Purik

A journey to your dreams

Supporting youth from disadvantaged areas in Colombia during the transition to higher education as a way to foster human development.

Abstract

Purik is a framework for supporting youth, from disadvantaged areas of Colombia, to make the transition to higher education. It is leveraged in education and the UN's human development approach as a way to foster human development. The project is structured around the transition phase between high school and higher education, and five criteria that tackle the main hindrances in the youth's educational process. The concept itself consists of four stages that pretend to beat the problem by changing mental models, developing skills, supporting the transition, and, following up in the after-process. Purik tells the story of the "Purik travelers" (students) who embark on a journey towards their dreams, accompanied by the "Purik tour guides" (facilitators) who support them during this trip. It is a project about being able to dream bigger and getting ready to follow those dreams.

This project understands human development as the antithesis of poverty. It takes as its basis the United Nations human development approach which focuses on improving people's lives, providing opportunities and the freedom to make their own choices to live a life they value. Purik is directly related to 6 of the 17 UN goals without ignoring the remaining ones are indirectly addressed due to their interconnected nature.

The research and development of the project are guided by the human-centered design approach. Methods such as immersion, interviews, and workshops made it possible to establish empathic relationships with the different actors. This approach facilitated an interdisciplinary and collaborative work, in which the role of the designer was key for leading the process and agglutinating different views towards a shared goal.

The research process starts with a trip to the Mallama municipality, located in the Colombian pacific region, which has one of the highest multi-dimensional-poverty rates in Colombia. This municipality is largely rural, and faces issues such as the lack of economic resources, poor education, geographical isolation, poor internet access, presence of violent groups, and illegal activities, just to name some. As poverty is what is called a "wicked problem", the research makes use of a systemic approach by implementing methods such as mapping, ZIP analysis, Icerb model and journey maps to unveil the diverse dynamics occurring within the Mallama municipality.

Both the research and literature showed that education could create a significant impact to eradicate poverty, but the conditions of the municipality were stopping this process right after finishing high school. Even more critical, the culture itself was being shaped by the pressure of poverty, limiting the youth's ability to dream and making it more susceptible to poverty. These findings eventually lead to the creation of Purik.

Content

Content

Introduction

Personal motivation

This document condenses months of research, workshops, interviews, conversations, sketches, experiences, ideas, and conclusions that comprise my master's degree thesis. But it all started from a simple dream a young man from a small village in Colombia had, of one day becoming something beyond what his immediate reality had told him he could be. Today that young man is proving himself that it is possible, and his wish is for other young people to be able to explore their paths and become the better versions of themselves they dream to be. Throughout my academic process, I have always been interested in social issues, understanding that my role as a designer goes beyond "making things pretty". I believe in the importance and even the need of developing one's capabilities for the good of society, especially when the society you come from needs solutions so desperately. In Colombia, only a few manage to escape from their disadvantaged reality and enjoy the world outside the bubble of poverty.

Thriving in a country like Colombia is not an easy task, especially for those in rural areas. In 2020, the country reported a national 18,1% of multidimensional poverty, which can be translated to 9.4 million people affected. In rural areas, multidimensional poverty moved from 34,5% to 37,1% due to the COVID-19 pandemic (Portafolio, 2021). Compared with 12,5% in urban areas, it is evident that Colombia also has a huge problem of inequality.

Apart from hindering the chances of living a better life, poverty has the dangerous power of shaping minds to believe such a life is not even possible or deserved. The whole context screams "you cannot do it, and you should not even try". So, from my personal experience and anticipating any outcome from this project, I can say that it all starts by dreaming. Carl Sandburg (2000) said "Nothing happens unless we first dream".

The challenge and research question

Poverty can be described as a wicked problem. It is the result of very complex dynamics between different elements such as the individual, the environment, society, institutions, culture, or government. This complexity can be overwhelming, and even discouraging to think of how such entanglement could be fixed. According to Rittel and Webber (1973, p. 157), this type of problem is characterized by being difficult and seemly impossible to be solved. These kinds of problems are resistant to any given solution, due to incompleteness or fast-changing dynamics that make it impossible to identify them accurately. Trying to attend to a specific spot of a wicked problem can even create another problem somewhere else within the system. Therefore, wicked problems require to be addressed systematically for they require holistic solutions that tackle the problem throughout the different layers that compose it. Therefore, the aim of this project is to shed light on the entangled dynamics between poverty and the process of human development of young people in Colombia, determine what is hindering this process, and identify leverage points to find ways in which they can overcome the reality of their disadvantaged context towards a successful process of human development. Therefore, the leading research question is: **How to foster human development among youngsters from disadvantaged areas of Colombia?**

The antithesis of human development is poverty, says Adolfo Perinat (2012, p. 112), and he even establishes the equation "human development = poverty eradication" So, at this point talking about human development (or poverty eradication) can seem a broad question and therefore a huge challenge, but the process will define it more accurately as it moves forward.

Ethics

Aware of the risks of working with vulnerable people, I have made a concious choice of process to take have taken care of the ethics of this project under the supervision of NSD . Interviewees were well informed and they all agreed to participate.

By Oscar Guerra Noguera

The role of design and the process

The designers' role goes beyond aesthetics. We train the ability to identify and analyze problems and find solutions through an iterative process that includes research and creativity. It elevates the field, and grants designers the competence to produce social impact. For this reason, the design perspective and toolset are relevant to challenges as those addressed by this project.

Being "human development" such a relevant aspect of human beings, I make use of the Human-Centered approach to ensure the human perspective all along the process. Hence, relevant actors take an active part during the research, conceptualization, development, and implementation stages of this project, despite the practical challenges the context presented. In this context, in which internet acces is a luxury, transportation is affected by landslides and criminal bands, illegality is a means for survival and social status, and education is underated, cooperation and creativity become escential.

The Human-centered approach allowed me to create strong relationships with stakeholders and different proffessionals based in trust and empathy. This relationships made possible the different activities during the research, and provided an inter-disciplinar team backing up design desitions, to ensure a solution that matches the needs of the community. As a result of this collaborative process, stakeholders were engaged and it was made possible to delegate someone who further develops the project beyond this master thesis. Creative and synergistic solutions that maximize the efficiency of the limited re-

sources available were also the result of implementing human-centered approach.

The main structure of the project follows a double diamond model organized in its four phases: discover, define, develop, and deliver as the human-centered approach proposes. The two first phases aim to understand the problem whilst the two last focus on the solutions. Each of these two big moments follows a process of widening up and then narrowing down the spectrum (diverge-converge). Therefore, my design process starts by understanding the general reality of poverty and human development in Colombia and the current theoretical framework of human development from different authors and institu-

tions, as well as some key concepts. Later I traveled to Colombia and visited the Mallama municipality in the Colombian Pacific region. Here, I make use of methods such as interviews, focus groups, and workshops to interact with leaders (stakeholders) and young students (users). A systemic approach helped me to identify leverage points to intervene upon.

The two last stages describe a collaborative and dynamic process between researcher, stakeholders, students, and experts from the community in which workshops, planning meetings, and brainstorming sessions (sometimes physical, sometimes online) are key for the development of a solution that meets the need of the community.

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Theoretical framework

Human Development

The core of this project is human development. It will be understood as the antithesis of poverty (Perinat, 2012, p. 112). According to the United Nations, human development (or eradicating poverty) is a process of expanding the richness of human life, rather than simply the richness of the economy in which human beings live (Human Development Reports, n.d.). The United Nations' Human Development Approach focuses on "creating fair opportunities and choices for all people". So, people, opportunities, and choices are the three fundamental concepts of this approach. The United Nations employs the Human Development Index (HDI) to measure the human development of a country, assessing dimensions of life expectancy, education, and Income. In 2019, Colombia ranked 83rd in the HDI ranking.

UN Sustainable Development Goals

The member states of the United Nations have agreed upon a plan to achieve peace and prosperity: The 2030 Agenda for Sustainable Development. It sets 17 goals that aim to end poverty through strategies focused on health, education, inequality reduction, and economic growth. At the same time, the plan continues the strategies aimed at preserving the oceans and forests and tackling climate change (The 17 goals, n.d.). This project is aligned with the UN vision and goals, and it directly targets 6 out of the 17 goals: No poverty; quality education; Reduced inequalities; decent work and economic growth; peace, justice, and strong institutions; and partnership for the goals. However, due to the interrelated nature of the goals, the remaining ones are also indirectly considered by the project.

Mallama Municipality Development Plan

Colombia as a member country of the United Nations aligns its development plan under the same framework. Therefore, the Mallama Municipality Development Plan 2020-2023 (Alcaldía de Mallama, 2020) already takes into account some elements that are relevant to this project, such as:

"ARTICLE 2.– VISION: [...] recognizes education, culture, and, sport, as the source of significance and meaning of human development and social coexistence[...]" (Alcaldia de Mallama, 2020, p. 21)

"ARTICLE 3. – STRATEGIC OBJECTIVES: Contribute to the institutional and community appropriation of the comprehensive and sustainable human development approach and its participatory management, fostering favorable conditions for the comprehensiveness of local policies from intersectoral and strategic actions [...]" (Alcaldia de Mallama, 2020, p. 21)

"ARTICLE 5. – APPROACHES: Comprehensive and Sustainable Human Development. [...] understood as a set of conceptual statements that represent ideas or forms of interpretation of public management and that will guide the municipal government regarding initiatives, programs, or projects [...]" (Alcaldia de Mallama, 2020, p. 22)

Since the time to develop this project is so short compared to the complexity of the issues it addresses, it was important to find ways it could be followed up afterward. Therefore, keeping in mind the above ensures that this project has a linking spot to the current municipality plans, and can mutually leverage, facilitating cooperation and avoiding clashes between this project and the ones the municipality might be advancing.

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Design research and methodology

Human-Centered Design

Humans are at the very core of this project. Human-centered Design (HCD) is an approach that involves humans at every stage of the process. This is done through, first having a view of the problem from inside the context in which this is nested, then brainstorming ideas that become concepts, which later are developed into desir-

able, feasible, and viable solutions to be implemented (IDEO, 2015, p. 13). The principles of the HCD approach contribute to create strong empathy-based relationships between the different actors involved in the project, which increases engagement. Similarly, its various methods grant leaders the necesary tools to ensure the conditions to produce innovation and social impact. This project takes as a guide the Field Guide to

Human-Centered Design by IDEO (2015). It also organizes the project under a double diamond model that provides structure to the different phases. However, this project does not always follow a linear structure and some methods are adapted to the specific context. Iteration is an important feature of this approach, it makes possible to arrive more quickly at successful solutions.
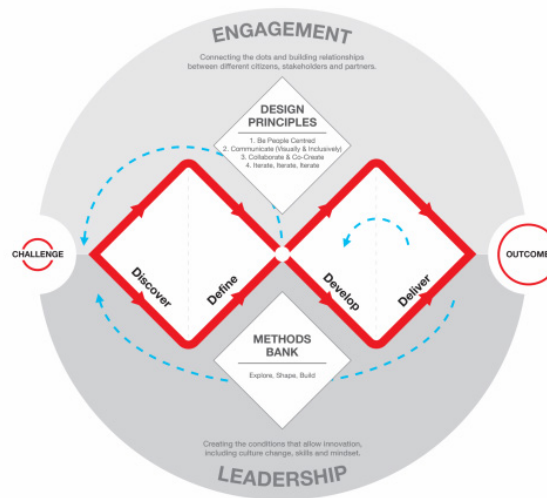
Double diamond
https://www.designcouncil.org.uk/news-opinion/what-framework-innovation-design-councils-evolved-double-diamond

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Systems thinking

A wicked problem is described as a "social or cultural problem that is difficult or impossible to solve [...] lack clarity in both their aims and solutions and are subject to real-world constraints which hinder risk-free attempts to find solutions" (The Interaction design foundation, n.d.) Understanding that poverty is a wicked problem, bring us to make use of a systemic approach. The goal is to identify and tackle leverage points that produce a significant impact on what we want to achieve for the community. Leverage points are "places within a complex system where a small shift in one thing can produce big changes in everything" (Meadows, 2012). These can be better spotted by visualizing the system and its elements' interactions in a map.

