



Río Pita Park Greenspace for Children in a Suburb of Quito

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Preface and Acknowledgements

I was given the opportunity to carry out a field study in El Valle de los Chillos. During a two-month stay in this suburb of Quito in Ecuador the material for this thesis was collected. What really interested me in "Los Chillos" was the increased development of gated communities but also the large amount of unused land. I see a possibility of making use of the open space before it gets urbanised. The local administration office of El Valle de los Chillos will use the work in order to apply for international funding.

The project presented in this thesis has been accepted and carried out as a MFS (Minor Field Study), a scholarship program founded by the Swedish International Development Cooperation Agency (SIDA).

This study has developed into my Master's thesis in landscape architecture at SLU (Swedish University of Agricultural Sciences), Ultuna. The work will be presented for Quito municipality council, the local administration office and at Swedish University of Agricultural Sciences, Ultuna, Sweden.

Without the help of a number of people this thesis would not have been feasible. I would like to thank concejal Patricia Ruiz Rivera and Municipio del Distrito Metropolitano de Quito for useful contacts; Nury Burmudy, José Tupiza A. and Marcelo Yanez at Dirección Metropolitana de Planificación Territorial for useful information and contacts, Germán Rosero and Marco Ayala at Administración Zonal: Valle de los Chillos for a lot of useful information.

Thank you also to Escuela Fiscal Mixta; Rafael Armijos Valdivieso for allowing the children to skip class and attend my study. A special thank you to the children and teacher of 7th grade for cooperating, being very curious and helpful. I would also like to thank my supervisor Petter Åkerblom at Swedish University of Agricultural Sciences, Ultuna and external supervisor Magdalena Möne. Finally, I would like to thank Erica Hammarskiöld for valuable support and good collaboration.

Abstract

The number of urban inhabitants throughout the world is rapidly increasing. Almost all population growth is taking place in low or middle-income countries and in the suburbs of large cities. Improvement of these environments, in particular of public space, should be an important factor in any attempt to improve the quality of life in these areas. A sustainable way of reaching this goal could be to place a value on the environment, through the encouragement of personal relationship and responsibility for the quality of the public spaces in which lives are being lived. The improvement of their daily life can occur through understanding and a feeling for nature.

Through studies of an area on the outskirts of Quito, with a focus on the often disregarded target group of children and their use of nature, I hereby present the shortage and needs of the physical conditions in the area. Through walks and conversations about children's cognitive maps of their neighbourhood in the suburb El Valle de los Chillos, the children's view of nature was investigated. Arguments and recommendations for stimulating children's interaction with nature that have been found in previous literature have worked as a foundation when developing a proposal of how contact with nature can be improved. This was done through observations and analysis.

The increasing development of privileged gated communities, fragments the urban landscape, and disrupts access to, otherwise, public space. Outside of these communities, where the less wealthy families live, the streets to a large extent consist of a space enclosed by high stone walls. Greenspace is behind those walls or on a still undeveloped piece of land, where the lush grass is unused. Although there is a sense of a green area, it is not used, or it is unavailable to the people who have a wish for it.

My proposal for strengthening the relationship with the natural environment involves improvement of the whole neighbourhood. However, the focus is set to an unurbanised area by the river, where a larger greenspace can create opportunities for a diverse and maximised use of nature. The design proposal provides for environmental education, physical exercise, social activities, children's development and stress relief. Río Pita Park is a tangible proposal for how appreciation of nature can be established among children in El Valle de los Chillos. It is beneficial to their physical and mental health, their academic performance, their social skills and essential to their participation in the necessarily global action for a sustainable and healthy planet. My hope is that this thesis with the design proposal of plans and illustrations of how a public park could be developed, will be used when applying for international funding for the realisation of the park.

Sammanfattning

Andelen av befolkningen i världen som bor i staden, ökar kraftigt. Nästan all befolkningsökning sker i låg- eller medel-inkomstländer och i förorter till de stora städerna. För att öka levnadsstandarden för dessa människor kan förbättring av deras dagliga miljöer vara en faktor. Ett hållbart sätt att nå det målet är att ge miljön ett värde, genom främjandet av ett personligt förhållande och ansvar för kvaliteten på invånarnas offentliga miljö. Förbättringen av deras egna vardagliga liv kan bli påtaglig genom en förståelse och känsla för naturen.

Genom en undersökning av ett område i utkanten av Quito, med fokus på den ofta åsidosatta målgruppen barn och deras användning av naturen presenterar jag i denna uppsats de brister och behov som finns i den fysiska detaljplaneringen. Genom promenad och samtal om barnens kognitiva kartor över deras område i förorten El Valle de los Chillos har barnens syn på naturen undersökts. De argument och rekommendationer för stimulering av barns naturanvändning som hittats i tidigare rapporter har fungerat som grund när jag med hjälp av observationer och analys har utvecklat ett förslag på hur kontakten med naturen kan förbättras.

Det ökande byggandet av privilegierade slutna kvarter splittrar landskapet och försämrar tillgängligheten av det som annars skulle vara offentliga miljöer. Utanför de slutna kvarteren, där de fattigare familjerna bor, består gaturummet mest av en väg omsluten av höga stenmurar. Grönytor finns bakom de höga murarna eller på ännu obebyggda tomter, där det frodiga gräset är outnyttjat. Även om området känns grönt är det inte använt eller otillgängligt för de människor som skulle vilja nyttja det.

Mitt förslag för att öka naturkontakten och få ut det mesta av den, innehåller förbättring av hela området, men fokus är inriktat på en obebyggd mark intill floden. Där kan ett större grönyteområde kan skapa möjligheter för en varierad och maximerad användning av naturen. Idéplanen bäddar för lärande av naturen, fysisk träning, sociala aktiviteter, barns utveckling och avkoppling. Río Pita Park är ett konkret förslag på hur förståelse för natur kan etablera sig hos barn i El Valle de los Chillos. Det är fördelaktigt både för deras fysiska och mental hälsa, deras studier, deras sociala beteende och grundläggande för deras handlande i vårt gemensamma strävande efter en hållbar och frisk planet. Min förhoppning är att rapporten tillsammans med idéförslaget, med planer och visioner om hur en offentlig park kan utformas, används för ansökan om internationella bidrag för att förverkliga parken.



Introduction - compilation of Study

Terms of Reference

Aim and Objectives

My primary objective with this study has been to, through urban planning and landscape design, develop a proposal for a suburb of Quito, with a focus on stimulating children's contact with nature.

My aim has been to investigate what relation school children from a suburb of Quito have with the physical environment immediately surrounding them. How do they use greenspace? The aim of this investigation was to get an understanding of their perception of nature.

Thereafter I have considered how the children's relation to nature can be developed with an environmentally sustainable perspective. This has had to be done through understanding of the children's view of nature and the existing knowledge and feeling for nature in the community. Greenspace in the area is targeted for improvement. The result is a design proposal of a local public park and a proposal for future planning of the neighbourhood.

I have chosen to use the word greenspace in order to specify the kind of nature which is of importance in this study. Nature is a phenomena which can be seen in a little bird or species of weeds whereas greenspace is here restricted to an area. It can be defined as any green area, cultivated or not. It may be a small park or a forest but also a mountain area without vegetation. However, hardscaped open spaces are not included in my definition. The word is a direct translation of the Swedish word 'grönyta', which is frequently used among Swedish landscape architects.

Issues

The overall issue studied has been what relation children in a school in El Valle de los Chillos, a suburb of Quito have to nature and how this contact can be developed through landscape design.

The main questions for me to discuss in this paper are:

1. How do children in El Valle de los Chillos look upon nature and how is greenspace used?
2. How can the use of greenspace and the contact between children in Escuela Rafael Armijos and nature be changed by landscape design? (Existing and new greenspace)

In order to answer these questions I have used combined methods. The children's use and view of nature is studied through

conversations about their drawings of the neighbourhood and walks. Surveys and observations was also used to study the area and the children's use of it. The final proposal is the answer to the question of how greenspace can be changed by landscape design.

Limits of Study

The study took place in a suburb of Quito, the capital of Ecuador. Children are an often disregarded group of society as children very much rely on adults to be heard. According to United Nations Convention on the Rights of the Child (1989), the best interest of children should always be of primary consideration in all issues concerning them (art 3). Children should be asked and their views should be considered and respected (art 12). Bearing this in mind the public school Escuela Fiscal Rafael Armijos Valdivieso was chosen as focus of the studies. This school is situated in El Valle de los Chillos, with children from the neighbourhoods Ushimana and San Carlos. It has pupils from 1st till 7th grade. The 7th grade class has been in focus for the investigation. The age of the children in this class is mostly 12 years. Interviews were made with three girls and three boys, selected by the teacher. The children were asked about their 'Barrio', the area around their house and their school.



Children's painted stone wall marking the school ground area

Background to the Study

Nettleton (1999) argues that today's people of the city need more contact with nature. According to him, evidence for the benefits of human's relation to nature is obvious. The effects are psychological as well as physiological (Miles, 1995). Studies also show that certain kinds of outdoor areas improve children's health in several ways.

