

Summary: PARDI Process Report – Orinoquía Region

The Javeriana University, NES Naturaleza and WWF convened a group of key stakeholders that could support the process of defining the points and the PARDI model relating to oil palm plantations in the Orinoquía region of Colombia. Therefore, the first workshop was organized with the participation of 14 stakeholders from 11 different public and private institutions with different roles and positions towards oil palm. These institutions were: Palmera Central; Agropecuaria Santa Maria; Cenipalma; UPRA – Unidad de Planificación Rural Agropecuaria; GEF Institution; Corpoica – Coporación Colombiana de Investigación; Fideocombustibles; Instituto Alexander von Humboldt; NES Naturaleza; Javeriana University.

Due to the lack of time available it was decided to hold a second workshop to complete the PARDI model with the participants from the first. The second workshop was on 16 March. Because of the participants' tight schedules, the second one's attendance was much lower than the first. This workshop had the participation of 6 stakeholders from 5 different institutions (Palmera Central; GEF Institution; Corpoica – Coporación Colombiana de Investigación; Instituto Alexander von Humboldt; and Javeriana University).

After the two workshops of the first semester of 2016 the "OPAL Colombia Team" finished a PARDI that included the views of all the participants regarding the issue of: *The lack of comprehensive and responsible planning of the oil palm socio-ecosystem in the Orinoquia region*. As seen in the Figure 1, there were 10 resources identified (i. Natural ecosystems; ii) Water – rainfall regime; iii) Water; iv) Soil; v) Transport infrastructure; vi) Workforce; vii) Land prices (property); viii) Supplies; ix) Seeds; and x) Information). As well as 17 stakeholders involved, being the Oil Palm Plantations the one that concentrates more interactions, and 17 processes, 10 of which were related to ecosystemic dynamics 5 to socioeconomic dynamics, and 2 to the oil palm production process.

Due to the low attendance of the second workshop the "OPAL Colombia Team" decided to develop a second phase in order to validate the PARDI that was built after the workshops (Figure 1) and guarantee the inclusion of all the stakeholders' opinion. This phase was led by Maria Fernanda Pereira (Javeriana University) who interviewed 11 of the participants of the first workshop. She exposed to them the PARDI while asked them for their feedback regarding all the results, especially about the interactions that were identified.

The results of the interviews were analysed through a frequency analysis and then graphed using a social network tool. After these interviews it was identified that due to the magnitude of the problem: "The lack of comprehensive and responsible planning of the oil palm socio-ecosystem", there were three spatial scales at which this could be expressed and analyzed: Local, Regionally, and National. These three PARDI are presented in the Figures 2, 3 and 4, the darkest lines represent the more frequent relations, the green nodes are the resources and the grey ones are the stakeholders.