Mapping out a system, is also helpful to identify system archetypes. These are already identified and recurrent "plots" (archetype) than can be found in almost every story (system) (Stroh, 2015). Another way to understand the system is by using an Iceberg model. It uses the analogy of an iceberg that has an samall visible part and a bigger hidden one to help understanding the main event (tip), its rooted causes, and the mental models that drive them. This project implements the "Four stages of leading system change" proposed in the book System thinking for social change by David Peter Stroh. The four stages aim to get stakeholders and users on the same page by identifying the current situation and envisioning where they all want to be to elicit "creative tension".

The stages are:

1. Build a foundation for change and affirm their readiness for change.

2. Clarify current reality at all levels of the iceberg and accept their respective responsibilities for creating it.

3. Make an explicit choice in favor of the aspiration they espouse.

4. Begin to bridge the gap by focusing on high-leverage interventions, engaging additional stakeholders, and learning from experience.

Again, due to the characteristics of the project, the context where it is carried out, and the nature of the design practice, this four-stages process is not always linear, having late stages that feedback earlier ones and vice-versa.

Vision, Mission, Values
(What you want)

Creative tension

Current reality
(What you have)

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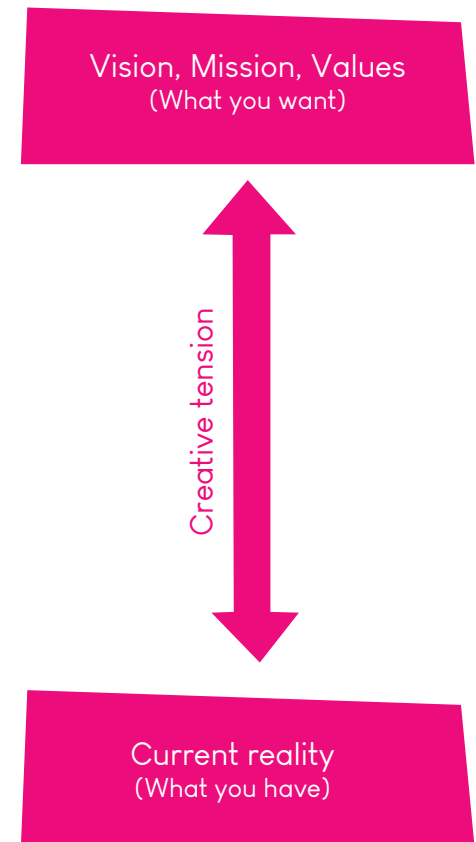
Social geography

Human development is a concept deeply determined by the context in which individuals and communities operate. Both context and individuals reciprocally interact. Therefore, this project complements the systemic approach with a social geography perspective that allows the research to focus on the specific characteristics of the community in which the project intervenes. Socail geography is a "sub-discipline that examines the social contexts, social processes and group relations that shape space, place, nature, and landscape (Gregory et al., 2009, p. 692). In other words, the interrelations between human systems and their environment.

Human scale development

In his work "Human scale development", the Chilean economist Manfred Max-Neef addresses human development from the "satisfaction of fundamental human needs, on the generation of growing levels of self-reliance, and on the construction of organic articulations of people with nature and technology, of global processes with local activity, of the personal with the social, of planning with autonomy and of civil society with the state" (Max-Neef, 1991, p. 8). Same as the United Nations' Human Development Approach, to Max-Neef, human development is about people and not things. His work is strongly related to the Latin American context and presents self-reliance and organic articulations as a way to change the semi-paternalistic role of Latin American governments.

Due to the interrelated and interactive characteristics of the needs, Max-Neef recommends understanding them as a system. Therefore, He presents a taxonomy of fundamental needs that, he argues, are limited and universal, unlike satisfiers which do change depending on the culture or historical period. Later he classifies the set of needs into two categories: axiological (subsistence, protection, affection, understanding, participation, idleness, creation, identity, and freedom), and existential (being, having, doing, interacting) to create a matrix. Satisfiers come up at the crossing section of the needs. He adds that "satisfiers are what render needs historical and cultural, and economic goods are their material manifestation" (Max-Neef, 1991, p. 26).

Tools and methods

Starting with secondary research to clarify concepts and formulate relevant questions, the project moves to more in-action methods. I traveled to Mallama municipality and carried out observations that brought me relevant new insight into the current reality of the municipality. There, I carried out group interviews with students, and interviews with stakeholders, which gave the project valuable data. I held conversations-like interviews with professionals in different fields, (anthropology, political science, and psychology) members of the Mallamas community, who are up-to-date with what is happening there, and who have also participated (or currently participating) in projects for the community. They so much shaped the route this project followed.

Workshops played a key role in the entire project. They facilitate the participation of many relevant players in the context of the Mallama municipality, allowing both the search for leverage points and the solutions to emerge from the community. This environment of participation is a breeding pool for the organic articulations and self-reliance which are the center of human development (Max-Neef, 1991, p. 8).

Workshop with students from Mallama
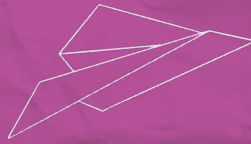Original

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Discover

Research

Mallama

Culture

Poverty

Social geography

Still in Oslo, I conducted desk research to explore the current situation in Colombia regarding human development. This was useful to open up the scope and to have a broader view of the symptoms and rotted causes of this problem at a national and regional level. It was important to start here so I can ask the right questions, find out what I did not know I was ignoring, understand key concepts, and frame my design challenge. I addressed topics such as Inequality, poverty, the armed conflict, and the role of culture and education on human development.

Colombia: So much richness so much poverty

Colombia is a country situated in Latin America, just above the equatorial line. This geographical location makes Colombia the perfect environment for nature to thrive and makes it a wealthy country in terms of its natural resources, fauna, and flora. It is the third country with the biggest water reserves in the world (World Bank Group, 2015) and the second most biodiverse (WWF, 2017).

Colombian richness lies in its diversity, not only limited to biodiversity. In terms of culture, Colombia is a mix of European, African, and Indigenous traditions. However, beyond its natural resources, biodiversity, and culture, a great part of the population lives in poverty and lacks access to the means for a decent quality of life. According to the National Administrative Department of Statistics (DANE), from 2019 to 2020, poverty rose from 35,7% to 42,5% (Editorial La República S.A.S., 2021), almost half of the population. The monetary poverty line, which is the minimum income necessary to acquire an adequate standard of living, was set in 2020 at 84.16 USD a

month (el Tiempo, 2021). According to the above, about 21 million people live under this line in Colombia. Even worse, in the same year, 7,47 million people were suffering from extreme poverty. This is a severe type of poverty in which people cannot even satisfy their basic needs (Editorial La República S.A.S., 2021a). The extreme poverty line in Colombia is 37.06 USD a month.

New ways of measuring poverty such as "multidimensional poverty" assess education; child and youth conditions; health; work; housing conditions and access to home public services to create a higher fidelity image of poverty. In 2020, Colombia reported multidimensional poverty of 18,1% (Portafolio, 2021b) meaning that 9.4 million people have hardships in at least 33.3% of the assessed indexes (MPPN, n.d.).

Inequality

All these situations worsen in the countryside, mainly rural. Due to the COVID-19 pandemic, multidimensional poverty went from 34,5% in 2019 to 37,1% in 2020 in rural areas whilst urban areas reached 12,5% (Portafolio, 2021a). Historically, more than 90% of the rural population has suffered poverty (DPN, 2021). Regarding monetary poverty, 42,9% of the total rural population were poor in 2020 and 48% were in a vulnerable condition (PNUD, 2021). It should be noted that according to The Foundation for Higher Education and Development (Fedesarrollo) the real percentage of rural poverty should be 46.8% (5,17 million people) arguing that DANE did not make the right calculation due to a methodological error (Editorial La República S.A.S., 2021c). Accepting the official data, 4,74 million people lived under the rural poverty line fixed at 51.07 USD in

Las Lajas Sanctuary, Nariño
https://www.parishepasto.com/historia-santuario-de-las-lajas/

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2020. The differences between urban and rural areas are so high that Colombia was found to be the most unequal country among the members of The Organization for Economic Co-operation and Development (OECD) and the second most unequal economy in Latin America and the Caribbean (Analitik, 2021).

The role of the armed conflict

According to Thomas Piketty, economist and inequality specialist, 10% of Colombia's population holds 70% of the country's wealth whilst the lower 50% of Colombians holds only 1% (El Espectador, 2022). Inequality is embodied in the nation, expanding beyond the economic character to ethnic, gender, region, or land tenure inequalities. The latter has deep historical roots in colonialism. in the XIX century, the elites compensated themselves with lands for their contribution to the war of independence. Since then, Colombian history has gone through numerous tensions in which peasants claim back the land and elites defend it for their own. In the 50s partisan wars turned into an armed insurrection against the state, aggravated in the 80s by a large-scale drug trafficking irruption. Due to ambitious and strategic interests, the conflict nested in the countryside. Claiming the absence of government protection of their interests, landowners armed themselves to defend their land. Hand in hand with powerful elites and political ties, the era of paramilitarism was born in Colombia. It quickly shifted from defensive to territorial expansion, leaving peasants as the main victims of both sides, dispossessed of their land and lives. Paramilitaries and landowners took by force more than eight million hectares in twenty years (Gaviria-Mesa et al., 2018).

In September 2012, officially began the creation of a peace agreement between the Colombian government and the guerrilla group FARC. It addresses six points: (end of the conflict; solution to the illicit drug problem; comprehensive agrarian reform; political participation; agreement on the victims of the conflict; and implementation, verification, and complaint mechanisms). The agreement is signed four years later. To this date, 28% of the agreement provisions have been implemented, a slow development according to the Kroc Institute for International Peace Studies at the University of Notre Dame (Grand Continent, 2022). 20% of the provisions related to the victims have not even begun, being the worst results together with political participation.