Through growing up in the outskirts of Stockholm, nature has always been close to me, both physically and in heart. Hiking and interacting with nature in some way has been a natural privilege, since my family has been interested in nature and it has been easily accessible. However, this relation to nature is not common to everyone. Everyone has not been brought up with a strong connection to nature and is not familiar with the positive effects it has on you as a human.

The rapid growth of cities in South America diminishes the contact between human and nature. As a teenager I spent one year in Argentina staying in an Argentinean family. Even though it was a small town in the large country of Argentina, I realised the connection to nature was very poor. What did the children know about their native plants? About the animals? Was there maybe a reason for the excessive pollution of the river and the quite unnecessary use of cars in the small town? I see a need to argue for preservation of accessible greenspace before too much of close by nature is urbanised.

Another thought that comes to my mind when studying humans' relation to nature in South America is the very strong connection the indigenous people originally have to nature. Poor neighbourhoods of big cities in South America are overrepresented with Indian people. How have their beliefs and connection to nature been adopted to the new society of the cities? Does the nature belong to their past or are the children somehow brought up with a sense of nature, in a way that could be useful to the urbanised western societies?

Methods

Different methods have been used in order to investigate the questions above. Combining methods may provide overlapping facts. However, it may also result in deeper understanding of the children's realities (Cele, 2006). In hope of getting a profound knowledge of how to improve the area, I therefore have applied a variety of methods to this study.

Literature study

As a background to the importance of a close contact between children and greenspace existing research on the subject has been studied. Through this literature I defined the positive outcomes of a close contact with nature and what general recommendations that have been found.

Survey

Through surveying the area close to Escuela Rafael Armijos, available greenspaces have been assessed. The survey was an on site investigation of the area. My surveillance of children's use of nature has been on the schoolground, streets, playgrounds and parks.

Observation

The children's use of greenspace was observed while staying in the area for nearly two months in April-June 2007. As mentioned by Cele (2006) 'a researcher on foot' (p. 54) include understanding and detailed knowledge of the place. I found it particularly convenient to stay in the area, to be able to pass the school every day at different times, to get a smile from the indigenous woman looking after a cow on a spare property, to cross the river on the little wooden bridge when walking to the shopping mall, to be invited to the children's homes, to take out the baby girl of the host family to the park in the gated community and to wake up on a Friday morning to the drums of the school parade. Staying in a local family facilitated understanding of local life and use of greenspace. By taking the local informal taxi in the area frequently, at different times and in different weather, I started to recognise people, talk to people, feel the area and collect informal and local knowledge. In the end of my stay I even had cars stopping asking for directions. It seems that I appeared as knowing the local area well even though I looked different from local people. Just as Cele (2006) finds the result of this approach difficult to analyse, I find it impossible to measure in its effectivity. However, I believe in a close contact with the culture of the user group and in order to understand the culture this kind of engagement is successful.

Drawing

The children's use of greenspace and view of nature was understood through cognitive maps. This method was inspired by Cele (2006). When asked to draw a map of their neighbourhood, in the area where they live, their way to school and more, the children were specifically asked to try to include as many places as possible. A piece of paper with examples of symbols that could assist them to remember what kind of places that could be included and help explain the map was available for their use. The examples I gave the children were the following:

- A place I like
- A place I don't like
- A peaceful place
- A noisy place
- A scary place
- A place for playing
- A secret place
- A place to meet friends
- A place to meet the family

Drawing and discussions in small groups took place in the school's hall.

Conversations

Map-drawing was immediately followed by informal interviews. These discussions were necessary since the drawings can not speak for themselves (Cele, 2006). The interviews were assisted

by social work student Erica Hammarskiöld and recorded in order to receive as much information as possible from the conversations. I aimed to get answers of questions such as: What is your relation to nature? (e.g. Occasional contact with wilderness, easily accessible parks or green streets) At what hours and where are you aloud to play? Would you rather play elsewhere? What is your favourite place?

The informal interviews in groups of three were inspired by the method used by Cele (2006). The conversation was rather a matter of the children explaining their drawings to me then me asking questions. Their drawings were the focal points during the discussions.



Walking with the boys from school accompanied by a dog on Calle Zamora.

Walks

Conversations continued during walks in the neighbourhood. A digital camera was brought in order to take photographs of particular places mentioned by the children and to document their use of it. The drawings were brought and used as a map to see all places of importance to the children. There guidance was particularly useful since we got access to the gated communities. According to Cele (2006) this kind of active experience of a place, reduce the amount of mistakes in the planning process. The walks contributed to my 'place-bound experience' and knowledge of the area (p. 212) This method was inspired by the method of 'gåtur' (Cele, 2006).

Analysis

The study of the children's contact with nature was followed by analysis. This analysis is a combined place analysis of my own observations and the relevant expressions of the interviewed children. To obtain a practical understanding of planning in Quito discussions have been held with officials. Plans and documents

have been studied in order to achieve an accurate view of the current issues. Ultimately a SWOT analysis was done, assessing strenghts, weaknesses, opportunities and threats in the area. Similar to Cele (2006) my observation and 'experience of the place during a period of time' helped a lot during the analysis by remembering the area as the complex and vivid space it is and not simplify it as a map or photographs.

Proposal

In order to stimulate children's contact with nature the studies result in the development of tangible proposals. However, these proposals should not be seen as a report of the result. Rather it is a step in the development of an increased contact with nature. A general proposal for the area with directions of where maintenance and development are most needed also include suggestions of community participation. A conceptual and schematic design for a public park by the river Río Pita is developed in order to demonstrate how a foundation for children's understanding and use of nature can be provided. The presented master plan of the park is a scale drawn footprint of proposed improvements as a start of a new process.

Validity and Reliability

The investigation is based on a western view of greenspace and children's use of it. The literature used for this thesis is from Australia, Europe and North America, which puts another perspective to the issues studied in Ecuador. However, there is also a risk of putting the problems out of their context. This is because I, with my Swedish background and with a previous landscape architectural knowledge limited to western ideologies, cannot fully comprehend the complexity of the local issues regarding greenspace.

The children participating in the study do not represent all views of greenspace among children in the neighbourhood. They represent a group of six 12-year-olds from families with limited resources. However, the children were chosen by the teacher, who may have picked children with good drawing and social skills, and who would not suffer from skipping a couple of lessons. The study include different perspectives from children with different gender, individuals living in the same house, children with families living in as well as outside of gated communities, in a shared house, in their own house or in their parents' employers house. The children may have been copying each other's drawings. They may also have been affected by the fact that the drawings and interviews were made in school. It is possible that they answered the way they thought they were supposed to. My collaborator and my limited language knowledge may have influenced the children so that they spoke less nuanced. This also influenced our interpretation of what was said.

Site Description

Ecuador is situated in the west of South America where the equator crosses the continent. The equator is where the country got its name from and is about 20 km north of Quito. Ecuador's geography is characterised by several different topographies with different climate and nature. The mainland is most commonly distinguished into the coastal, the mountain and the rainforest regions. The capital Quito is located in the province of Pichincha, in the mountains. In between the peaks in this high Andean valley the city lies in a north-south direction at an altitude of around 2800 m. The north is the modern part of the city with all major businesses and services. The middle- and upper class residential areas are located in the north end of Quito. The far south of Quito consists mainly of working-class residential areas. The municipality of Quito is divided into eleven zones. El Valle de los Chillos is a suburban part southeast of the city, consisting of five parishes. The volcano Illaló separates this valley from the other more wealthy suburban zone of Tumbaco. In the southwest is the canton Mejía and the river of Pita marks the border to the canton Rumiñahui in south. The public school of Rafael Armijos Valdivieso is situated close to the river, in the parish of Alangasí.



