the technical issues. The farmer welfare must be... Well, thinking of the same package. It is then where we see that we have to catch the attention and interest so that the young people start replacing the old ones. In other words, not because older adults lose importance, but it is necessary for young people to start supporting those older adults who are already losing strength. In this way, it would be offering opportunities to young people to stay in the countryside working because we have many young people moving out to the cities to do other activities because the countryside is not that attractive. It is creating those opportunities.

**And do you know why?**

Many of them because they see that physical exhaustion and the lack of opportunities in their parents, in their relatives, in their acquaintances. For example, the last time I was interviewing with an official from SENA, they told me that people that stay in the countryside they might feel they will be stuck since they do not have any orientation to become a professional, or to move to a different field. If they stay there, they feel they are stuck. Therefore, that lack of opportunity to get a secondary education and go to a university is considered as improbable.

**What do you do to offer that opportunity to young people?**

Currently, we have a program called Young Inclusion in some areas of the country specifically where we are attracting the attention and interest of young people. We have been doing that. Likewise, when we do any type of training or meetings, we try to encourage young people to join us in these dynamics in order to get them more involved.

**What do young people need to stay in the sector?**

I think that, providing them with the opportunity to keep learning and growing. If only with something like that, with education. Because if I have an education, I will have the chance to perform a specific function or project, in a certain position, and in addition to being able to do it, I can implement it in my property. This would be like showing them the different possibilities, but in a tangible way, not in a romantic form, but in a demonstrative way.

**You have said that, in your renewal programs, they are sometimes difficult because the producers do not understand that it is important, or they think they might lose their harvest. How do you deal with it?**

How do we deal with them? Always with a producer... As rural managers and promoters, we learn a lot from the producers because they are the ones who have the knowledge. And in addition to knowledge, experience, and wisdom. In a very respectful manner, one must deal with them to do a job, which, if they do not let me treat a certain number of trees on your property, what I must do is a demonstration on a certain number of trees, so that they through observation they could verify that we are offering them a technological offer that really brings results. I must highlight that the producer is a person who tries to secure his job, and it is through observation of what they can visualize, of what they can feel. That is why we have different methodologies. For example, a technical tour. In a technical tour, what we do is share knowledge from one region to another. Therefore, if I bring some producers from the west of Caldas, and we go on a tour in Quindío, we are going to show them how it is a dynamic from one department to another, with the intention that they can observe the technological service that we provide in a visual way and through of the experience of other producers. In this way, they can see that it is true. It is through observation and real events that we can catch their attention.

**How do the practices change among the different parts of Colombia?**

The dynamics are different, and that tendency also depends on the cultural issues in each region. For instance, if we take the department of Arauca for comparison, where, by using not large areas, we can get high production. We can compare this with, for example, Santander, where there is a bigger area of cultivation but with lower production. Or when it comes to Quindío or Caldas, where there is a transformation process in which cocoa is becoming an alternative, and therefore, many producers are trying it to experience how it is. It is like an experiment, and therefore, it depends on the dynamics and functioning of each region. Precisely, in Arauca, as there are already some materials, such as Arauquita, Saravena 13, Tamedoso, which are materials already from the region, the producers become more involved, and people have a stronger cocoa vocation. It is a department that has been growing therefore, the objective is that, when new areas are established, with regional materials, we as technicians could provide the producer with the best technology and consultancy. In which way? Indicating the materials that are more suitable for the region. For instance, here for the region it would be Federación Carmen 2, San Vicente 41, Fear 5. And then, we observe how they work because there are some materials that perform better in some regions than in others. And together with that, the quality of the accompaniment and consultancy that we could offer from the start, during the maintenance until reaching the production.

**Is the Federation working on sustainable issues?**

Sustainability… Sustainability for as is considered as when we establish a cocoa crop, our target is to do it under agroforestry systems. If we talk about sustainability topics, then it is clear that a crop must be sustainable throughout the time. Currently, it is friendly due to CO2 capture, the biomass that is generated and the contribution it makes to the soil. Because, precisely, when we did the tour, everything we saw… Because we do not act, there we find wild animals, different birds… Then, in addition, this system is useful for us, as biological dealers, to recover areas. But we do not idealize, and we are not romantic. We go to recover, and we connect ecosystems when it is agronomically viable. Thus, we must check the soil so that it is suitable to harbor new areas. But yes, there is a very interesting topic. Environmentally, cocoa cultivation is linked and connected with the recovery of degraded areas as long as the soil and the weather enable it. Then, I do not really know if when you are talking about sustainability, this is included in it because the term sustainability is very vague.