Current figures by the Unique Registry of Victims (RUV) report 8 million displaced people from 1985 to 2019 (Unidad Para La Atención Y Reparación Integral A Las Víctimas, 2020). According to the Historical Memory Center the armed conflict has caused 218.094 deaths (1958–2012), 27.023 kidnapping victims (1970–2010), and 5`712.506 victims of forced displacement (1985–2012) (Centro Nacional de Memoria Histórica, n.d.). It is hard to determine whether war or poverty comes first, but it is clear the relationship between them: War depletes human and economic capital, limiting the ability to meet needs. At the same time, it appears as a means to satisfy the now acute needs, which in turn, replay the cycle.

People displaced by the war in Nariño
https://www.infobae.com/america/colombia/2021/01/22/253-personas-fueron-desplazadas-en-el-municipio-de-barbacoas-narino/

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Pacific region: Poverty traps

Departments in the Pacific region such as Cauca, Chocó, and Nariño, have been some of the most affected by the armed conflict. Isolated from the rest of the country, neglected by the government, and hidden in the mountains, the pacific region makes a perfect environment for armed groups to flourish. Therefore, poverty has strongly affected these departments. According to the poverty report by DANE in 2020, the pacific region received the hardest impact of multidimensional poverty (Portafolio, 2021a). This region stands out by its historical high index of poverty and low life conditions compared with the rest of the country. The incidence of poverty in this region has much to do with the low social mobility, geographic isolation, and institutional weakness that creates a persistent "poverty trap". "These traps appear when a region lags and fails to create mechanisms to encourage the formation of human capital, sources of work and boost the generation of product and income to achieve improvements in the quality of life" (Banco de la República, 2016, p. 1-2). According to D. H. Meadows and Wright (2008, p. 111-112), traps are produced when superficial responses are given to deep archetypical interactions of the system elements, which over time creates stronger negative effects.

Human development: economic model, education and culture.

The challenge of poverty and human development has been first addressed from an economist's perspective. This approach is based on the idea that to produce human development we must promote economic growth first: Better jobs bring better income and therefore an increase in

Children play in a street in beleaguered Buenaventura.
Youthhttps://fsi.org/colombia-success-story-cautionary-tale/

the quality of life of the population. This model has rather created inequalities and wealth concentration. An economic model relies on productivity, and this, in turn, on qualified human capital. A great part of the people in Latin American countries lack these qualifications and only can compete for physical jobs with lower salaries. Here is the importance of education. But apart from the difficult access to education in Latin America, a model that strengthens education suffers from a delay between the demanded qualifications of a fast-changing economic model, and the educational system's capacity to produce the required human capital. In Colombia, professionals have a hard time finding a job, and it is more likely that the lucky ones obtain salaries that do not compensate for the educational investment. The country has the third highest unemployment rate among the countries members of the OECD (Editorial La República S.A.S., 2022, para. 4).

Education and economic growth rely ultimately on people and the ways they behave and perform in their context. This set of behaviors, beliefs, norms, etc, is known as culture. The culture of an individual is rooted in the socio-economical context one is born in, and this might be, in turn, influenced by historical, geographical, and racial situations, among others. A study from the An-

dres Bello Catholic University in Caracas, Venezuela, (UCAB, 2000) analyzed the discrepancies between the operating models of "a society that creates wealth" and the Venezuelan mindset (beliefs, values, shared norms). After interviewing 14.000 families from different regions, the researchers contrasted the findings in what they called a pre-modern (traditional) mindset and the modern one. To the researchers "pre-modern mentality feeds the belief that people have little control over events that affect them", leading to seek the cause of bad conditions in external agents such as God, luck, or fate. It also produces dysfunctional forms of socialization: "Poverty and defenselessness lead to forms of coexistence being imposed through rules that are not very civil and fair: one of them is violence." Although this mindset does not define the entire population, it is a widespread condition in Latin America and is typically present in the poorest contexts.

Culture plays an important role in fostering or inhibiting human development, conditioning the efficacy of the educational and economical model. Therefore, Perinat (2012, p.123) concludes that culture must be included as part of a wide and systemic approach, and education, economic growth, and culture should be addressed together.

Pedrancha, Mallama
https://www.viajarenverano.com/piedrancha-narino/

Visiting Mallama

To get an immersive view, I traveled to Malla-ma, Colombia to conduct the research. There, I encountered many situations that made it challenging and changed my perspective and the path the project finally takes. This chapter is about the experience of research practice in Mallama municipality and the insights and valu-able data the experience offered to the project. But before telling the story I want to put the read-er in context about Mallama municipality.

Mallama Municipality overview

In the department of Nariño in the Pacific re-gion (west Colombia), over the road that con-nects Pasto (Nariños' capital city) and Tumaco (main Nariños' coastal city), lies the municipality of Mallama, 121 km away from the capital (3 to 4 hours by car). The Pasto-Tumaco road is the main access to the municipality.

Mallama is divided into 7 districts, 28 zones called "veredas" (some along the main road), and 14 rural sectors plus one urban sector made of 5 neighborhoods where Piedrancha is the main neighborhood. The small town between the mountains is considered an urban area, while the rural areas are the houses along the Pas-to-Tumaco road and hamlets located up in the mountains, which are connected by dirt roads. Mallama has a population of 8.350 inhabitants of which 1.350 live in the urban and 7.000 in rural areas. 86% of the Mallamas' population belongs to indigenous communities, and 3% are afro-Co-lombian people. (Alcaldia de Mallama, 2020, p. 17-18, 19)

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Geographically, Mallama is located over the western mountain range. Consequently, it has several rivers, streams, waterfalls, natural hot springs, landforms, landscapes, and biodiversity, giving it an important touristic potential. Its weather varies from rainy seasons that last from March to April and October to December to a dry season the rest of the year with an average temperature of 20°C. There is an annual rain intensity of about 300 days that often comes accompanied by frequent floods and landslides that block the roads, destroy houses, and take the lives of many people (IDEAM, n.d.).

Mallama's population is mainly catholic, but there is also the presence of protestant churches. The culture is strongly rooted in indigenous traditions, however, globalization has reached and changed the behaviors and costumes of Mallama's inhabitants. Another cause of this change has been the armed conflict that for many years has plagued the region. Activities related to the drug trafficking chain have become common mainly among young men. It is known that armed groups have a presence in some rural areas, specially the so called National Liberation Army ELN, as well as narco-paramilitary activity (Gonzalez et al., 2021).

Education is a challenge. Difficult transportation, weather conditions, economical resources, poor internet access, frequent electric cut-offs, and a cultural mental model affected by drug trafficking and illegal mining, among other hindrances, make it difficult to create human capital. The dropout rate is 0.52% in 2018 (Alcaldia de Mallama, 2020, p. 35). There is not an updated record, but in 2020 where expected 3.015 students will drop out in the whole department of Nariño according to the Information System for Monitoring, Prevention and Analysis of School Dropout SIMPADE (Secretaría de educación departamental de Nariño, 2020, p. 44). Although there are no specific statistics for Mallama regarding higher education, there was an Immediate-transit-to-higher-education rate of 27,3% and a coverage rate of 30,7% in the department of Nariño during 2020 (Estadísticas Generales de Educación Superior, 2020), The municipality has 3 high school institutions that in 2020 had a gross coverage of 77,82% (Secretaría de educación departamental de Nariño, 2020, p. 34). At the end of high school students must take a national test called Saber11. The obtained score (0-500) is a requirement to apply to programs at certain Universities, usually at the public ones.

Relevant insights from desk research

To summarise the most relevant of the desk researh I have substracted the main insights and created a facts map with information about to illustrate better the context in which this research will be carried out (appendix 12).

Colombia has high poverty. There is a huge inequality between urban and rural areas, that requires urgent attention. War deepens poverty and at the same time appears as a means to satisfy needs becoming a vicious circle. The Pacific region is one of the most affected by poverty and armed conflict. Over time, superficial interventions have led to the emergence of poverty traps. Poverty creates beliefs and behaviors (culture) that deepen poverty. Economic growth and education are not enough to beat poverty. The model requires taking culture into account.

Rural education
https://www.nrc.no/news/2018/april/education-hope-of-rural-colombia/

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Approaching stakeholders

As the first step on my visit to Mallama I decided to create a database of relevant stakeholders I could Interview and onboard. I wanted to hear their opinions on human development and education among the young people of the municipality. Getting in contact with these stakeholders was one of the first challenges. I managed to find the phone numbers of some of them, but due to the location, the phone signal was too bad. The only option left was to visit them at their office but transportation was intermittent too. Finally, I managed to borrow a motorbike but it came at a cost: coming back soaked because of the rainy season. At their respective offices, I would introduce myself and tell them about the project through a PowerPoint presentation. If they did not have time for the interview, we would schedule it for some days later.

Apart from gathering information about their perspectives and roles around the topic of this research, this first approach aimed to engage the stakeholders and build trust. Although very important, It was not possible to get in touch with the directors from the other two high school institutions.

In total, they were 17 different interviewed stakeholders, representing institutions such as primary and high school institutions, parish, town hall, Indigenous council, private TV and internet provider, local transportation company, local police station, health center, municipal youth council, equity and gender office, and victims-of-armed-conflict office. The questions were focused on their opinions about the relationship between education and human development, the challenges for education in the municipality, and the role of the institution they represent.

Activities with stakeholders Mallama
Original

By Oscar Guerra Noguera

Relevant insights from stake-holders' interviews

One of the main things to highlight is the good disposition everyone had to be interviewed, showing that the leaders are willing to cooperate for the good of the community. They all agreed on the importance of education as the fuel for the human development of the municipality's population in general. In this regard, they consider that the biggest challenges are issues related to the need for options that act as a counterweight to illegal activities, the poor access to technology and communication and misuse of it, and the lack of an education that meets the realities of the territory, weak life and social skills, the absence of a life project and the lack of economic resources. These two last were widely repeated during the interviews.

The interviewees mentioned that the lack of opportunities combined with the strengthening of drug traffic and other illegal activities from illegal groups in the region has brought negative consequences. Young people (especially men) are "recruited" to participate in illegal activities such as drug trafficking, as informants, illegal mining, and coca leaf harvesting, among others. This represents an opportunity to generate income, and gain independence and status among their peers. The mindset of the young people has been shaped to prefer these types of activities over education. The latter requires more effort, money, and time investment, which in the end might be wasted because of the difficulties in finding a job. Moreover, the cost of living is higher in cities and many students find themselves forced to come back to live in the municipality. These situations reinforce the belief that illegal activities are a much better choice.

The isolation of some areas only strengthens the problematic situations. Interviewees say that internet access is poor and only available in some areas (I confirmed this very early in the research). This is due to the geographical features of the region, and the lack of economical resources to pay for internet subscriptions. Internet providers said that they do what they can to bring affordable internet. They also mentioned the misuse of internet connection, and that young people use it mostly for entertainment. There is widespread ignorance about how to use the internet wisely. Although there is a communal tv channel and radio, these do not forecast the type of content young people prefer nowadays. Generally speaking, in Colombia young people consume more internet than tv or radio, evidencing that there is an incongruence in the type of channels used to connect with young people.