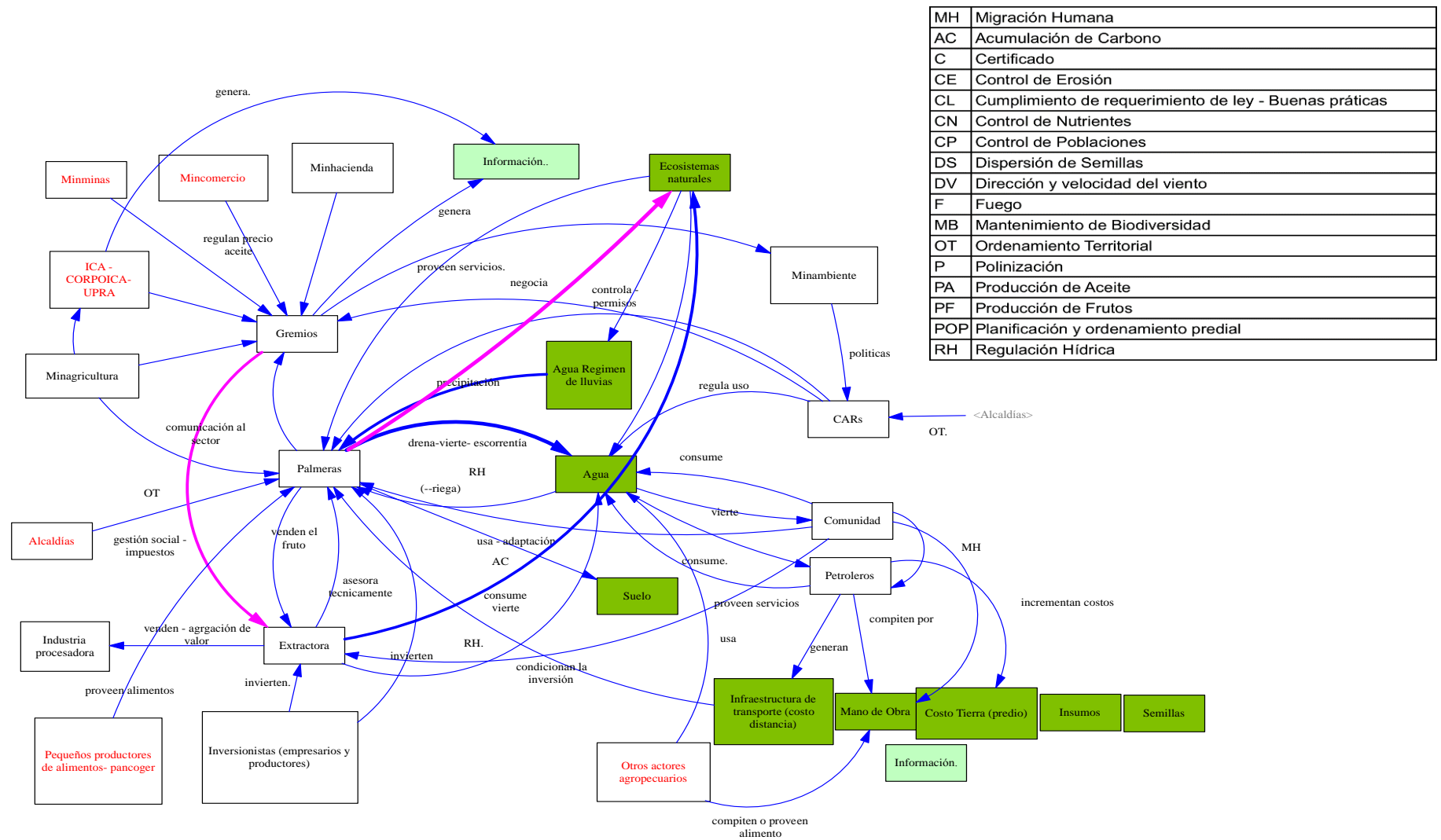


Figure 1. PARDI that was built after the two workshops

- i) PARDI at local scale: This is the densest graph (Figure 2), of the 20 resources that were identified 9 (bigger green nodes) were the ones with more connections. The Plantations followed by the Oil Palm Mills represent the stakeholder with more interactions.

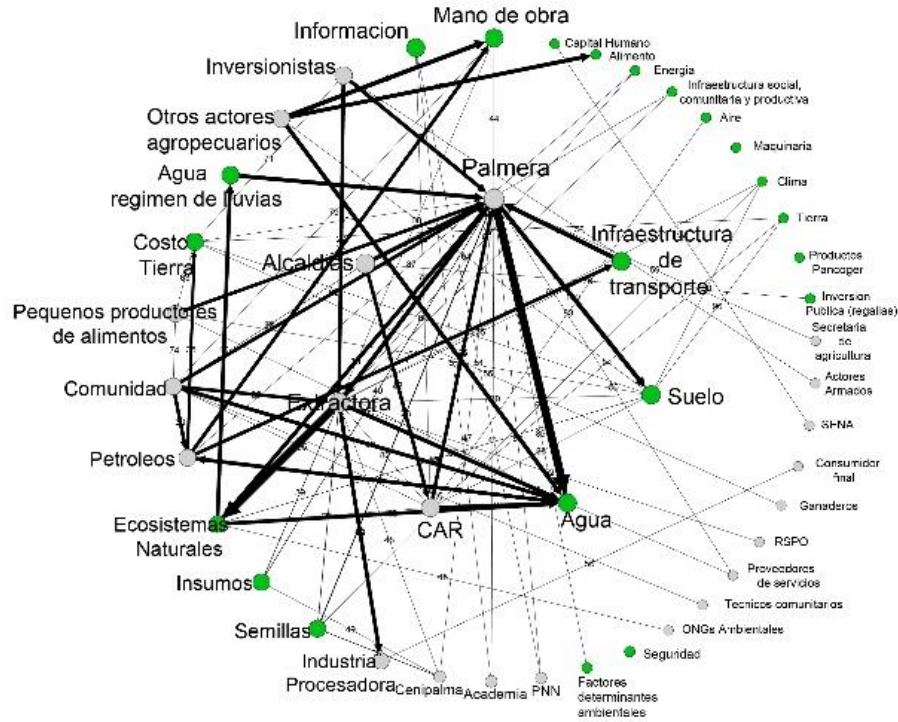


Figure 2. PARDI represented as a network - Local scale

- ii) PARDI at regional scale: This is the less complex scheme (Figure 2), there were 2 resources identified but only the “Information” was mentioned more than once by the interviewed. In this scenery the attention is more focused on the Oil Palm Agroindustry, being the Plantations, the Extraction Mills, the Guild, the Research Centres, the Investors and the Environmental Authority the key ones.