**Yes, yes. It is also interesting to know how you see the sustainability topic, what is sustainability for you all.**

Yes, and here in Colombia, for instance, we have 40 – 50-year-old plantations. Therefore, here there are different materials and a wide genetic reservoir. *Acriollado* cocoa, regional cocoa, which are the ones we handle and promote, and there is a huge genetic diversity. Thus, this is the contribution I see, the genetic side is also linked with sustainability. And sustainability from a social perspective, as cocoa is considered as a crop where families become closer because the kids, for instance, can participate during very short shifts helping their parents to harvest. They do not see themselves suddenly forced to use tools that might lead to wounds, but they have some activities that contribute to grouping the family together, and where the children from many producers have already become professionals and had opportunities as they have one, two, or even three hectares of cocoa established. Hence, helped by other producers, but cocoa contributes to help those children reach a professional level or perform another word.

**Therefore, it is common that a family produces cacao, with all the members working at the properties. Men, but women as well?**

 Women… We notice quite often that the one having an organization role is the woman. We see that a lot in this region because a woman might be more likely to be organized, without saying that men are not, but one can be multifunctional. Then, women have a great contribution. In addition, regarding transformations, we also find associations of women already formed, who already transform, participate, are active, they make proposals… Therefore, this perspective here in the guild is quite common.

**Before, you already said that you are not working with waste yet. Are there investigations or projects to use the generated waste?**

Yes, there we should consult the area of research, as I told Ariana, here we take the cocoa husk, we bring it to specific points, where it is processed in order to reincorporate it to the crop once ready.

**But you do not value residues yet.**

We do not have that quantified; we should consult the research department in case there is any product which is likely to undergo a study about the utilization of the waste from cocoa husk. But I think it is possible, we have been giving it the value it deserved, there are already diverse by-products obtained from cocoa husks. Even for craft is being used, yes.

**If you could change or improve anything within the cocoa sector, what would you like to change?**

What would I like to change? That the producers improved the processing, the post-harvest, and that they had proper processing and drying units. There we must avoid fractures in order to provide a good production, but if we do not have a good processing, then we have flaws. And in many properties, we see that they do not have good processing units.

**To improve the quality and production.**

In order to improve the processing and the quality of beans because in some areas they do it in a very rudimentary way, they ferment on canvas. They dry on cement, in the backyard, and as this is food, this is a product that, due to safety issues, must be treated in isolated environments, to avoid the direct contact of beans with animals, in case they are in that backyard.

**Is the money farmers gain enough to make a living, to have a well-being status?**

To reach that equilibrium point, from three hectares onwards, well sustained, a producer can make a living from a cocoa cultivar. Therefore, there is one of the claims of the producers, to have price differentiations because if in the commercialization area, or the area gives the same reward to the producer that does not mind about taking care of the beans as to the one that makes a big effort, then they say “I am not going to get tired, simply I am going to do what it is priority and fundamental”. But if there is a price discrimination, then I believe that the producers will get more involved and become better disciplined in that sense.

**Are there many associations that have a seal as certification?**

Yes, certifications regarding good farming practices, certifications in properties that produce organically, and there are several certifications that some properties have. Indeed, I have understood that, if there are different productions, there are some external clients that precisely look for certified producers with the linked tracking. But another matter of relevance here is about cadmium.

**Cadmium?**

It refers to the presence of heavy metals in the soil. Regarding cadmium, we must be careful because there are some markets that are already performing multiple analyses, establishing allowed values. In other words, there are certain tolerance levels. If the levels of cadmium are higher, a whole cocoa cargo can be rejected.

**Is this a problem in this area?**

It is not generalized. For instance, here in Caldas, we know that there are some towns that do not have cadmium presence, and that is a metal in the soil. Therefore, it is necessary to check those areas and get started on the issue because it is a limitation for the commercialization.

**What do you do when there is a lot of cadmium in the soil? Is there something that can be done?**

This is a problem we have been already facing. The first thing that should be done is to identify in which areas there is cadmium, right? And simultaneously, there are some fertilizer products that we should not formulate because they increase the levels of cadmium in soil. But regarding this topic, we have been already working on it. There is still a lot of work to do. Firstly, it is necessary to identify in Colombia, depending on the geographical areas, where we have cadmium and how we can remediate or lower the degree of cadmium in soils, in those areas where it is present because there are still areas free of cadmium. Right now, I do not really remember, but I do know that, for instance, *Luker* has already a map where some areas are already indicated based on cadmium presence.

**It is a problem…**

Yes, at least the European countries, those already… Simultaneously to the quality issues, there are some waste issues. If there are traces, then the commercialization is cut off. I do not consider it as a limitation, but we must direct efforts towards that topic.