In Colombia, every student must take a national obligatory test called SABER 11 to be able to graduate. The right score is a requirement for universities. Interviewees, especially those from the educational sector, mentioned that the quality of the education in the municipality is poor and therefore students do not score high on the SABER 11 test, and as a consequence, they can not enroll in a university. The educational model is not adapted to the specificities of the municipality such as indigenous communities, victims of the armed conflict, use of technology, or languages. All this entails a disadvantage compared to their peers from cities. An issue commented on in the interviews was that young people ignore the great agricultural potential the municipality has, and the education does not prepare them to take advantage of it. Besides, attending classes regularly is also challenging due to factors such as transportation or armed groups. These two

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Landslide during winter blocked the road
Original

situations were indeed a challenge to the development of the research. In the rainy season, landslides block roads and put the lives of the community at risk. During the period the project lasted, more than 40 landslides were registered of which 5 were of a great magnitude. Moreover, criminal gangs imposed "paro armado" (armed strike) for over 5 days in which transportation between municipalities was not allowed.

A weak education, isolation, and a context that encourages illegal and violent activities over education, eventually alter the mindset, beliefs, and even skills one must develop. This context has driven new behavioral patterns. Depending on the institution they represent, interviewees described the situation from a different but still relevant perspective. The parish priest, for instance, emphasized the loss of moral values, and how young people are prone to get involved in fights or even dare to take someone else's life. I witnessed a young man threatening a girl with taking off his gun if she does not go away. He also mentioned how young people tend to consume alcohol and drugs. For the police lieutenant, the infiuence of armed groups nested in the region together with poor education on social conduct lead to an abnormal coexistence with features such as individualism, revelation, and a lack of respect for authority and institutions. When asked, the indigenous council governor mentioned that globalization and the armed confiict have produced a loss of identity among the young people and a consequent loss of the sense of unity as a community.

This modified culture has infiuenced the type of issues people prioritize and their future expectations. Interviewees representing educational institutions highlighted that students seem to be disoriented regarding what they want for their futures. There is a lack of perspective in many of them or even a lack of interest. They prioritize things such as entertainment or generating income (even if it requires illegal activities), over improving academic performance. Many are pushed to work by their families at an early age which affects their studies. They said they are advancing activities to foster awareness of the importance of education. A similar issue they mentioned was the lack of information about educational programs, prices, scholarships, aids, etc. Students do not plan because they do not know what is available.

According to the interviewees, the lack of economic resources is perhaps the biggest challenge to education and human development among young people in the Mallama municipality. This is mainly the reason they migrate to illegal activities to generate income, focus on working from an early age, make access to the internet difficult, or discourage pursuing a higher educational grade and the consequences it all bears. Satisfying the immediate needs is the priority and there is no space for thinking many years ahead and even investing in that. The lack of economic resources to satisfy their needs eventually modifies their mindset away from ways to solve the problem definitively, and this, in turn, perpetuates and deepens the problem. The options after graduating from high school are usually working in transportation, construction, farm work, at a local store, mining, and activities linked to the production of illegal substances. In some cases, the weak sexual education makes young men and women become parents at an early age.

By Oscar Guerra Noguera

Workshop and group interview with students

After interviewing the stakeholders and getting their perspectives on the current situation, I decided to interview the young people to hear their perspectives. One of the key stakeholders at this point was the director of the high school institution in town. She brought important insights on education, and also offered the institution's installations to carry out activities related to the project. The institution became the direct touchpoint with the young people of the municipality. At the moment I had not been able to create a team to carry out the activities of this project and already had a delay because of the difficulties interviewing stakeholders. Therefore, I decided to make one group interview session and merge it with a workshop. The workshop was meant for students from 10th and 11th grade. In total 93 students participated in the workshop. Since there are no plotters in town, all the physical material such as maps had to be done by hand, and I minimized printing by using a projector to display information such as the questionnaires. The workshop lasted 4 hours divided into two sessions with a 30 minutes break. The first session included three parts: group interview, presentation, and workshop.

First part: Group interview

The students were given a blank sheet of paper to answer the questionnaire that was displayed on the projector. The questions focused on their perception of future expectations, engagement in school, higher education, family background and income, job, access to information, mobili-

ty, and concepts related to human development, inclusion, and equality. The students were given 15 minutes and were asked to answer only what they feel they knew and to skip the question or write "I don't know" instead of making up answers. This would make them feel less pressure when answering, and avoid coping answers from their peers to just fill in. Although some questions are quantified, the main goal was to know their opinions rather than gather quantitative data.

Findings of the first part: Group interview

From the answers the students provided, it is easy to infer that they do think of education as some sort of positive and important path. It is usually linked with making money, a better quality of life, making their families proud, and being an outstanding person. They also see education as a big challenge and point out the lack of economical resources as the biggest hinder. Most of them perceive themselves as middle class, a few as high class or poor. Many of them think they will need to work and study at the same time, and just a few said that their parents or family will support them economically. They are aware that they need to move to a different city and see this as something scary and sad because of the separation from their families.

Some students said that they have relatives living in different cities in Colombia and a few of them have relatives in a different country. Having relatives living in other cities often means that that family somehow has a better income, pérhaps different perspectives, and all that impacts the possibilities that student has to continue their education. It means, for instance, that the student

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Workshop with students from Mallama
Original

has a place to arrive in a new city which translates into fewer renting costs and emotional support, and even new role models. From the parents of those students, very few have completed higher education, and the majority are divided between having only primary school and a completed secondary school.

When asked how do they see themselves in ten years? the main answer was a profession. Some students said that they prefer to work instead of studying or to work first to later be able to study. However, many students just do not have it clear and are waiting for graduation to see what happens, and except for a couple of them, everyone ignores the process for applying to a university, educative loans, scholarships, or governmental aid. About what would make them happy in ten years and what is their dream, the answer usually involves a career and helping their families. Although they see education as a way to improve their lives, they ignore how this can be done. Even though they did not mention anything related to illegal activities, the "money-making" perception they have about education gets it in direct competition with illegal activities, which are more money-making efficient and later affect the decisions they make. Another important element in decision-making is the family's influence which can be direct (supporting or not, encouraging or not) or indirect (emotional attachment, positive or negative role models).

Second part: Presentation

This activity was based on research by the University of Oxford in which researchers changed the mental models of the people from a village in Ethiopia by showing them inspiring videos of people in the region (Tanguy et al., 2014). The videos described how they had improved their socioeconomic positions by setting goals, making careful decisions, persevering, and working hard. I introduced myself in a PowerPoint presentation with photos where I tell my own story like a journey from Mallama to Oslo. In the presentation, I show them the positive and challenging experiences I have been through from childhood to the present day. The point was to show them that a young person from the same municipality, with the same context, was able to challenge his limited reality and achieve things such as learning a second language, visiting different countries, study a master's degree, and improving his quality of life. The communication style was informal, like a conversation between friends. I was able to see their positive reaction during the presentation. After this was finished, I invite them to ask questions and I asked them about their opinion and expectations. The goal was to create empathy and spot the students that I could invite to participate in further creative workshops (those who participate the most).

Findings from the second part: Presentation

Many of the students felt excited about being able to do similar things one day. They expressed feeling those scenarios are less impossible now. Although they mentioned the importance of education to thrive, they also pointed out that the lack of economical resources makes it very unlikely for most of them. During the rest of the workshop, some students were asking me for more details about how I managed to study in a different country, they asked me to speak English for them, and were curious about life in

By Oscar Guerra Noguera

Oslo. Convincing the students to participate in the conversation was hard at times, and I quickly noticed a lack of confidence to express their ideas. They seemed very shy throughout the whole workshop.

This activity was made after the interview to avoid biasing them since I wanted raw insights in the first stage. On the contrary, for the final part of the workshop, I wanted them to reflect actively. Hence, the presentation was a way to prime them to think about their current reality and future expectations concerning education and human development.

Third part: Workshop

The last part of this session was the workshop itself As mentioned before, during the workshop (Appendix 1). The goal was to gather data about their needs, what they consider facilitators or hinders of their process of human development in different areas of their lives, (family, armed confiict, mental model, etc), and how these situations relate to their academic journey. I divided the group into three smaller groups and each group carried out one different activity.

Group 1 Hinders vs facilitators
On a sheet of paper divided by a line into two parts (like a football field), they were asked to use post-it notes to write situations they consider obstacles or facilitators of their academic process as part of their human development. The situations should be related to areas such as ethnicity, gender, family, technology and communication, transport, culture and mindset, physical and mental health, work and salary, spirituality and beliefs, armed confiict, politics, geography and weather, goals, laws, drugs. The different topics came up from secondary research and the information from interviews with stakeholders.

Group 2 Matrix of needs
This group filled up a matrix of needs and satisfiers as proposed by Max-Neef. Using post-it notes, the students identified their needs as young people in the Mallama municipality, and relate them to their respective satisfiers. Participation in this activity was low, perhaps because this activity seem hard to understand for them. The short time did not allow me to deeper explain the concepts of need and satisfier and to make more examples. To help them, I asked them to think that the needs are things everyone should do to be happy, so they had to think all the time of things that they "are", have", "do" and "are at" to allow them to fulfill those needs or to mention is there is a lack of it.

Group 3 Journey Map
Based on my own experience, the structure of the educative system in Colombia, and the challenges I have been spotting so far, I made a journey map that describes the whole academic process from primary school and secondary school to finally moving to higher education. The journey maps include key steps such as presenting the Saber11 test, moving to a different city or applying to a university program. Later, the students were asked to use post-it notes to describe how they feel, what they know, and what they see as a challenge in every step of the journey. For those steps they have not experienced yet, I ask them to describe what they expect or what they have heard from friends, teachers, or relatives. This would be later contrasted with the opinions of former students from the same institution who are now studying in a university or have already

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finished.

Findings from the workshop

As mentioned before, during the workshop (Appendix 1) most of the participants were a bit shy. This was evidenced even more during the last activities perhaps due to fatigue. Some students seemed to struggle to talk in public and clearly express their ideas. However, there were always some active students who would take part in the activity and even engage their peers. These students became the leaders of their respective activities and helped to distribute the material.

In the first activity, the main hinders they identified were family issues or discouraging, consumption of alcohol and drugs, being discriminated by religion or a disability, social issues such as corruption, recruitment to armed groups, and drug trafficking. Regarding education, they mention the lack of family support, the need of moving to a different city, and the emotional impact of adapting to a new environment far from their families. As facilitators of their human development, they pointed to the advantage that represents having internet access, the aids in terms of culture and recreation, support from their families, and having the right expectations.

