

## ONGOING RESEARCH

# TRANSFORMATION OF THE DOMESTIC AND COMMUNITY PRACTICES OF COCOA-GROWING FAMILIES IN CENTRAL AND SOUTHERN HUILA

Authors:

Blasquez Perdomo Karen Melisa<sup>6</sup>

Perdomo Cruz Emperatriz<sup>7</sup>

### Abstract

This problem formulation report supports the research that seeks to meet the territorial demand defined by the CODECTI (departmental councils of science, technology and research) which is to create spaces that help the social appropriation of on environmental issues in the center and south of Huila demarcated in mission 2 "water and climate change"; which will constitute the intervention and participatory action to establish dialogues and work with the farming community with which it is intended to implement a process of training and exchange of knowledge and practices aimed at 500 families belonging to associations of cocoa farmers in municipalities in the center and south of the department of Huila-Colombia, which will be oriented to the responsible use, care, optimization and preservation of water and water sources in the associated territories and seeks to deepen the use of water not only in cocoa production systems but also in domestic and community use.

**Key words:** Domestic water use practices, Community practices for the preservation of water sources and Cocoa.

---

<sup>6</sup>Social Communicator and Journalist Universidad Surcolombiana de Neiva. Young Researcher of the research group Peace from Peace, - Category C - Ministry of Science, Technology and Innovation, of the Early Childhood Education Program of the Faculty of Education. Young Research Fellow of the call for the allocation for the CTel of the SGR for the formation of a list of eligible project proposals for the linking of young researchers and innovators in the regions to meet the demands defined by the CODECTI. Universidad Surcolombiana. karenbp11producciones@gmail.com.

<sup>7</sup>Degree in Early Childhood Pedagogy and Master in Education from the Universidad Surcolombiana in Neiva-Colombia, Doctor in Education from the Universidad Americana de Europa in Cancun-Mexico, Co-investigator of the Peace from Peace Research Group - Category C - Ministry of Science, Technology and Innovation. Surcolombiana University. University Teacher in the Early Childhood Education Program, University of Tolima, Project Developer in the Early Childhood Education Program, Universidad Surcolombiana in Neiva and Preschool Teacher. emperdomoc@ut.edu.co.

## Presentation

With the urgency to advance actions with sense and social, environmental and planetary responsibility, the research group Peace from Peace through its various actors: researchers, young researchers, students and co-researchers teachers, have been linked to a bet of relationship with associations of cocoa families in Huila, through the project "Alliance cocoa effect". This cooperation is led by the Luker Chocolate Foundation in partnership with USAID Colombia, the Saldarriaga Concha Foundation and EAFIT University, the latter advancing an important relationship with the Surcolombiana University, which seeks inclusive and collaborative rural development that works for peace building, improvement and development of communities that grow cocoa in the Bajo Cauca, Urabá, Tumaco and south-central Huila.

With the link between EAFIT and the Universidad Surcolombiana, a mechanism has been created for dialogue and accompaniment of these cocoa-growing families on social problems. In these synergies, a new project is proposed called: "YumaRedSo: a path of good hydraulically responsible practices with families belonging to the cocoa associations of Huila", whose objective is oriented to: Implement a process of training and exchange of knowledge and practices aimed at 500 families belonging to the cocoa associations of municipalities in the center and south of the department of Huila, oriented to the responsible use, care, optimization and preservation of water and water sources in the associated territories.

This prospective intervention scenario seeks to develop actions of transformation, resignification, intervention, applicability and replicability of scientific activities for the care and use of water, anchored to the global orientations that have been estimated from the Sustainable Development Goals-SDGs (Goal No.6 Clean Water and Sanitation and Goal No. 13 Climate Action), and in strict relation to Emblematic Mission No. 2: Water and Climate Change, as a scenario of joining forces, responsibilities and intersectorial, civic and citizen actions to ponder in the rural life the importance of natural resources, adhered to activities of accompaniment and intervention.

In this work prevail actions mediated by dialogue, training, accompaniment, intervention; therefore, a methodological route mediated by the circles of culture as

processes of community intervention proposed by Paulo Freire is focused, in it, it is intended that these knowledge and practices are configured in the daily events of five hundred (500) families of cocoa associations that inhabit municipalities in the center of Huila such as: Algeciras, El Agrado, Gigante, Potrerillos, Rivera, Campoalegre and Hobo and the south of the department in which the municipality of Pital is located.