**I am going to show you an image about what we are working on. It is a concept called BioHub, and the idea is that in this green area, there are different communities that produce waste, such as cocoa husks, coffee pulp, for instance, pruning remains… These can be transported to a biorefinery where they can be transformed into another product, such as biofuels, biocarbon. Biocarbon can be used again in the area, and biofuel can be used again, for instance, in the maritime sector that needs more sustainable fuels, and it is looking for alternatives. What we want to understand here in Colombia is if it is possible to reach a system like this, and in which way this can be achieved. In addition, benefits can be generated for those communities producing biomass. Well, this is a win-win system between the final sector and the sector that produces biomass.**

Is it cyclical?

**Yes, that is the idea, yes.**

¿From which volumes would it require? Because if we discuss volumes, it would be in Santander, as it is the district with higher production. It is interesting because this is closely linked to the social aspects.

**Yes.**

Then, my proposal would be to check it with the research department to find out what works we have been doing occasionally, or which are the advances related to cocoa husk. And then, us, as a Federation, from all the information we could offer you, we could reach an agreement, sign a contract… For everything you require, we have a human team along the whole Colombian area, and we would be willing to work, of course.

**Really? Because which role can Fedecacao have in a new system or project?**

The role we have here is that we have the knowledge about the producers, the areas, and handling. And then, in this topic, we would deal with it through research. This is what I think because as it is, we have research from previous years on cocoa husk waste. There might be some work already done, but they have not been connected. But I believe it is a proposal that we can and should work on. There is the need. Therefore, it is something known for everyone.

**Okay. ¿What benefits can it offer to the sector and producers of the region?**

We might change the idea that cocoa husk is not considered as the harvest and is thrown away. Conversely, we would invest in that biomass for the crop or to make a profit. Because producers might like it as long as the product received can be seen as an economic contribution, either in their property or as a money income. Therefore, precisely, that cocoa husk would not be considered as a waste to dispose of, but as an element that can be reincorporated in the value chain.

**Do you foresee any challenges to organize a new value chain from waste here? Which limitations might it encounter?**

The limitations would be that I do not have the knowledge, for instance, from how much biomass energy can be generated, or other by-products. If this is already standardized, or we start from an experimental process.

**Yes, it is still experimental.**

Then, I see that, precisely, as it is in an experimental stage, that is in what we should get started, how much biomass do we need to produce a product that gives a profit. A profit that can be either as a by-product that can be reused in the property or as an income for the producer.

**Based on your experience, is the culture open to projects and changes like this?**

They are. Here we need investments. We need investments, and here in the social aspect, there is a lot still to do. Our producers need that accompaniment, and this is not an occasional service of one or two years, but it must be turned into an endeavor and a culture. But to reach that point, there must be a continuous support, it might not become into a “well, we were an experimental year. And that is all.” Because it is there when the producers feel abandoned. Yes, it must be cyclical, continuous, to keep them motivated. Middle term results are essential because when they are long-term, when results are not as expected, then they feel as they wasted their time.

**Then, it is important to have contact, continuation, and present results.**

Visually. For example, if we are going to transform the residues on the farm to reincorporate them or convert them into organic fertilizer, if they are small processes that I think we can start, and at the same time, look at them not only as an investment in the property, but as if this product could also generate other benefits, and see that if it is part of a whole process to generate other types of energy.

**And what about transportation issues? Because now the farmers take the byproduct to an association, to a specific place. Do you think that would be possible with waste? That they also transport them?**

What you are asking me is the way in which they transport...

**Yes.**

We have at municipal, local, or regional level, there is always local transport. When we came, did you see a Jeep come down?

**Yes**.

Then, that is one of the forms here, in the lane. Depending on where it is located, there are some producers that use marine transport, others carry their products on horses until a certain point, and then they use a car. There are other producers that have their own transport. That depends on the producers and their purchasing power, and where they are located. But our Colombian producers are very resilient, they are very proactive, hard-working people. As I said, we can learn a lot from them, a lot. And that word, resilience, I think it can be 100% applied to a producer, to a Colombian farmer. They are very recursive, strong, and proactive people, but precisely because of that, there are some that are left behind because they become tired. And the support is needed, but there are also many producers that reached an equilibrium, that they have their production system already channeled, they already have clients. That also depends on the dynamics of the regions, and also on the existing opportunities, but they are people willing to work.

**Do you think that, if we develop a new system, that might disturb or damage the already existing system? Do you think it would have negative effects?**

No, I don’t see that. No, because it is basically checking and visualizing a product that is a residue, how we can maximize it. Therefore, I do not see it might disturb. But as it is being used now… Now, for instance, the husk is used to produce compost. But if the husk is taken, then compost cannot be made. Is it a problem? No. As it is a biodegradable product, what it does is leave it… In the batches, when we perform a phytosanitary control, it remains there, or what it is done in some areas, in some properties, is that they harvest, they pile the cocoa, and then they treat the cocoa there. But in many properties, the cocoa husk has not the value it should, it is a residue for the property.