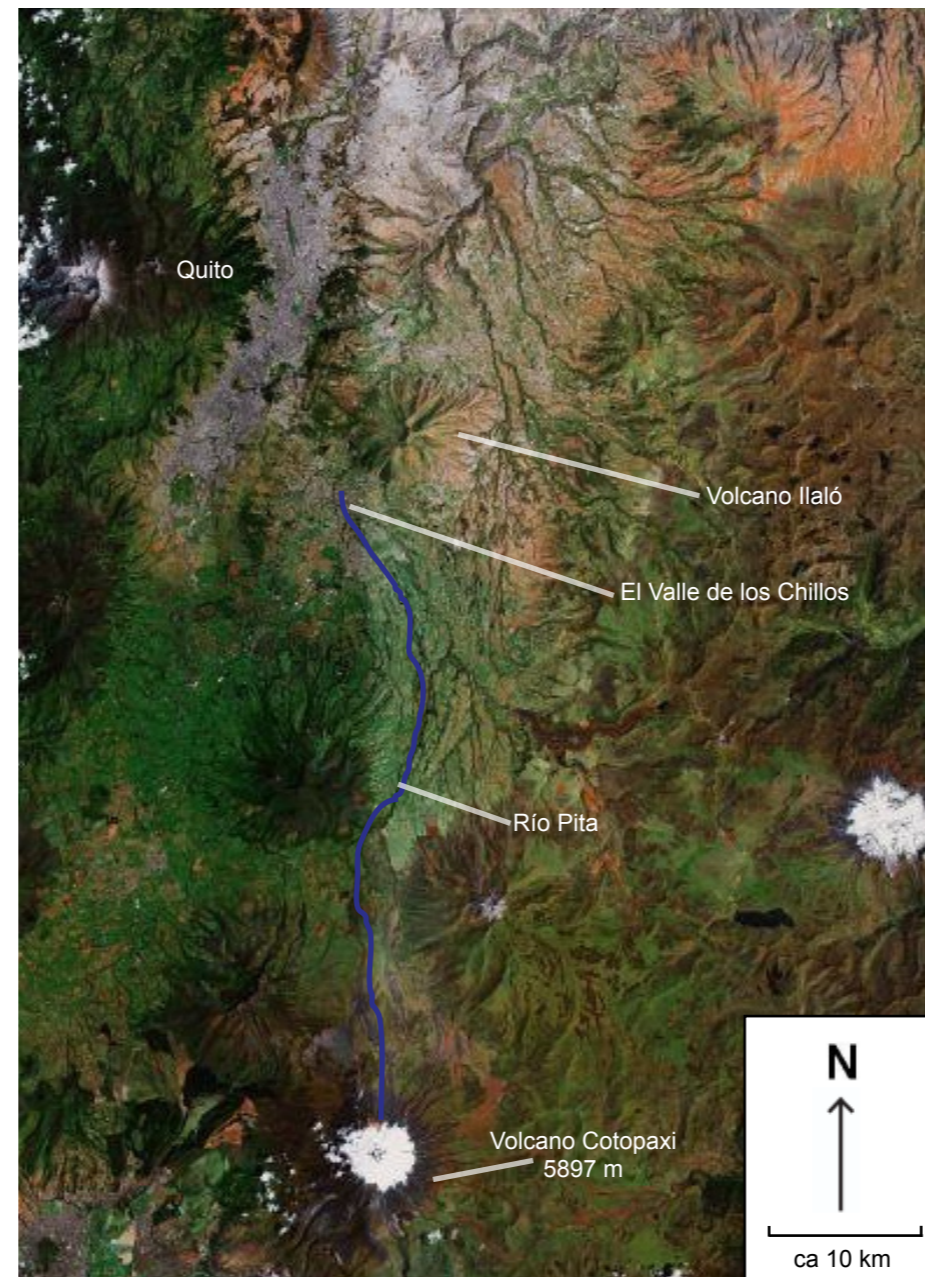
Map of Ecuador showing topography and its location in South America.

Population

In Ecuador there is a great ethnic diversity. There are mestizos, black people, white people and several different indigenous tribes. In total Ecuador has a population of 13 million. Quito is Ecuador's second largest city with 1.4 million people. Alangasí has a population of 17322 people and a density of 5.89 inhabitants/ha (Perez Diaz, 2005)

Geography

As Ecuador is located on the equator there is hardly any seasonal difference in temperature. However, March-May is the rain season and June-August tends to be the dry season. This is when the leaves fall off some of the trees. During the days in Quito there is an average temperature of slightly over 20 degrees and nighttime around 10 degrees. El Valle de los Chillos is situated a couple of hundred meters lower than Quito, with a hill separating the suburb from the city. Its lower altitude makes the climate warmer in El Valle de los Chillos.



Satellite picture of part of the Ecuadorian Andes. Río Pita is marked out as it runs from Cotopaxi towards Quito.

In between the Andean peaks, where Quito is situated, the exhaust fumes, from all cars and busses with diesel engines, stay in the valley, causing pollution which makes the air hardly breathable.

According to Perez Diaz (2005) the existing low pressure fronts are detained north of volcano Illaló. They keep humidity and affect the area of Alangasí to become dry.

The area for my field study is situated by the river Río Pita, on the boarder of two parishes. The parish of El Valle de los Chillos has an area of 17.945,9 has., and Alangasí is of 2.942,89 has. Three classes of land have been defined in these parishes;

- *Urbanised land*; roads, infrastructure, public services and urban structure
- *Urbanisable land*; areas destined by PGDT (General Plans of Territorial Development) of Quito to be used for city growth
- *Not urbanisable land*; areas which for their natural conditions, ecological character, tourist attraction, historical and cultural landscape, their agricultural, forest or mine production, have not been incorporated in one of the earlier categories

Valle de los Chillos		
Land use classification	Area (has)	% of total area
<i>Urbanised land</i>	1.987,66	11,07
<i>Urbanisable land</i>	5.666,43	31,58
<i>Not urbanisable land</i>	10.291,81	57,35

Alangasí		
Land use classification	Area (has)	% of total area
<i>Urbanised land</i>	403,19	13,70
<i>Urbanisable land</i>	1.194,47	40,59
<i>Not urbanisable land</i>	1.345,15	45,71

(Figure: Perez Diaz, 2005)

The characteristics of Alangasí compared to the rest of the zone are its relatively large amount of urbanisable land, which shows upon its tendency to grow in the future. Also there is less unurbanisable land in the parish. 97 % of this unurbanisable area in Alangasí corresponds to the hills of Illaló and its protected gorges. The other 3 % covers a small part in the southeast where settlements are found. (Perez Diaz, 2005)



Child playing at a settlement by the river.

Legislation and Policies

In Quito, the suburbs are growing in a tremendous speed, leaving little space for public use. Recently a new law was established, requiring 10% of an urbanising area to remain as open space. This causes a rather open structure with wide streets and parks within the new residential areas. However, these areas are frequently fenced as gated communities and are not accessible to everyone. If this kind of development continues, all that is left outside of the gated communities are empty streets with a few houses along. These households have no access to any green areas since there is no such public space.

According to United Nations, states parties shall promote the right of children to leisure, recreation, play and rest (art 31). Perez Diaz (2005) points on PGDT (General Plans of Territorial Development) of Quito and the municipality's aim to follow the constitution's directions of civil rights, including the right to live in a healthy, ecologically balanced environment free of contamination. According to Perez Diaz (2005), the municipality is legally bound to construction, maintenance, beautification and adjustments of paths, streets, parks, squares and other public space. The administration of Quito municipality include responsibility of developing programs and implementing specific projects in the canton.

Children and Greenspace

The general benefits of children's contact with greenspace are many. Researchers have examined this subject from many different angles. According to Cosco and Moore (1999) a good place for children allows them to express themselves and their curiosity for the world and other people. Their workshops have shown that natural places such as 'the beach, woods, streams, dirt, trees' were most frequently mentioned by participants as 'most playful physical environment of your childhood'. However, children and adults have different views on outdoor space (Mårtensson and Kylin, 2005). Since physical circumstances always influence the quality of activity, space is the setting to children's play. Places communicate different messages to children and have an important role in their lives. In order to learn from the physical environment through all the senses, as young children naturally do, space needs to be multisensory (Cosco and Moore, 1999). Vision, smell, taste, touch, hearing and movement should all be accounted for. In order to allow children to experience the world different stimuli need to be introduced. A space can offer a lot or a little. Children's play and learning is dependent on the physical environment. Research has shown that by adding vegetation to a school ground to accentuate paths and create space, the play facilities got less used by the children. The new vegetation got used more. As indicated by Mårtensson (2004), what gives a place meaning to children is the activity. Björklid (2001) claims that a child's walk to school is important for play, social relations and a move towards increasing independency. Nordström (2004) points on the surroundings of the house as important for children's physical, psychological and social development. According to her, the meaning of the outdoor environment differs with the age but is significant for babies as well as teenagers.

Development of a Healthy Planet

Our global society's challenge of preserving the Earth is an issue of self-preservation. We are all dependent on an healthy ecosystem. However, this logic is defeated by human greed. Designers' and policy makers' have responsibility in trying to find strategies to strengthen people's love of the Earth (Cosco and Moore, 2001). Part of the approach must include children's involvement. Love of nature as well as an understanding for nature and humanity's dependency on nature can be supported by appropriate physical settings in combination with wise adults. As a final point Cosco and Moore (2001) argue that throughout life children must learn that the biosphere with its' sunlight, air, water, fire and soil for growing food, is human's source of life. Immediate familiarity with the real world is fundamental to the healthy development and learning of the child.



Experience is the platform for acting. Figure is drawn with inspiration from Nørregard Christensen and Wizel Clausen (2004).

Health

About 25 years ago nature's effect on our health became more frequently researched. Two of the most significant researchers in this field is Kaplan and Kaplan (1989). Their research reveal nature's restorative effects on humans. Grahn and Stigsdotter (2003) proved by their research that the effect was not only gained from wild nature. Rather it is a matter of having access to nearby nature and greenspace. There is a large amount of scientific work providing clear evidence that within many parts of society there are positive benefits for mental health and well-being to be gained from both active and passive involvement with natural areas in towns and cities (e.g. Stigsdotter, 2005).

Research by Grahn et al. (1997) revealed findings of children's better motor activity and concentration skills where exposure to nature has been more frequent. According to Cosco and Moore (2002) findings show that children in a school with an outdoors-profile reached a more advanced stage of physical development. A comparison of children from two different Swedish schools show that children at the school with a 'outdoors-in-all-weather's' approach got sick less often. The reason for this may be that children in narrow space indoors are more likely to share germs.

Greenspace has its' apparent physical affects. The air contains more oxygen produced by the vegetation and it diminishes pollution. This has a positive effect in particular on children's physical health.