Therefore, with the approach of this proposal, it is hoped that the cocoa community can recognize and resignify the knowledge and practices regarding the use and care of water in the daily understanding of their lives, in order to mobilize conservationist learning in the logic of assuming more effective bets to mitigate climate change from rural localities. The actions are not only delimited in the operations that determine the level of agricultural productivity, but also involve community life as a virtue subject to the principles of participation, democracy, collectivity and well-being that contribute to the environmental development of the communities.

It is expected to have an impact on the population by reserving mobility in imaginaries and new water-responsible practices guided by educational approaches mediated by science and cultural practices in which the harmonious nature-human relationship comes to life, which revives life in the peasant culture, in the territory and in the relations of progress and community sense.

### **Problem Statement**

The world has had a historical course of accelerated development in all dimensions of human life, this has occurred at the economic, technological, social, cultural and environmental tourism levels. Although human interventions have been based on progressive actions based on the global economy, in some cases they have generated irreparable damage to the ecology, as well as the extinction of some natural resources. In the recent report of the Intergovernmental Panel on Climate Change of the United Nations - IPCC, a special call is made to all nations, with data that are synonymous with global concern, the report states: "the world has warmed rapidly 1.1 degrees Celsius above pre-industrial levels, and is now rushing towards 1.5 degrees, a critical threshold for which world leaders agreed that warming must remain below to avoid a worsening of impacts" (UN, Intergovernmental Panel on Climate Change. 2021).

Statements such as those presented in the aforementioned report, become the focus of governmental and citizen attention of the various countries that inhabit this planet, this report also states, "the most recent environmental treaty, created during the COP26 in 2021, aims to turn the decade 2020-2030 in the decade of action and support for the climate". This urges nations to establish agreements and official commitments to achieve efficient actions regarding climate change (Green Future Organization, 2022). These categorical calls, take force in the first place, with the configuration of clear and sustainable public policies, secondly, with the determination of forceful actions so that in our country there is environmental sustainability. In the latter, the actions mark a scope of application and efficiency from the continuity in the context of the locality. Alicia Fernandez in her research "Water: an essential resource", affirms that water covers more than 70% of the planet's surface (Visscher 1996) and establishes that:

*At the level of water uses, the world averages are: 73% for agricultural use, 20% for industry and 7% for domestic use. Irrigation is the most important use and perhaps the most deficient because up to 70% of water is lost in transport.*

The use of domestic water is the most demanding in terms of quality and safety of supply, because the quality of water has an impact on human health, which is why drinking water is necessary not only for life but also to ensure good health and to guarantee a good productive existence. According to the WHO (World Health Organization), "almost a quarter of the available hospital beds in the world are occupied by patients whose ailments are due to unsafe water".

In the middle of the year 2023, in municipalities in central and southern Huila, there are still families, especially in rural and cocoa-producing areas, who do not have adequate water supply or treatment systems. Therefore, they resort to alternatives that generate economic growth, such as illegal connections to the public network or directly to rivers, lakes, deep wells or tanker trucks, are mechanisms to which families must currently resort to supply water in their homes; which do not guarantee the quality of water, which generates potential health risks for children and older adults, also incurring environmental impacts on water sources.

Therefore, the traditional development practices that involve the community only

as an instrument of work must be overcome and abolished. Community participation must take place in analyzing, doing and deciding. Therefore, activities include information, education, consultation, strengthening of initiative, supervision, consensus building, decision making and management in all phases of a project (Schwartz and Deruyttere, 1996).

In this order of ideas, along the lines of (Valencia, 1996), who believes that generating management capacity in the communities implies taking on projects related to water issues from a broader perspective.

However, the problem in these families belonging to cocoa associations is not only affected in the management of the communities when taking on projects related to water issues, but also in the associativity that each association represents, since there is no order and sense of belonging to the associativity. For, as it is well stated by (González, 2018), "The effectiveness of associativity is measured in the economic and social welfare that it grants to its practitioners. The strategy of associating in the cocoa sector should be measured and evaluated to find opportunities for improvement".

Cocoa associations in the municipalities of central and southern Huila lack associativity and this affects the economic development of their cocoa production, stagnating the unification of projects for the benefit of associations and cocoa farmers in the region. In addition to all this, most of the cocoa producers are owners of farms and plots that are over 40 years old, men and women farmers who have adopted the knowledge and techniques of cocoa from generation to generation, but the fear today is the thinking of young people who do not want to continue the legacy, but on the contrary, opt for new professional and economic opportunities, leaving aside the life of the field and cultivation, to transform it into new economic mechanisms. Then these farms, no longer continue as productive, but become recreational pasadías for the public.

### **Research question**

¿What is the current situation in the practices of cocoa farmers of the associations of central and southern Huila for the responsibility of care in tributaries of water in its different uses?