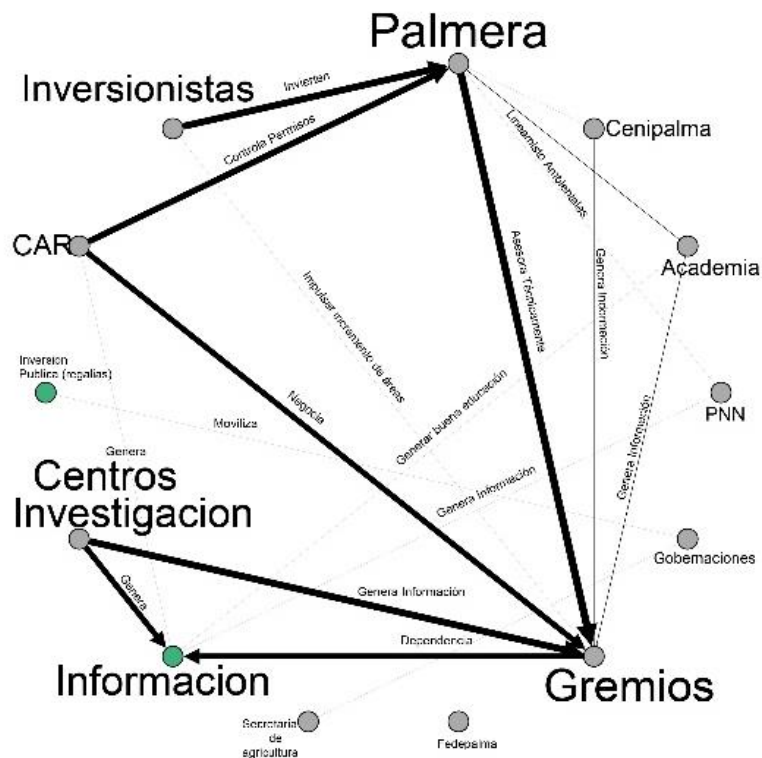


Figure 3. PARDI represented as a network - Regional scale

- iii) PARDI at national scale: In this scenery (Figure 3) there are only 2 resources but once again the information is the most important. The Guild in this context is the stakeholder that represent the Oil Palm Industry because of its role in negotiating and representing the industry interests with the government representatives.

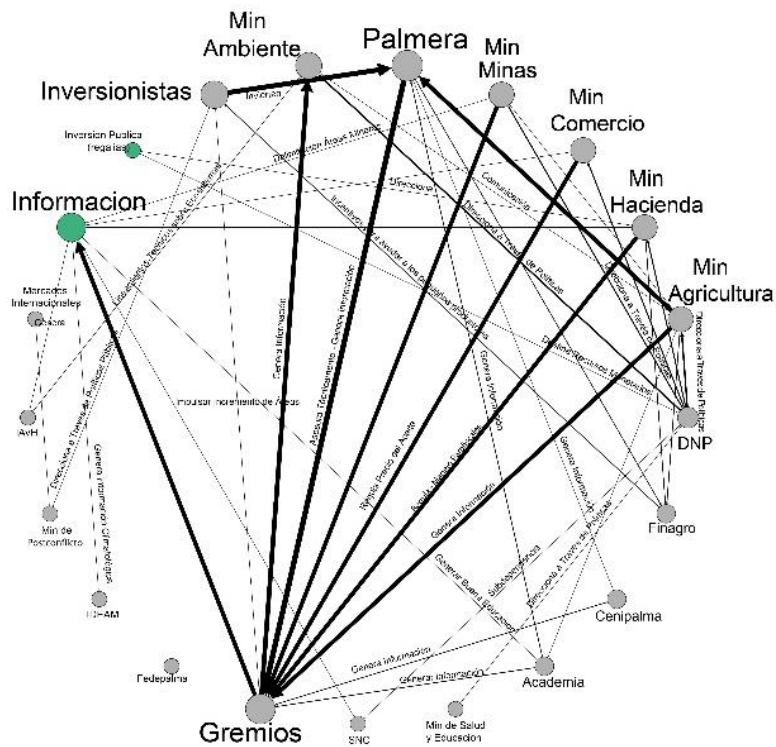


Figure 4. PARDI represented as a network - Local scale

After analysing the characteristics of these three scales of the problem and thinking about the role game as the next step of the COMMOD process the “OPAL Colombia Team” decided to synthesize the information into a unique PARDI that includes the more frequent variables and that could represent the general issues. As seen in the Figure 5 there are 7 resources, 12 stakeholders and 6 processes, in the following paragraphs this scheme is going to be explained in detail.