Additionally, introducing outdoor activity and nature as a natural way of recreation counteracts sedentary lifestyles. It may be effective in children's young years but also set the foundation for their active recreation throughout the rest of their lives.



Physical education at schoolground.

Education

Children's environmental learning in their local area has been a key issue in the multidisciplinary field of children's environments. (Hart, 1979) In countries such as England, Australia and United States there is a growing discussion among teachers and developers about the importance of concentrating on efficient outdoors environments for children and youths. Not only for play but also for a dynamic classroom. (Åkerblom and Olsson, 2003) Lately in Sweden, development of school grounds has involved teachers, parents and children (Attwell et al, 2004). In Swedish preschools interacting with nature is part of the basic activity (Mårtensson, 2004).

According to Åkerblom and Olsson (2003), research shows that the skills taught in school are also learnt outdoors. Through building and constructing, maintaining and observing school activities can be moved outside. Åkerblom and Olsson (2003) demonstrated that many teachers are positive to teaching outdoors as long as they are aware of the pedagogical opportunities. However, competence in outdoor education is often demanded. Through a study of two different areas, the participants concluded that no matter where the initiative comes from, the potential for change lies in the specific school or preschool (Åkerblom and Olsson, 2003).

Åkerblom and Olsson (2003) show a possibility of extending the notion of risk. Environments with risky aspects when it comes to health and injuries are as important to pay attention to as environments providing limited development possibilities.

Malone and Tranter (2005) identified cognitive activities as the most significant play leading to environmental learning. These cognitive activities included constructing, close interaction with

nature (e.g. collecting leaves or insects) and exploring the environment e.g. wandering through forest. These activities all have a primarily cognitive meaning rather than a social or physical dominance.



Football is a favourite activity for boys in the school break.

Social benefits

The stimulation provided by a diverse natural playing area results in more diverse play behaviour among the children. Cosco and Moore (2001) state that in particular the 'effective, imaginative and creative' fields are shown to be better developed. The school ground as an education resource has shown positive impact on children's academic performance and social behaviour. Violence and impulsivity have shown to be less frequently encountered among children with close access to nature (Grahn, 2003).

Planning greenspace for children

Many different aspects need to be taken into account when designing places for children. Various researchers have summarised important issues that must be kept in mind. Research from western countries tells that green components, diverse urban functions and design are preferred by children (Cele, 2006). Children's aversion to traffic, inadequate behaviour, littering and scribbling are also revealed.

Cele (2006) points on several common criteria from children's expressions regarding their places. Her findings of children's appreciation of certain spaces, despite individual, social and cultural differences, are of particular interest for this study. She states that all children enjoy places for playing outdoors, for meeting friends in public space and for contemplation. There is a high valuation among children of green places as well as city structures with shopping, cultural and social activities.

Mårtensson (2004) finds several factors stimulating physical activity. A vast terrain, a broken ground with shrubs and trees surrounded by open space stimulates movement of children of all ages. The playing tools should be placed in vegetation and topography rather than on a line and fenced in order to maximise children's enticement to physical play.

According to research by Kylin (2004) children have a special preference for places where they can observe the surroundings and people from another perspective. It may be a place below, above or hidden in order to make observations without anyone seeing you. This is something I think should be taken into account when planning greenspace but its constraints must also be considered. Children's places on the ground or for instance under a staircase are according to Kylin (2004) accepted by adults, but when children climb trees, walls or pillars they are quite often told off because it is associated with danger. Shrubs and woods where children can play and hide are also seen as dangerous places.

In particular I find the studies by Cele (2006) very interesting. She has found that children need places for solitude and contemplation. For children living in confined houses it is important to find a private place outside of home. A court yard may not have room for solitude. Nevertheless, sitting in a tree canopy is one way of children seeking contemplation (Cele, 2006). Children wish for places to consider as their 'own'.

Kaplan et al. (1998) make tangible proposals for how landscape can be designed to be as restorative as possible. Four criteria are assessed as follows:

- The place should offer the visitor a feeling of being away from daily stress and activities.
- The place should give the impression of size and extent.
- The place should offer fascination and stimulation.
- The place should be compatible with peoples needs.

Cosco and Moore (2001) argue that children by seven or eight years old should be looking for independence by exploring the neighbourhood on their own. Universally this is becoming difficult because of the increasing speed and quantity of traffic. Compared to an infant's play garden, older children need a vast terrain to discover.

In order to get an overview of today's concerns when it comes to childhood environmental planning the key issues according to Cosco and Moore (2001) are summarised below.

1. Landscape conservation. The protection of landscape qualities with high educational and ecological importance is needed, not only for children. (streams, woodlands, hedgerows, mature trees, rock outcroppings etc.)
2. Preservation of special childhood places. Places with unusual characteristics are particularly attractive to children and should be preserved but removed from potential toxic dumping. (remnant orchard, old trees, remains of old buildings, dumps etc.)
3. Making streets livable. Techniques for calming neighbourhood traffic should be implemented. (signs, bumps, narrowing of streets etc)
4. Urban wildlife management. Backyards and school grounds should be managed as urban wildlife reservations.
5. Rough ground. Just like urban wildlife, children also appreciate diverse messy nature where their interaction with nature is aloud without disturbing adults.
6. Access to diversity. Effective child development is dependent on richness of experience and suitable access to the diverse natural landscapes.

Accessibility is pointed out as one of the key criteria also by Moore et al (1987). A park for children should be located to have little interference with traffic but direct people along safe routes to the park. Parking and driving should be separated by barriers however not hidden from view. Boundaries should be defined but transparent. Play areas should be visible from housing or nearby places where adults gather. Even private play spaces should be placed and designed to allow views all over. Visibility is also the reason for vegetative structures to be open for two-thirds of their enclosure. Furthermore tunnels and openings should be large enough for an adult. Entrances to the park should be clearly visible and identified. It is also important to connect play areas with other areas and main pathways. Hardscaped areas should be separated from play areas. Moore et al. (1987) also assess the need of access ways for maintenance vehicles which must be at least 10 feet wide.

More et al (1987) also argue for a need for safe challenges for children. Upper body strength stimulation should be catered for by rings, bars, climbing features, swinging ropes etc. These should be designed to be used by children with and without disabilities. The risk of injury should be minimised by the design. Balance should be stimulated by settings such as tire swings, bridges and climbing equipment. Tunnels, banister slides and stepping logs are all features that stimulate coordination according to Moore et al. (1987). Each activity should provide several levels of difficulty and accomplishment. The activities should be challenging for the body but not include hazards and danger.

8.

Diversity and clarity is another factor assessed by Moore et al. (1987) to promote a good play environment. Complexity of a park stimulates curiosity among children. The maximised variety of play activity can be promoted by accurate site design. Diversity and flexibility can be achieved through movement of physical elements. Flexible structures can be modular systems that can be moved around or equipment such as hoses, buckets and ropes. All sorts of natural materials are also dynamic and add complexity to a site. Moore et al. (1987) argue for year-round use, which would include protection from excessive wind, rain, sun and noise.



Can the expressions of these children represent the children in the area? Can they represent their own opinions?

Discussion

Regarding research on children and greenspace, the conclusion can be drawn that society benefits considerably by both children's informal play and formal learning in nature. It is important to dedicate sufficient time and space for letting people involved in education meet and discuss. Schools have a possibility of extending the curriculum to outdoors education, which would increase academic performance, social skills and health among the pupils. I find it important to make responsible personnel of schools aware of the pedagogical opportunities. Additionally interacting with nature strengthens the environmental values of society and may result in a more sustainable use of our resources.

General components can be assessed in order to achieve diversity, social, health and educational benefits. It is interesting that findings reveal common interests for all children. However, matters must differ from place to place and depending on who is in the target group. The lack of one kind of outdoors environment in an area, must lead to a wish for something equivalent, although this may not be specifically expressed by the children. However, their opinion must be of primary concern, without forcing western ideologies or adults judgements into their domain. The kind of greenspace that is important in an area must be carefully analysed with participation of the children who it concerns. I see a need of examining my area of study in El Valle de los Chillos with children's involvement in order to obtain an accurate picture.



Satellite picture of El Valle de los Chillos with Río Pita marked out in blue.

Field Study

A field study based on different methods was carried out to obtain sufficient knowledge of the area. My own observations through living in the area during a period of two months, combined with a survey and participation from children in the public school of the area founded the base of the study. Conversations with the children about their neighbourhood and their own maps of significant places has been essential to carry out my work, since my intention is to create better greenspace for children in the area. In order to describe the studies with these children, I will use fictive names.



The schoolground and the door to the 7th grade's classroom.



Behind the rest rooms and hall.

Procedure

On Friday 4th of May interviews were made with three girls from 7th grade of public school Rafael Armijos. Most of the children in the class live in the nearby area of school on a walking distance. The interviewed children all lived about 500 meters from school. I told them I was interested to hear how they use their neighbourhood, the area where they live, their way to school and the area around the school. The teacher picked out three twelve-year-old girls who willingly agreed to talk to me. At a start Kitty, Cristina and Yanina were told to draw a map of their neighbourhood. I made sure they understood it was a voluntary work and that they did not have to answer questions if they did not want to. They were told it did not have to be a pretty drawing and that I would rather see many things with different meanings to them, than a perfectly drawn map. After I gave them white A3 cardboards, paintbrushes and tempera colours of 24 different colours they were left alone to start painting. When they all had started their work I left a note where they could look for inspiration to what kind of places they could draw; a place I like, a place I dislike, a peaceful place, a place with lots of noise, a place I am scared of, a place for playing, a secret place, a place to meet friends, a place to go with the family.