## Objectives

### General objective

Implement a process of training and exchange of knowledge and practices aimed at 500 families belonging to cocoa associations in municipalities in the center and south of the department of Huila, oriented to the responsible use, care, optimization and preservation of water and water sources in the associated territories.

### Specific objectives

\*To characterize the knowledge and practices of water responsibility, through the application of an initial and final baseline.

\*To design a program for the application of water responsibility solidarity practices with families belonging to cocoa associations.

\*Implement a qualification process at the diploma level to certify compliance and the acquisition of responsible water practices.

\*Systematize the knowledge and solidarity practices of water responsibility of the initial and final baseline through the development of a booklet.

## Background

Currently there are very few projects that are based on working with cocoa associations, since it is a very specific sector of certain regions of countries such as Ivory Coast, Ghana, Nigeria, Indonesia and others, being Ecuador and Colombia among the few Latin American countries that grow cocoa on a regular basis, it is for this reason that projects like "YumaRedSo" are of utmost importance to make visible the different activities and plans that are designed to be carried out with the cocoa communities in the region.

At the international level, Sustainability of cocoa (*Theobroma cacao*) cultivation in the mining district of Ponce Enriquez. The Camilo Ponce Enriquez canton is the subject of a study investigating the sustainability of cocoa crops in relation to heavy metals. The region suffers from contamination caused by gold mining, which leads to the spread of hazardous minerals such as mercury, cadmium, arsenic, copper, lead and zinc.

Environmental sustainability for the "Improvement of cocoa production and commercialization" in the province of Manabí. In this thesis submitted by María Fernanda García Oquendo to Universidad San Francisco de Quito as a requirement for a Master's degree in "Environmental Management", the cocoa farming methods employed by ACIDI VOCA in the province of Manabí are scrutinized to assess their sustainability against ecological and socioeconomic factors. Recommendations are provided to improve farming practices while identifying the incentives that drive farmers and agencies to adopt them. The analysis also considers implementation challenges and proposes viable solutions to overcome them. Based on the knowledge gathered, the feasibility of an Environmental Information and Training Plan is assessed as a tool to promote environmentally responsible and socially beneficial cocoa farming practices in the province of Manabi and beyond.

At the national level, Analysis of the cocoa value chain in Colombia: generation of technological strategies in harvest and post-harvest operations, organizational, installed capacity and market strategies. In this research conducted by Carlos Alberto Contreras Pedraza at the National University of Colombia, as a partial requirement for the degree of: Magister in "Agricultural Engineering", The quality and value of Colombian cocoa is evaluated since this product has been prioritized in different ways in the country, being known as one of the most profitable agricultural products, thanks to its variety of land whose quality is recognized worldwide, so cocoa can live in a special cocoa niche. However, problems have been identified in the value chain, such as low cocoa quality, low technical development in post-harvest processing in Colombia's main producing areas, and lack of knowledge about quality parameters among cocoa producers.

Perception of the environmental dimension of cocoa producers for the development of a market strategy in the organization el manantial de Coper (Boyacá). In this project carried out by Luisa Fernanda Carrillo Correa from the Universidad Libre, the aim is to analyze the environmental perception of most cocoa producers, since, as The project specifies that cocoa production is a national initiative that requires economic activity in rural areas and therefore is promoted in the agricultural sector of El Manatial, a group of farmers who produce cocoa in western Boyacá. Economic development has initiated the process of environmental certification, which has led this work to demonstrate the impact of the community according to the ideas

and conditions created by factors such as age, level of education and culture, as well as the relationship of its area and the use of material goods.

From the local level, Pre-feasibility study for the assembly of a chocolate factory in the municipality of Rivera, Huila. The research carried out in Rivera, department of Huila by students of the Catholic University of Colombia, was based on a preliminary feasibility study of the concentration of chocolate factories in the municipality of Rivera, Huila. The survey will provide information on the habits of Colombians in the use of healthy products, with less sugars and transgenic fats. In addition, the assembly structure of the chocolate factory will be analyzed to evaluate whether it meets the quality standards proposed by Colombian law.

### **Theoretical and Conceptual Framework**

According to official data provided by the International Fair of Coffee, Cocoa and Agrotourism "In Huila, approximately 2,500 families cultivate more than 8,000 hectares of cocoa established throughout the department in 35 of its 37 municipalities, achieving in 2021 to consolidate the region as the fourth largest producing force in Colombia, contributing 6.8% of the country's annual production, and improving a position compared to the previous year" (FICCA, 2022).