The resources selected by the participants were:

- Natural ecosystems
- Water – rainfall regime
- Water
- Soil
- Transport infrastructure (cost distance)
- Workforce
- Information

The only resources that were related between them were *Natural ecosystems* and *Water – Precipitation regime*, this because the state of the ecosystems determine changes in the precipitation.

When identifying the formal institutions there are different types, depending to their scale of action and their own nature: there is the local government (Municipalities), the environmental authorities (“Corporaciones”- CAR), and the organizations in charge of the regional planning and research (ICA, CORPOICA, UPRA).

The Municipalities interact with the environmental authorities when defining the Land-Use Management Plans (POT) and the Basin Management Plans (POMCA); and with the Palm Oil Plantations because of the social management regarding the administration, taxes payments and the POT.

In the other hand, the environmental authorities are related to the Palm Oil Plantations when the second ones ask for legal permits¹. Also these authorities interact with the Palm Oil Guild because of the negotiation processes, and with the water due to their responsibility of regulating its use through water concessions and the POMCA.

Finally, in one group there are CORPOICA, UPRA and ICA as organizations that produce technical information and that interact with the Palm Oil Guild as their research can be take into account for benefiting the Plantations and the production in general.

There is also a group of stakeholder that can be grouped as Agroindustry of Palm Oil: the Plantations, the Extraction Mills, and the Guild. It is important to mention that from the PARDI the Plantations were the stakeholders that concentrated more interactions. Apart from the cases that were already mentioned, and in relation with the identified resources, the Plantations: i) use water because they discharge in the wetlands and drain; ii) benefit from the precipitation and more recently are affected by the changes in the regimes (more intense dry and more wet periods); iii) the palm oil crops compete with the natural ecosystems; and iv) they use, adapt and discharge over the soil.