Monday 7th of May the teacher of the same class had picked out three boys to be interviewed. Joel, Raúl Fernando and Cristian got the same information as the girls but a big difference was that they immediately asked for pencils, which I told them they were aloud to use. After a while they went to get their rulers. Raúl Fernando had won a prize in the province for drawing and set the standard for the maps in the group of boys. They all drew for a long while until they started to colour the maps.

When the children had been painting for quite some time we started to talk about their drawings. Two of the children kept painting when I started to focus on the most finished painting. They all agreed to recording the conversation and that my collaborator Erica took notes from what they said. Conversations were followed by a walk with the children. We walked out of the school ground and I let the children lead the way showing me the things they had drawn on their maps.

Result

Kitty

Kitty is a girl who lives in the gated community of Playa Chica 2. She drew her house, and one street leading to a park and another street leading to the school. "There is only a pavement on my way to school" Kitty says. The school is painted with the Ecuadorian flag on the roof and the 5th, 6th and 7th grade classrooms as seen from the entrance. The entrance is also painted. Close to Playa Chica 2 there is another gated community. She walks on the pavement to school, sometimes together with Yanina. Usually the two girls walk together home after school, which finishes at one o'clock. In the park of her gated community, there is a football field and she explains that there is an "abandoned house" as a secret place to be inside. She has also drawn trees. The park is her favourite place for playing. Sometimes she is there with her little brother. "There is a peaceful place where there is a little path surrounded by trees", she says. Kitty can play outside in the afternoon but not when it is getting dark. She goes out with her little brother or with her grandmother. She thinks it is a good neighbourhood because it has a lot of houses and beautiful landscape.



The "abandoned" house as a secret place.



Girls by the favourite climbing trees and the closed gate to the forest.

Cristina

This girl lives on the top floor of a three-story house in Ushimana. Her parents hardly let her out to play, so where she mostly plays with friends is in school. "My house has kind of a garden", she explains, but she hardly ever uses it. She describes how the street parts close to her house. Cristina clarify where she usually hang out. After doing some work they can play for a little while and then they gather on this place close to school. The trees in the centre of the drawing symbolise the little forest on the other side of the street from her house. The lady who owns the forest has closed the gate so that Cristina and her friends can not get in there anymore. Before she used to play there with her sister, playing football and with the dogs. Now cows are there grazing, and that is why it is closed. Sometimes staff is going in there.



From the school entrance the snowy peak of Cotopaxi is seen behind the church's area.

Cristina drew the volcano Cotopaxi, which she can see from her window on the third floor of her house. "When I wake up in the morning and see the sun shining on the top of Cotopaxi I feel good. I like to observe this place because it is a peaceful place and it makes me want to draw it", she explains. The ice is also drawn (with yellow colour) and so is a condor. She further explains that Cotopaxi brings identity to the province (Pichincha) and is very famous. She also tells about its danger of eruption and that with the global warming the ice is melting which means they will have a lack of water. "The aerosols and vehicles and all of those things that we do, heat up the earth and it provokes flooding and volcanic reactions." She gives detailed explanations to the environmental issues by describing how the location on the edge of the pacific plate causes an increased risk for volcanoes. She continues: "To avoid this we can try not to use aerosols and those things and change vehicles. In Europe and Italy there is a thing, which makes use of the energy from the sun, so that you can drive with that. In that way it does not pollute the air."



The schoolyard where Cristina likes to meet friends and tease the small children.

Yanina

Yanina lives in the gated community of Playa Chica 2. She mostly drew what is next to her house. A football field, basket field of concrete, a slide, a see-saw, swings, a Guava tree with fruits to eat. "But you can not climb it", Yanina puts in quickly. She describes that there are trees to climb in a bit further away, in the park. Nevertheless, in her own garden "you can even put up a net for volleyball". Yanina drew her house with two entrances and the terrace at the top as a peaceful and secret place, sometimes for meeting friends. When nobody is there she goes there only with her dog. She did not draw the way to school but she always walks very fast with her sisters to school. She shows how the water runs down the street when it is raining and she covers her face to show how bad it smells from the street when there is water. "But the mud on the side of the street is not a problem since we wear Wellingtons." Her favourite place to play is her garden. Yanina finds her neighbourhood nice and peaceful with nice people living there.



Where the street is divided, with volcano Illaló in the fond.

Another place Cristina finds peaceful is where she lives and she drew her neighbourhood as a place she likes. "You can hear the birds and the people are nice." Her favourite place to play is sometimes her house, sometimes at school; because that is where she meets her friends and can talk to them, tease the small children etc.

All girls talk about cows and horses as animals in the region. They say that at the coast there are many cows and also hens. There are a lot of medical plants in the region. "My mum says eucalypt is good for taking away bad smell from feet!" Yanina explains. "My granny had healing powers and she taught them to my mum and aunt", Kitty responds. Cristina turns to me; "in your country do you use medical plants or more pills?"

Joel

This twelve-year-old boy lives in the same house as Cristina. On each floor there lives another family. On his drawing you can see the street where the school and his house is and how it separates into San Carlos and Ushimana. On Ushimana he drew notes symbolising the noisy street. "Traffic sometimes wake me up at night!" he explains. Further down the street there is a swimming pool, where he never goes. However, he walks there to get to his sister in Alangasí. He describes the walk up to this village as peaceful and nice because it is very green. He drew himself in his house, in its' two gardens where he plays and thinks. A scared face is drawn behind a nearby house, symbolising the fear he has for the dogs living there. He once got bitten, and has since then been scared by dogs (although he does not pay any attention to the dog walking behind us when we go for a walk). Furthermore, he says there is no secret place and no scary place. But during our walk, he shows a property which none of the boys knows what it is. It has a tall brick wall with a lot of trees behind. "It is scary..." Joel says. He usually plays at home or by the church, where you only can get in on weekends, with permission. At school there is a larger space for playing. Sometimes he goes to the forest with his siblings and father. They play football or "hide and seek" there. It used to be open, but the owners of the forest have closed the gate, so now you need to enter it from the other side. Sometimes people stay there for a while and leave a lot of rubbish behind. "People also go in there to cut off trees; there aren't many trees left, which is no good" Joel says. There are no parks, only in the gated communities. He would like the forest to be a park, now there is only one further away in San Carlos. He would also like the road of San Carlos to be paved. The road is very bad there. When walking with the other boys in their gated community he sees the sports- and play- ground, he looks at it with awe and bursts out: "What if I could live here!" before he runs onto the sportsground and pretends to be playing basketball.



The closed area by the church.



Joel excited by the thought of having access to the recreational areas in one of the gated communities.

Raúl Fernando

Twelve-year-old Raúl Fernando moved to the gated community of Nueva Vida from Colombia in June last year. His drawing shows black streets surrounded by what looks like vast green areas with the different gated communities as yellow rectangles. The school is yellow with every classroom and building neatly marked out with pencil. Raúl Fernando's daily walk to school, to the grocery shop, to the church, in Nueva Vida, to the park and across the bridge towards the highway is marked out as a yellow track. Every place is marked out by name. His house is marked out as a scull "just because it's a cool sign", Raúl Fernando explains. He likes to play in the park, playing football with the others. He goes to Triangulo (the centre) to buy movies. When he wants to be by himself, he goes to the swings in the park in Nueva Vida, to draw or just to think. He mostly walks to school but sometimes he goes with a car. The park and the forest behind it, by the river are peaceful places. He once walked up the hill of Ilaló. He would like the streets to be nicer since they are bad and destroyed. When walking to school he walks first on one side, then change to the other side because you can not walk on that side anymore. In the region he says there are dogs, cows and birds as well as lots of plants. It is green.