In the matrix of needs home, family, and friends appear as satisfiers in many of their needs, evidencing the great importance that interactions have for their human development. Games, reading, sports, visiting cities, and spaces for recreation are also widely mentioned across the matrix, which can be interpreted as their desire for another type of space in which they can develop their capabilities. Behaviors related to coexistence such as being friendly, taking care of each other, being a better yourself, willingness, and being affectionate, were also mentioned many times across the matrix and can be interpreted as a way to value the interpersonal interactions and the importance of a sense of community. In contrast, some satisfiers evidenced other realities in the municipality through satisfiers such as justice, a gun, and being out of prison for the different axiological manifestations of protection. This creates tension between the expectations of a healthy environment they want and the tough situations many of them experience in their lives. In the journey map, they refer to feelings of happiness and excitement, but also boredom during the different stages of primary and secondary school. Finding their vocation, presenting the Saber11 test, applying to university, and the processes it implies, generate stress, overwhelm, concern, confusion, and fear. Parallel, about what they know of every stage: from primary to high school they think it was easy, a good decision, and a challenge that required dedication, whilst in the stages after high school they mention the lack of information, the great number of processes, the need of economical resources, the importance of studying a career, and the upcoming changes in their lives.

Regarding the challenges of every step: They find first steps increasingly more demanding as they move forward. Statements such as boring, more dedication, focus, and challenging start to appear. After high school, the main challenge is the lack of economical resources. It is mentioned in almost every step, which coincides with the information from the interviews.

Workshop with students from Mallama
Original

By Oscar Guerra Noguera

Conversations
with former students

To contrast the information gathered in previous activities, I met former students from this community who are now stuying in a University. In conversation, they told me about their educational process, the struggles of the transition to higher education, and their opinions on different topics related to this issue. Beloww some of the most relevant insights.

They all agree in education as a powerful tool for social change and to beat poverty. Students see education as something important without understanding exactly why. It is something they learnt as a step in a predefined pattern of life. they identify the transition period between high-school and higher education as the hardest part of the academic process, but every new generation has things easier than before. There is not clarity about ones vocation and there are not the necesary conditions to discover it. The students are not trained to be self-taught and rely entirely on what the academic system provides. There is not a reading culture.

The family's background, education level, and income infiuences greately the chances students have to make the transition. Sometimes families push in a different direction than the students vocation because education is perceived as a means to generate higher income. It crates a lot of presure due to the big investment and effort families make to support students who should not waste the money and make them proud. When a member of the family studied and get positive results, it is seem as a motivation and a role model. There is also the believe that woman

Students from Mallama
Original

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should do domestic task whilst man are for farm chores, which disencourage students from continuing their educational process.

The armed confiict and illegal activities have become an option against education. It offers a higher income and social status. The narco-culture is rooted in the youth's mind as someting cool. Great part of the population belongs to indigenous councils, which are self-determining in their way to make justice, and some criminal bands take advantage of it to avoid the ordinary justice, creating a sense of impunity among the rest of the community and reinforcing the idea that illegal activities are aviable option.

Health also affects somethimes the acedmic process. The educative system is not adapted to deal with mental disorders such as attention deficit. During the transition the pressure and fear scre-

ates stress and sometimes condition their desitions. In general it is needed a better psicological support. Sex is still a taboo among families, and youth learn about it through their own and peer experiences. It leads to a considerable rate of teen pregnancies. War has left people affected with physical consequences and, in general, the minicipality is not prepare to include people whith disabilities.

Last, they think youth is disconnected with their culture and its local identity, making them indifferent to the municipality issues, so the edcucational level that some manage to achieve does not benefits back to the community. Being part of an indigenous council is usually perceived as a way to get aids and scholarships easier. This loss of identity increases the cultural shock when moving to a different city.

Workshop with stakeholders, formes students, and students representatives

To finalize the research part, I decided to conduct a final workshop that included stakeholders, former students, and some representatives from 11th grade. The main goal of this workshop was to get them all together at the same table for the first time in order to strengthen relationships and elicit a collaborative creative process. The main activity consisted in using post-it notes to suggest a problem linked to a solution. This activity provided a lot of ideas, that later could be nailed into a more complete proposal. Although not all the guests attended, the activity was positive and gave valuable insights. Key actors such as current and former students, the youth council, the local highschool institution, health center, participated in the workshop.

Workshop with stakeholders and students from Mallama
Original

By Oscar Guerra Noguera

Define

Mental Map
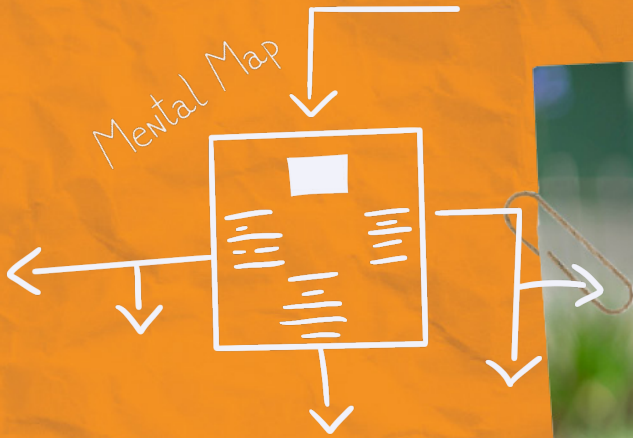
Information

Journey Map
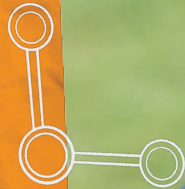
Visualization

Data analysis

After the interviews and workshop activities, I ended up with a great amount of information that needed to be processed and analyzed. This chapter shows my process of data analysis and the way different methods were implemented to condense the information into a narrowed scope for the project, the definition of a new goal for the system, and the identification of leverage points and design criteria. A systems-oriented approach takes place through different methods such as system mapping, archetypes, and iceberg model. The focus comes always from a social geography perspective keeping in mind the relation between people and the conditions of the context. I also make use of journey maps to analyze how the system works overtime

Mental map

As a starting point, I decided to create a mental map citar mapa to gather all those topics and insights that were appearing throughout the different activities I conducted in the research phase. This map was made along with the research, so it suffered many modifications. In the end, this map helped me to organize ideas and prioritize topics. Later the same map became a map of the systems interacting in the Mallama municipality. The shift was made by adding a description of the interaction between elements, and a ZIP analysis to identify leverage points and areas to intervene, as well as complementting it with other system visualisations (Appendix 2).

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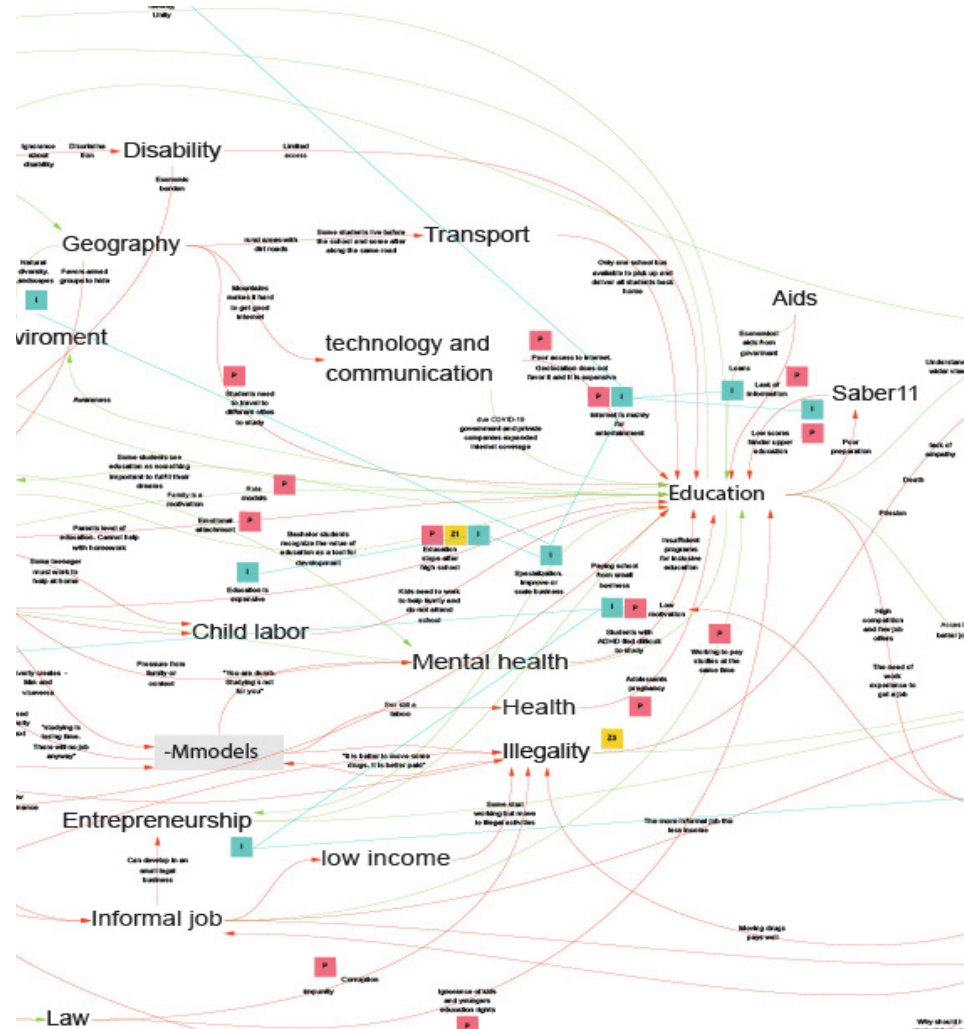
System visualization

The map visualizes some structural elements (in black bold letters), and other topics part of the Mallama's reality that interacts with them, as well as a short description of the interaction between elements. This map describes the complex interactions of diferent systems in the Mallama municipality. I used red and green arrows to communicate whether the interaction was having a positive or negative impact based on the interpretation of the stakeholders and student's interviews, and theories such as Human scale development. then I made a ZIP analysis. This analysis identifies areas of the system thet need to be zoomed-in (Z) to better understand the system, the areas of innovation (I) in which new synergic relations can be created, and the pain points or leverage points (P) visually marked in the map with a ! sign. These Pain points are problems that are evident in the system or areas that work well but can be improved or complemented. The ZIP analysis was helpful to visualize how education is deeply interlinked in the system, making it a key area to intervene. By zooming in and isolating parts of the system y related key topics such as income, unemployment, illegality, and higher education (Appendix 3)

At this point, it was still defused how to tackle this problem. I decided to go one step back and visualized the macro system (Appendix 3) to better understand how the structural elements interact. The key was to keep it as minimalistic as possible. This visualization showed, as the theoretical framework confirms, that there is an infiection point between education and culture that results in a reinforcing loop between culture and poverty rather than generating human capital. So, I zoomed in on this part of the map and visualized

it to see what is happening in the Mallama municipality in the interaction between education and culture (Appendix 3, Z4). In this micro-system map, I noticed that part of the problem was that the goal of the system was "to increase their income" as a way to improve their quality of life. This is also something mentioned many times in the interviews, and that is supported by the theory when it says that poverty modifies the culture (Perinat, 2012, p. 112) (mental models, beliefs, behaviors) and therefore what people prioritize. In this case, the urgency of satisfying basic needs presents other activities (including illegal ones) as a better option to increase income (Appendix 3, Z3). This pattern is defined by Donella

