GUIDE TO DIAGNOSE ACCESSIBILITY IN A PROTECTED AREA

Project on Accessibility to National Parks and/or Protected Areas

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I. DISABILITY. 2. ROLES AND STEREOTYPES. 3. DISCRIMINATION. 4. VIOLENCE. 5. HUMAN RIGHTS 6. ACCESS TO NATIONAL PARKS AND/OR PROTECTED AREAS

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INTRODUCTION

As stated by the Earth Charter, the human family is one, and must be united in order to create a sustainable global society based on respect towards nature, universal human rights, economic justice and a culture of peace.

This family is composed by a diversity of human beings who perceive the world from the point of view of their own personal experience, and who influence the perception on human rights. The point of view of an adult woman is not the same one as that of a teenager with a disability or of an elder woman who belongs to an ethnic minority. The conjugation and appraisal of all these perspectives is the great challenge that must be faced by people who are activists for the defense of human rights, the protection of the environment, a culture of peace or economic justice.

Power schemes have created obstacles for populations that are traditionally discriminated and subject to violence. The goal of the Earth Charter is to influence worldwide policies and actions that have a repercussion on the welfare of the human family that it refers to. This position is reasserted when reference is made to the shared vision about values that gives ethical support to the emerging world community.

The first principle of the Charter talks about "Respect and care for the community of life", thus reasserting the dignity inherent to every human being and comprising human diversity.

The population with disabilities is one of the groups belonging to this human diversity that is overlooked the most in international forums, even if, according to data from the United Nations, it represents 10% of this diversity. In spite of this, there are some exceptional cases in which the community has attained a commitment to this population, cases which are detailed below.

On December 20th 1993, the United Nations General Assembly adopted resolution 48/96 referring to the Standard Rules on the Equalization of Opportunities for Persons with Disabilities, a document that reflects the commitment of the international community towards ensuring equal opportunities for people with disabilities in all aspects of life. This document states the right of the population with disabilities to equal access to all social spaces.

In 1999, in the city of Guatemala, the Organization of American States General Assembly enacted the Inter-American Convention on the Elimination of all Forms of Discrimination Against Persons with Disabilities. This document has been signed by twenty countries in the continent. It reiterates the commitment of these countries towards ensuring equal opportunities for people with disabilities, and states their right to have access to public spaces.

Parallel to the international process of acknowledging disability rights, the internal legislation of the countries throughout the world also ensures equality of opportunities.

The United Nations Earth Council began the project of incorporating the perspective of people with disabilities into the efforts for sustainable development. Its goal is to influence policies, standards and values developed within the international community in order to incorporate this vision, and thus sponsor the fulfillment of the Earth Charter. The access to public spaces, including those in which the human being is in direct contact with nature, is very important. People with disabilities face multiple obstacles, such as architectural and communicative ones, which finally exclude them from their social surroundings. The project stems from the relationship between the population with disabilities and nature, and has consisted of the design of an accessibility protocol for these spaces. The attempt has achieved results: it has helped visualize the possibilities that people with disabilities have of interacting with nature under the philosophy of sustainable development contained in the Earth Charter: the respect for ecological integrity, social and economic justice, democracy and peace.

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GENERAL CONSIDERATIONS

1- CONCEPTUAL FRAMEWORK

1-1 PHILOSOPHICAL PRINCIPLES

There is a series of ethical and conceptual principles that lay the foundations for the philosophical focus of the work with people with disabilities. These principles are:

Non-discrimination principle
The elimination of all distinctions, exclusions or restrictions based on sex, age, sexual preference, disability, religion, etc., which have as an objective or result to impair or annul the acknowledgment, enjoyment or exercise of human rights and fundamental liberties. Being the result of power relationships, discriminatory actions or omissions may also have any of the aforementioned circumstances as a background, perception or consequence.

Non-violence principle
It recognizes violence against people with disabilities as a violation of human rights and fundamental liberties, since it fully or partially limits the acknowledgment, enjoyment and exercise of these rights. Violence against people with disabilities includes physical, sexual, psychological and patrimonial abuse, and it may take place in a private or public space. This principle seeks the prevention, detection, punishment and eradication of violence, in order to ensure the individual and social development of people with disabilities, and their full participation in all aspects of life.

Diversity
It seeks to change those paradigms of humanity imposed by patriarchal socialization, which hierarchically order and homogenize human models. It intends to incorporate the principle of diversity of human beings and the implications that this diversity has on interests and perceptions, stemming from the phrase "we are all equally different". This is essential within the population with disabilities, given its diversity as to age, ethnicity, gender, sexual preference, and kind of disability (visual, auditive, physical, emotional, etc.)

Discriminatory result
It amplifies the principle of non-discrimination. Any distinction, exclusion or restriction based on a disability, which may impair or annul the acknowledgment, enjoyment or exercise of human rights, is considered a discriminatory act. This implies that actions or omissions that hold no discriminatory intention but have a discriminating result must be equally condemned.

Integrality and interdependence of disability rights
Human rights are related amongst themselves, which implies that the violation of any of them has repercussions on the enjoyment of the others.

Accessibility
It refers to the existence of facilities that allow all people to move freely throughout their surroundings, use all the services they require, and have at their disposal all the resources that guarantee their safety, mobility and communication.

Equal opportunities

It is equality within diversity. We are all equally different. It refers to the appreciation of diversity in each particular case, so as to grant equal opportunities to all human beings.

Self-representation

People with disabilities must actively participate in all the social decisions that may affect them. This implies the development of civic participation mechanisms within all entities, and the changing of old paradigms where professionals decide for the whole population. The disability movement summarizes it in one phrase: "Nothing about us without us".

Independent living

Its goal is for people with disabilities to attain control over their own destiny and make decisions in their own lives. It implies that the "problem" must be sought for in the environment and not in the person with a disability. The concept of independent living was born in the 70's, with the movement of the same name launched by people with disabilities in colleges and by associations of World War II veterans.

"It is a movement of people with disabilities for people with disabilities. Its main goal at that time was to bring people with disabilities out of hospitals and institutions, and even out of their own homes where they were secluded, in order to reintegrate them to the community" (Independent Living Movement, 1998).

The concept of independent living appeared in order to change social stereotypes such as the following:

- A person with a disability cannot work.
- A person with a disability cannot drive.
- A person with a disability cannot take care of him or herself.
- A person with a disability is not competent for being in charge of his or her own life.
- A person with a disability cannot make use of recreational spaces (such as protected areas).

"Independent Living means taking control over one's own life. It is a concept that stems from the acceptance of disability as a real fact that implies certain limitations or a higher difficulty to perform certain activities; but in no way does being a person with a disability mean being less worthy as a human… as service consumers and productive citizens." (Independent Living Movement, 2000)

This principle must be present in all the proposals of this document. For the purpose of this work, the target population, which is people with disabilities, is considered as a group of consumers who require access to a recreational and environmental learning service.

In order to achieve the proposed goals, it is essential to understand the concept of disability. We seek the use of a standardized and singular language that allows communication among all the disciplines that will participate in the processes.

"The last version of this new classification… speaks of "International Classification of Functioning and Disability". In order to avoid negative connotations, the term "disability" has been replaced, for example, by the neutral term "activity", and the negative circumstances in this dimension are described as "limitations on activity "; the term "handicap" has been replaced by "participation", and the negative circumstances in this dimension are described as "restrictions on participation" (Aguila, 2001).

Observe the following chart:

Dimensions	Body Functions and Structures	Activities	Participation	Context Factors (*)
Level of functioning	Body (body parts)	Individual (person as a whole)	Social (life situations)	Surrounding factors (external influence on functioning) + Personal factors (internal influence on functioning)
Characteristics	Body functions Body structures	Performance of activities	Implication as to life situations	Characteristics of the physical and social world + Attributes of the person
Positive aspects (functioning)	Functional and structural integrity	Activities	Participation	Facilitating elements
Negative aspects (disability)	Deficiency	Limitation on activity	Restriction on participation	Barriers / Obstacles

(*) "Context factors are an essential component of the classification, and they interact with all three dimensions." (Aguila, 2001)

1-2 DISABILITY

The term disability has been understood from several different points of view, depending on the ideology of each time. Today, this term is understood from several different paradigms, such as independent living and ecology, in which disability must be regarded mainly in relation to the aids that the person requires in order to develop him or herself in life, and not in relation to the situation that caused such disability. A vision centered on the human being promotes integral work in all areas of development.

Disability is understood as the set of needs a person faces in order to participate in the activities of daily life. It usually implies different kinds of aids for a person, which allow him to develop himself in a more autonomous manner.

From the ecological point of view, the concept of disability is equivalent to that of special needs. Thus, the person is regarded as an active, growing being who progressively approaches the scenarios he finds and restructures them with the help of transactions with the environment, by using his cognitive, communicative, social and physical characteristics.

The ecological point of view has a wide range, since it integrates "much of the information derived from other theories. This perspective allows us to study and analyze all the aspects of the individual and his or her surroundings, in order o explain human development." (Bauer and Shea, 2000). Bauer and Shea (2000: 6,11) define this focus as a perspective from which "development is the continuous adaptation or adjustment between the individual and his surroundings. It is a mutual and progressive adaptation that occurs along a lifetime between growing individuals and their changing surroundings. The ecological perspective has a wide range that allows for the integration of much of the information derived from other theories (behavioral, psycho-educational and biophysical)".

It is due to this wide range that the ecological point of view regards the person as a being that interacts with the environment. The case of people with special needs is no exception. There is an emphasis on the idea that the main purpose of education is the adaptation of the person with a disability to his or her environment, in the most independent manner possible.

The paradigms of independent living cast aside the point of view of disability as a social problem, and give society the responsibility for granting access to people with difficulties.

1.2.1 Multiple disability

The Association for Persons with Severe Handicaps (TASH), defines multiple disability as:

"(...) individuals of all ages who require ample and continuous aid in more than one of the main activities of life, in order to participate in the community's integrated scenarios and enjoy the quality of life that citizens have (...) This aid may be necessary in everyday activities such as movement, communication, self-care and learning, and for actions so necessary to an independent life as are work and self-sufficiency." (Lindley, 1990: 1)

1.2.2. Sensory impairment
Visual impairment and blindness

It is a sensory impairment characterized by visual disorders that cause other development and learning needs. It causes limitations in the access to activity and participation. Visual impairment may be total or partial. The individual has different ways of accessing information.

Characteristics of visually impaired people:

The characteristics of visually impaired or totally blind people vary significantly, since if the person is born with this deficiency, he or she will have a delay in development, at least in some areas (motor, cognitive). As the child grows, the delay in the development of many skills disappears, even if the difficulty for moving remains. If the development of the visual impairment occurs later, the greatest difficulties lie in the acquisition of alternate ways to carry out certain tasks outside of the established patters, and to accept the restriction on others.

Hearing problems and deafness

This refers to a hearing limitation or loss that produces problems in communication and context interpretation, as well as other alterations in development and learning. It may be total or partial. The individual has several ways to access information.

Characteristics of people with hearing impairment or deafness:

Deaf people have a normal intelligence. That which sets them apart from the rest of the hearing population is the problems that arise in communication, due to their surroundings and the delay in learning. It is said that deaf people have great communication problems and that, when they manage to solve them, they are able to develop themselves successfully in almost any field.

Unless his or her parents or another close relative is also deaf or knows sign language, the deaf person's communication and family socialization will be affected, with the resulting restrictions as to participation in daily life activities.

Dual or deafblindness

It is a multi-sensory impairment that combines visual and hearing impairments that produce "severe problems in communication and in other development and learning needs." (1990, IDEA, sect. 622) It may be total or partial. As in the former cases, the individual has different ways to access information.

Characteristics of deafblind people

Many people labeled as deafblind have enough sight to move in the environment, recognize people familiar to them, distinguish sign language at a short distance, and even read big letters. Others have enough hearing to recognize familiar sounds, understand certain expressions or develop some by themselves. The range of sensory impairments included in the term "deafblindness" is very wide. (IDEA 1990, ONCE 1995, ASPACIDE 1999)

1.2.3 Mental retardation

The following is the definition proposed by the ninth edition of the manual of AAMR (American Association on Mental Retardation):

"Mental retardation refers to substantial limitations in regular development. It is characterized by an intellectual functioning lower than the average, along with associated limitations in one or more of the following areas of adaptation skills (functional or of participation):

1. Communication
2. Self-care
3. Home life
4. Social skills
5. Utilization of the community
6. Self-guidance
7. Health and safety
8. Functional academic abilities
9. Leisure
10.Work" (AAMR, 1999).

Usually, mental retardation appears before the age of eighteen, according to the definition of AAMR.

Characteristics of children with mental retardation

Mental retardation does not imply that the individuals are impaired in all the aforementioned areas. There may be problems in communication and language due to voice defects, or deficiencies in social interaction, self-care and academic and motor abilities.

1.2.4 Emotional disorders and behavioral disorders

A behavioral syndrome is characterized by a limited development of social interaction and communication, with a reduced repertoire of activities. It must be diagnosed before the age of three.

Emotional or behavioral disorders are characterized mainly by a pronounced communicational challenge that hinders participation and relationship with other people in the different activities of daily life. The factors that generally appear in the different definitions include:

- Socially inappropriate behavior
- Elimination of other possible factors that may cause the behavior, such as physical, cognitive or sensory impairments

Characteristics of children with emotional and behavioral disorders

Children with this kind of disorders:
- Learn in a repetitive manner.
- Have difficulties putting into practice what they have learned.
- Show little interest in new activities.
- May show fixation upon one only stimulus that is abnormal as to intensity or focus.
- Insist obsessively upon invariability.
- Show limitations as to interpersonal relationships.

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- Become inflexibly attached to rituals and specific routines.
- Show hindrances in the use of multiple non-verbal behaviors, such as visual contact, facial expressions, body positions, and gestures.
- They lack, or have retardation in, oral language.
- They show retarded or immediate echolalia.
- They show behavior disorders (for example: aggression, low tolerance to specific stimuli, low cooperation, hyperactivity, short attention spans, irritability and noisiness, use of offensive words).
- They have personality or anxiety problems.
- They are immature.

As may be supposed, the presence of only one of these characteristics does not imply that the person can be labeled as having emotional or behavioral disorders.

1.2.5. Cerebral palsy

One may say that cerebral palsy is the result of an irreversible injury in the central nervous system that occurs during the first years of childhood and affects the brain's motor centers, which makes it difficult for the person to have voluntary control over some parts of his or her body.

Some authors acknowledge that cerebral palsy is a complex disability, and define it as an "alteration of movement and posture that is the result of a non-progressive and permanent damage in the brain." (Doman, 1993)

This disorder may be associated with conditions such as:
- Visual problems
- Hearing problems
- Communication disorders
- Cognitive disorders

Types of palsy

There are several types of cerebral palsy (Asociación Pro Paralítico Cerebral, México, 1981):

Athetoid: The person presents frequent involuntary movements. Hearing impairments are also very common.
Ataxic: The person presents bad body equilibrium, uncertain walking, difficulties in coordination, and in the control of hands and eyes.
Flaccid or hypotonic: In these cases, the muscular tone is low; there are difficulties in maintaining firm positions, and points of support have not been discovered.
Spastic: It is the greatest group: around 75% of all people have it, showing a notable rigidity of movement and the incapacity to relax muscles.
Mixed: It is a combination of the former, and may present a special type of muscular tension, such as dystonia, hypertonia, hypotonia, rigidity and trembling.

There is also a topographic distribution of cerebral palsy:

Hemiplegia: Only one side of the body is affected.
Diplegia: Affects one of the segments of the body, usually the lower one.
Quadraplegia: Both the lower and the upper segments are affected.

Learning characteristics

Some people with cerebral palsy have no problem following the rhythm of an educational process. Sometimes this helps them to achieve a deeper learning than they would have otherwise reached in their social, emotional and participation development.

Other individuals learn more slowly due to their physical, sensory and language difficulties, which limit their capacity of participating in their surrounding environment.

1.2.6 Psychomotricity

"Way of being, way of expression, of communication and of relationship of the individual with the environment. Psychic activity and motor activity are involved in this dynamics" (Muñoz, A. 1994)

Areas of psychomotricity: posture control and mobility

Within it we find the general coordination of the body, locomotion and certain specific motor abilities. With the appearance of gross and fine motor skills, the capacity for adaptation to the environment increases; thus, they influence the individual's intellectual and social performance.