Cristian

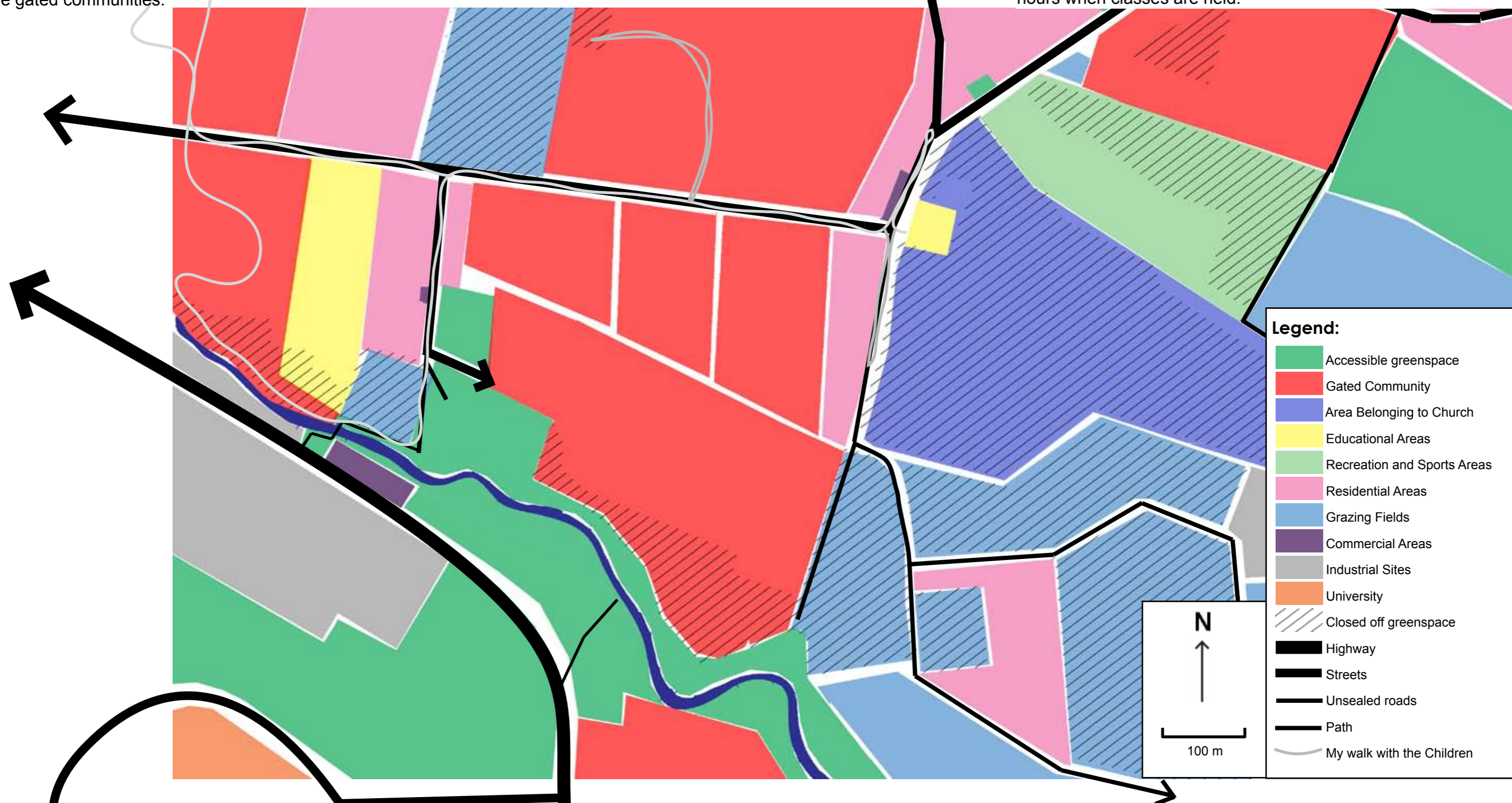
This fourteen-year-old boy lives in the same house as Raúl Fernando. His family moved to Nueva Vida from Colombia in June last year, just like the family of Raúl Fernando. He has drawn a lot of other gated communities. He has never been in them, but drew the blocks with a pencil. There is little colour on his drawing. However, there is a large green area north of San Carlos. He has never been in that property since it is closed off, probably for future housing, but he believes it is green behind. The streets are painted black, and the church is drawn with pencil. Most details are put into the school area, where entrance, swings, see-saw, and buildings are drawn with pencil. The classrooms are red, the concrete ground is black and the football ground and playground green. He likes playing football and basketball at school. He likes his way to school and does not dislike any place in the area. The whole area is peaceful. In his gated community nearby his house, there is a park which you need a key to. This is his favourite place for playing. It has a concrete football/basketball ground. The highway is drawn a bit further away. Cristian says you can hear the cars. "I wish the highway was a bit closer so that you easier can get there", Cristian says. He drew the path, which goes from the sports ground over the bridge and to the highway, from where they go into Quito. But he did not draw the river over which the instable wooden bridge goes.



Inside the gated community of Nueva Vida.

Land Use
 Conversations with the children are supplemented with observation and survey in order to accurately understand the use of land in the area. Most residential housing in the area is within gated communities. These closed areas contain some sort of greenspace; sports grounds, parks and playgrounds, all inaccessible for people in the informal settlements or housing outside of the gated communities.

The area belonging to the church is to some extent accessible. At certain times you are allowed to enter according to one of the interviewed children. From the back side of this area it is also possible to access the forest, even if it is seen as too far away for the children. The section marked out as a recreation and sports area is a section for adults where an entrance fee is charged to use their facilities. The schoolground is only open during morning hours when classes are held.



A large amount of greenspace is used for grazing. These areas may be in between houses or on the vast greenspace which has not yet been built on. Most of them are fenced. However, the open greenspace in connection to the river is also used for grazing. A road leading down to the river from school is closed off. Nevertheless, a walking path is frequently used for connecting the two cantons on different sides of the river.

Conclusions

The children of Escuela Rafael Armijos Valdivieso have different accessibility to greenspace. The children in the study who lived in gated communities had better accessibility to parks and sports grounds than those living outside of the gated communities. Sports grounds for basketball and football are seen as fun places for children to play with friends. Playgrounds can be sites for own contemplation. It seems important to the children to have access to a calm place, without other people. However, these kinds of places are developed in the gated communities. The children have access to sports grounds at school hours in the morning, but they are closed in the afternoon and on weekends. The only accessible greenspace seems to be the spare properties, which are either run down with a lot of rubbish or just grass and nothing else. The largest accessible greenspace in the area is nearby the river in close connection to where pedestrians cross the bridge to reach the highway, university and shopping malls on the other side.

The area is seen as a peaceful and green area, despite the lack of accessibility to these areas. Both fenced fields and spare properties are used for grazing. To the children the view of green trees, grass and plants as well as the surrounding mountains and volcanoes add to the peaceful feeling of the area. The people are another positive factor whereas the traffic is too loud and fast.

The street space is typically defined by walls and to some extent a pavement. The children cross the street when it is no longer possible to walk on the first side. The lack of pavement leads to unnecessary unsafe crossings for the children. The bad condition of the streets make the traffic even more unsafe, since cars drive zigzag to avoid holes and stones. Children get disturbed and scared of the traffic especially those living outside of the calmer gated communities where traffic is slower.

The expressions of the children's opinions should all be accounted for when analysing the area. The current land use and conditions should not be forgotten to be considered with a perspective of the children.



"It's smelly on Calle Zamora after rain falls", as said Yanina.



Unexpected hazards on the pavement in the streetscape defined by tall walls.



The school is in the end of Calle Zamora, an unsafe bicycle ride for the children.

SWOT analysis of the area

The conclusions from conversations with the children, my observations of the landscape and information received from the local administration office, particularly through the report by Perez Diaz (2005), can be summed up into bullets, relevant for the future planning of the area. By adding a value to the relevant findings I have sorted them in to four different values; strengths, weaknesses, opportunities and threats.

Strengths

- Relatively large amount of unurbanised areas
- Seen as a green and peaceful place
- Green, lush area
- Different social classes within the same area
- A river separates the two cantons
- There is a sense of connection to the volcano Cotopaxi
- There is knowledge and pride over medical plants



Weaknesses

- Unurbanised areas are not used
- Greenspace is only seen, not experienced
- The population shows a total lack of interest in the environment (Perez Diaz, 2005)
- Children who do not live in gated communities have a lot less accessibility to greenspace than they who do
- One of the main problems in the area is absence of children's parks or their wrong position (Perez Diaz, 2005)
- Polluted river
- Dangerous footbridge
- Complicated administration since the river separates the two cantons
- "It's smelly when it rains", as said Yanina. The bad planning of the residential areas shows an absence of a suitable drainage system which results in erosion and contamination of the natural soil drainage (Perez Diaz, 2005)
- Currently exist low pressure fronts which keep humidity and are detained north of the volcano Ilaló. This affects the area of Alangasí to become dry (Perez Diaz, 2005)
- Sistema Nacional de Áreas Protegidas which protects the river is being preceded (Perez Diaz, 2005)
- Dead streets with few shops and houses towards the street. In the gated communities there are many dead ends.





Opportunities

- To preserve unurbanised areas
- To develop suitable spare properties into recreation areas
- To make recreation and greenspace available to all children
- To strengthen children's academic performance and social behaviour
- To increase mental and physical health in the area
- To educate about wildlife, the ecosystem and environmental issues
- To strengthen the sense of connection to Cotopaxi and nature in general
- To cooperate between the two cantons in the administration of the area around the river
- To draw tourists to the area (including people visiting ESPE University and San Luis shopping mall in Rumiñahui)
- To raise the recreational quality of the river
- It is necessary to treat the phenomena of dryness in the area with reforestation and revegetation (Perez Diaz, 2005)



Threats

- The area around the river would be threatened by the eruption of volcano Cotopaxi
- With the growth of the suburb all greenspace may become urbanised
- No greenspace may become available for children outside the gated communities
- The growth of the suburb will impact the reduction of plant cover (which keeps aquifers) and the halt of natural drainage towards the rivers, producing rivulets and accelerating and enforcing erosion
- The river may not be looked after since it is the border of the two cantons and not in the centre of attention
- The river may become even more polluted, with a bad smell and no recreational quality
- The children may lose contact with nature and no feeling for nature may result in excessive pollution

Proposals

General Proposal

In order to increase the quality of lives of children not living in privileged gated communities, and as a compliment to the structured parks and sports grounds of these neighbourhoods, I see a need of the following criteria:

- A large diverse greenspace
- Narrowing of streets
- Wider pavements
- Water drainage of pavements and streets
- Reconstruction of paving
- A livelier street through direct entrances of shops and houses
- Rubbish bins
- Benches
- Public space maintenance

A sustainable bid would involve the community in the process of developing and maintaining the area. My proposal for this involvement is:

Escuela Rafael Armijos

Children would learn from plants by planting and caring for planting beds in the park. Signs about wildlife in the park would be developed by children in the school choosing suitable information.