**Last, I would like to understand the different actors who have a role within the sector, and how their positions are regarding power. If they have the power to make decisions, to influence, if it is high or low, and the possible interest in a new value chain, if it is high or low. We have different stakeholders in the graph, and I would like to ask you how you see the graph. For instance, Fedecacao is here, but I do not know if it is true, or if you think it might fit another position…**

Well, this is like a reading, from the bottom to the top, right?

**Yes, this indicates power.**

Power? Okay.

**And this interest.**

Then, what I can see here is… We are in a high-power position. Cooperatives, energy suppliers, biorefineries, national and regional power, platforms… In interest… Here is Fedecacao, or cacao farmers, academia, transport… How is it positioned here? It indicates a high interest.

**Yes, but I do not know if it is true.**

Yes, it has high interest. Here it has power… Power between low… I would say here as it is, it is like three fourths.

**Three fourth, true. Do you think it is true that they have that power in the sector?**

High power. Yes, due to the information we handle regarding producers, yes.

**And, for instance, where cocoa farmers are placed. What do you think?**

The interest, for me, is correctly placed. They have interest. A strong interest because if it is a by-product that is produced in the property and a better use can be given to it, then the interest must be high because it is going to generate a benefit. But depending on the perspective, I analyze it… What is the power of the farmers? For me, it seems that their power should be high.

**Higher?**

Yes, I believe it is like this. For the cocoa, I think it is alright, the power. Power, I would leave it here.

**Why**?

Municipalities, cocoa suppliers. A specific example, when a municipality works with rural development administrations. A municipality cannot access the same information that Fedecacao and its associates have. It is not about being able, but as it is not the only value chain, the only production chain they handle, then our interests are all focused on cocoa producers. Therefore, we have more updated information, more real.

**Therefore, in the municipalities, the power is lower.**

I would leave it here.

**In the middle?**

Yes, yes.

**What do you think about the regional government? Does it have interests in projects like this?**

Regional?

**Yes.**

Well… regional governments… For example, Caldas government is open to research topics that might improve the quality of life of the producers. I think so, yes, interest and power are high.

**Is there any actor missing?**

Commercialization ones… Let me see… Biomass collector, academia, cocoa farmers, Cenicacao, Cenicafé…

**Cenicafé, but it does not have cocoa institutions.**

No, not in cocoa.

**Well, okay.**

Cooperatives…

**Yes, which role do cooperatives play in the sector?**

I think here, in this chain, it would be *Nacional de Chocolate*, *Luker*, as they also carry out research topics, commercialization…

**Do they have interest in the residue-related topics?**

Yes, yes. Which other actors within the chain? (Whispering). I am going to look for that information, Susan, because we have information about the cocoa chain, and in that way, we do not leave anyone out. [She reads all the actors in the picture]

Yes, there are actors of the chain that are local because here, I think you have all the actors involved, for the transformation and delivery of the product, right?

**Then maybe companies and also associations?**

Yes, associations of producers. I see here the cooperatives, *Nacional de Chocolate*, *Luker*…

**Where would you place the companies in terms of interest and power?**

Interest, I would put them here.

**A bit lower than Fedecaco, but they do have interest, and power.**

For instance, *Nacional de Chocolate*, they have properties. Properties to produce material. Therefore, for *Nacional de Chocolate*, it is good to know that a by-product can have an additional use because there is additional profit they might generate. And *Luker* as well.

**And the national government?**

Yes, of course, they are the ones that have to be there.

**Do you think they have interest, that they have policies…?**

It can be a proposal with the Ministry of Agriculture, it is viable. The national government keeps working the cocoa chain. From the national government, the ministry of Agriculture, I think it is possible.

Producer associations. Here there are cocoa farmers, people buying their products, pro… Ah no, processers no because they already get the product almost finished, but ready to process. Associations, *Nacional de Chocolate*s and *Casa Luker*.

**Thank you very much.**

In this way. Cooperatives, of course, as long as they have associates who are cocoa farmers or people that… Now we have cocoa farmers that have established from 500 plants onwards, as well as other commercial cultivars here in Quindío, and it would be trying with them, as they have 10, 20, 30 hectares. It would be possible to work with them. It is a process where they have a bigger volume, and they are mostly professional people. That enables reasoning the processes. In Quindío there is a relevant number of producers that you could work with… they work in a business-oriented manner.

**Bigger…**

Exactly, larger areas.

**Thank you very much. I do not know if there is something that you would like to share regarding this topic that we have not talked about yet.**

On behalf of Fedecacao, we would like to thank you for the visit. We are a guild of cocoa farmers, we are working, and we will keep working for the well-being of our producers, with the aim of growing. Therefore, any support that arrives to improve the quality of life is welcomed. Thank you very much, this is your home. Thank you, Susan.