A person with impairment, especially in the area of gross motor skills:
- Frequently trips on objects.
- Has difficulty running.
- Has difficulty jumping.
- Has difficulty in motor coordination games.
- Drops objects. (Díaz, S. 1997)

The definitions given in the former paragraphs reflect the complexity of the subject and the diversity as to disabilities. The exclusion of the needs of a group or population with disabilities is considered a discriminatory action. All accessibility diagnosis for disabled people must include the needs of the different populations.

1-3 PROTECTED WILDERNESS AREAS

PROTECTED AREAS

In 1872, during the beginning of the Industrial Revolution, the first protected area in the world was established: Yellowstone National Park in the United States. In this way, the importance of dedicating areas exclusively to the protection and conservation of natural resources, and to the enjoyment of these by all members of society, was acknowledged.

From this year on, the expansion of agricultural, industrial and urban areas has increased more than that of protected areas, even if these last are an essential part of a country's integral development, since they give societies a great number of economic, cultural, educational and spiritual benefits. However, the multiple benefits they grant to all sectors of society, be it directly or indirectly, are still unknown.

Protected areas are established for the safeguard of notable instances of natural or cultural patrimony, for the conservation of important natural ecosystems, and for the enjoyment of human beings.

The kind of administration that a protected area has, as well as the activities that may be carried out within it, depends on the management category it displays. Each kind of protected area provides specific benefits.

There are several management categories, whose meaning differs, in some cases, from one country to another. Within these categories we can find:

- Biological reserve
- National park
- Biosphere reserve
- World heritage site
- Anthropological reserve
- Natural life sanctuary
- Natural monument
- Wildlife refuge
- Wetlands/ Ramsar sites
- Forest reserve
- Wetlands
- Biological corridors

In order to homogenize the use of management categories, a new classification was proposed during the IV World Congress on National Parks and Protected Areas, held in Caracas in 1992. These categories reflect the management objectives of each wilderness area. Some countries are currently revising the management categories that they apply to their protected areas, in order to verify the possibility of establishing this new system.

Category IA: Strict protection areas

They are terrestrial or marine areas that possess representative ecosystems, or outstanding geological or physical features, and species available mainly for scientific research or environmental monitoring. Sometimes they are called strict natural reserves. They are managed mainly for scientific and wildlife conservation purposes. Generally, they are small areas in which the preservation of important natural resources is emphasized, so that they have low human disturbance.

Category IB: Wilderness areas

They are protected areas whose objective is wildlife conservation. They are wide terrestrial or marine areas that are barely perturbed, or not at all, whose natural traits and influence are kept without permanent settlements, and whose protection and management seeks to preserve natural beauty.

Category II: National parks

They are protected areas whose management objective is the protection of the ecosystem, along with recreation and tourism. These natural areas, marine or terrestrial, are designed to: a) protect the ecological integrity of one or more ecosystems for present and future generations, b) exclude exploitation or occupancy with any other purpose, c) provide a space for the spirit, science, education, recreation and tourism, all of which must be culturally and environmentally compatible. Generally, they are vast areas with a wide range of natural traits and ecosystems, to which people go without threatening the area's wealth.

Category III: Natural monuments

They are protected areas whose management objective is the protection and conservation of natural features. They are areas similar to national parks, but generally smaller, that contain outstanding natural or cultural features or unique assets that must be conserved due to their rarity, representative character or significant aesthetic and cultural traits.

Category IV: Habitat /species management areas

They are protected areas whose objective is conservation through active management. They are terrestrial or marine areas subjected to active management and intervention, in order to ensure the maintenance of habitats and know about the requirements of particular species. The goal is to protect and use wildlife species.

Category V: Protected landscapes / seascapes

They are protected areas whose objective is conservation and recreation in landscapes and seascapes. They are terrestrial, coastal or marine areas where the interaction between people and nature throughout time has produced an area with distinctive traits, with aesthetic, ecological and cultural wealth, and sometimes with a high biological diversity. In order to safeguard the integrity of these traditional interactions, it is essential to maintain, protect and develop each one of these areas.

Category VI: Managed resource protected areas

They are protected areas whose objective is the sustainable use of natural resources. These areas mainly contain unmodified natural systems that, with a long-term sustainable management, ensure the protection and permanence of biological diversity, while they provide a sustainable flow of natural products and services that the community needs.

The current worldwide tendency is to link protected areas of all management categories, and establish national systems or networks of protected areas.

It is important to observe that most protected areas allow for controlled visit and enjoyment of the natural resources contained in them.

According to the "Strategy for the Future of Life", a protected area system is the fundamental basis for any program working on maintaining the diversity of ecosystems, species and genetic resources, and protecting natural areas with global value as a source of inspiration and leisure.

The visits to wilderness areas have undoubtedly increased during these past years.

The access to natural and cultural resources implies much more than the mere possibility of visiting them. For this, each protected area must establish, within its management strategies, mechanisms that guarantee not only the access to natural and cultural resources, but also the knowledge about them, in order to promote a change of attitude towards nature.

These mechanisms may be proposed as management instruments, emphasizing several fundamental aspects, such as:

a. Communication of the value of natural and cultural wealth through interpretation.
b. Access to physical space, and natural and cultural resources.
c. Prevention of negative effects that visitors may generate on the dynamic of the ecosystems and the culture.
d. Appropriate signaling and information.
e. Guarantee of the visitors' safety.
f. Structuring of ecotouristic products as sustainable alternatives to the use of the land, along with local communities.

For the recent environmentalist movement that appeared in the 60's, environmental protection knows no boundaries: it becomes a responsibility of the community. An animal or vegetable species found in a territory as small as Costa Rica must be protected by the whole international community. New perspectives arise in the protection of the earth's flora and fauna. Great efforts are carried out in order to create consciousness in politicians, businessmen and communities, as to the fact that human beings depend on the environment, and that without a real protection of natural resources the human species will not survive. The concept of present legal persons is changed, and reference is made to the rights of future generations to know all the species that are with us in this planet, perhaps remembering all those extinguished thanks to human irresponsibility.

The World Conference on Environment, held in Rio de Janeiro in 1992, reflects the interest of the international community on a peaceful and harmonious interaction of the human being and his surroundings. There is still much to do and many species are still endangered, but many activists are still fighting the irresponsibility of those few who destroy the environment in exchange for a few extra coins.

These efforts have been reflected by international and national policies such as:

- Consolidation and development policies: These are related to the importance of developing an system for information, diversification of conservation areas, civil participation, integral development of human resources, participation in international cooperation proposals, planning towards an improvement of knowledge, observation of international agreements and human rights, guarantee that all ecosystems will be represented, sponsoring of financial self-sustainability of the areas, and promotion of the extension and consolidation of the protected area system.

- Incentive policies: Stimulate the proprietors of lands located within protected areas with incentives. Define an incentive system directed towards private properties that surround the protected area, in order to create buffer areas and biological corridors. Give counsel to the community of the protected area's influence zone.

- Permit policies and different forms of use and/or application: Involve civil society in the enjoyment of the benefits generated by protected wilderness areas. See that the protected wilderness areas are managed taking into account that their main objective is the conservation of the country's biodiversity, and promote utilization activities that are compatible with this objective, such as education, research, tourism, recreation, protection and control.

- Resource management policies: Plan, program, issue guidelines, and perform actions directed towards the use of natural resources according to sustainability criteria, taking into consideration the respective management categories, and making sure that no irreversible negative impacts are produced.

- Protection and control policies: Involve communities close to the protected areas in the protection and control of biodiversity. Regulate anthropogenic activities within protected areas, in order to safeguard both ecosystems and historical-cultural, geological, and archaeological elements present in them.

- Planning policies: Integrate the management of protected areas to the planning process of the different technical, political and administrative entities of the Conservation area. Rely on agile and effective mechanisms for the approval and legalization of development strategies and management plans.

- Research policies: Promote research in protected areas as a basic element for the obtaining of information and knowledge, which promotes their development and the search of sustainable uses for biodiversity directed towards the development of the communities.

- Tourism policies: Promote, facilitate and participate in the development of sustainable tourism in protected areas, based on responsible administration, planning and management practices, and taking into account decision-making criteria according to the policies of conservation of natural and cultural resources.

- Environmental education policies: Strengthen planning, development and execution of environmental education programs, according to the statements of national plans and strategies in this subject.

- Community extension policies: Strengthen projection actions towards communities within and surrounding protected areas.

1.4 RIGHTS OF PEOPLE WITH DISABILITIES WITHIN PROTECTED AREAS

Throughout the centuries, the population with disabilities has been a victim of constant violations to their human rights. Oppression, discrimination and violence have been present in their lives, arising in a natural manner. Pity, segregation, disqualification, and inequality in opportunities, have been justified and structured through attitudes, habits and values.

At several times, the objective has been extermination. This genocidal practice was present in ancient Greece. The Laws of Licurgus authorized the casting of people with disabilities from Mount Taigetus. Ancient Rome also had a witness to extermination, the Tarpeian Rock. The Third Reich of Nazi Germany condemned thousands of people with disabilities to death in concentration camps. Even nowadays we have the ghost of the disappearance of people with disabilities due to the reappearance of neo-Nazi movements.

Later, the slogan was segregation. The "Quinze Vingt" of the XII century in France are an example of this approach. They were cities where blind people and their families lived in seclusion, without any contact with the outer world, except for obtaining supplies. Today, there still are protected workshops and segretated schools to "protect" people with disabilities from society.

Scientific impulse modified the paradigm: the population with disabilities should not be segregated, but it had to be observed and directed. Professionals secured their dictatorship: doctors, nurses, psychiatrists, psychologists, educators, etc. They had the power of directing the lives of people with disabilities. Thus, they determined what these people could do, whom they must live with, what they could work on, how they should dress, etc.

As the movement of people with disabilities gained strength, it influenced new approaches. It was during the decade of the 80's, on the present century, that a whole revolution started with the creation of the model of independent living. This model implied that people with disabilities must recover control over their own lives; it was a revolution against the dictatorship of professionals. People with disabilities began to demand their space as human beings with equal rights and duties. It was the fight for opportunities that changed the whole social focus. The person with a disability ceased to be a social problem, and the real problem became the environment, since it hindered equal opportunities.

This personal outcry against oppression, violence and discrimination, of the movement of people with disabilities, had a direct influence on legal sciences. The movement started the accusations against violations of human rights before the protection organizations of the United Nations. The Commission on Human Rights and the Subcommission for the Prevention of Discrimination and the Protection of Minorities were the forums chosen initially to expose the constant violations of this population's human rights.

This offensive resulted in the report by special rapporteur Leandro Despouy on the situation of human rights of people with disabilities. This report exposed before the international community what the movement of people with disabilities already knew: the high rates of illiteracy, malnutrition, unemployment, etc., were alarming. The restrictions on liberties were constant, and the violations to the physical, emotional and sexual integrity of people with disabilities, placed them among the populations with highest risk factors.

The movement of people with disabilities hoped for the promulgation of a commitment towards preventing, eradicating and punishing the discrimination they were subjected to. The Swedish Government promoted this initiative that, after several years of fighting, was discarded, although fundamental international documents for the protection of human rights were developed, such as the World Action Program for People with Disabilities of 1982, the ILO Agreement on Professional Re-adaptation and Employment, the Principles for the Protection of Persons with Mental Illness and for the Improvement of Mental Health Care Norm of 1991, and the Standard rules on the equalization of opportunities for persons with disabilities of 1993.

Except for the Agreement of the International Labor Organization, none of them had a mandatory nature. But these actions had a positive influence on legal amendments in several countries: Germany, Brazil, Canada, Costa Rica, Chile, the United States, France, Great Britain, Guatemala, India, Nicaragua, Norway and Sweden, published laws according to the documents developed by the United Nations.

The movement of people with disabilities in America, conscious of the difficulties for approving an international document condemning discrimination against people with disabilities in the system of the United Nations, established the goal of achieving this within the American system.

The movement of people with disabilities could not remain a simple spectator in this strife, and began a process conjointly with inter-governmental institutions. Thus, three kinds of activities were developed:

1.   *Educational and training activities for leaders of the movement of people with disabilities.*

From 1991 until the approval of the Convention of the IIHR and the Organization of People with Disabilities: I Latin American Seminar on Human Rights and Disability (1991), I Latin American Seminar on Human Rights and Blindness (1992), Latin American Workshop on Human Rights and Mental Health (1993), II Latin American Seminar on Human Rights and Blindness (1993), II Latin American Workshop on Human Rights and Mental Health (1999).

These training activities allowed leaders of non-government organizations of people with disabilities to acquire knowledge about international laws on human rights and about the American system of protection of human rights. This knowledge helped the movement of people with disabilities to begin configuring human rights from their own point of view, thus creating a new approach.

2.   *Activities for the development of an inter-American convention for the elimination of all forms of discrimination against people with disabilities*

The results of the workshops and seminars performed, served as input for the creation of a draft Convention to be presented before the Government of Costa Rica. The document had the back-up of the governments of Costa Rica and Panama.

Workshops were carried out to study the document presented by the Government of Costa Rica before the Organization of American States: 1) with leaders of non-government organizations of people with disabilities in the American continent, who collaborated with suggestions transmitted to the work-group, 2) with experts on the convention project, with the participation of the work-group, and 3) with a group of experts from international institutions who constantly sent suggestions to the committee about the text that was being discussed.

3.   *Activities for creating consciousness of the need of approving an inter-American convention for the elimination of all forms of discrimination against people with disabilities*

The lobbying began with the United Nations World Conferences on Environment, Human Rights, Social Development and Women.

It was in the Pre-Conference on Human Rights for Latin America and the Caribbean that the participating states agreed, thanks to the lobbying performed by Disabled People International, to the following:

"We grant maximum urgency to the subject of disability and human rights, and we state that, for the compliance with all the existing protection regulations, it is necessary to develop an international convention that guarantees, in equal conditions, the full enjoyment of these people's fundamental rights, so that they can be fully incorporated to society's active life, and to intensify efforts towards preventing disability"[1].

Non-government organizations made two presentations before the Inter-American Commission on Human Rights in order to reflect the situation of oppression, violence and discrimination that the population with disabilities in the continent suffers.

During the different Organization of American States General Assemblies in Haiti, Panama, Venezuela and Peru, Disabled People International displayed an intense negotiation labor in order to ensure that the Convention Project stayed in the agenda. Finally, in June 1999, in the city of Guatemala, the XXIX Assembly of the Organization of American States approved the Inter-American Convention on the Elimination of all Forms of Discrimination Against Persons with Disabilities, first international document of this kind in the world.

The Convention is composed of fourteen articles. Article 1 gives definitions for disability and discrimination. It clarifies that the victims of discrimination may be people who suffer or have suffered a disability, which means that a person who used to have a disability and is discriminated for it is also subject to the rights contemplated in the document. It also refers to any action that does not originally intend to discriminate but finally does. It establishes that those actions directed towards guaranteeing equal opportunities for people with disabilities are not considered discriminatory.

The objective of the Convention is clearly the prevention and elimination of all forms of discrimination against people with disabilities. The states committed to multiple actions, such as adopting legal, social, educational, working or any other kind of measures, in order to eliminate discrimination, promote consciousness of the population through educational campaigns, prevent all kinds of disabilities, guarantee the access to architectural spaces, etc.

To achieve these goals, the Convention, in article IV, binds the states to cooperate amongst themselves and collaborate in scientific and technological research, and in the development of measures and resources for independent living.

A Committee for the Elimination of all Forms of Discrimination Against Persons with Disabilities will be created within the Organization of American States, in order to grant follow-up to the commitments acquired.

The interpretation and implementation of this Convention, according to article VII, is extended by disability rights acknowledged by customary international law or by international documents binding the state parties. This article is very important, since it extends tutelage rights to those contemplated in the United Nations Standard Rules on the Equalization of Opportunities for Persons with Disabilities.

In the ambit of the United Nations, during the World Conference against Racism held in South Africa in the year 2001, the Mexican government approved a resolution to initiate another Convention against all forms of discrimination towards people with disabilities. The Mexican government has assumed leadership and, in cooperation with the United Nations Program on Disability, has formed a group of experts that elaborated a first draft that will be discussed in the Assemblies summoned by the organization.