Residents

Once or twice a year, one day should be dedicated to everybody's involvement in the park; picking rubbish, cutting branches and taking out weeds is in the end of the day rewarded with a snack at the barbecue.

Stock raising

On weekdays in the morning when children are in school cattle would graze the green area.



A green piece of pavement in need of maintenance.



The little shop marked out on the maps of all six children.



A spare property by Río Pita is accessible but not very inviting greenspace.



Getting over the river through collaboration.



A woman is looking after the grazing cows at the green lush area by Río Pita with a view towards Quito.

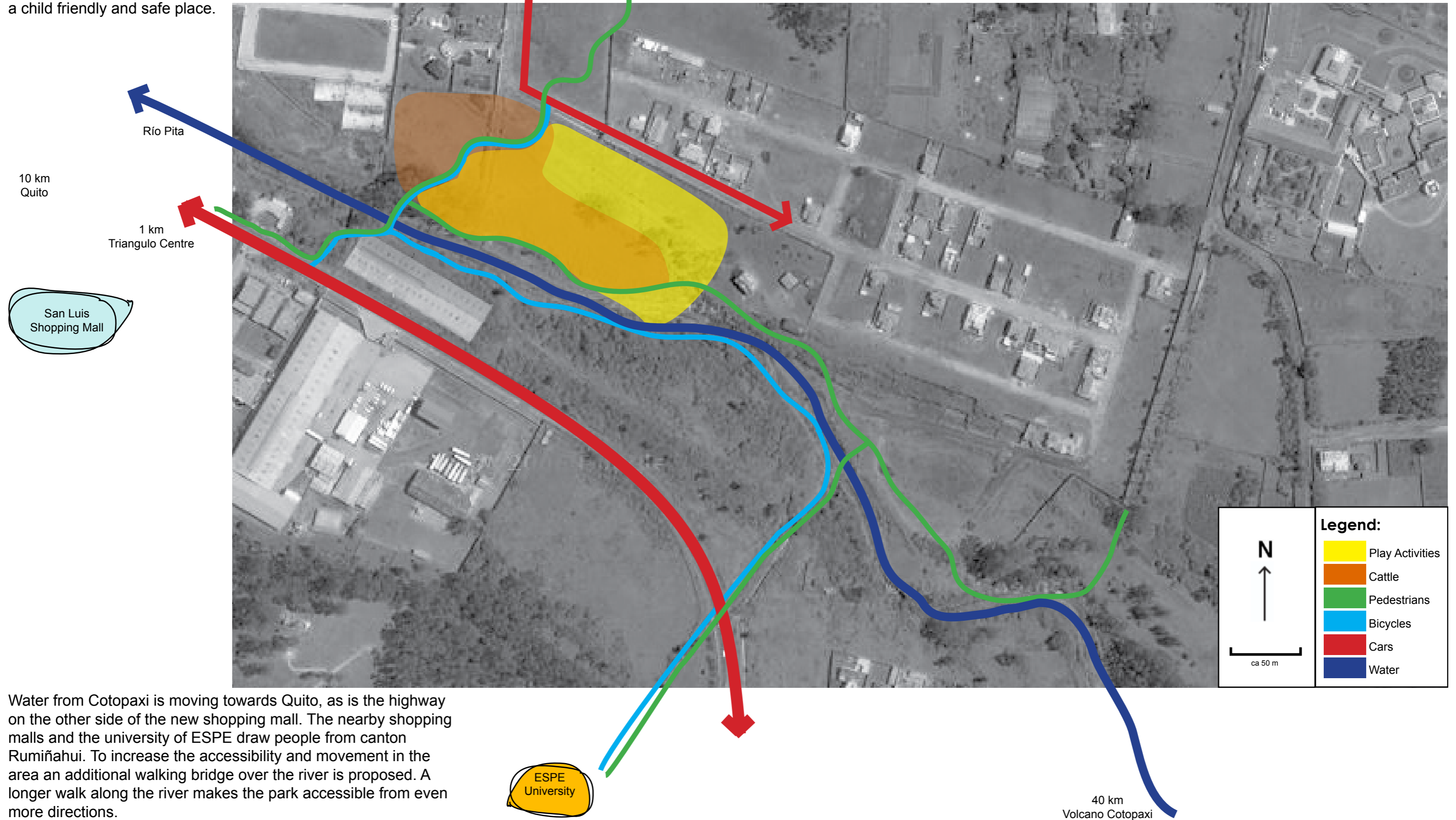
Río Pita Park

A suitable place for developing a large greenspace would be in connection to the river.

Motion Pattern

The chosen location for Río Pita Park is visualised as a centre spot for various motion activities. This stimulates all senses and draws a variety of people. However, heavy motor vehicle traffic in close connection to the park is not desirable in order to make it a child friendly and safe place.

On the school's side of the river with residential areas and slower traffic, a pedestrian path connects playing areas and a grazing field, creating a slower pace recreational area, whereas on Rumiñahui side of the river it is suitable to make the park accessible for bicycles. Areas for playing and grazing are connected without borders. Fence and topography prevent cattle from entering some parts.



Water from Cotopaxi is moving towards Quito, as is the highway on the other side of the new shopping mall. The nearby shopping malls and the university of ESPE draw people from canton Rumiñahui. To increase the accessibility and movement in the area an additional walking bridge over the river is proposed. A longer walk along the river makes the park accessible from even more directions.

Pictures removed for publishing.



Program
This is my proposal of how to meet the area's need of recreation, places for contemplation, wildlife education, play and exercise. Local wood should be used in construction of the different elements. Worn tires are recycled as toy equipment. Natural colours are used to let the mind and eye rest. Rubbish bins with signs could teach about the ecosystem and the importance of taking care of our own rubbish. With development of a recycling system in the region, this could be taught through the park.

1. Paths

To improve accessibility to the park and increase possibilities for physical exercise. Stairs should be avoided in order not to hinder disabled people. Benches along the paths provide opportunities for contemplation and rest. Paths should not be lit, but surrounded by sufficient lightening in order to feel secure in the park at night.

2. Forest



Addressing the children's wish of playing in forest. With signs selected by the school, as a school activity it also works as a source of learning. In addition, revegetation supports treating of the dryness in the area.

3. Grazing field

Current cattle in the area should still be allowed on certain times. Grazing cattle keep the grass low and children's acquaintance with animals strengthen understanding of nature and its' systems.



4. Pedestrian bridges over river

Connect the two cantons and provide access to the park from university and shopping malls. Existing bridge should be improved. "I wish the road was closer" as Cristian said.

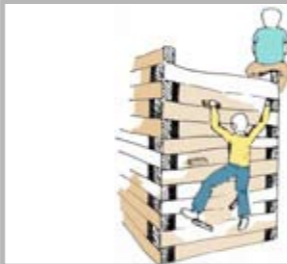


5. Balancing ropes

Making use of the existing slope, this activity stimulates children's sense of balance, without being dangerous.

6. Logs

Old trees as movable equipment invite to creative and physical play. Logs contain many species and with a magnifier they can be used for education about nature in detail.



7. Climbing wall

A climbing wall with different degrees of difficulty can be used for physical activities. Yanina mentioned disappointedly: "You can't climb that tree..."

8. Swings

At the top of the hill swings are directed towards the river and the view of Quito, intensifying the feeling of freedom from swinging. It is a popular activity among children of different ages. "When nobody is by the swings I sit there drawing", as said Raúl Fernando.



9. Snake sand

Sand with a boarder of a wooden snake invites creative play for children of different age.

10. Look out point

This visual point marks out the location of the park. The view from the top of it also reveals the park's orientation, with view to volcano Cotopaxi in the south, volcano Ilaló in the north, the new shopping mall San Luis, the suburban centre of Triangulo and Quito in a northwest direction. "I feel good when I see Cotopaxi, it is a symbol of the province" as Cristina expressed it.



11. Lagoon with islands

Next to the currents of the river a calmer lagoon with shallow water, provides for learning and exciting, but safer, play. Small islands with aquatic plants could also be extended to a pedagogical foundation for water treatment.



12. Wide boardwalk

Water intimacy for contemplation, play and learning is achieved through a low boardwalk in close proximity to the shallow lagoon.

13. Safe paths along the river

A nice walk along the water on the way to a university or school may encourage people to use the car less often. With signs it becomes a source for learning about local wildlife. The bike lane on the south side of Río Pita invites to a safe bicycle ride without motor vehicles.



14. Barbecue canopy

A social place to gather with family and friends also provides protection from wind and rain. Permanent benches and tables and movable stumps of trunks to sit on gives it flexibility.