Meadows as a "seeking the wrong goal trap" that says that "If the goals—the indicators of satisfaction of the rules—are defined inaccurately or incompletely, the system may obediently work to produce a result that is not really intended or wanted" (D. H. Meadows and Wright, 2008, p. 138). So, the first action will be to replace the goal from "generating income" to "creating a social impact" (Appendix 3, z5). In this way education offers better chances of reaching the goal. It also starts to be clear that the shifting to higher education is critical since it is at a higher education level that the youth could produce a significative social impact as well as generate higher income (Appendix 3, Z1).
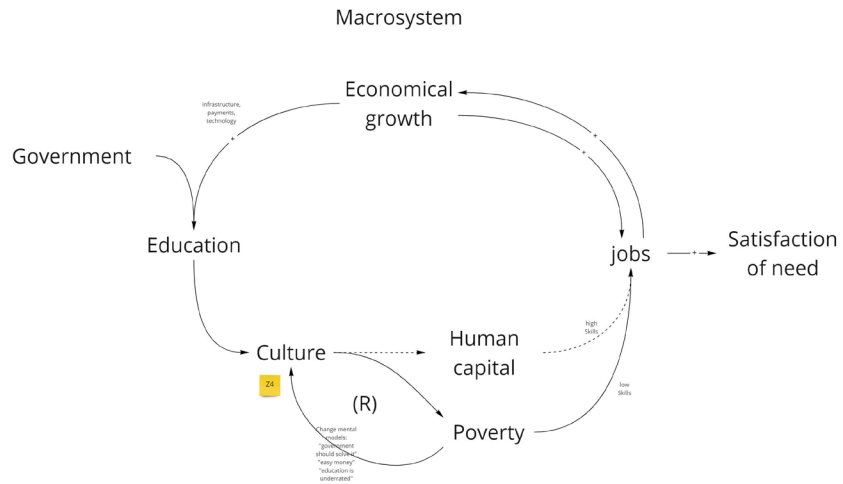
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Iceberg model visualization

So far I have concluded that education is a key element of human development and that there is a main event happening in the Mallama municipality: the education process stops after finishing basic education. All the other situations happening around it catalyze this main event. It is also clear at this point that culture plays an important role by conditioning decision-making, and prioritizing alternative activities over education. This situation creates patterns or trends that lay behind the main event (Appendix 4). I went back to the system visualizations and identified six patterns that constitute reasos why the educative process stops: Gettig involved in illegal activities, working in the activities that require fewer qualifications, Trying to continue their academic process but and failing, lack of economical resources, low academic performance, and parenting at an early age. Some might occur before or later the main event happens, but they all have in common that are repeatedly happening in connection with the main event. In an Iceberg model visualization, I connected these patterns and the main event with their rooted causes, and the mental models that sustain them (Appendix 4). The visualization evidence the way mental models create behaviors that over time become patterns, which ultimately results in students not being able to continue their educative process or even deciding not to do so.

To visualize the connection between the different rooted causes in the iceberg model, I crated some categories. Apart from avoiding saturating the map with arrows and lines, these categories worked as a way to condensate the whole iceberg model into key elements that condition the main event. This categories would be later used as design criteria. To define these categories I went one step back once more, and asked the question: What conditions are necessary for a student to continue their educative process after higher education? The answer gave me a sort of checklist with four elements, always based on the insights from previous stages of this research.

This excercize of oversimplification (in a check list) was a good way to summarize what both students and stakeholders stated many times as "the problem" in the educative process. The checklist was later rephrased into the categories: "Mindset and expectations", "Income and work", "Education quality", and "Information and processes". "Identity, relationships, and context" was added later as a fifth category since the previous analysis show that this elements condition the interaction of the other categories. Then, I made system visualizations of each category to identify their archetypical behaviours (Appendix 5). These final five categories (Appendix 5) helped me to understand better the rooted causes and became the key leverage points the upcoming design concept would work upon.
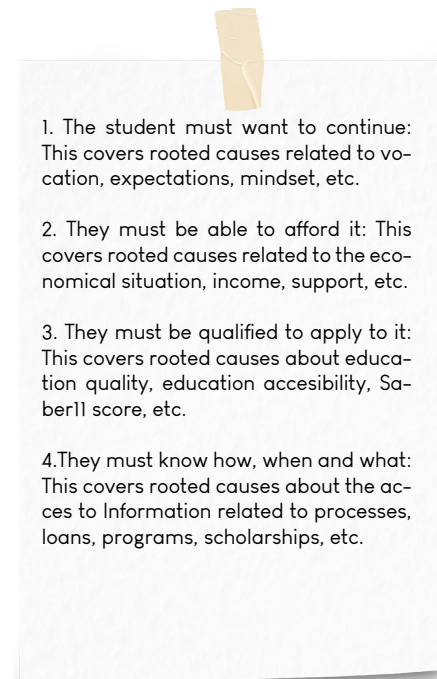
1. The student must want to continue: This covers rooted causes related to vocation, expectations, mindset, etc.

2. They must be able to afford it: This covers rooted causes related to the economical situation, income, support, etc.

3. They must be qualified to apply to it: This covers rooted causes about education quality, education accesibility, Saber11 score, etc.

4. They must know how, when and what: This covers rooted causes about the acces to Information related to processes, loans, programs, scholarships, etc.

Mindset and expectations

Income and work

Education quality

Information and processes

Identity, relationships, and context

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Jurney map

I wanted to understand how the system behaves overtime, the relation between the educative process and the different patterns as well as the role the stakeholders play in them. So, I created a journey map (Appendix 6) which consisted of the steps from basic education to higher education until the stage of finding a job. On this journey map, I visualized some relevant elements both students and stakeholders had previously identified as ch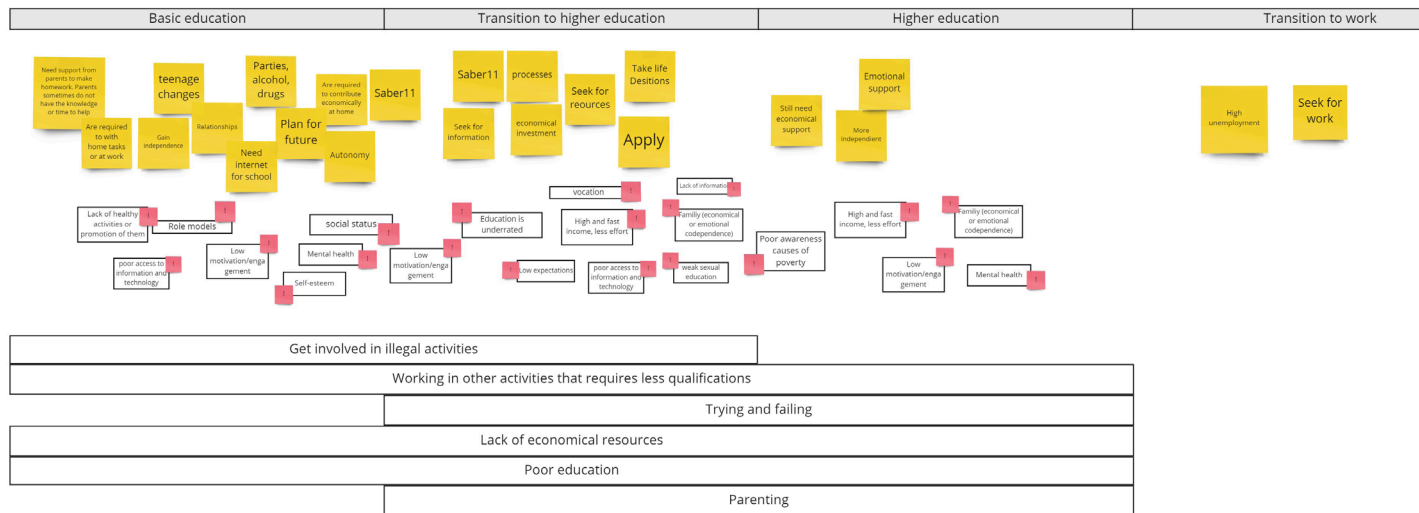allenges (post-it notes) during the interviews and workshops. Then, I added the patterns from the iceberg model, covering the phases of the journey in which they had the strongest influence. Finally, I included the different stakeholders

and described in each phase what they do. This made evident that the municipality has a total disconnection with the youths' educational process after they finish higher education. Once they stop being high school students, the municipality ceases the efforts to ensure the transition to higher education, and even if a student manages to make the transition and finally moves to a different city to attend university, not living in the municipality disconnects stakeholders from actively contributing to their educational process. It is also evident in this visualization that the most critical stage is precisely the transition between high school and higher education. Whatever happens in this stage depends in a great part on what the municipality has achieved with the stu-

dents in the previous stages regarding educative level, resources, life plan, information, etc.

The journey map took me to conclude that any concept resulting from this project should focus on the three key moments: preparation for the transition, support during the transition, and follow-up. During these three moments, the concept should address topics in the five categories (leverage points) mentioned before. This structure of three moments and five categories constitutes the backbone of the concept (citar grafco de la estructura). Moreover, the ultimate goal will not be other than creating a positive social impact through education rather than just generating income.

Basic education	Transition to higher education	Higher education	Transition to work

Need support from parents to make homework. Parents sometimes do not have the knowledge or time to help

teenage changes

Parties, alcohol, drugs

Are required to contribute economically at home

Saber11

Saber11   processes

Seek for resources

Take life Desitions

Emotional support

Are required to with home tasks or at work

Gain independence

Relationships

Plan for future

Need internet for school

Autonomy

Seek for information

economical investment

Apply

Still need economical support

More independent

High unemployment

Seek for work

Lack of healthy activities or promotion of them

Role models

social status

vocation   1

Education is underrated

High and fast income, less effort

Lack of information   1

Familiy (economical or emotional codependence)

Poor awareness causes of poverty

High and fast income, less effort

Familiy (economical or emotional codependence)

poor access to information and technology

Low motivation/enga gement

Mental health

Low motivation/enga gement

Low expectations

poor access to information and technology

weak sexual education

Low motivation/enga gemerit

Mental health

Self-esteem

Get involved in illegal activities

Working in other activities that requires less qualifications

Trying and failing

Lack of economical resources

Poor education

Parenting

Purik: A journey to your dreams.

Develop

Students

Prototype

The fun part

Once the main criteria for the concept development were established, I contacted a team of professionals and students in different areas such as psychology, political science, anthropology, management-and-finances whit whom I have been collaborating through the research phase. Together, we developed a concept that met the five structural criteria, keeping in mind the available time and resources. This program was prototyped and carried out with students from 10th and 11th grade. Each one of the members of this team contributed greatly from their expertise and background. As a designer, my role was to guide the team through the creative process creating empathy and bridging relationships between the actors. In this chapter, I will describe the process we followed to develop and test the prototype, and the important role that design thinking plays in it.