¹ Such as forest harvest permits

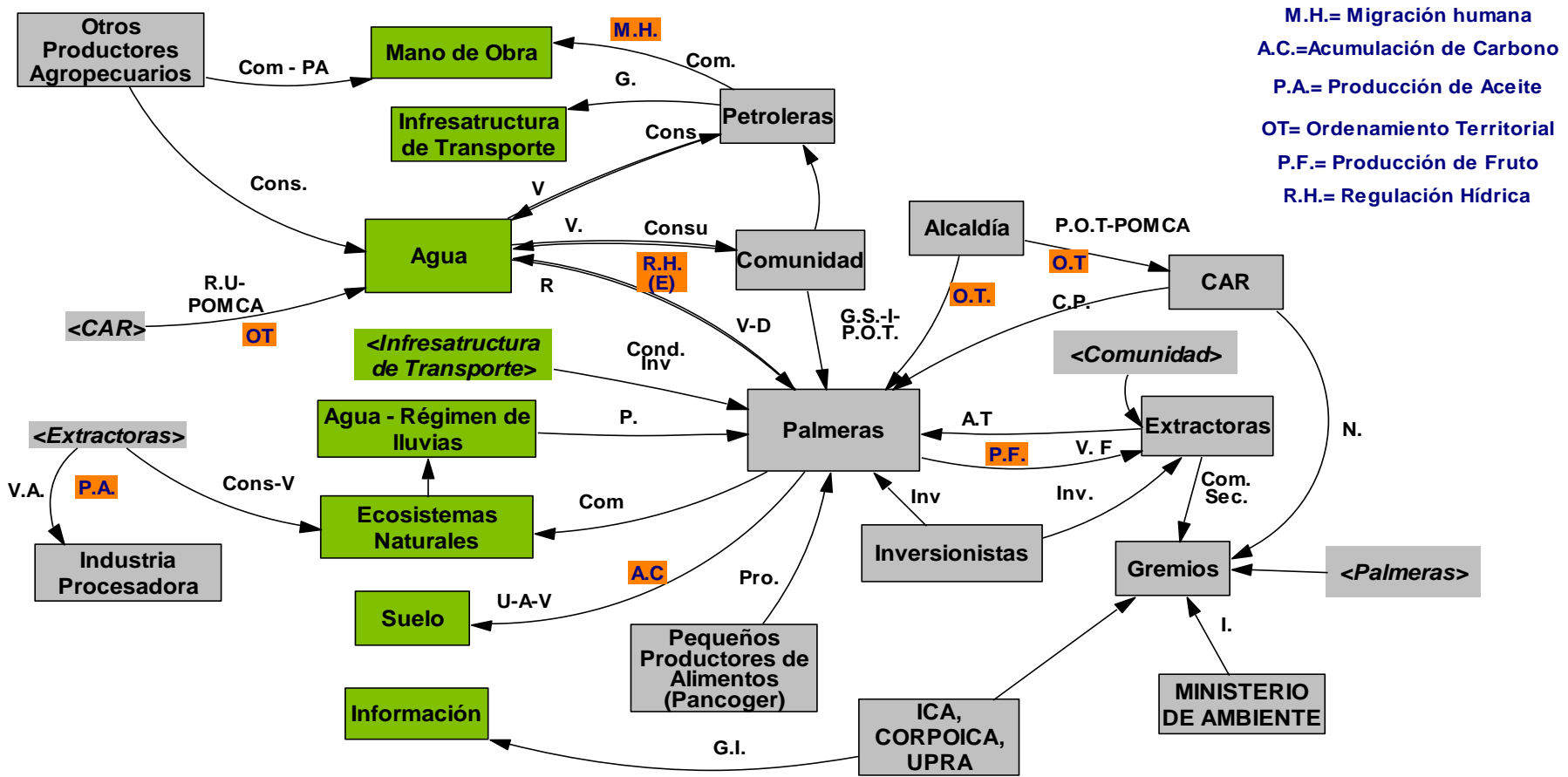


Figure 5. PARDI regarding the issue of The lack of comprehensive and responsible planning of the oil palm socio-ecosystem in the Orinoquia region

Also, the investments in the Plantations depend on the transport infrastructure available, especially because the Orinoquia region has great issues regarding infrastructure and logistics of transportation, which represents great competitive challenges as well.

With respect to interaction with other stakeholders, the Communities are related with the Plantations through productive schemes of strategic alliances, employment relations and the competition for resources when focusing on subsistence food crops.

The relation between the Guild and the Plantations is expressed through the technical advice and support of the first, and the construction of policies for the palm oil industry. About this subject is important to mention that the majority of the Plantations and Extraction Mills belong to the Palm Oil Guild.

When discussing about the Palm Oil Extraction Mills, there is an oversupply that brings difficulties because of the competition in the region. Concerning the interactions, the Extraction Mills buy the palm oil fruit and offer technical assistance to the Plantations. The Extraction Mills benefit from the investment of companies and producers, as well as the Plantations do. They also interact with the processing industry by giving added value to the palm oil, as this industry demands certain quality standards. Finally they discharge on the natural ecosystems and consume them.

The other social actors that were identified in the region were the Petroleum Companies, which compete for workforce, are related to the Communities, develop transportation infrastructure, use water and discharge in the wetlands. There are also other productive stakeholders (such as rice producers, cereal producers, and stockmen) which compete for workforce and use water.

In addition to the resources, the stakeholders and its interactions people identified the processes that support all of these. The stakeholder that concentrates more processes are the Plantations because of: i) the hydrological regulation that determines the water use and the effect of the discharges; ii) both biomass accumulation and Carbon sequestration because of the soil qualities; iii) the land-use planning due to the municipality planning and the regulations of the environmental authorities; and iv) the production of palm oil fruit as an input for Extraction Mills to produce palm oil.

The other processes that were mentioned were of a social and a productive approach. Between the CAR and the water, because of the Basin Management Plans and the water concessions. Between the Petroleum Companies and the workforce, due to human migration for employment. And the production of oil when Extraction Mills interact with the Processing industry.

Next Steps:

1. In order to guarantee the representation of the guild the "OPAL Colombia Team" has conveyed Fedepalma (environmental and commercial area) to participate in a workshop for validating the PARDI and identified new aspects that might be not included before and that could be indispensable for understanding the problem. Acepalma and Uniliver are invited as well, in order to include visions from the productive chain point of view.
2. After including in the PARDI the results from this workshop, the OPAL Team will start to design the role game.