15. Sports ground

A sports ground for all to use, with a platform for hanging out. Both asphalt for basketball and lawn for football should be catered for within fence so that cattle are kept out of the sports ground. Additional painted lines on the asphalt invite children to create their own games, Lightening makes the sports ground possible to use nighttime.



16. Green mounds

Small mounds of lawn make the terrain more exciting for children, inviting rolling and running up and down the hills. Spare masses from the lagoon make the foundation of these mounds.





Plants
Existing vegetation should be maintained in the park and supplemented with suitable plants for the region. The interest in the use of plants, that the interviewed children showed, should be developed by using traditional plants with signs for their different usage. Here are examples of such plants:

Leonotis nepetifolia

Initially imported from Africa to decorate gardens and is now spread all over the arid regions.

Dalea coerulea

With its 4 endemic species the leaves are used to treat scab.

Salvia salvia sp.

As herbs or small shrubs these plants are commonly used as medicine.

Clinopodium sp.

In the mint family, infusion is used for its strengthening effect.

Crocasmia x crocosmiiflora

Some species of these ornamental flowers are used for cosmetics.

Canna x generalis

Until recently the leaves of this plant were used for wrapping aliments.

Tecoma Stans

The leaves of these ornamental trees are used for treating diabetes, problems with the liver and to cause diarrhoea.

Physalis peruviana

A small shrub with eatable fruits, its infusion is used to control cholesterol.

Senna sp.

This 8m-10m native tree blooms almost the whole year and attracts birds.



Solanum toberosum

Of Andean origin, the potato is currently the primary aliment all over the world.

Ipomea sp.

A common climbing plant in the cultivated fields of the mountains, such as corn and bean fields.

Rubus glaucus

A spinous shrub with eatable fruits.

Inga edulis

A native tree with edible fruits.

Geranium sp.

Infusions of the leaves are used to treat throat infections, oral contractions and for healing.

Columnia cf. bilabiata

The 17 endemic species have ornamental flowers.

Sambucus peruviana

The infusion of the flower of this small but lush tree is used to cure cough. In Europe berries and flowers from a related species is used in cooking for its flavour.

Passiflora ligularis

This native plant of the passion fruit family has curing qualities for stomach problems and eatable fruits with an orange colour.

All of these plants are wild in the Inter Andean valley (Anhalzer & Lozano, 2006)



Discussion

When aiming for stimulating children's interaction with nature the focal point of development have to be carefully considered. Whether to focus on a public park by the river or the design of the school ground could be discussed. I argue that a well-equipped fenced school ground is not what is needed in the area. The area's shortage of public space is pointing in another direction. A place for children should be open at all times, accessible to everyone. Consequently an unused area can be developed, preferably an area with existing nature. The chosen location in between shopping malls, university, school and residential areas and the existing path through the area are important prerequisites indicating peoples moving activity through the area. It will not be left alone in a corner. This is ensured through the opening of a road in a currently disused part of the park area, and the proposed motion pattern, excluding motor vehicle traffic from the park area. However, the private gated communities with guards show on a resistance to public areas. It is likely that people fear that squares and parks get misused or vandalised, as expressed by people in the poor neighbourhood of San Rafael-Unido in Caracas, Venezuela according to the three architects of the upgrading project (Leutenegger, 2007). Anyhow, I believe that, with public participation to ensure that the design really does meet the needs of the residents and to encourage people's support of further initiatives, fear could be defeated by making a public park function properly.

The proposal of Río Pita Park is dependent on its' location by the river. Water as a basic source for life is important for children to understand and with the wildlife by the river the ecosystem can be comprehended. Cosco and Moore (2001) point out the importance of landscape conservations especially when it comes to qualities of high educational and ecological importance. They also argue that places with unusual characteristics are particularly attractive to children. In El Valle de los Chillos the river is most likely to be such an unusual place. The river also adds to the experience of nature in the park; the motion and noise of water emphasise nature as restorative. However, water can be seen as a hazard. Therefore it is important that the river with the rather strong current is accessible by safe paths. In order to attain a secure intimacy to water the lagoon has to be made calm and very shallow.

The proposed use of natural colours in the park is based on the criteria of a restorative place (Kaplan et al, 1998). The park should offer visitors a sense of being away from daily stress and activities. As a contrast to the many coloured walls facing the street, a park with natural colours and many activities could have a restorative effect. However, the criteria of a place offering fascination and stimulation could be facilitated through a well thought-out coloured design of the park, although it could also be achieved without the intense colouring.

The need of broken ground, vegetation and vast terrain recommended by Mårtensson (2004) is met with mounds, a large greenspace and preservation of existing slope and trees. It also leaves different places for seeking contemplation and solitude, which Cele (2006) reveals as important to children. The main play activities are surrounded by nature and interesting topography. The existing slope makes a natural border to the gated community and the road with existing vegetation as a transparent wall, marking out the play area, while also providing a view over it. As vegetation continues on the other side of the road, play is encouraged to continue on both sides. The open street space could be seen as unsafe, with children crossing the streets. Nevertheless, a lively streetscape adds to the positive experience of the neighbourhood and with slower traffic through a narrow road and prevention of vegetation immediately by the road, a larger greenspace can encourage activity in a safe manner.



It can be questioned how children's play areas can be combined with grazing fields for cattle. First of all, sports grounds should be fenced and mowed in order to avoid dung and keep the lawn low. However, the large greenspace would require a large amount of maintenance. Preferably, most maintenance should be carried out by the school and residents of the area. Mowing of lawn is diminished by continuous grazing. However, the hours for grazing should be focused to children's school hours to prevent cattle from occupying children's space for play. It is common in this region that cattle is tended by a shepherd. Today's cattle is guarded and therefore I find it natural to continue the stock raising in the area in a similar manner. Thereby any disturbance between children and cattle could be taken care of. Children's interference with the animals should be encouraged by signs explaining similarities and differences between humans and cows and thus stimulating education and interaction with

nature. According to Cosco and Moore (2001) children prefer diverse messy nature and I believe grazing cows can add to the experience of the place.

Proposed play equipment is selected to cater for different kind of activities. The look-out point is proving a place for children to observe the surroundings from another perspective, as is preferred by children according to Kylin (2004). Other activities leading to environmental learning, such as signs and paths through vegetation as suggested by Malone and Tranter (2005) are also provided for. Nevertheless, it can be adjusted to fit specific needs, whatever users desire. For instance, exciting play and development of senses could be stimulated by different effects of noise, light and wind. The design of these kind of equipment is perfect as an activity for children in school.

What I find unique to this project, is its' focus, not only on children from poor families, but children living in a rather wealthy area. The importance of improving poor neighbourhoods should not be dismissed. The Global Holcim Award-winning team of Proyectos Arqui 5 for their upgrading of San Rafael-Unido is one of the leading groups of architects in Latin America showing the way for sustainable improvement of neighbourhoods with problems of crime and poverty (Leutenegger, 2007). The chosen area for my study is different since it does not suffer considerably with these problems. It is an area with residents of different social class. Nevertheless, the families suffering from poverty must not be forgotten.

The design and concept for Río Pita Park is not spectacular when it comes to form and material. Rather it is based on current landforms and local materials. This solution makes it more sustainable since less transportation and energy-consuming production is needed. The park can be constructed, operated, and maintained by the community with minimal external, technical interventions. The integrated approach, where my conversations with the children are merely a start of community participation, also enhances peoples engagement with public space and offers beneficial contributions to the formation of collectively viable habitats and values. It reinvigorates social exchange and enhances public pride of place. This engagement diminishes damage to equipment and increases peoples wish to use the space since it is 'their own'. Therefore, it can also increase peoples contact with nature. The concept plan as a start of a new process of developing the park, is open to the community's decisions. By these means, the more spectacular designs are left for the children to work out. Their existing knowledge and interest in the environment should be expressed through development of play equipment as well as text for signs. Therefore I find the school's involvement in the process essential.

Epilogue

My interest in adding environmental values to society by involving people in nature and making greenspace accessible, is built on a strong belief that society as a whole benefits from it. I believe this is true at a personal level, a local level, national level and ultimately at a global level.

At a start, I found it very difficult to predict under what circumstances people live in Ecuador even though I have been there before. I found it impossible to know the outcome of my study, since I wanted to be open for whatever was of most use in the area. This is the reason why my preparation for the field study initially excluded a clear description of my forthcoming work. I believe this open and broad-minded perspective is and should be one of the protruding characteristics of a landscape architect. We are trained to see the overall necessities and argue against an order, if it does not fulfil the overall goal. Bearing this in mind I decided to predict the result of my study to a proposal of a school ground, in order to meet the academic requirements. However, most importantly I kept my mind open to what was best feasible in the area. As it turned out I found a better solution.

This study focused on a small group of children in a very local area. The small area for the study was convenient since this area is the setting for their everyday life. However, a study of the view and use of nature of more children and children of different age could work as a foundation for developing an even more healthy and pedagogical ground.

What I find important is to make children express their opinion. Without adults asking children to participate, cities can never be developed with a child friendly approach. In order for children to grow up as the healthy and aware citizens that are beneficial to society their view and their good have to be taken into account in every process.

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