Empathy work

The human-Centered design approach establishes empathy as a fundamental premise. To design with empathy, a designer must understand people, and bring them along in the design process (IDEO, 2015, p. 22). Moreover, Manfred Max-Neef talks about endogenous satisfiers, which come from "acts of volition generated by the community at the grassroots level" (Max-Neef, 1991, p. 34). With these in mind, I required a cross-disciplinary team that deeply understands the context of the problem this project is trying to tackle. Some of the members of this team had already participated before as stakeholders in the interviews, others came along later to shed light on their extensive background. One of the first members of this team was Jose López, Certified Public Accountant and president of the recently created Municipal Youth Council, the institution that will give continuity to this project. Kevin Alexander and Camilo López, social work and anthropology students respectively, who besides their professional insight, also brought to the project a fresh perspective as members of the community. Not long ago they were in the middle of the educative transition this project aims to facilitate. Wilson Benavides political scientist and master in human rights, transition, and post-conflict management, with his experience and background was a key team member and made possible the quick development of a prototype for the project. The last member to join the team was Jose Erazo, psychologist specialized and former governor of the Mallama's Indigenous Council. Thanks to his extensive trajectory became a fundamental piece of the developers' team, contributing with important insights to the prototype program we delivered to the students. They all belong to Mallama and are former students of some of the three local highschool institutions in the municipality.

Testing prototype: activities with students from Mallama

Purik: A journey to your dreams.

Idea generation

The meetings were mainly online since most of the participants work or study out of the municipality. A participative online conversation was the method we could afford given the circumstances. Aware of the complexity of the wicked problem we had in front of us, and the particular characteristics of the Mallama's context, the design process felt more like sculpting where by adding, substracting and pushing, form starts to make as you move fordward. The concept was built trusting our creative intuition (IDEO, 2015, p. 19), based on our backgrounds, experience, and interpretation of the research findings. Rather than coming up with ideas and picking one of them. We slowly shaped one single proposal keeping in mind that it should be desirable, viable, and feasible to ensure real impact (IDEO, 2015, p. 14).

Some of the team members had experience with educative programs, so this was our starting point: A program that through talks and workshops addresses topics on the 5 leverage points previously stablished: Mindset and expectations, Income and work, Education quality, Information and processes, and Identity, relationships, and context. We noticed that the range of possible topics and strategies we could relate to each leverage point was extensive and that they were less or more relevant depending on the point of the process the student was at. We were knew that, to create a real impact, it was necessary to change some mental models and behaviors in the participants, which would require years. We decided to think of the program as a "journey" rather than a one-time program. Then, every student can start the journey independently of the point of the process they are at. The topics and the way to be delivered would be adapted to the target group according to their stage of the "journey". The "journey" would follow four stages: Changing mental models, Developing skills, Support during the transition to higher education, and Following-up.

The four stages would be flexible, allowing modifications on the type of activities that are carried out, and even letting external initiatives to join the program as part of it.

1   **Changing mental models:** Were participants acknowledge the situation and challenges of their community and develop the right mental models that will allow them to set higher goals and create plans and strategies to achieve them.

2   **Support during the transition to higher education:** Regardless of the mindset and skills the participants have at this point, there are external situations in their context that constitute a barrier to their educative development such as the lack of economic resources or the poor educative system. It is a transition that requires information and support.

3   **Developing skills:** With the right mental models and plan, the participants develop the necessary skills to follow the plan.

4   **Following-up:** It is important to keep former participants connected to the program and municipality, so they can create social impact back in their communities.

Concept: A journey to your dreams

Stories are important modes for storing knowledge and assigning meaning to our experiences, they are revealing journeys, so storytelling itself is also a process of discovery for the teller (Parrish, 2006, p. 73). In design, storytelling helps to create empathy and engage users. Therefore, to engage both students and stakeholders, as well as to make the program easier to understand, the project required a good story behind it. Since the program was a "journey", the idea of travelers who go through a journey to their dreams was a perfect analogy. So we created a copy: A journey to your dreams. And rephrased the stages to present them as moments of a journey.

Dream trip (changing mental models): First, the travelers acknowledge where they are and dream about the place they want to visit.

Baggage (skill development): Travelers prepare the necessary equipment for the trip.

Take-off platform (support during the transition to higher education): For the departure day travelers must solve processes such as tickets, bookings, and boarding passes which are sometimes tricky and may require some help.

Story Tellers (Follow-up): During and after the trip, travelers want to share those experiences. They tell stories, show photos and bring souvenirs. In this way, they encourage new travelers to follow their dreams.
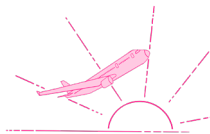
A journey to your dreams

Dream trip

Baggage

Take-off plattform
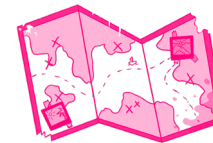
Storytellers

Purik: A journey to your dreams.

Prototype: coping with a difficult context

As part of the design process, we developed a prototype (citar graficos). The goal was to know the students' reactions, and also to identify the challenges of planning an event despite the limited resources. It was all planned on zoom meetings. In the beginning, the plan was quite ambitious. We expected to recruit more professionals and to have participation of about fifty students. We wanted to give printed material, lunch, and a pack with a notebook and t-shirts for the event. The activities would be hosted in a big summer house nearby, and the resources for all these would come from the participation of different entities such as the Town Hall and the Indigenous Council. Optimism was certainly a valuable resource, but we quickly crashed with the reality of this context. Bureaucratic processes made it impossible to have economic support on time despite the willingness of the entities. Other professionals could not join because they were working, studying, or living far away. Issues like poor internet connection, and sudden electric cut-offs, made it even more difficult. A huge landslide blocked the main road and during a weekend armed groups declared an armed strike which strongly hindered transportation.

We had to cope with the challenges of this context and adapt the prototype to what was possible. The event would now receive only twenty students and would take place at the high school institution, lasting a whole school day. We no longer had to solve transportation, lunch, renting a hosting place, or technical equipment. The high school institution already provides all this for the students. It was also an advantage having the students already there so they do not need to spend money on transportation to assist the event. In this context, any solution we come up with must be collaborative, efficient, resourceful and resilient.

Following the concept of the journey and the four stages of the program, each one of the developers' team members was assigned some activities for the prototype event. We individually developed them and later get them together to be discussed. When we had agreed on the activities we started the preparation of the physical material and developed brand identity.

Material was limited
Original

Landslide make transportation difficult
Original

School bus overloaded with students
Original

By Oscar Guerra Noguera

The brand: Purik, the dream trip

We already had a powerfull concept: A jurney driven by dreams. I created a mood board with images of elements that can be related to these concepts (citar moodboard). From the cloud of images starting to emerge shapes and colors. Some of them are strongly tied to the Mallama's ancestral culture (Appendix 10).

The cosmic curl "churo cosmico": It is a symbol widely used by the ancestral indigenous communities of southern Colombia. It has a strong symbolic connection with cyclical movements, duality, manifestation and rebirth. It is also a figure that denotes fiuidity and movement, as on a journey.

Wiphala: It is the fiag that represents the indigenous ethnic groups of the Andes. It symbolizes two fundamental values of these ethnic groups: the Pachakama, a principle of Universal order, and the Pachamama, which refers to Mother Earth, to the cosmos. Everything is linked in the values of solidarity, brotherhood and community. Its color palette is wide, fiexible, and full of meaning.

Traveler: The human being and his experience during the trip are the central theme of this project. Therefore, the footprint as evidence of its path and its interaction with the environment is an important graphic element.

Purik: In Kichwa, the language of the ancient cultures of southern Colombia, Purik means walker or traveler.

Purik: A journey to your dreams.

Recruiting: Learning from failure

To recruit students to participate in the event, we went to invite them directly to their classroom, where we also hanged some posters to advertise the event. Due to the landslide that blocked the road, some students did not attended classes during that week and therefore did not get to know about the event. A facebook page was created to interact with them and to sign up to the event, but due to the bad internet conditions, the page had very low interaction and the signing up process was done in a more practical way: a list on a paper. Luckily, failure is at the core of human-centered design (IDEO, 2015, p. 21), and we learn that in this context practical solution work better. It also feels more natural for them.

The event day

One night before, the developers team had the last meeting to adjust final details. At the next day the event began at 7:30 until 13:00 with a 30 minutes break in between. We implemented the four stages of the program delivered through dinamic talks, and interactive activities in which they participated actively.

Stage 1. Dream trip (changing mental models): It started by introducing the team and presenting the Purik concept as well as their role as the new " Purik travelers". Then, an ice-breaker activity made everyone laugh and feel more comfortable. The next activity was a Hipnotic session so the participants can be relaxed and more concentrated to be receptive to the concepts we would later introduce. Then we talked about being aware of the context and how to unlock the ability to dream bigger. In a paper strip they draw how they oerceive their context in one end

and the future reality they dream about for their lives in the other.

Stage 2. Baggage (skill development): Theory says that visualizing both the current state and the desired, creates creative tension. In this big space in between was the main topic of this part of the event. The participants learn how to identify challenges, set goals, an how to create a plan to achieve them. In a dynamic way, they learn how to use tools such as SWOT. In the end they wrote a letter to their future themselvs talking about their dreams, so one year later they could read it and compare their progress.

Stage 3. Take-off plattform (support in the transition): Since the time was not enough to provide information or practical support, the activity on this stage was limmited to talking with them about our persnoal experiences during the transition. The goal was to show them some real challenges we faced and the ways we overcome them. This activity was similar to the presentation during the first workshop, with pictures that describe the journey of some of the speakers.

Stage 4. Storytellers (Follow-up): Similar to the previous stage, here there was sort of time delay. The new Purik travelers are just starting their journey. We approached with an activity that also closed the event. We called it fashion catwalk. They wrote a edscription of themselves as if they were in the future and had achieved their goals. The description included name, age, profession, their talent, what they like the most about themselves, and what is their contribuition to the community. Then we asked them to organize the chairs face to face in two rows. They walked through while we readed their descriptions. It was an encouraging and also hilarius activity.

Poster in the classroom advertising the envent
Original

By Oscar Guerra Noguera

Group photo after the event
Original

ice-breaking activity
Original

Students sharing experiences
Original

Students workin on the activities
Original

Purik: A journey to your dreams.

Prototype conclussions

One of the main things to point at, and that is essential, is the willingness of stakeholders and professionals to contribute to solve the community's problems. Many of them are involved or lead initiatives related to foster youths human development. They feel this projects relates to what they perseu in theirs and understand the effects of povert in the community. This willngness and clearity is something this initiative must make use to.

Despite the widespread awareness of the effects, it is necessary to work more into getting everyone on the same page through a more systemic perspective of the problem, so all the efforts are articulated and in the same direction.

It is clear that the socio- geographical context infiuences the way the elements of the system interact and therefore condition aswell the way solutions should be implemented. As an example, weather and topografy affected the communication of the event (landslide and internet access), the low communication access isolates the community and makes people to feel more comfortable getting a physical letter or oral invitation rather than an email. . Therefore, it is critical for any intervention to identify first all this ways to interact in order to make it more effective.