As to the access of people with disabilities to protected areas, the principle of interdependence and integrality of human rights must be applied. Taking into account the text of the Convention and of the laws developed throughout the world in search of guaranteeing the enjoyment of human rights by people with disabilities, we may determine, in relation to the **definition of legal person**, that the Inter-American Convention on the Elimination of all Forms of Discrimination Against Persons with Disabilities has defined discrimination as "all distinction, exclusion or restriction based on a disability, a disability background, a consequence of former disability, or a perception of a present or past disability, that has the effect or purpose of impairing or annulling the acknowledgment, enjoyment or exercise of the human rights and fundamental liberties of people with disabilities". This definition extends subjects of tutelage not only to people with disabilities, but also to anyone who is socially perceived as disabled. Thus it recognizes that the phenomenon of discrimination responds mainly to social aspects.

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[1] Jiménez Sandoval Rodrigo. Los Derechos Humanos de las Personas con Discapacidad. Instituto Latinoamericano de Naciones Unidas para la Prevención del Delito y Tratamiento del Delincuente, 1997, page 157

Legal standards are clear when they establish the obligation of the State and of particular people to comply with disability rights.
In order to achieve the access of people with disabilities to protected areas, the following rights must be fulfilled:

1. Access to physical space and transportation. This right is included in the United Nations Standard Rules on the Equalization of Opportunities for Persons with Disabilities, article 5, is repeated in the Inter-American Convention, article 3, and in many rules of the internal laws of countries that have anti-discriminatory regulations[2].

2. Right to information, signaling and communication. It is also included in the Standard Rules, article 5, paragraph b) 5, 6, 7, 8, 9, 10 and 11. It is also acknowledged by the Convention, on article 4, and in some national laws[3].

3. Right to education. It appears in article 6 of the United Nations Standard Rules, as well as in the Convention, article 3, paragraph 1a). As in the former cases, internal laws acknowledge the right to education[4].

4. Right to feel safe. One of the aspects that may influence people with disabilities not visiting a national park may be the absence of **safety standards to prevent the risk of accidents**. Physical integrity and health are the rights that might be affected by the non-observance of safety standards. International Agreements on Human Rights acknowledge these rights for all human beings[5].

5. Right of access to culture, sports and recreations. It is included in article 11 of the Standard Rules, in article 3, paragraph 1a) of the Inter-American Convention, and in internal laws[6].

There are omissions as to the enjoyment of the right of access to national parks and other protected areas only in the development of some international regulation about environment and sustainable development. The Earth Council's Accessibility Project for National Parks and other Protected Areas has taken steps to include in the Earth Charter the perspective of people with disabilities. These omissions would not justify the non-observance of the rights mentioned before and acknowledged by the international community.

2-OBJETIVES OF THE DIAGNOSIS

This diagnosis has the following objectives:

2-1 GENERAL OBJECTIVE

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[2] Ley 16095 de Uruguay, artículos 50, 53, 55, 57 y 65.
[3] Ley 27050 de Perú, artículo 24; Ley 202-95 de Nicaragua, artículo 13; ley 180 Ecuador artículos 6 y 14.
[4] Ley 7600 de Costa Rica, artículo 14.
[5] Protocolo adicional a la Convención Americana sobre Derechos Humanos en Materia de Derechos Económicos, Sociales y Culturales, artículo 10.
[6] Ley 2705 de Perú, artículos 27,29 y 30.

To analyze and determine accessibility for people with disabilities to national parks and other protected areas, so as to issue recommendations to allow the observance of equal opportunities in these sites, and establish parameters for accessibility regulations corresponding to the PROTOCOL OF ACCESSIBILITY TO NATIONAL PARKS AND OTHER PROTECTED AREAS FOR THE POPULATION WITH DISABILITIES.

2-2 SPECIFIC OBJECTIVES

1-To know the plans established by the corresponding authorities in order to guarantee the access of people with disabilities to national parks and other protected areas.

2-To evaluate the degree of consciousness existing in the officials of national parks and other protected areas as to the right to enjoyment of these spaces by people with disabilities.

3-To analyze the situation of some natural spaces and constructions existing in national parks and other protected areas, in order to determine the obstacles and barriers that hinder physical accessibility to said spaces.

4-To evaluate a series of adaptations to technical aids selected by applying functional, ergonomic, safety, economic and aesthetic criteria, which facilitate the access of people with disabilities to national parks.

5-To demonstrate the signaling needs existing in national parks and other protected areas.

6-To determine the real communication needs that people with disabilities demonstrate when visiting a national park or other protected area.

7-To perform a diagnosis about the obstacles that people with disabilities face in order to have current access to the value and importance of natural resources, and their interactions in national parks and other protected areas.

8-To determine the risks and the response capacity that national parks and other protected areas have in case of an emergency.

9-To evaluate the existence and observance of legal regulations that guarantee the access of people with disabilities to national parks and other protected areas.

3-PROCEDURES DEVELOPED

3-1 FOCUS GROUPS

3-1-1-Children

INTRODUCTION AND EXPLANATION

Before forming the children's focus groups, a diagnosis was made in order to identify their needs and their rights. The use of games and manual activities was proposed, so as to obtain information about experiences, feelings and expectations that the children have when visiting a protected area.

Based on those rights and needs, we have established the general objective, which is to gather the information required by the project team through the use of games and information, in order to promote positive changes within the national parks.

Also, as specific objectives, we chose to design games and adapt them to the special needs of the population with disabilities as a concrete, creative and dynamic strategy. We also acknowledge the essential importance of having devices to evaluate this kind of activities in order to obtain the information needed to promote possible changes and improvements within the protected areas.

At all times we tried to perform activities according to the age and individual interest of each participating child and adolescent. After performing the work, we determined that the initial working procedure did not fulfill the needs of the work-team for the gathering of information, and was not adapted to the

communication needs of the participants. Thus, a more versatile second procedure was developed, to improve the interaction between participating children and professionals.

The following are the two procedure options, which may provide convenient means to gather of information in a project like this one.

I. PROCEDURE PROPOSALS

a. First procedure proposal for gathering information from children's focus groups.

Strategies for organizing the activity

The group participating in the activity is divided in subgroups according to their disability, in order to achieve unity of criteria as to the different work areas. The groups are organized as follows:

- People with mental retardation
- People with visual impairment or blindness
- People with hearing impairment
- People with physical disability

In the case of people presenting multiple disability, they are organized in the subgroup that is more akin to their needs.

The group must have at least 10 participants, but no more than 15, and must be divided in subgroups, which must have no more than four members, aside from their escorts, so that the gathering of information is better and quicker.

When working with children and young people, it is essential to have a group who knows about the support that people with disabilities need, and who gives them the opportunity of independence in the development of the activities. One must keep in mind that the gatherers of information must be willing to communicate according to each person's communication system, so as to gather better and more information.

Description of the activity:

Activity	Description
Welcome and presentation	At the meeting point, a welcome is given to all participants of the focus group, and a general explanation of the objective is given. Each person is given his or her name-tag and is told who will be his or her guide.
Boarding and journey	During the journey, everyone sings the song "Nosotros paseamos". After everyone has participated, a competition between seat-rows is made with different songs. Other integration activities can be performed during the journey.
Arrival and introduction	There is a brief introductory activity called "Hola, ¿cómo estás?" in which every youth and child introduces him or herself to his guide, and seeks the rest of the participants to make a brief introduction. Basic indications are given out as to the precautions to be taken in the park, as well as a brief explanation of the place's flora and fauna.
Snack	A shared snack is eaten (45 minutes).
Separation into groups and instructions	Four subgroups are made to start the rally, and each group is handed a list of objects to gather. These objects must be present in the accessibility station. An information session about children's rights is carried out, the instructions for the rally are given, and each group is assigned a station where they must begin the activity.

Rally: stations	Activity in process	Fact-recreation activity
Accessibility	At the beginning of the journey, each group is handed a list with the object they must gather until they reach the first station.	Perform a sketch exposing the most difficult elements they faced during the journey: - Bathroom - Journey - Food area In case the persons cannot perform a sketch, they can narrate their experiences.
Signaling and information	A game of "Teléfono chocho" is carried out, using a message about the place they are visiting.	Make the signals found in the area out of materials in the environment, or else make examples as recommendations. For example: "Do not feed the animals", "Do not sit on the tables", "Bathroom", "Lunch areas", among others.
Interpretation of the environment	Make an interpretation of the sounds and sensations perceived in the park with the instruments given.	Recreate the sensations experienced by each person during the journey by means of a creative elaboration, such as scale models or pictures, using objects from nature that promoted this experience.
Safety	This activity may vary depending on the national park, the climate of the area, and the established regulations. The following recommendations are made: 1. On a conditioned grill, each group carries out the task of roasting marshmallows. 2. With a bucket and sand they play at building a sand castle.	Each team names itself, and makes a parchment in which they write the safety regulations they consider necessary for the place.

Rights	A dynamic explanation of the rights all people have, using a human silhouette on which they attach cards about the experiences lived and about the rights that were violated during the journey through the national park.
	Subjects: ¿What are rights?
	      ¿What rights do we have in the national park?
	      ¿Which rights were violated?
	      ¿How can we demand their observance?	

Lunch and participation certificate	Lunch is shared. A participation certificate is handed out.	

General indications for station managers

The person in charge of each station must have an open and alert attitude for any kind of information that the participants provide, which may range from a look or a smile to reasoning and analysis of situations.

Tasks expected from the managers of each station
- To be a mediator between the environment, situations and experiences.

- To collaborate with the participants and with the support group, so that everyone can actively participate.
- To collect written information, literally describing or transcribing the information provided, and avoiding interpretation.
- To remain during the whole activity in their stations, during information collection.
- To be clear, concise and precise as to what he or she wants the group to do in each station, and make sure that all participants understand what is expected of them.
- To take into account all members of the group, thus respecting their opinion and appreciating their contributions, and to always adapt him or herself to their communication systems.
- To take into account the information that escorts provide, as long as it does not replace the opinion and interaction of the participant.

The following is a suggestion about possible questions for gathering information. It is important to take into account that they must be adjusted to the characteristics of the national park, and that they must be made using a vocabulary adapted to the participants' context.

Area	Basic questions for obtaining information
Accessibility	✴ ¿How did you feel the path? ✴ ¿Did you find places to sit? ✴ ¿What would you have needed to arrive more easily? ✴ ¿How are the showers, bathrooms, lavatories, basins, lunch tables? ✴ ¿Are the bathrooms easy to use? ¿Do you think a wheelchair could enter or fit in? ✴ ¿Did you find places to drink water?
Signaling and information	✴ ¿Did you find posters or signs in the way? ¿Which? ¿Could you understand them without having anyone explain them to you? ✴ ¿What color are the signs, or what other characteristic can you describe about them (material, color, smell, texture)? ✴ ¿If you had to come alone, could you do it? ✴ ¿Did you find any map or person to inform you about the way? ✴ ¿Did any person or sign informing you about the existence of zones, animals or plants that may represent some kind of danger?
Interpretation of the environment	✴ ¿What kind of leaves did you find? ✴ ¿Which smells and sounds could you perceive in the environment? ✴ ¿Did you see, hear or perceive any animal?
Safety	✴ ¿Are the paths well marked? ✴ ¿Do you know which places of the park are dangerous? ✴ ¿Do you know whom to reach if there is an emergency? ✴ ¿At what time is it dangerous to swim in the sea? ✴ ¿At what time can we be under the sun, and what precautions must taken in order to do this? ✴ ¿Do you know which plants are dangerous? ¿How can you recognize them?
Rights	✴ ¿Which of your rights do you feel were violated? ✴ ¿Which must be your rights within the park?

Natural resources must be used as much as possible to develop activities and games, always exercising respect towards them**.**

Area	List of materials used in each one of the stations
Accessibility	Environmental resources found on the ground
Signaling and information	Color and black markers Letter-sized white presentation cardboard with a black edge Glue Adhesive tape
Interpretation of the environment	Letter-sized presentation cardboard Color and black markers Scissors Finger-paint White glue Cold silicone glue
Safety	Flip charts Color and black markers Glue Scissors Adhesive tape Finger-paint Materials for making sand-castles Marshmallows Charcoal Matches Sticks (place foam on the top end adhered with tape for people who have manual motor impairments)
Rights	Graphic representation of two pictures, each one with a figure of a boy and a girl, embossed and in black and white. Cardboard figures to write down the children's and youths' contributions.

a. **Second procedure proposal for gathering information from children's focus groups**

Outline of the new procedure
- Introductory activity.
- Informational lecture at the beginning of the activity, explaining its purpose and the details about the national park or protected area that is being visited.
- All professionals must make the journey along with the children and youths invited to participate in the activity, observing their reactions and interacting with them during the way.
- The snack and lunch activities will be carried out in the corresponding areas, unless the place presents serious access difficulties that cannot be solved.
- Complementary activities will be carried out at the end of the journey, dividing the group into three subgroups, according to age. Each subgroup will participate in the elaboration of a project where they express the perceptions, ideas and the experiences they had in the national park.
- Finally, the activity about rights will be carried out just as it is.

Description of the procedure

At the meeting point, a welcome is given to all participants of the activity, making a brief description of the area and its characteristics. Also, the objective of the activity is explained, in order to create consciousness in the group about the importance of validating every individual's right to the enjoyment of natural resources and recreation.

Each person's name-tag is handed out, and an activity is performed in order to introduce the participants, volunteers, park rangers, members of the group and organizers.

Later, the general group will begin the journey along a path previously chosen by the organizers, and each participant will carry out an exploratory activity of the path according to his or her interests (support will be given by the volunteers, in order to facilitate multy-sensory activities, that is, those methods the person uses to extract information and interact with the environment and with other people, through the use of touch, smell, vision, taste and hearing, according to the abilities of each individual).

Along the journey, a recreational activity will be carried out according to the resources of the national park. The objective of this activity is to provide a moment of leisure for each participant within the environment. Thus, this activity will vary according to the kind of park that is visited (e.g.: bathing in the ocean, using mud from fumaroles, having a snack in the areas destined for this purpose, visiting historical places or sites that give information as to the area that is being visited).

The specialists will observe the dynamics of the group in its interaction with the environment, and from this observation they will gather the information required for the elaboration of a diagnosis in the different areas to be analyzed: communication, signaling, information, safety, accessibility, interpretation of the environment, technical aids, and accessibility rights.
Visits must be made to the facilities that the park offers (toilets, basins, lunch tables, showers), so that the participants have a chance to get to know and use them.

The journey will be finished at the same spot as it began, and a meeting is held, for which the group will be divided into three subgroups according to chronological age (children 8-11 years old, adolescents 12-15 years old, and youths 16-20 years old). During a final meeting, each subgroup must communicate through different means the experience they had during the journey. There are materials to facilitate the communication of the information gathered by the participants.

Group activities:
Interests of the participants

The goal of this activity is to validate, through multy-sensory perceptions, the interests that each participant expresses about the national park visited.

1. Gathering objects of interest along the journey. For this activity, a small bag must be given to each participant. At the end of the journey, the participant elaborates a product that summarizes the textures, colors and smells that held his or her interested.
2. Elaboration of a scale model: glue, materials from the park, presentation cardboard, thick and thin markers, rope, water, paint, and silicone.
3. Elaboration of drawings: presentation cardboard, thick and thin markers, water, paint.
4. Game about signaling: elaboration of signals for the different areas. Color paper, glue, materials from the park, thick and thin markers, rope, water, paint, and silicone.

5. Game of oral or written questions (which must be performed by professionals interested in the collection of information, according to their needs and area).

Activity about rights

Dynamic explanation of the rights all people have, using a human silhouette on which they attach cards about the experiences lived and about the rights that were violated during the journey through the national.

This activity will be carried out at the end of the meeting and will include the participation of everyone present.

Subjects

- ¿What are rights?
- ¿What rights do we have within the national park?
- ¿Which rights were violated?
- ¿How can we demand their observance?

The materials required for this activity are: posters with the subjects, embossed figures of a girl and a boy, colored figures to write the rights in, adhesive tape, pens.