#### **Domestic water use practices**

The violence and historical changes experienced in rural areas have disrupted the traditions and organizations of peasant life. Within the framework of the implementation of a development strategy in accordance with the national model of economic opening, the countryside has become the object of insertion of economic, social, cultural and environmental practices that respond to the dominant concepts of "progress", "development", but above all the concept of "conservation" and thus, in turn, as a result of the urban expansion process, it generates a new rural-urban relationship in which new economic activities are required and the social and cultural construction of the peasant actors in their territory is blurred.



## **Community practices for the preservation of water sources or community water management**

Gerbrandy and Hoogendam (1998). They define community water management (CWM) as the development of water resource distribution activities in a locality, the maintenance of infrastructure, the definition of rights, the organization of users, etc., by several families, who share various activities in the management of the resource. Good water responsible practices encompass a set of principles, standards and technical recommendations, seeking to improve all those tasks or activities that are carried out on a daily basis in the different farms or agricultural operations.

### **Water**

Water is one of the most important natural resources for human beings, and although it is renewable, it is limited and therefore it is necessary to make good use of this resource. Several organizations worldwide, including the United Nations (UN) in its Department of Economic and Social Affairs (DESA), see this resource as "at the center of sustainable development and fundamental for socio-economic development, healthy ecosystems and human survival.

### **Cocoa**

Currently in Colombia there are 3 types of cocoa that are grown in different parts of the country, and each has different aspects that make them unique and desired for different uses either to make cosmetics, powdered drinks or the best known use which is the candy, these 3 types of cocoa are: Criollo cocoa, is the best cocoa mainly due to its pleasant flavor and aroma, low tannin content and used in premium chocolate lines. Cacao forastero, is of lower quality compared to the beans that impart the flavor and aroma to the chocolate produced. However, it provides the industry with other quality conditions. Hybrid cocoa, found in Colombia, is the product of a genetic mix between criollos, foreigners and Amazonians. Uses of cocoa, cocoa is a versatile raw material that finds use in various industries, including chocolate, food, beverages, cosmetology and pharmaceuticals. This has led to an increase in demand, boosting its cultivation in countries with climatic and geographical advantages. However, due to the low level of mechanization in production and the absence of new varieties that meet

market needs, supply is lower than demand, creating limited opportunities. Cocoa quality, there are different quality criteria to identify and evaluate premium or aromatic cocoa, including the genetics of the plant material, the identity, the architecture of the pod and the cocoa bean produced, the chemical identity of the bean and the degree of fermentation, the dryness and acidity of the product, and the relation to derivatives. flavors, as well as the percentage of internal mold and insect infestation, the percentage of impurities, etc. All of the above are part of the attributes that are evaluated as quality attributes and determine whether the cocoa is of high quality and has a certain aroma (International Cocoa Organization - ICCO, 2016).

## **Methodology**

### **Type of study**

This is a research with a PRA approach (Participatory Action Research) with a qualitative nature. This work is a PRA approach because it emphasizes the participation and action of the cocoa community of central and southern Huila, and in turn seeks to understand the environment trying to modify it in cooperation and following guidelines for reflection; for the qualitative approach, (Bonilla & Sehk, 2005).

In accordance with the above, for the fulfillment of the object of study we turned to the "epistemology of the known subject" (Vasilachis, 2003 and 2006), since its contributions to qualitative studies are based on the following elements:

1. Subjects are not considered as objects but as subjects. This refers to understanding diversity and difference, i.e., the identities of subjects in specific contexts (Vasilachis, 2003, p. 28). If the object is recognized as a subject, an epistemological rupture is generated in that its knowledge is validated on the basis of what Vasilachis (2006) calls "cognitive interaction". Regarding cognitive interaction, "if the cognizing subject does not recognize in the known subject the common identity component that makes them equal, it will be difficult for him to admit his own capacity to know, and if this is not accepted, the knowledge obtained will not be the shared result of a cooperative construction" (Vasilachis, 2006, p. 54). 4. The researcher must keep in mind the purpose of his research, that is, "to recognize whether his intent lies in transforming or maintaining the current model of society or

whether he seeks to modify or preserve his position in it, since any indifference on his part with respect to the practice and the results of his research may translate into an act of violence on those who should be considered as equals" (Vasilachis, 2006, p. 54). (Vasilachis, 2006, p. 55). 5. Finally, the validity of knowledge lies in the importance of understanding the subject that is known from its recognition as equal, but at the same time as different in its identity (Vasilachis, 2003).