The latter is connected with the need of synergyc solutions. Similar to a permaculture in which the limited resources available in the community are wisely and efficiently used to produce the biggest impact possible. To mention an example, for the prototype, the lack of plotters in the municipality forced us to produce less printed material and to find different ways to communicate and interact,

this has a possitive enviromental impact, stimulates creativity, lower costs, and people relates better.

Connected to what has been said, in a community with limited resources, the most valuable resource is having to each other, so a coolaborative interdisciplinary work is what make possible to implement solutions and sustain them over time. As designer I acted as a facilitator for this collaborative interactions, but the program came from the ideas of proffessionals in different fields,

from the insights stakeholders provided and the willingness of key actors such as the highschool institution.

It is also important to mention that, in order to make sustainable and effective a project focused on youth, it is key having young people taking leadership. We noticed during the event that younger speakers connected better with the students. They are also up-to-date with the interest of the generation, and act as positive role models.

By Oscar Guerra Noguera

Meeting experts

Back in Oslo, I met my supervisor to get advise on what the final product should be. It was evident that adressing poverty is a huge problem, and the time frame of a master thesis would not be enough to produce a high-end solution. Therefore this project will be understood as the fist stage of a bigger and complete project the Municipality Youth Council will continue developing. We discussed the importance of stablishing the necessary values and criterial to ensure the project keeps on track regardless of who is leading it. But before deciding what is to be delivered I decided to hear from two related projects, MOT and Sistemically Designed in order to support my next desitions (Appendix 9).

Mot

It is an Norwegian organization that "works preventively to counteract societal challenges such as bullying, exclusion and mental health problems […] by strengthening young people's resilience, life skills and courage" (MOT, 2022). The MOT program works in schools and local communities through its main concept: Courage to to live, Courage to care, and courgae to say no. I interviwed Ellen Homstand, Global MOT Speaker & Coordinator MOT's Programmes. We discussed about the importance of courage in a young society, by embracing who you are, providing the skills to follow their dreams, raising awareness about being someone who cares about others, and prioritizing what you want to be and do.She thinks that the importance of such initiatives lies on creating robust individuals who can handle the ups and downs of life and have the tools to cope with it in a healthy way, preventing broken future adults.

Later I presented to her an overview of the research findings and Purik's design concept and its main criterias and asked her for some advise from the MOT's experience. She pointed at the importance of an interactive atmosphere that allow youth to raise the isses they want to talk about. She also mention how MOT makes and effective use of role play to cretae new healthy behaviors and mental models. Appealing to the youths sensation-seeking thorugh exciting healthy activities and setting golas is also an strategy used by MOT to engage young people. I commented that one of the challenges that Purik faces is to ensure that its further development is aligned with the basic criteria on which it is grounded. From her experience as former MOT's program participant and now a coordinatior, Ellen considers that some of the key elements are: being aware of the impact the project aims to create a well as having a comprehensive concept that is easy to communicate, evaluate, and be "owned" by the participants. She also highlighted the importance of partnerships with stakeholders such as educational institutions.

Systemically Designed SD

In words of its CEO Niloufar Gharavi, the company is "an international transdisciplinary confiux of systemic brains and world-class projects - scaleups, startups, or to-be-founded" (Systemically Designed, n.d.). SD supports companies and founders to creat more sustainable and inclusive business models by implementing systemic, design-driven, and cooperative approaches. One of its latest project is Oslo International Welcome Center (OIWC) in which I also had the opportunity to participate as part of the designers team. This project seeks for supporting high-skilled international talents in their process of integration to the Norwegian society. By implementing a systemic approach, SD identified relevant stakeholders to partner with and packed their services into one single touch-point for the whole integration journey. At a bigger scale, SD is creating an ecosystem of social-impact focused projects that aim to generate growth by developing and connect human capital and businesses.

During our meeting we talked about Purik and the importance of igniting human development by creating the conditions to dream bigger, aswell as the essential role a collavorative approach plays in it. As Purik was very alligned to the goals of the ecosystem SD has been creating, we discussed the posibility of making Purik part of it, being the Colombian branch of an international ecosystem.

Purik: A journey to your dreams.

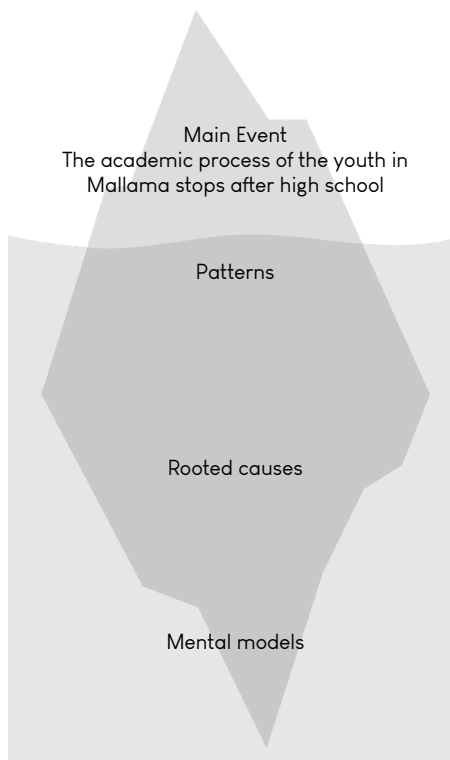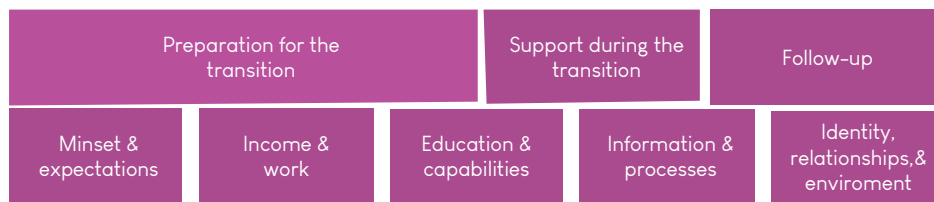# Deliver
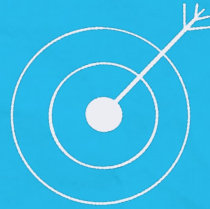
Social Impact   A

Goal   B

Youth   Education

Defining deliverables

As mentioned before, the short time available makes it necesary to focus the project in stablishing a solid ground to later developing a more detailed solution. Therefore, the final chapter of this document focuses on explaining the final Purik framework, aswell as the criteria that ensure its proper development and the strategy for its implementation (Appendix 11).

Purik's goal and structure

The main porpuse of the Purik program is to support the youth's educational process, focusing in enabling the transition to higher education, turning them into generators of a positive social impact in their communities. By doing this, the project contributes to their process of human development and ultimately of the entire community. Aligned with the UN's human development approach, this project has people, opportunities, and choices as core concepts (Human Development Reports, n.d.). Purik directly adresses 6 of the 17 UN goals: No poverty; quality education; reduced inequalities; decent work and economic growth; peace, justice, and strong institutions; and partnership for the goals. However, due to the interrelated nature of the goals, the remaining ones are also indirectly taken in cosideration.

According to the research finidings, the rooted causes catalyze during the youth's transition to higher education. Therefore, Purik is structured under three big stages of the youth's educational process: preparation for the transition, support during the transition, and follow-up. What happens in this stages is framed into five categories or criteria: Mindset and expectations, Income and work, Education quality, Information and

Preparation for the transition		Support during the transition	Follow-up
Minset & expectations	Income & work	Education & capabilities	Information & processes	Identity, relationships,& enviroment

Main Event
The academic process of the youth in Mallama stops after high school

Patterns

Rooted causes

Mental models

Stop 4: Storyteller
(Follow up and retribution)

Stop 3: Take off platform
(Support for transition)
10-11 grade

Stop 2: Baggage
(Skill development)
6-11 grade

Stop 1: Dream trip
(Mindset, and mental models)
Families, stakeholders and students
1-11grade

Purik: A journey to your dreams.

processes, and Identity, relationships, and context. All the contents of the Purik program must fall into at least one of these categories. They ensure the content delivered to the youth meet their needs. The combination of the three stages and the five cathegories constitute a high-level structure of the project.

On top of this structure, we have developed a framework consisting of four stages: Changing mental models, developing skills, support during the transition, and following-up. These stages tackle the problem down from the mental models in the bottom of the iceberg, all the way up to the main event. To make the framework applicable in other contexts, a fifth stage is required before it all, so a stage for preparation and research is added.

In order to make it more comprehensive and engaging, the framework follows the concept of travelers who are in a journey to their dreams (citar story). Then, the stages become "stops" and are rephrased into: Dream trip, Baggage, Take-off plattform, and Storyteller. The actors also obtain roles in the story: Purik travelers (students) and Purik Tour guides (facilitators).

The Purik framework is meant to be open and fiexible regarding its content and the way it is delivered. So, the program can include workshops, talks, forums, and any activity that the context allows. The only condition is to be framed in at least one of the five categories of the high-level structure. This is done to make the project adaptable to the available resources and posibilities in an specific context, as well as allowing improvements over time.

To present a more detailed strategy for the program, I present a road map (Appendix 11) in wich each stage is asociated to an specific goal and a expected oucome. It also suggest touch points and topics that can be adressed in each stage according to the research findings, as well as milestones to be achieved at every stage.

The ideal scenario would be to introduce the participants into the program as early as possible, meaning from 1th grade. However, in a realistic scenario, students are at diferent points of their educational process and they all need to be attended. So, the project requires a high level of complexity to be able to cover the four stops regardless of their point at the educational process. This document presents only a first phase of the project's development. The aim is to continue until it is transformed into someting capable to attend the youths' needs. Therefore, I propose an implementation strategy consisting of three incubation stages in which Purik works as a framework, a program, and finally an organization.

Framework: In the first phase of the implementation starategy, Purik is a framework that is highly fiexible and open to improvements. The framework, its story and values (Appendix 11) are spreaded and acquire by the different actors in the municipality, including stakeholders, educators, families and students. At this point, small activities can plant the seed, and already existing initiatives can be partnered and branded as Purik.

Program: Over time, more professionals join the project, activities have been tested and the developers have got experience. Purik can be packaged in a set of activities that can be delivered sistematically to youth population through the minicipality's institutions. Each stop of the framework can consolidated as an specialized program, adapted to different ages and covering specific relevant topics.

Organization: The ultimate goal of the strategy is to bring Purik to become an organization specialized in accompanying youth from the begining to the end of their academic process. To achieve this, the organization creates partnerships, develops programs and manages resources and information.

The incubation process allows Purik to gain momentum and know-how. We can say that the stages are situated in the end of a double-diamond model, allowing sucesive test and iterations. Iteration are important to arrive to a better solution, it gives us the opportunity to explore, learn, make mistakes, unleash creativity, and ultimately deliver a project that can be adopted and embraced by the community (IDEO, 2015, p. 25).

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