Tasks of the organizers:

1. Welcome (park rangers, coordinator of the activity).
2. Name tag handout (coordinator).
3. Journey (two park rangers as guides along the path; observers by area, who will dedicate themselves exclusively to collecting information; two escorts for each person using a wheelchair; one escort for each child requiring support).
4. Recreational activity (tasks will vary according to the national park visited and the resources it offers)
5. Activity about interests (one coordinator for each group of children; professionals by area, who will rotate throughout the groups; volunteers to accompany and support the children)
6. Activity about rights (a specialist in the matter; volunteers to support the children).

Strategies for organizing the activity

The group participating in the activity is divided in subgroups according to their disability, in order to achieve unity of criteria as to the different work areas. The groups are organized as follows:

- People with mental retardation
- People with visual impairment or blindness
- People with hearing impairment
- People with physical disability

In the case of people presenting multiple disability, they are organized in the subgroup that is more akin to their needs.

The group must have at least 10 participants, but no more than 15, and must be divided in subgroups, which must have no more than four members (not including escorts).

3-1-2- Adult persons with disabilities

The selection of persons with disabilities was in charge of the National Rehabilitation Council. Most of the persons who formed these focus groups live in cities or communities near the protected area that was visited. They had disabilities such as blindness, deafness, mental retardation, cerebral palsy, Down syndrome, reduced mobility, paraplegia and multiple disability. They belonged to age groups between 18 and 70.

The procedure developed for these workshops with focus groups was designed by a group of specialists (biologists, lawyers, engineers and architects) who participated in the elaboration of the protocol.

The following activities were performed:

Activity	Description
Welcome and introductions	A description is made about the protected area and the flora and fauna found in it. Each one of the persons participating chooses a plant, animal or insect that resembles them in order to introduce themselves. Once introductions are made, the authorities of the protected area explain the rules that govern that area, and the participants develop the rules they will follow during the workshop. Finally, the workshop's objectives and the participants' expectations are compared.
Introductory lecture	This introductory lecture deals with the workshop's conceptual framework: what is access, what are technical aids, what are the rights of people with disabilities, etc. The obstacles that hinder the access of people with disabilities to national parks are discussed.
Visit to the path	Teams are made according to disabilities. Each team is handed an evaluation guide about the path, so that they can indicate the existing obstacles according to the following subjects: 1- attention to people with disabilities by the officials of the protected areas, 2-access to physical space, 3- difficulties for technical aids, 4- obstacles as to signaling, communication, and information, 5- facilities for the interpretation of the park, 6- rights violated. In one column of the document, they will indicate the difficulties, and in the other one the suggested solutions.
Lunch	
Feedback	Each group appoints a rapporteur to expound the difficulties encountered and the solutions proposed. The organizer regroups findings according to subject in a flip chart. At the end, a discussion is launched to conclude the workshop.

3-1-3- Officers of the protected areas

The selection of officers in the protected areas was in charge of the Ministry of the Environment and Energy.

The following activities were proposed.

Activity	Description
Welcome and introductions	A description is made about the protected area and the flora and fauna found in it. Each one of the persons participating chooses a plant, animal or insect that resembles them in order to introduce themselves. Once introductions are made, the authorities of the protected area explain the rules that govern that area, and the participants develop the rules they will follow during the workshop. Finally, the workshop's objectives and the participants' expectations are compared.

Workshop for the identification of biases about people with disabilities, and its consequences	Using a series of activities, such as directed fantasies and simulations, the participants express any bias they have about people with disabilities. Once the biases responding to roles and stereotypes are identified, they are deconstructed. The first step towards deconstruction is made by requesting the participants to tell the group if they know any person who contradicts these biases. Later, an explanation is given as to how these biases are developed and, using a series of activities, the effect that they have on people with disabilities is discovered.
Lecture about reference aspects	This introductory lecture deals with the workshop's conceptual framework: what is access, what are technical aids, what are the rights of people with disabilities, etc. The obstacles that hinder the access of people with disabilities to national parks are discussed. Instructions will be given as to how to interact with people with disabilities.
Visit to the path	The participants are each assigned roles as persons with a disability. To this effect, some of them will have their eyes covered, others will sit in wheelchairs, others will have their feet tied, others will be given crutches, strollers, earplugs, etc. Another group will act as escorts, and they must put into practice the recommendations that they were given on how to interact with people with disabilities. They are handed an evaluation guide about the path, where each team must indicate the existing obstacles according to the following subjects: 1- attention by the officials of the protected areas, 2-access to physical space, 3- difficulties for technical aids, 4- obstacles as to signaling, communication, and information, 5-facilities for the interpretation of the park, 6- rights violated. In one column of the document, they will indicate the difficulties, and in the other one the suggested solutions.
Lunch	
Feedback	Each group appoints a rapporteur to expound the difficulties encountered and the solutions proposed. The organizer regroups findings according to subject in a flip chart. At the end, a discussion is launched to conclude the workshop.

The following is the guide used for the visit to the paths:

RECORD FORM

Components of accessibility	Obstacles	Proposed solutions	Observations
Physical access			
Information / Signaling			
Safety			
Communication			
Interpretation of the environment			
Human rights			
Others			

3-2 SURVEYS

Three documents were designed, directed to persons with disabilities, national park rangers, and touristic tradesmen, respectively.

The surveys for people with disabilities were distributed in two groups: one for the people participating in focus groups and the other one for the officers of protected areas who, in turn, gave them to the park's visitors. The number of surveys made to visitors who did not participate in the workshops is less than 10% of the documents gathered, which shows the low assistance of people with disabilities to national parks.

In the case of the officers, twelve protected areas in the Costa Rican protection system were included. The surveys were gathered through the headquarters of the Ministry of the Environment and Energy.

The surveys for touristic tradesmen were distributed to members of the National Chamber of Tourism.

The results are shown in the appendixes.

3-3 OBSERVATIONS FROM PARTICIPANTS

This procedure was performed both for adult workshops and for children and youth focus groups, so as to satisfy the need for interaction between the workshop participants and the work team in different areas.

One of the specific characteristics of the participant's observations is that they can have a global, flexible point of view about the processes observed. This also fosters the creation of communicative links in ways different than those to which the observers are accustomed.

"In this case, the observer is always initially a foreigner to the group, but he is not only a spectator to the life of the group: he becomes an actor and integrates himself to the life of the group… this technique requires great quantity and quality of patience, adaptation skills, intuition…" (10).

3-4 MEETING OF EXPERTS

The data obtained from other research sources were handed to teams of experts in the areas to be diagnosed.

Sixty-two persons responded to the summons, and they were presented with the diagnosis objectives and the general results.

Then they separated into the following groups:
- Access to physical spaces
- Technical aids
- Signaling, information and communication
- Interpretation
- Safety regulations
- Planning and creating consciousness

The activity performed with the professional workshop is described below:
1. First of all, a general lecture with slides was made about barriers and obstacles found in the access to the physical space of national parks and other protected areas.
2. Once the problem was introduced, a panel discussion was launched, where every person gave his or her own critical opinion on the subject and suggested possible solutions.
3. At the end of the panel discussion, the general conclusions, which can later be observed, were summarized.
4. The conclusions of the workshop were presented to the rest of the participants.

In the workshop, several aspects related to accessibility were discussed. They will be described next.

1. Physical space.
    The basis was the premise that there is, in fact, no accessibility to physical spaces. According to the participants of this workshop, accessibility to national parks is limited in many aspects. They recommend the application of legal standards and other international regulations. What regulations must be applied was not specifically determined, nor was an analysis of these regulations made in order to concretize applicability.

2. Accessibility to the sites attractive features.
    b. Perception
    c. Experience
    d. Interpretation and communication
    e. Challenge (physical and psychological)

    Accessibility was analyzed from these points of view, which imply the impossibility of perceiving, experiencing and interpreting the natural site and its attractive features. Another item considered was the need for mechanisms that allow interpretation or communication to people with disabilities about what resources exist in national parks.

3. Accessibility to natural and cultural resources.
    The accessibility to both natural and cultural resources was recommended, such as the accessibility to historical-architectonic heritage within the national parks. For example, the case of the Santa Rosa Monument was discussed. During its reconstruction, the opportunity to turn it into an accessible site was wasted. Physical accessibility must be combined with the conservation and protection of historical-architectonic heritage.

4. Use of "universal design".
     "universal design" must be considered an integral instead of an accessory element; that is, it is an investment cost and not an expense.
    The use of "universal design" was recommended from the beginning of the project. To this effect, the following points must be considered:
    - Access (mobility)
    - Technology (construction)
    - Maintenance
    - Costs
    - Feasibility

5. Construction.
    As to construction, the following items were suggested:
    a. Carry out construction in stages, given the limited budgets of many institutions. The planning of adaptations must be made by stages, in order to overcome the financial "obstacle".
    b. Maintain construction processes and maintenance at low cost and low impact on the environment.
    c. Perform feasibility studies about accessibility project, so as to analyze and evaluate their possibilities and their difficulties.

d. Analyze the accessibility design applied to the Tapantí Project.

6. Design according to climate.

The need for the design of national parks to be adapted to the climate parameters of each site was discussed.

A second stage of research on this subject contemplates a more careful study of accessible design, characteristics related to climate, such as the kind of ground, existing flora and fauna, etc. The design must consider ecology, and characteristics such as sun, rain, humidity, winds, breezes, and others.

PROPOSALS

1. Inter-institutional commission directed to the following populations
   a. Academic
   b. Professional
   c. Institutional
   d. Civil

A proposal was made for the creation of an inter-institutional commission formed by several expert groups, which might reinforce the work of the National Rehabilitation Council as to advice, control and extension about accessibility.

This commission might exercise control over the application of accessibility regulations and the creation of consciousness in the country.

2. Application of regulations
   a. Incentives
   b. Grading (e.g., Blue Flag)

   The stimulation through incentives of public and private entities towards development of accessibility policies is recommended, through grading or acknowledgments for those who implement accessibility measures.

Technical aids

A technical aid is a permanent element used by a person with a disability which allows him or her to develop different activities.

During the workshop, information and recommendations about technical aids that may be used on irregular grounds and adverse climatic conditions were gathered. More specifically, a workshop was carried out for the proposal of recommendations for performing adaptations to technical aids.

The following are some of the elements considered.

Technical aids selected

Strollers
Support canes
Auxiliary crutches
Canadian crutches
Wheelchair
Technical aid for entering the water

Ground conditions

Sandy ground (beach)

All grounds (irregular grounds)

Populations
Children
Adults

Working procedure during the workshop
Introduction of the team members
Unification of criteria used in the lecture
Lecture about the current situation and the problems found
Report on the work performed by the team to this date
Execution of the workshop, where information is summarized in a chart

Problematic characteristics of technical aids
Unstable
Insecure
Not adapted to the conditions of the ground
They sink and get lost
They break during the journey
They limit access

Consequences for people with disability
Insecurity
Annoyance
Limited access

Recommendations
We suggest that the following characteristics be sought in each technical aid.

Stroller
Non-skidding
Economical
Collapsible
Light

Support cane
Stable
Resistant

Fixed and secure ferrule
Resistant to mud
Non-skidding
Light
Affordable

Crutches
Stable
Resistant
Fixed and secure ferrule
Mud-resistant
Non-skidding
Light
Affordable
Safe
User-friendly
Simple

Wheelchair
Resistant
Stable
Comfortable
Safe
Resistant
Non-collapsible
Mud-resistant
Light
Affordable
Simple

Technical aid for entering the water
That it permits the contact of the person with water
That it allows mobility of upper extremities
Resistant
Stable
Comfortable
Safe

Conclusions

After analyzing and testing the use of technical aids in the different kinds of grounds, the following conclusions were made:

· They do not provide an adequate support
· They are unstable
· They limit access
· They produce insecurity, exhaustion and discomfort in the user

However, if technical aids with the mentioned characteristics can be procured, these inconveniences may be significantly reduced.

Signaling, communication and information

A working technique with different purposes was also proposed for this area. On one hand, the creation of consciousness in people involved in the work within national parks was sought, in order for them to understand the need for people with disabilities to receive information pertinent and adequate for their needs. For this, the participant's perceptions were gathered after the journey they made, and this information was complemented with the one collected in the workshops performed with children, adolescents and adults with communicative impairments.

Some materials used during this activity were: masks, plants, canes, cotton, Vaseline, plastic, wheelchairs, phone books, and adhesive tape.

PROPOSAL FOR THE SYSTEMATIZATION OF THE BASIC REGULATION AND OTHER COMPONENTS, ACCORDING TO ACCESSIBILITY ASPECTS

Aspects Indicators	Communication	Signaling	Information
Concepts	*Link established with the individual.* *Main objective: to emit a message by means of gestures, signals –visual, tactile-, objects, activities, facial expression, words, intonation, body posture.* Kinds of communication that are varied and adaptable to the people's needs. All persons communicate through works, signs, natural gestures, the tension of a muscle, the movement of a hand, a change in the direction of a look, and even a smile.	Act of signaling or establishing places, hours, among others. Place or stamp a sign on an object to distinguish it from others.	Extension of knowledge.

Variables	• Kind of communication: alternative, augmentative, oral, written, or a combination of these. • Kind of communicative challenge of the visitor. • National park. • Educational level of the visitor. • Profile of the person interacting with the visitor.	• Kind of communicative challenge of the visitor. • National park. • Educational level of the visitor.	• Kind of communicative challenge of the visitor. • National park. • Educational level of the visitor.

Diagnosis	• **Needs:** -Information must be provided through different communication methods (Braille, sign language, graphics, other alternative and augmentative methods of communication according to what is needed). -Coordinating with the special education sector in order to carry out the adaptations required in the area. • **Strengths:** Park rangers are willing to tend to the visitors' needs.	• **Needs** -Informative posters presenting color contrast, so that the person with visual impairment may perceive them. -Placement of the former on accessible places, both in height and in position. -Lecture rooms that offer information in a multi-sensory way, so that people have access to it according to their abilities and needs. -Information offered in other communication systems, such as Braille. • **Weaknesses** The signs on the paths were in a very high position, or were not very visible because they were covered with vegetation. The signs on restrooms were far away from the path, and thus could only be perceived from a very short distance. • **Strengths** -The existing information describes some of the park's characteristics (photographs of flora and fauna, maps, glass showcases with different exhibits, for example, dissected insects typical of the area).	**Needs** -Providing multi-sensory information to anticipate the stimuli that will be found in the place. -Recovering information about safety subjects, and adapting it to the needs of the visitors. - Coordinating with the special education sector in order to carry out the adaptations required in the area.

Solution proposals	• Training the personnel of the National Parks in LESCO (Costa Rican Sign Language). • Acquiring didactic materials that allow for a better and greater expansion of ideas and questions that the visitors to the park might have. • Giving brief descriptions or lectures that inform and prepare visitors for the journey, before their entrance to the park. • Creating a representative sample of flora and fauna, dissected or by means of a sculpture, which may be appreciated and touched by the visitors. • Creating a sound sample of the park.	• Placing written signs in different codes: signs, Braille, Latin alphabet. • Interpreting paths through drawings or other methods. • Creating paths identifies with colors and textures. • Placing symbols at the entrance of the park indicating the location of restrooms and the distance between them. • Indicating through signs the location of services such as picnic areas, restrooms, cafeteria or restaurant service, and parking lots, among others. • Placing marks so that blind and visually impaired people may have access to the information contained in signaling (windmills, landmarks or bumps).	• Giving information in LESCO. • Creating brochures with information about the park's characteristics: the kind of flora and fauna, the paths, their name (Braille and ink). • Changing the design of the glass showcases (museums) with information in Braille, auditive and tactile. • Creating a representative sample of flora and fauna, dissected or by means of a sculpture, which may be appreciated and touched by the visitors. • Creating a sound sample of the park. • Making embossed maps of the place, and using the appropriate contrast.

Interpretation

The subjects covered by the following chart were analyzed by the professional group working in the area of interpretation:

Subjects covered	Results obtained/ Proposals given by the group
Use of guided and self-guided paths	- Depends on the accessibility of the path for people with disabilities. - The paths should be self-guided, with the same information for all audiences.
Motivation and stimulation techniques	- There must be high diversity. There are many different ways to enjoy. For example, just walking through the path not necessarily mean learning. - Developing a technique to communicate with each kind of person, using a regular guide and one in Braille. - Developing a technical outline of the path, adapted to the different audiences.
¿What is the best information strategy?	- An integrated visitor center (general for all visitors), but with diversity of spaces for each audience, depending on its characteristics. - An information center for visitors with information accessible to all. "Adults too have a child inside."