### **Methodological design**

For the methodological development will be implemented a rigorous work plan, which will be distributed in three phases, the first called phases: Phase 1. Enlistment: We began to focus on the population in order to synthesize a database and socialize the project proposal with the cocoa communities. A survey called "Initial Survey" on previous knowledge of good and responsible water practices has been initiated. Phase 2. Implementation: The development of qualification workshops on the use, optimization, conservation and solidarity practices of water responsibility will be carried out, with a playful-pedagogical methodology of a practical nature, with the collaboration of experts with great experience and academic solvency in the environmental area. Phase 3. Systematization: At the culmination of the project, a final survey will be applied to corroborate the transformation of knowledge of the cocoa community. Also, the socialization and dissemination of the booklet (YumaRedSo: a path of good and responsible water practices) will be carried out. Finally, the experience will be systematized, thus certifying the qualified population.

### **Techniques and instruments**

According to the nature of the research, the instruments proposed for the development of the study will be: Social Mapping. It seeks the active participation of the locals, it is not a centralized and technocratic process, it is a planning that allows its management during the process, this allows to carry out participatory diagnoses where the territory is recognized, for the methodological process of this maps are used that allow to understand and answer what is happening in the specific territory, in this way (Harley,1990). The Workshop. It is used mainly in Participatory Action Research, PAR, which allows participation through the relationship, exchange and dialogue between different actors, Martí quoted by Ballesteros (2014), specifically defines the workshop as "a group meeting guided by conductors-coordinators, which aims to

define and analyze problems, produce consensus solutions; and ultimately mobilize and co-responsible social actors involved" (Ballesteros, 2014, p. 121).

### **Population and Sample**

The population estimates the main communities of cocoa associations of municipalities in the center and south of Huila," According to DANE (2018), the department of Huila has 1,009,548 inhabitants, of which, according to a report of the Governor's Office of Huila, (2022), 3,300 families belong to cocoa associations, which derive their livelihood from the productive activity of cocoa. Casas Anguita et al., (2003) defines the population as "the set of all the elements that meet certain properties, among which it is desired to study a certain phenomenon". The sample, it was chosen to work with 500 families that are part of these cocoa associations. (Patton. M. Q, 2002) states that "in probability sampling, the sample size is usually calculated according to the heterogeneity of the distribution of the variable being studied in the population, and the desired levels of confidence and precision.

### **Expected Results**

It is expected that the members of each family can be qualified to re-signify previous knowledge and transform it with the knowledge obtained. Promote a better use of water for domestic, community and productive purposes. Promote the optimization that allows them to preserve the water tributaries of their territories. In addition, to enhance the power of women and youth in these associations, so that they can lead the productivity of cocoa and its derivatives.

### **References**

- Ballesteros, B. (2014). Qualitative research workshop. Educational Research and Evaluation Program, II, 141.
- Bonilla-Castro, E., & Sehk, P. R. (2005). Beyond the methods dilemma: social science research. Grupo Editorial Norma.  
<https://books.google.at/books?id=REOIWoQuAL4C>
- DANE. (2018). Postcensal studies "National and departmental population projections 2005-2020". Retrieved from <https://www.dane.gov.co/index.php/estadisticas-por-tema/demografia-y-poblacion/proyecciones-de-poblacion>

Gerbrandy, G., & Hoogendam, P. (1998). Aguas y acequias: Los derechos al agua y la gestión campesina de riego en los Andes bolivianos. Cochabamba, Bolivia: PEIRAV.

Harley, J.B, Text and contexts in the interpretation of early maps (1990).

UNESCO (2020). United Nations World Water Development Report 2020: water and climate change. UNESCO. <https://es.unesco.org/themes/water-security/wwap/wwdr/2020>

United Nations. (2020). Sustainable Development Goals 2020 Report. <https://unstats.un.org/sdgs/report/2020/>.

United Nations (September 25, 2015). Sustainable Development Goals. <https://www.un.org/sustainabledevelopment/es/objetivos-de-desarrollo-sostenible/>

Patton. M. Q. (2002). Qualitative research and evaluation methods (3rd ed.). Thousand Oaks, CA Sage Publications. - References - Scientific Research Publishing (n/d). Scirp.org. Retrieved from [https://www.scirp.org/\(S\(351jmbntvnsjt1aadkposzje\)\)/reference/ReferencesPapers.aspx?ReferenceID=757192](https://www.scirp.org/(S(351jmbntvnsjt1aadkposzje))/reference/ReferencesPapers.aspx?ReferenceID=757192)

Vasilachis, I. (2006). Qualitative Research Strategies. La investigación cualitativa pág 26-30. Gedisa Editorial Barcelona.