Design of the visitor center with adaptations for people with disabilities	- It must be incorporated in the center that the rest of the people visit, but with adaptations such as: 1. Sounds, textures, colors, smells, etc. 2. Personnel trained to give general information about the whole center by means of different techniques.

In all, the following solutions to the problems were suggested:

Work areas	Possible solutions	Feasibility
Signaling	More resources. More information relating to needs. Different textures to identify situations and objects. Using different methods: Braille, amplified letters. Unifying of criteria to serve all kinds of populations visiting the park.	The authorities in National Parks must be open-minded, so that all people might enjoy them. National tourism must be promoted as much as international one.
Communication	Using methods such as: Braille LESCO Amplified letters Using all senses (multi-sensory method) Visual Gestural Communication (CVG) Unconventional communication	Everything is feasible, but it must be carried out in order to be effective.
Information	Using existing international technical regulations Creating consciousness on citizens about the use of these regulations	

These are the main recommendations for the group. They are a real sample of the existing needs that must be taken into account in order to open access spaces.

REFERENCES TO THE SUBJECT IN ELECTRONIC AND BIBLIOGRAPHIC SOURCES

As part of the diagnosis for the Protocol of Accessibility to National Parks and Other Protected Areas for the Population with Disabilities, a search in the Internet was carried out so as to obtain a compilation of web pages with information related to the protocol's subject.

In order to achieve this, the meta-index "Seeking Equality for People with Disabilities" was developed in collaboration with the Justice and Gender Foundation and ILANUD. This meta-index contained approximately three hundred and sixty-five web pages related to the subject of disabilities, divided in six chapters: by country; magazines and publications; articles, documents, and reports; universities, libraries, and institutes; links and general disabilities. In order to extend this meta-index, approximately five hundred more web pages were consulted, obtained through Internet search engines, of which the ones that were more related to the Protocol and might be useful as backup for its elaboration were chosen. These pages were included in the meta-index under the chapters titled "Environment" and "Technical aids".

The following is a general guide to the information that may be found under the chapter titled "Environment", which is divided into three subjects: accessibility, accessible tourism, and environment.

ACCESSIBILITY
- PHYSICAL SPACE
- Recommendations to identify and eliminate obstacles that prevent people with disabilities from having access to the services and opportunities that society provides.
- Design guides for:
  - Railings
  - Ramps
  - Hallways and corridors
  - Parking lots
  - Stairs
  - Restrooms
  - Elevators
  - Doors
  - Windows
  - Closing elements

These design guides establish the minimum dimensions and characteristics that any physical space in public or private areas must have in order to allow accessibility to people with disabilities.

Pages suggested:
http://www.libreacceso.org/
http://www.un.org/partners/civil_society/m-disabl.htm
http://www.access-board.gov/

- TECHNICAL AIDS
- General information about technical aids, such as:
  - Vertical elevators
  - Platforms
  - Portable ramps
  - Sub-staircases
  - Crane for pools and restrooms
  - Restroom adaptation
  - Articles for general hygiene
  - Strollers, canes
  - Adapted wheelchairs
  - Signaling

Suggested pages:
http://www.imagina.org/enlaces/link_dis.htm
http://www.ceapat.org/
http://www.universia.pr/contenidos/estudiantes/observatorio/discapacitados_observatorio.htm#Centros

ACCESSIBLE TOURISM
- EDUCATION
Institutions dedicated to educating the population in order to create consciousness about the fact that all human beings have the same rights and obligations; we all have the right to access, under equal conditions, the services that society provides, to communicate with others, to receive information, and to have the necessary conditions in order to move freely and have an independent life.
Suggested pages:
http://www.dcnr.state.pa.us/
http://www.indiana.edu/~nca/

- TECHNICAL ASISTANCE
Institutions that move towards a common goal: universal access, through the design of creation technologies and the implementation of way to fulfill every person's needs.
Organizations that provide technical assistance to institutions that are designing accessibility programs, and that determine the position that said institutions occupy in terms of accessibility.
Suggested pages:
http://www.americantrails.org/
http://www.beneficialdesigns.com/trails/utap.html

- TOURISM

Detailed information about accessible tourism. Travel agencies and touristic tradesmen with experience on accessible tourism for people with disabilities.
Organizations that work towards achieving an obstacle-free environment, from all standpoints of touristic business.
Suggested pages:
http://www.access-able.com/
http://www.sath.org/
http://www.geocities.com/Paris/1502/disabilitylinks.html
ENVIRONMENT
Since the project stems from the relationship between the population with disabilities and nature through the design of a protocol of accessibility to national parks and other protected areas by the population with disabilities, web pages of organizations committed to the environment and to every human being's rights have been included within this subject.

The Earth Charter, whose web page has been included within the subject of environment, indicates as one of its main principles is to "Uphold the right of all, without discrimination, to a natural and social environment supportive of human dignity, bodily health, and spiritual well-being, with special attention to the rights of indigenous peoples and minorities".

The population with disabilities is part of the human family and, as a part of this family, it has a right to equal opportunities just like the rest. One of these opportunities is the access to public spaces, including national parks and other protected areas.

Pages suggested:

http://www.earthcharter.org
http://www.rolac.unep.mx/
http://www.ncsdnetwork.org

CONCLUSION

After the search performed, no web page containing any document similar to the Protocol of Accessibility to National Parks and Other Protected Areas for the Population with Disabilities was found, but pages were found containing information related to the subject of the protocol, as presented in the former guide. This shows us the importance of developing a document that helps ensure equal opportunities for people with disabilities through the elimination of access barriers in protected areas.

It is important to take into account that this is a general guide about the information that may be found through the meta-index, which is why we recommend that you consult it if you want to deepen your approach to the subjects mentioned.

ACCESSIBILITY BARRIERS

1. PLANNING AND CONSCIOUSNESS-RAISING

As to planning and consciousness-raising, the following results were encountered:

1-Even if some materials have been developed in order to raise consciousness and train public administration personnel as to the needs of the population with disabilities, there is no specific material for personnel in protected areas. In spite of this, there have been successful experiences, and the project in the workshops with officers achieved its goals..

The population with disabilities cannot frequently consult materials that inform them about their rights frequently. The workshops served to discuss and know these rights.

It is clear that, even if these efforts have been carried out, it is essential to increase the production of didactic materials, taking into account socio-cultural, philosophic, conceptual and legal aspects.

2-The technical and legal standards about accessibility and construction in national parks and protected areas are not systematized.

3-There are no interdisciplinary technical teams working to improve accessibility in protected areas.

4-There are no global policies or plans that have accessibility of people with disabilities to these areas as a goal. Neither are there policies that consider the diversity, the environmental conditions of the wilderness area and its representative character.

5-Accessibility must be carried out gradually, according to budgetary and human needs.

6-No diagnosis had been ever made about accessibility conditions which included the participation of people with disabilities, and which took into consideration the area's characteristics, the services it offers, its information, signaling, communication, safety and transportation.

7-There are no proposals for solving the lack of accessibility. Proposals must contemplate legal standards, universal design, landscape, history, and cultural and geographical environment.

8- Solutions are not planned or prioritized.

9- No negotiation strategies have been developed with the different entities that may promote the implementation of a plan.

9-No monitored implementations have been carried out.

10-There is no information publishing or extension.

11- No follow-ups have been carried out either. Periodical evaluations about the quality of the services and the users' level of satisfaction must be performed.

2. ACCESS TO PHYSICAL SPACE

2-1   Introduction

Within the conceptual framework of equal opportunities for people with disabilities, the physical accessibility of several national parks or protected areas was analyzed, as a part of the development of the project for a PROTOCOL OF ACCESSIBILITY TO NATIONAL PARKS AND OTHER PROTECTED AREAS FOR THE POPULATION WITH DISABILITIES.

This analysis was carried out from a hands-on and participative perspective, in the areas of study. The national parks and protected areas that were visited were the following: Tapantí National Park, Irazú Volcano National Park, Prusia Sector, Manuel Antonio National Park, Santa Rosa National Park, Poás Volcano National Park and Caño Negro Wilderness Refuge.

Through activities with focus groups, surveys, active observation, and the analysis of photographs and of the site, systematization charts were developed from the data, and they allowed the analysis of the spatial situation in these areas.

This information, along with the conceptual framework about equality of opportunities for people with disabilities permitted the elaboration of a diagnosis about the physical accessibility of these areas belonging to the country's natural environment.

The following are the basic concepts about physical accessibility in national parks and protected areas, and the objectives of the diagnosis.

2-2   Basic concepts and conceptual framework

The standards for the access to physical space of the project of Accessibility to National Parks and Protected Areas for People with Disabilities, are related to the concepts of universal design of spaces and sustainability of the physical-environmental surroundings. This implies the consideration of human rights when performing spatial design; that is, the needs of all persons must be considered, including those with disabilities. Every design must eliminate physical barriers from the surroundings. Also, harmony with the environment and international accessibility standards are contemplated.

Universal design states that accessibility to physical space must consider the special needs of all human beings, whatever their age, gender or ability. The space must respond to the needs of all populations. These needs relate to functional, formal and culturally adapted design.

As to this basic concept, design and accessibility standards must respond to and respect the harmony with the natural environment. The physical and climatic characteristics of the surroundings must be considered, as well as construction materials and the design of accessories that work towards the achievement of universal design.

Accessibility standards must also respect the legal regulations about the environment and the physical surroundings built. Special interest is placed on the standards on equal opportunities for people with disabilities, as well as the laws on Historical Architectonic Heritage, since some sites of great historical value are located within the protected areas or national parks.

Also, knowledge and analysis of plans for the regulation or management of the natural environment of the places studied, provide guidelines as to functionality and specific use. Thus, the design must reflect this respectful, conservationist and ecological orientation of accessibility. Basic landscaping concepts must complement this perspective.

In addition to this, the design must be complemented with basic guidelines from existing international accessibility regulations. These regulations will guide the final design of the standards for the access to physical space of national parks and protected areas.

An adequate design would implement all the aforementioned guidelines to the creation of spaces such as paths, hallways, bridges, ramps, rest areas, restrooms, doors, showers, parking lots, and rest, recreation, learning and administrative areas. Special interest is placed on dimensions, construction materials and technical specifications for the spaces, and the appliances, furniture and design accessories. Also signaling, safety, and hazard prevention are considered.

Emphasis must be placed on the possibility of stimulating the human being's senses as much as possible, so as to facilitate the full enjoyment of the environment. By motivating learning and knowledge of the environment through touch, smell, hearing and sight, a reopening of the environment for all users and visitors to the park is promoted, from a diverse and inexhaustible point of view.

Finally, the implementation of accessibility regulations to national parks and protected areas must be complemented by environmental education. Documentation, maps and signs are essential, and it is even better if resources and technical aids from sensory languages and stimuli are used, as we mentioned in the former paragraph. Among other resources, sensory and auditive recordings, Braille and scale models can be used.

2-3   General diagnosis about physical accessibility

The following is a general diagnosis of physical access problems for the surroundings in six protected areas, according to preliminary studies carried out through workshops with children and adult focus groups, surveys, and active observation by professionals.

The protected areas are: Tapanti National Park, Irazú Volcano National Park – Prusia Sector, Manuel Antonio National Park, Santa Rosa National Park, Caño Negro Wildlife Refuge, and Poás Volcano National Park.

For the diagnosis, built-in spaces were analyzed first and then the open areas.

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CONSTRUCTED SPACE

PARKING

ADMINISTRATION

Poás Volcano

Prusia

The area, signalization and parking spaces do not correspond to those established by Law 7600.

POÁS VOLCANO

Access to buildings does not have ramps, handrails or antislippery materials.

EXHIBITION AREAS

VOLCÁN POÁS

The arrangements of the exhibition rooms do not allow accessibility to the information. There is lack of audio information and in other languages, such as Braille.

Most access entrances have

CAÑO NEGRO

RESTROOMS

CAÑO NEGRO

The space dimensions are insufficient for the appropriate moblization on a wheelchair or go-cart. The light switches are too high. There are no handrails in the WC's.

FOOTPATHS

MANUEL ANTONIO

CAÑO NEGRO

Footpaths are very narrow. This presents obstacles. Resting areas are limited and in some areas there are pothols with water.

VOLCÁN POAS

Lack of protective handrails in slopes.

PRUSIA SECTOR

Steep slopes and lack of appropriate bridges or ramps.

There is lack of appropriate furniture, such as tables fountains and accessories that allow adequate use b disabilities.

DRY TERRAIN

SANTA ROSA

Loose rocks, fallen leaves, and many othe irregularities, such as roots, porholes and l

MOUNTAIN TERRAIN

PRUSIA SECTOR

Obstacles and irregularities in the terrain make access difficult.
Crutches and other technical assistance instruments slip or sink.

MA

BEACH TERRAIN

INFORMATION
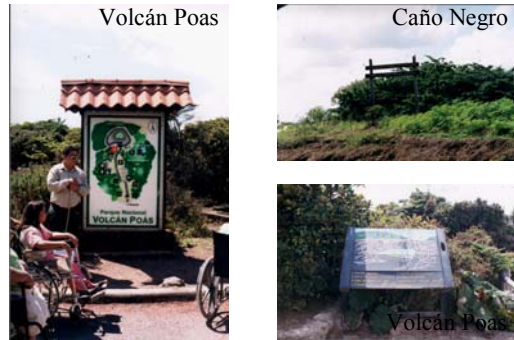
Volcán Poas

Caño Negro

Volcán Poas

There is lack of accessible information of all sorts on the attractions, the flora and fauna, security, and services. Existing information on the park's resources is not accessible, especially for the blind persons.

RESTING AREAS
INFORMATION

Volcán Poas

Caño Negro

Volcán Poas

There is lack of accessible information of all sorts on the attractions, the flora and fauna, security, and services. Existing information on the park's resources is not accessible, especially for the blind persons.

SECTOR
PRUSIA

for
arities

ons

RESTROOMS

MANUEL
ANTONIO

Inaccesible: very reduced spaces and parths to restooms have roots, rocks and steps. There are no changing rooms. The tap for the shower is very high.

PIERS AND PLATFORMS

3- ACCESS TO SIGNALING, COMMUNICATION AND INFORMATION

Introduction

The main goal of the diagnosis in the areas of Signaling, Information and Communication is taking into account the different objectives and interests that each individual has in visiting a national park. We must consider that every action taken towards an accessible environment must be governed by a philosophy of sustainable human development, which "satisfies the current needs of people without compromising the ability of future generations to satisfy theirs". (World Commission on Environment and Development, 1987) The satisfaction of future needs depends on what kind of equilibrium is achieved between the social, economic and environmental objectives –or needs–, and the decisions made in the present.

The experience of park rangers and other persons specialized in the fields of biology, environment and tourism, has demonstrated that most people who visit a protected area seek the enjoyment of nature, recreation, new experiences, learning and development of sensitivity, in direct relation to the educational level and the interest of each visitor. Each one of these activities is compatible with the concept of sustainable development.

All this does not, in any way, exclude minorities, as is the case of the population with disabilities who, just like the rest of the population, express their own interests and desires upon the experience of a visit to a national park.

Conceptual framework

All the information and terms in this protocol are based on the independent living paradigm, according to the International Classification of Functioning, Disability and Health (ICF) of the WHO, which revises international classification on the concepts of efficiency, disability and handicap (1980).

Conceptualization

1. Communication

> *"Communication is the link established with the individual. The main objective is emitting a message through hand gestures, visual and tactile signs, objects and activities, facial expression, words, intonation and body posture" (Chavarría, 1996).*

The kinds of communication that exist are varied and adaptable to the people's needs. Although verbal language is not always developed, we must consider that all people communicate through words, manual signs, natural gestures, the tension of a muscle, the movement of a hand, a change in the direction of a look, and even a smile. Thus, it is essential for every communicative effort to be considered valuable and valid.

Communication systems

- *Augmentative:* It refers to a support communication. "It comprises all forms of communication in which language expression requires the use of any tool or instrument aside from the user's own body. In this form of communication, signs are selected more than produced". This means that signs are not produced in a verbal or written manner, but selected from a table, book or communication album.

- *Alternative:* It refers to "any form of communication different from speech, and used by a person in 'face-to-face communication' contexts". Its objective is to promote and support speech, and guarantee a way of alternate communication if the person does not learn to speak.

- *Sign language:* It is an alternative communication method used by people with hearing impairments, and that usually varies geographically. This system has its own grammatical structure, different to the one from spoken language. According to López (1992: 6), "it is the non-spoken language made up by distinctive movements of the hands and arms, which represent ideas, concepts."

2. Signaling

Action of signaling or determining data with a specific goal.
Placing or stamping a sign on something, in order to show or distinguish one thing from others.

3. Information

Communication or acquisition of knowledge that extends or specifies those already possessed about a subject.

Basic development

A. **Diagnosis of the results obtained in the Manuel Antonio, Tapantí and Prusia workshops (for adults)**

It is necessary to take into account that people who have never visited a national park cannot determine what would be the changes that would make the park a more accessible place as to signaling and information.
However, it is important for people who come for the first time to reflect on the real potential that may be found in an area like this. In order to promote this reflection, the visit may begin by a basic explanation about these subjects. This way, an educational and critical visit is promoted.

	Report on the situation diagnosis by areas: adult workshops	
Area	**Necessities**	**Strengths**
Signaling	- Informative posters made with contrasting colors, so that people with visual impairments may perceive them. They must be placed at visible and accessible spots, both in rooms and on the paths. - Lecture rooms that offer information in a multi-sensory way, so that people have access to it according to their abilities and needs. - Information offered in other communication systems, such as Braille and graphics.	- The existing information describes some of the park's characteristics (photographs of flora and fauna, maps, glass showcases with different exhibits, for example, of dissected insects typical of the area). - The signs on the paths were in a very high position, or were not very visible because they were covered with vegetation. The signs on restrooms were far away from the path, and thus could only be perceived from a very short distance.
Communication	- Information must be provided through different communication methods (Braille, sign language, graphics, other alternative and augmentative methods of communication, according to what is needed). - Coordination with the special education sector must be achieved in order to carry out the adaptations required in the area.	- Park rangers are willing to tend to the visitors' needs.
Information	- Provide multi-sensory information about the paths, flora, fauna, and other characteristics of the area, in order to anticipate the stimuli that will be found in the place. - Consider information about safety, and adapt it to the needs of the visitors. - Coordinate with the special education sector in order to carry out the adaptations required in the area.	- Park rangers are willing to tend to the visitors' needs. - There are strategic places with information about the flora, fauna and geography of the place.

a.   **Diagnosis of the results obtained in the Manuel Antonio, Tapantí and Prusia workshops (for children and adolescents)**

	Report on the situation diagnosis by areas: workshops for children and adolescents	
Area	**Necessities**	**Strengths**
Signaling	- Informative posters made with contrasting colors, so that people with visual impairments may perceive them. They must be placed at visible and accessible spots, both in rooms and on the paths. - Lecture rooms that offer information in a multi-sensory way, so that people have access to it according to their abilities and needs. - Information offered in other communication systems, such as Braille and graphics.	- The existing information describes some of the park's characteristics (photographs of flora and fauna, maps, glass showcases with different exhibits, for example, of dissected insects typical of the area). - The signs on the paths were in a very high position, or were not very visible because they were covered with vegetation. The signs on restrooms were far away from the path, and thus could only be perceived from a very short distance.
Communication	- Information must be provided through different communication methods (Braille, sign language, graphics, other alternative and augmentative methods of communication, according to what is needed). - Coordination with the special education sector must be achieved in order to carry out the adaptations required in the area.	- Park rangers are willing to tend to the visitors' needs.
Information	- Provide multi-sensory information about the paths, flora, fauna, and other characteristics of the area, in order to anticipate the stimuli that will be found in the place. - Recover information about safety subjects, and adapt it to the needs of the visitors. - Coordinate with the special education sector in order to carry out the adaptations required in the area.	- Park rangers are willing to tend to the visitors' needs. - There are strategic places with information about the flora, fauna and geography of the place.

PROPOSAL FOR THE SYSTEMATIZATION OF THE BASIC REGULATION AND OTHER COMPONENTS, ACCORDING TO ACCESSIBILITY ASPECTS

Aspects Indicators	Communication	Signaling	Information
Variables	• Kind of communication: alternative, augmentative, oral, written, or a combination of these. • Kind of communicative challenge of the visitor. • National park. • Educational level of the visitor. • Profile of the person interacting with the visitor	• Kind of communicative challenge of the visitor. • National park. • Educational level of the visitor.	• Kind of communicative challenge of the visitor. • National park. • Educational level of the visitor.
Diagnosis	• **Necessities:** - Information must be provided through different communication methods (Braille, sign language, graphics, other alternative and augmentative methods of communication, according to what is needed). - Coordinate with the special education sector in order to carry out the adaptations required in the area. **Strength:** Park rangers are willing to tend to the visitors' needs.	• **Necessities** - Informative posters made with contrasting colors, so that people with impairments may perceive them. They must be placed at visible and accessible spots, both in rooms and on the paths. - Lecture rooms that offer information in a multi-sensory way, so that people receive it according to their abilities and needs. - Information in other communication systems, such as Braille and graphics. •**Strengths** - The existing information describes some of the park's characteristics (photographs of flora and fauna, maps, glass showcases with different exhibits, for example, of dissected insects typical of the area). - The signs on the paths were in a very high position, or were not very visible because they were covered with vegetation. The signs on restrooms were far away from the path, and thus could only be perceived from a very short distance.	**Necessities** - Provide multi-sensory information about the paths, flora, fauna, and other characteristics of the area, in order to anticipate the stimuli that will be found in the place. - Recover information about safety subjects, and adapt it to the needs of the visitors. - Coordinate with the special education sector in order to carry out the adaptations required in the area.

4- ENVIRONMENTAL INTERPRETATION

Solution proposals	• Train the personnel of the National Parks in LESCO. • Develop didactic materials so that visitors can express their ideas and questions. • Give brief descriptions or lectures that inform and prepare visitors for the journey, before their entrance to the park. • Create a representative sample of flora and fauna, dissected or by means of a sculpture, which may be appreciated and touched by the visitors. • Create a sound sample of the park.	• Placing posters with written signs in Braille and Latin alphabet. • Use pictorial resources to give information about paths. • Use different colors and textures in the design of signs and symbols. • Place a poster at the entrance of the park indicating the location of restrooms and the distance between them. • Mark all service areas: picnic areas, restrooms, cafeteria or restaurant service, and parking lots, among others. • Place marks so that blind and visually impaired people may have access to the information contained in signaling (windmills, landmarks or bumps).	• Give information in LESCO. • Create brochures indicating the kind of flora and fauna in the park, the location of the paths, etc. • Include information in Braille, auditive and tactile, in the design of glass showcases. • Create a sample of the park's sounds. • Make embossed maps of the place.

Introduction

The first objective of the *" Protocol of Accessibility to National Parks and Other Protected Areas for the Population with Disabilities"* project, is to elaborate a diagnosis on the obstacles faced by the population with disabilities when they attempt to know and enjoy the natural resources in Costa Rica's protected areas.

In order to perform this diagnosis and evaluate environmental interpretation, the basic assumption was that all protected areas have an interpretation program. These programs stimulate a positive attitude in the visiting population, and promote responsibility towards the environment (Báez, Ana and Acuña, Alejandrina, 1998).

Another assumption was that all protected areas have adequate conditions to attend to any kind of visitor and show their natural beauty. The expression "any kind of visitor" includes all people with any kind or degree of disability.

The implementation of means for interpretation implies: non-personal means (signs and fixed marks, publications, self-guided paths, and exhibits, among others); personal means (guided tours, audiovisual presentations attended by the personnel, demonstrations, and conferences, among others); visitor center (with all its implications; physical spaces (restrooms, medical services, conference room, and administrative area), among others. An evaluation on whether the area had these interpretation means was carried out. (Báez, Ana and Acuña, Alejandrina, 1998)

The second part of the project was oriented towards evaluating the perceptions that a group of children and adults with disabilities (focus groups) obtained from the environment. For this, a method of observation, activities and questions was used.

The selection of people with disabilities was in charge of the National Rehabilitation Council and of professionals from the Centeno Güell School. Most people conforming these focus groups live in cities or communities near the protected area that was visited, and presented cases of blindness, deafness, mental retardation, cerebral palsy, Down syndrome, reduced mobility, paraplegia and multiple disability. They were between 8 and 50 years old.

Protected areas providing a representative sample of ecosystems, life zones and climate were chosen. The selected areas were: Tapanti National Park, Irazú Volcano National Park – Prusia Sector, Poás Volcano National Park, Manuel Antonio National Park, Caño Negro Wildlife Refuge, and Santa Rosa National Park. A path was selected in each of these areas to evaluate the accessibility they have to their natural resources.

The procedural structure established for the workshops with focal groups was designed by professionals from the Centeno Güell School (mainly for children) and the National Rehabilitation Council, with the collaboration of specialists (biologists, experts in communication, lawyers, engineers and architects) participating in the elaboration of the protocol. This procedure consists of:

1. Introductory activities.

2. Informative lecture at the beginning of the activity, in order to explain the journey and the characteristics of the place.

3. Journey through the paths and installations: all professionals make the journey with the children and youths, observe their reactions and interact with them.

4. Snack and lunch: in the corresponding area, unless there are access problems for people with disabilities.

5. Complementary activities: these are carried out at the end of the journey. The group is divided into three subgroups. Each subgroup tells about their perceptions, ideas and experiences on the journey through the protected area.

6. Activity about rights: through an activity, human rights that have not been respected during the journey are detected.

Description

During the introductory lecture, information is given about the protected area, the objective of the activity is indicated, and a reflection is made about the importance of people with disabilities having access to any public space. Name-tags with the names of each participant and each collaborator are handed out.

The journey is begun, and each participant performs an exploratory activity. During the journey, an activity that profits from some characteristic resource of the area is performed: bathing in the ocean or the river, using mud from fumaroles, having a snack, visiting historical places, etc.

Specialists observe the dynamics of the group in their interaction with the environment. From these observations, they elaborate a diagnosis in the different areas of analysis: communication, signaling, information, safety, accessibility, interpretation of the environment, technical aids, and accessibility rights.

The journey is ended at the same place it started. There, a meeting where each subgroup expounds their ideas is held. For these activities, didactic materials that facilitate the presentation are provided.

Group activities

Interests of the participants

The goal of this activity is to exploit, in a multy-sensory manner, the interests that each participant has about the protected area visited.

The activity consists of gathering objects from the ground. Before the journey, each participant is handed a small bag, and at the end, an exhibit of textures, color, smells, etc., is created.

Activities suggested for the segment of environmental interpretation

Making of a scale model. Materials: glue, materials found on the ground in the protected area, presentation cardboard, thick and thin markers, rope, water, paint, silicone.

Making of drawings. Materials: presentation cardboard, thick and thin markers, water, paint.

Game with signaling (elaboration of signs for the different areas). Materials: color paper, glue, materials from the park, thick and thin markers, rope, water, paint, silicone.

5- ACCESORIES AND ADAPTATIONS TO TECHNICAL AIDS

Introduction

In Costa Rica, the percentage of people that have some kind of disability reaches 10% of the country's total population.

Recently, more importance has been granted to the possibilities these persons have for developing and adapting themselves to the conditions of the environment, which was not generally designed for them.

Different efforts have been made so that these people have real equality of opportunities in all aspects, be it social, cultural or physical.

Within the protocol project, there is a team in charge of research, design and elaboration of accessories and adaptations to technical aids.

Industrial design

Industrial design is essential to the elaboration of products that fulfill their task well, and that are reliable, safe and well constructed.

Designers are the ones who concentrate on the performance between products and people who use them (man-object relationship). These professionals are specialized in products that look and feel good, and that cause satisfaction when owned and used (Córdoba, 1994). The industrial designer must detect the needs of people and determine what is the most feasible way of fulfilling them.

Work team

Coordinators:
> Ilonka González Chacón
> Sergio Rivas Porras
> Olga Sánchez Brenes

Students from the course of Design VI, School of Industrial Design of the Costa Rica Technological Institute

Basic concepts

◦ Technical aids

A technical aid is an element used permanently by a person with a disability in order to carry out daily activities. Support aids are found among these. Some of them are not completely efficient because:
- They do not grant the necessary stability and safety.
- They do not adapt to different ground conditions.
- They sink in the ground, thus making displacement more difficult.
- They hinder access.

As a consequence, the user feels unsafe, annoyed and limited.

General aspects of technical aids

Stroller

The stroller must provide the necessary stability for displacement through an irregular terrain. Its structural design must not hinder its use.

The materials used must be resistant to humidity, water, dust, and mud. The choice of materials must be careful, since they must possess adherent qualities adapted to the possible changes on the surface over which displacement takes place. Materials must be affected as little as possible by friction and wear and tear, and they must respond adequately to temperature changes.

Support cane

The terrain on which this kind of technical aid is to be used is unstable, with slopes and different obstacles that may give way to slipping and sinking of the ferrule.

Among the requirements expected from the cane, we have the following: an adequate support area, a flexible system, an optimal interface with the cane, anti-slipping, light, durable and affordable.

Crutches

The terrain's conditions hinder the displacement of people with crutches.

Currently, these technical aids do not adapt adequately to the varying terrain, and they produce stress, exhaustion, discomfort, and little enjoyment of the environment by the user.

Ferrules sink, they accumulate mud and pebbles on the surface, they hinder support, and they do not adapt to sloping grounds, due to their minimal contact with the floor.

The main purpose of a crutch is to support the person who uses it, aside from granting stability, minimizing fatigue, giving security, and avoiding injuries.

Due to their characteristics, crutches must be stable, adapt to the terrain's conditions, allow for more positions and contact angles, increase friction with the ground, and they must not get stuck. They must also be simple and light, resistant, anti-slipping, user-friendly, easy to clean and to unclog in case of sinking, as well as adjustable to different diameters, safe, and affordable.

Wheelchair

The wheelchair is one of the technical aids that present more difficulties for displacement over irregular ground. Also, there is the problem that its users are generally unable to move independently and safely, and thus the wheelchair, instead of facilitating displacement, becomes one more obstacle.

Due to this, the person frequently requires the help of 4 people or more, in order to overcome certain obstacles of the terrain that require that the chair and the person be lifted, as the only way to move forward.

Thus, the wheelchair is expected to be resistant, stable, with an adequate weight, affordable, comfortable, and safe.

Technical aid for entering the water

The main purpose of this system is to permit floating in the water with the highest degree of independence possible, and allowing the person to be in contact with the water. It must offer security and stability to the body, and permit the upper extremities to move amply.

It must be user-friendly, easy and fast to put on, ergonomic, resistant, durable, and it must allow the assistance of another person. It must not be too expensive.

6- SAFETY STANDARDS

CONCEPTUALIZATION

- *SAFETY:*

FOR THE SPECIFIC PURPOSE OF THIS WORK, WE REFER TO SAFETY AS ALL THOSE PREVENTIVE MEASURES THAT AVOID HAZARDOUS SITUATIONS DURING THE SOJOURN OF A VISITOR IN A NATIONAL PARK OR PROTECTED AREA; THAT IS, THE ELIMINATION OF ANY POSSIBILITY OF A TRAGEDY, INCONVENIENCE OR ACCIDENT THAT PUTS THE VISITOR'S PHYSICAL OR EMOTIONAL INTEGRITY IN DANGER.

Safety Standards that must be applied in National Parks and Protected Areas to guarantee the visitors an adequate, risk-free visit.

- *SAFETY STANDARDS:*

  - *IN ORDER TO ESTABLISH THE SAFETY STANDARDS REQUIRED IN THE DIFFERENT NATIONAL PARKS AND PROTECTED AREAS, AN EVALUATION AND INSPECTION OF EACH OF THEM MUST BE CARRIED OUT, SO THAT THEY CAN BE CATEGORIZED ACCORDING TO CHARACTERISTICS SUCH AS LOCATION (FOR EXAMPLE, IF THEY ARE LOCATED IN BEACHES, MOUNTAINS), CLIMATIC CHARACTERISTICS (WARM, COLD, DRY OR HUMID AREAS), KIND OF FLORA AND FAUNA, PROXIMITY TO URBAN AREAS, ETC.*

Relevant aspects when carrying out the Park's diagnosis:

- Detail the ground features, infrastructure, diversity in flora and fauna, signaling, and climate, among others.
- Evaluate the sensory, physical and mental requirements of people with disabilities, in order to determine what technical aids will be required in order to guarantee every visitor a safer and more risk-free visit and enjoyment of the park.
- Identify all those areas that represent a high risk level, so that the corresponding measures may be taken in order to reduce the hazard these represent.
- Determine the level of knowledge that park rangers have about hazardous conditions (parks with beaches, volcanoes, forests) existing in each one of the parks and protected areas that are visited.
- Determine the existence, within the park or protected area, of the necessary means to tend to any kind of emergency (first-aid kit, stretcher, devices to immobilize different parts of the body, etc.), as well as the ability of the personnel to use this kind of equipment and tend to possible emergencies, according to the site's particular characteristics.
- Identify the existence of alarm systems that allow visitors to indicate their location in case of any emergency or irregularity, so that park rangers or visitors may identify the moment and the place of the emergency, no matter what it is.
- Verify the existence of unique signaling, accessible to all people no matter what their conditions or needs, so that they may have at their disposal the information they require in order to have a safe visit.
- Evaluate the park or protected area's accessibility to emergency units, be it ambulances, rescue units, fire extinguishers, helicopters, etc.

7- LEGAL STANDARDS

OBJECTIVES OF THE DIAGNOSIS

I- General objective

Performing an analysis on the rights of people with disabilities of having access to national parks and other protected areas.

II- Specific objectives

Analyzing, from the point of view of people with disabilities, the following:

1) The written legal standards conforming the code of laws that acknowledges the right of access to national parks and other protected areas for people with disabilities.

2) The interpretations of the corresponding organisms about sentences derived from different hierarchical administrative entities about the right of access to national parks and other protected areas for people with disabilities.

3) The perception about the legal standards mentioned in item 1.

PROCEDURES AND RESULT OF THE LEGAL DIAGNOSIS

This procedure proposal is based on the methodology developed by Alda Facio in her book *Cuando el género suena cambios trae.*

This procedure includes six steps, all of which must not necessarily be applied, nor the order established here:

Step 1:

Become personally conscious about the subordination of people with disabilities. The team of consultants that participated in this research had to become acquainted with the discriminatory experiences that people with disabilities go through.

 Step 2:

Identify the different aspects under which discrimination against people with disabilities appears, such as:

1. *"Normalism"*: It occurs when a matter is focused from the perspective of people who do not have any disability, and presents the personal experience of this population as central and exclusive to human experience and, in consequence, as the most relevant one. The usual methods of signaling, informing or communicating in a protected area, do not contemplate the needs of the people with sensory disabilities.

2. *Invisibility of special necessities*: It is the impossibility of seeing the necessities and experiences of people with disabilities. The lack of ramps is one of the manifestations of this manner of discrimination.

3. *Hatred towards people with disabilities:* It manifests itself as the segregation and violence against this population.

4. *Over-generalization*: It takes place when, in a study, theory, text or social defense, only the conduct of people with disabilities is analyzed, but the results, the analysis or the message are presented as valid for all people. The interpretation patterns of a protected area do this when they do not include the specific needs of people with disabilities.

5. *Over-specificity*: It consists in presenting certain necessities, attitudes and interests shared by other social groups as specific to people with disabilities. The existence of a non-slippery floor benefits all people.

6. *Insensibility towards disability*: It appears when disability is ignored as a socially important and valid variable; that is, when the different places that people with disabilities occupy in the social structure, the higher or lower level of power they hold due to their condition, etc., are not taken into account. This insensibility fosters the fact that people with disabilities do not have access to protected areas.

7. *Double standard*: It occurs when the same behavior, situation and/or identical human characteristic, is valued or evaluated with different parameters or different instruments, according to whether the person has a disability or not. Considering people with disabilities unable to enjoy nature is an example of a double standard.

8. *Stereotype of people with disability:* It consists of thinking that there are behaviors or human characteristics more appropriate for people with disabilities, such as the case of believing that people with disabilities can only work in protected areas.

9. *Dependence*: It consists of identifying people with disabilities as totally dependent human beings, without the possibility of visiting a protected area by themselves.

10. *Pity:* It consists of feeling pity for people with disabilities. It manifests itself in certain attitudes that personnel in protected areas may have towards people with disabilities.

Step 3.

Identify the concept of person on which the legal text is based (white, senior citizen, person with a disability, poor, etc.), in order to establish its effect on people with disabilities from different sectors (classes, races, ethnic groups, beliefs, sexual orientations, deficiencies, etc.).

An example that illustrates this situation is the case of a protected area whose publicity announces it as a place that is accessible for all people with disabilities. The entrance paths are paved, but they are slippery. It is obvious that, in this case, the paradigm of people in wheelchairs was considered, whereas the one of people with diminished mobility wasn't.

Step 4

Identify the concept of person with a disability on which the text is based. Patriarchal socialization develops a series of institutions that foster the survival of discrimination, violence and oppression against people with disabilities. Legal sciences have been used by patriarchy to maintain this status quo, reinforcing social roles and stereotypes against people with disabilities. In this way, a subtle ideological web is built, and it influences the collective unconscious of our societies.

Roles and stereotypes are false classifications based on social values built by power structures to maintain dominion over a social sector, structuring the belief that all members of a certain group have the same characteristics. Thus, the behaviors, attitudes and values of people with disabilities are pigeonholed, which influences the enjoyment of their human rights.

The most frequent roles and stereotypes of people with disabilities are:

- The person with a disability regarded as villain or evil.
- The person with a disability who never grows up and must always be protected.
- The person with a disability idealized as a hero.
- The person with a disability regarded as clumsy.
- The person with a disability who inspires pity.
- The person with a disability regarded as violent.

Step 5

Analyze the reciprocal influence of the components of the legal phenomenon in their application. The three components of legal phenomena related to the rights of people with disabilities to have access to protected areas were approached in the following manner:

1-Formal component

a) Data collection:
- Sources of the Law. Political Constitutions, International Standards (Standard Rules on the Equalization of Opportunities for Persons with Disabilities, International Convention against Discrimination against People with Disabilities, American Convention on Human Rights, Civil and Political Rights Agreement, Economic and Social Rights Agreement, San Salvador Agreement, Earth Charter, Rio de Janeiro Conventions, anti-discriminatory laws for people with disabilities (laws of the United States, Great Britain, India, Argentina, Chile, Uruguay, Brazil, Bolivia, Peru, Colombia, Ecuador, Venezuela, Dominican Republic, Panama, Costa Rica, Nicaragua, Guatemala and Mexico).

- Focus on subjects of interest: access to physical space, elimination of communication barriers, signaling and information, safety standards, access to education, health, recreation.

Sources were gathered, and the appointed subjects were located in them.

b) Analysis:
There is a group of standards, both in international law on disability human rights and in internal laws, which acknowledge the right of people with disabilities to access protected areas.

2-Structural component

a) *Data collection:*
- Some legal sources and resolutions from the Ombudsman offices in Peru, Costa Rica and Guatemala.

b) Analysis:
No cases were located referring to the violation of the right that people with disabilities have of access to national parks. Analogous cases were found about the access to the administration of justice, architectural barriers, and communication, signaling and information barriers.

3-Cultural-Political Component

a. Studied population

People with disabilities who participated in the focus groups organized by the project

The results reflected the need of informing and raising consciousness in people with disabilities as to the fact that they are legal persons, and thus have the right to enjoy national parks and other protected areas.

b. Personnel in national parks and other protected areas

As well as people with disabilities, they do not know about the rights that these people have in national park and other protected areas.

Relationship between components

It is clear that the rights of people with disabilities to visit and enjoy national parks and protected areas, as of the integral character of human rights, are acknowledged by the international community and, in many countries, by internal laws. However, these regulations are not effective because they are not adequately divulged and interpreted, and are not enforced by legal persons, in this case the people with disabilities.

Step 6

Extending consciousness-raising as to what is discrimination against people with disabilities, and make it collective. The development of information and consciousness-raising documents about the rights of people with disabilities is necessary.

ACCESSIBILITY AND ECOLOGICAL DIVERSITY

1- CHARACTERISTICS OF THE VISITED PARKS

Tapantí National Park is part of the Talamanca mountain range, and encompasses the entire watershed of the Grande de Orosí River. It is located in the province of Cartago, approximately 14 km from the town of Orosí. It has a surface of 5.090 hectares.

It was initially created as the Tapantí National Wildlife Refuge, by Executive Decree N° 13309-A of February 1st 1982, and afterwards declared National Park.

Its topography is very irregular, it is completely covered by woods, with an average annual rainfall of 7 000 mm and an average temperature of 21.8°C. The forests are primary, evergreen, dense and of middle height. According to the classification proposed by Dr. Leslie Holdridge about life zones, these fall into the categories of tropical montane rain forest (2500-3000 m.a.s.l.) and tropical montane wet forest (2000-2500 m.a.s.l.).

The barks are covered with moss, hepatica, lichens, ferns, bromeliads, and other epiphytes; they are always moist due to high precipitation and to the phenomenon of leave condensation. Some of the most common trees are the oak (Quercus spp.), the *jaúl* (Alus acuminata) —abundant on riverbanks—, the *chile muelo* (Drimys granadensis), the *quizarrá* (Nectandra spp.), the *ira rosa* (Nectandra sanguinea), the mountain cocobola (Podocarpus spp.), the *papayillo* (Didymopanax pittieri), the *tirrá* (Ulmus mexicana), the crimson *poró* (Eritrina costaricensis), the *achiotillo* (Vismia baccifera) and the *limoncillo* (Siparuna spp.). There are many species of arborescent ferns, and orchids and lianas are very abundant. There is also *sombrilla de pobre* (Gunnera insignis) on taluses, riverbanks and open areas.

Fauna is diverse and abundant, but difficult to spot, with the exception of birds and butterflies such as the Morpho peleides and the *buhito pardo* (Caligo spp.). Some of the endangered species that exist here are the tapir (Tapirus bairdii), the ocelot (Felis pardalis), the jaguar (Felis onca), the *león breñero* (Felis yagouarondii) and the wild cat (Felis tigrina). Other mammals present in the area are the otter, the porcupine, the little anteater, the peccary, the red coati, the raccoon, the mountain goat, the agouti, the *tolomuco*, the *serafín del platanar*, the howling monkey, and the three-fingered sloth, as well as many species of birds and anurans (Boza, 1988).

Facilities: At the entrance to the park, we find the administrative offices, where there is a entrance booth, an exhibit room, restrooms, conference room, a small dining room, and small nearby parking area.

Path to the river: The entrance to the path is located approximately one kilometer away from the administrative offices at the park's entrance. It has a parking area. At the beginning of the path, there is a roofed hut with a table, benches, and a space conditioned for roasting meat. Beside this first hut, there are two restrooms and a basin with potable tap water.

The journey begins with a descent towards the river of approximately 200 meters, up to the flat area near the river, where there are five more huts, restroom installations, and a basin with potable tap water. The path is circular.

Irazú Volcano National Park – Prusia Sector is located in the county of Oreamuno, at the northwestern part of the province of Cartago, at a distance of approximately 20km from the city of Cartago. It possesses a surface of 1.016 hectares. It was created or delimited by Executive Decrees N° 23268 and 26945, in May 1998.

It has an average annual rainfall of 2 000 mm and an average annual temperature of 14°C. Among the native vegetation we can find *salvia* (Buddleia spp.), *aguacatillo* (Phoebe brenesii), black oak (Quercus copeyensis), Costa Rican oak (Quercus costarricensis), magnolia (Magnolia poasana), *sombrilla de pobre* (Gunnera insignis), *ira rosa* (Nectandra sanguinea), white hawthorn (Acacia farnesiana), madroño (Vacinium consanguineum) and *lloró* (Cornus disciflora). In plantation areas, pines, eucalyptuses, cypresses, and *jaúl* may be observed.

In the Prusia sector there is a lack of wildlife that then becomes more latent in the plantation areas. Precisely, plantations with exotic species of trees are characterized by the absence of minor species such as insects, arachnids, mollusks and other organisms that represent the first links of the food chain. This causes bigger species to migrate in search of food. However, it is possible to find one or two species of birds, such as the Junco vulcanis and the Dendroica petechia, holes in the earth from some armadillo (Dasypus novemcitus) and the excrement from a coyote (Canis latrans) (Marín, 2001).

In natural regeneration areas, a higher diversity of animal species can be found, such as purple dove, mountain dove, Irazú hummingbirds, *yigüirros*, armadillos, squirrels, mountain rabbits, coyotes, American wild-cats, porcupines, ocelots, raccoons, red coatis, rats, mice and vixens (Cubero, 1999).

Facilities: At the entrance to the Prusia sector, we can find an entrance booth. Immediately after this, in other facilities, we find the administrative offices, where there are showers and restrooms, a conference room, a dining hall, a kitchen, and wide parking area nearby.

Path to the river: The entrance to the path is located approximately five hundred meters away from the administrative offices, at the entrance to Prusia sector. Before the entrance to the path, there is an ample parking area, several huts with grills, picnic tables and benches, trashcans, a basin with potable tap water, and two nearby restrooms.

The entrance to the El Río path is located some 30 meters from the picnic area. The journey is flat at first (five hundred meters) until it comes near the river, where there are steep slopes. The path is linear.

Manuel Antonio National Park is located in the province of Puntarenas, on the Pacific Coast. The park is located 7 km southeast of Quepos. The current entrance to the park is located one kilometer east of town, until a bridge over the tideland is built. It has a surface of 690 hectares. It was created by Law N° 5100 of November 15th 1972, and extended by Executive Decree N° 11148-A of February 5th 1980.

It may be described as a line of beaches with light-colored sand and high cliffs, framed by a calm blue sea and evergreen forests. In this area there is an annual rainfall of approximately 3 800 mm, and the average temperature is 27°C.

The main habitats in the park are primary forest, secondary forest, mangrove, lagoons and beach vegetation. Some of the dominant species in the primary forest are: the crimson *guácimo*, the *pilón*, the *maría*, the *guapinol*, the *surá*, the black *guapinol* (endangered timber-yielding tree), the *lechoso* and the ceiba. In the secondary forest, which covers old cultivation or pasture grounds, we can find species such as the balsa, the *peine de mico*, the *guarumo*, the *guácimo*, the white capulin and the *garrocho*. The mangrove, which covers 18 hectares, is formed by crimson mangrove, *botoncillo* and *mariquita*.

The fauna is varied, including more than 100 species of mammals and more than 180 species of birds. One can find monkeys, squirrels, two-fingered sloths, three-fingered sloths, raccoons, red coatis, howling and white-faced monkeys, red squirrels, some birds such as the pelican, the *guaco*, the fisher sparrowhawk, the white ibis, and the olivaceous chachalaca, among others. The marine flora and fauna are varied.

The main attraction of the park are the beaches of Espadilla Sur and Manuel Antonio. Both have soft slopes, white sand, very clear water, few waves, and are surrounded by a high evergreen forest. Between these beaches we can find Catedral Point, a great rocky mass with a rhomboidal shape, 72 meters high, with a flat and undulating topography in its center, and with cliffs. This point, which was once an island, was joined to the mainland by a tombolo, a strip of sand deposited by the tides.

Facilities: At the current entrance to the park we can find an entrance booth and a building with administrative offices. The distance to the entrance of the path leading to the beach is approximately one and a half kilometers. At this point we can find other administrative buildings.

Espadilla Beach Path: The path to Espadilla Beach starts —after an initial distance of one and a half kilometers— with a descent of approximately 100 meters. At the end of it we can find the beach, two restrooms, an lunch area with tables and benches, trash-cans, potable water, and a soda stand. Along the path, on the side facing the beach, we can find more tables with chairs, trash-cans, a group of four showers, and another two restrooms. The path is linear.

Caño Negro National Wildlife Refuge is formed by a lake with the same name on the southern part, and by marshy grounds formed by alluvial sedimentation that make up the rest of the refuge. It is located on the Guatusos plain, and possesses a surface of 9 969 hectares. The seasonal lake, with a surface of some 800 hectares and about 3 meters deep, is an overflow area for the Frío River. During the dry season, between February and May, the lake disappears almost completely, being reduced to small lagoons, secondary channels and a branch of that same river.

Three major habitats exist: herbaceous vegetation, stational flooding mixed forest mixed forest with palms. The herbaceous vegetation is observed in the lake proper and its surroundings during the dry season. The *gamalote* grass is predominant, and it grows beside the sensitive plant, *guaba mecate* and *saragundí* shrubs.

The stational flooding mixed forest edges the herbaceous vegetation, and forms patches over all the surface of the refuge. We can observe the *cerillo* and the *camíbar*, the crimson *guácimo*, the ceiba, the savannah oak, the cohune and royal palms, the "monkey-fruit" and the "golden fruit".

The presence of a rich and diverse avifauna was the reason for the establishment of the area as a refuge. The most common water birds are the needle duck, the pink spatula, the white ibis, the *gallito de agua*, the *cigüeñon*, the *galán sin ventura* and the neo-tropical cormorant.

Some of the mammals and reptiles are the American panther, the jaguar, the ocelot, the tapir, and the crocodile. Turtles, caimans and nook and *gaspar* fish (considered a living fossil), are abundant in rivers and channels.

Facilities: The administrative offices are located in the town. There is a scientific station and a booth on the dock.

Path: The journey is made by the canal, in boats for 16 persons.

2- PHYSICAL ACCESSIBILITY DIAGNOSIS FOR THE DIFFERENT AREAS STUDIED (TAPANTÍ, PRUSIA, MANUEL ANTONIO, SANTA ROSA, POÁS AND CAÑO NEGRO)

<u>**Analysis and Recommendation Chart for Tapantí National Park**</u>

SPACE	OBSTACLES AND BARRIERS ENCOUNTERED	PHYSICAL-SPATIAL RECOMMENDATIONS (Guidelines for physical and climatologic design, and construction materials)
Built-in space	Generally inaccessible.	
Parking-lots	Lacks demarcation; spatial dimensions are insufficient; public lighting is poorly located.	Mark spaces by means of ground textures; relocate lighting.
Administration	All accesses to the building lack entrance ramps.	Build a ramp with railing and rubber mat.
Entrance booth	Inaccessible due to stairs, without a ramp, and with a very high counter.	Build an access ramp, extend the booth, and lower the counter.
Exhibit room	Inaccessible due to the height of the furnishings and the absence of information for visually impaired people.	
Restroom	Spatial dimensions are not sufficient for appropriate mobilization of wheelchairs and strollers. Light switches are too high. There are no support bars beside the toilets.	Extend the restrooms, leaving enough space for the movement of a wheelchair. Lower the light switches.
Sidewalks	Too narrow.	Widen the sidewalks.
Dining hall	Inaccessible due to barriers in general access.	
Furnishings	High showcases without information in Braille.	
Paths	Very narrow paths presenting water stagnation.	Widen them, build return areas, and place drains.
Ground	There are loose stones. Dead vegetation causes miry grounds. There are many irregularities due to roots or holes that cause technical aids such as crutches to sink.	Place a non-skid ground made of wood and mesh, for example. Extend its length in order to build ramps.
Slopes	They are very steep and do not have no-skid surfaces. There is risk of falling, and there are no railings.	Soften the terrain's slope according to regulations, and build non-skid ramps with stilts.
Vegetation	There are stakes, branches and roots across the path, which hinder the free passage of visitors. There is no accessible information about species.	Change the direction of the branches, fill the terrain to hide roots, and remove stakes.
Fauna	Lack of accessible information about the site's existing fauna.	Place information.
Lighting	Lack of artificial lighting during the night, and for safety.	Install lighting at necessary and strategic spots.
Information	Lack of information about the park's resources, especially for visually impaired people.	Place some kind of guide indicating the direction of the path.
Rest areas	They are not sufficient, and the ones that exist are not accessible and present irregularities and changes in the level of the ground or pavement. There is no access to the river due to steep slopes and brusque level changes.	Build rest stops with panoramic views at intervals. Build a dock in order to reach the river.

Lunch huts	Circulation area pavements with minimum dimensions that hinder access to people in wheelchairs. The few existing huts present a table design not fit for its use by people with disabilities.	Build ramps to access the hut, adapt the furnishings, and make more lunch huts.
Lookout	Inaccessible due to steep slopes, and lack of railings and adequate furnishings.	Adapt the lookout.
Floor	It has inadequate slopes and slippery textures.	
Lighting	There is no natural lighting in the restrooms.	Place more natural lighting in the buildings.
Potable water	The infrastructure is damaged and unsafe, not fit for the needs of people with disabilities. The accessories are not accessible and are placed at inadequate heights.	Repair it and remodel it according to recommendations for these kinds of accessories.
Furnishings	Lack of furniture such as tables, chairs and water outlets fit to be used by all people. Lack of railings at unsafe spots.	Place adapted furniture and protective railings.
Restroom	Inaccessible due to very small spaces and an access path with roots, stones and stairs. There is no changing room for children.	Design the restrooms according to regulations, improve inner lighting, build access ramps, and place a changing room.
Information	Lack of accessible information of all kinds regarding sites of interest, flora and fauna, safety, and existing services.	Place posters that are accessible to all.

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II. Irazú Volcano National Park – Prusia Sector

Analysis and Recommendation Chart for Irazú Volcano National Park – Prusia Sector

SPACE	OBSTACLES AND BARRIERS ENCOUNTERED	PHYSICAL-SPATIAL RECOMMENDATIONS (Guidelines for physical and climatologic design, and construction materials)
Built-in space	Generally inaccessible.	
Administration	Irregular access, with stairs and gutters that hinder access.	Build a regular, uniform and non-skid access.
Parking-lots	Absence of a defined space with demarcation and appropriate dimensions of the spaces.	Mark parking spaces and place support railings according to regulations.
Entrance booth	Irregular access. Inaccessible due to stairs, lack of ramps, and very high light switches and electrical outlets.	Build an access ramp and place switches at an accessible height.
Conference room	Inaccessible due to very high stairs and gutters, and a very narrow hallway. There are ventilation problems, and the fuse box is too high.	Build a ramp, widen the hallway, solve ventilation problems and lower the electrical appliances.
Restrooms and showers	Spatial dimensions are not sufficient for appropriate mobilization of wheelchairs and strollers. Light switches are too high. There are no support bars beside the toilets. The adjacent hallways and doors are too narrow.	Widen spatial dimensions, lower the light switches, and place support bars in the toilets.
Sidewalks	They are too narrow and a wheelchair cannot pass side by side with another pedestrian.	Widen them.
Dining hall	Inaccessible due to barriers in general access.	Eliminate barriers.
Furnishings	Not apt for people with disabilities.	Adapt it or build some furniture apt for the use of people with disabilities.
Paths	They have main entrances that are hard to access due to steep slopes and narrow dimensions. There are no rest spaces.	Build slopes with an appropriate inclination and wide enough for two-way transit.
Ground	The grounds are slippery and there are stones, leaves, roots and logs that hinder passage.	Construct an environment-friendly kind of pavement to level terrain, and place a non-skid surface.
Slopes	They are very steep, especially near the river. There is risk of falling, there are no railings, and or the existing ones are broken.	Build platforms and ramps to buffer steep slopes, and place protective railings around said slopes.
Vegetation	There are stakes, branches and roots across the path, which hinder the free passage of visitors. There is no accessible information about species.	Clean debris from the path. Place more information that is attractive to tourists.
Fauna	Lack of accessible information about the site's existing fauna.	Place information about fauna.
Lighting	Lack of artificial lighting during the night, and for safety.	Install external lighting at necessary and strategic spots.
Information	Lack of information for all people.	Place information accessible to all.
Rest areas	There are none.	Build rest areas for people with disabilities at intervals, with potable water sources.
Lunch huts	There is no space at the tables for people in wheelchairs.	Change the furniture.
The River	It lacks a place for rest and contemplation, and there are no water sources.	Build a rest area with potable water sources.

Lighting	There is no natural lighting in the restrooms.	Place more windows.
Potable water	The infrastructure is damaged and unsafe, not fit for the needs of people with disabilities. The accessories are not accessible and are placed at inadequate heights.	Change the basin faucets for accessories fit to be used by any person.
Furnishings	There is no furniture such as tables, chairs and water outlets fit to be used by all people. Lack of railings at unsafe spots.	Build accessible tables and place railings at necessary spots.
Restroom	It is inaccessible due to the lack of information and the appropriate dimensions.	Place signaling, and extend the restrooms according to the dimensions established by the regulations.
Information	Lack of accessible information of all kinds regarding sites of interest, flora and fauna, safety, and existing services.	Place accessible information.

III. Manuel Antonio National Park

Analysis and Recommendation Chart for Manuel Antonio National Park

SPACE	OBSTACLES AND BARRIERS ENCOUNTERED	PHYSICAL-SPATIAL RECOMMENDATIONS (Guidelines for physical and climatologic design, and construction materials)
Built-in space		
Parking-lots	The ground's texture is not convenient, since it has loose pebbles. There is no demarcation of spaces. They are far away from the park.	Mark spaces and change the ground texture. Give tourists the possibility of renting internal transportation within the park.
Entrance booth	The infrastructure is not adequate for the climate.	Place a pergola to protect people queuing up to enter the park. Build a more appropriate welcome and waiting area.
Exhibit room	There is none.	
Restrooms and showers	Minimum dimensions such as heights and widths do not facilitate general access. The accessories cannot be used by all people.	Remodel the necessary restrooms so that they are accessible to all people.
Cafeteria and dining hall	There is no sidewalk in front of the cafeteria counter, which hinders mobility. The counter is too high.	Pave the space around the cafeteria, and lower a section of the counter so that all clients may get attention.
Furnishings	The tables are not apt for people with physical disabilities. Picnic tables are not adequately designed.	Build some tables that may be used by people with disabilities.
Paths		
Ground	It is made of dry loose sand with logs and branches, which hinders access.	Build platforms and clean debris from the paths.
Slopes	They are made from slippery ballast.	Change the material for a non-skid one.
Vegetation	There are trees and branches on the way.	Trim them, remove them or deviate them.
Lighting	There is none.	
Information	There are no accessible indications for all people.	Place signs.
Rest areas	They are insufficient.	Build additional areas.
Floor	There is none	
Potable water	There are no water sources.	Place water sources.
Furnishings	There is no adapted furniture at the rest areas.	Build new rest areas with adapted furniture.
Showers	Showers are open and their faucets unreachable.	Place a bench made out of lasting impermeable material under some of the showers, and place faucets at a reachable height.
Platform for access to the sea	There is none, but it would permit easier access to the water.	Build one on the beach so that people with disabilities may get close to the sea.

IV. Santa Rosa National Park

Analysis and Recommendation Chart for Santa Rosa National Park

		PHYSICAL-SPATIAL RECOMMENDATIONS

SPACE	OBSTACLES AND BARRIERS ENCOUNTERED	(Guidelines for physical and climatologic design, and construction materials)
Built-in space		
Parking-lots	There is no demarcation.	Mark them.
Administration	The buildings have no access ramps.	Place ramps.
Entrance booth	There is none.	
Exhibit room	There is none.	
Restroom	Restrooms are not accessible or adequate.	Adapt the restrooms.
Dining hall	Restaurant with no ramps and a high counter.	Build ramps and adapt the counter at the restaurant.
Furnishings	There are no water sources or railings.	Build water sources and place railings at stairs and ramps.
Paths	They do not have the necessary conditions, due to the presence of stones, logs, roots, nor do they have slopes or rest areas.	Create a flatter path, clean and with better delimitation. Build rest areas for people with disabilities, areas for wheelchairs, and place railings for people with difficulties.
Ground	The topography is bad, and the pebbles on the ground are not recommended.	Make a new path with cement, with a length and width that facilitate access to people with disabilities.
Slopes	There are many slopes and stairs.	Do not place stairs. Place railings, and make a ramp at the entrance to the bridge.
Vegetation	It lacks general interpretation, and in some sectors of the path there are branches on the way.	Cut branches, or deviate them by means of stakes.
Lighting	It is good within the facilities, but there is none at the paths connecting the buildings.	Install outdoor lamps at passage areas between buildings.
Information	There is none.	
Rest areas	There are few.	Build additional sun-protected rest areas, water sources, and appropriate furniture.
Floor	It is made of ballast and hinders the mobility of wheelchairs.	Build a non-skid surface to allow good mobility to everyone.
Lighting	There is none.	
Potable water	There are no potable water outlets.	Install potable water sources at intervals.
Furnishings	The benches are too high and have no backs.	Create more rest areas with adequate benches.
Restrooms	There are none.	Build some adapted restrooms near the paths.
Information	There is none.	

V. Poás Volcano National Park

Analysis and Recommendation Chart for Poás Volcano National Park

SPACE	OBSTACLES AND BARRIERS ENCOUNTERED	PHYSICAL-SPATIAL RECOMMENDATIONS (Guidelines for physical and climatologic design, and construction materials)
Built-in space	It is inaccessible in some places.	

Parking-lots	They violate law 7600 about demarcation and dimensions. There is no support railing. There is no transportation service to the crater.	Correct parking lots and place support railings. Provide some kind of vehicle to transport people to the crater.
Administration	There is no railing on the access ramp to the second floor, and it is very narrow. Ramps have very steep inclinations.	Place a railing, extend the ramp width so that there is enough space to maneuver in both directions, and diminish the inclination of the ramp.
Entrance booth	It is well located.	
Exhibit room	Some exhibit showcases are inaccessible, and information apt for everybody is necessary.	Use other means of giving information to the public, such as tactile or auditive.
Restrooms and showers	There are no support bars beside the toilets, and there is lack of an emergency shower.	Build a shower and place the missing support bars.
Sidewalks	They are fine.	
Cafeteria	Tables are not accessible, the cafeteria counter is too high, and there is little space in the shop to maneuver with a wheelchair.	Separate chairs from tables and lower the height of the table. Adapt a section of the counter to an accessible height. Widen circulation spaces in the shop.
Furnishings	Not apt for people with disabilities.	Place a certain number of tables and chairs that are apt for the use of people with disabilities.
Paths	There are no rest areas.	Build some rest areas along the path to the crater.
Ground	The grounds are slippery and there are loose stones.	Asphalt or cement the ground, and eliminate all loose pebbles.
Slopes	There are steep slopes at the lookout sector.	Correct the ramp height according to regulations.
Vegetation	There is no accessible information about the site's existing flora.	Develop accessible information about existing vegetation.
Fauna	Lack of accessible information about the site's existing fauna.	Develop accessible information.
Lighting	There is no artificial lighting during the night, and for safety.	Place safety lighting.
Information	Lack of general information for all people. The existing information is placed in such a way that it is inaccessible to visually impaired people.	Place accessible information.
Rest areas	There are none.	Build rest areas.
Lunch huts	There are none.	
Main visitors building.	The ramps are too steep and there is no railing.	Place support railings on the ramps.
Lookout	The railings are located at places that are inconvenient for enjoying the view.	Raise the railings so as to allow visibility at eye level for people who are seated.
Potable water	There is none.	Install potable water sources.
Furnishings	Tables at the main building are not accessible and the counter is too high. There are no railings at the ramps	Place accessible furniture. Build railings on the existing ramps.
Restroom	There are no adapted restrooms along the path.	Include adapted restrooms along the path.

VI. Caño Negro National Wildlife Refuge

Analysis and Recommendation Chart for Caño Negro National Wildlife Refuge

SPACE	OBSTACLES AND BARRIERS ENCOUNTERED	PHYSICAL-SPATIAL RECOMMENDATIONS (Guidelines for physical and climatologic design, and construction materials)
Built-in space		
Parking-lots	There are no defined parking areas.	Build them.
Administration	There are no ramps to enter the building.	Place ramps and support railings to enter the building.
Laboratory	There is no access ramp, the restroom is inaccessible, and the laboratory's working tables are not adapted.	Build a ramp, widen the access door, adapt certain lengths of the laboratory tables to a proper height.
Restrooms	They are not accessible.	It is necessary to widen the doors, and have them open outwards. Place support railings, lower the height of washbasins, eliminate stairs, and place accessible handles.
Furnishings		
Paths	Paths are not adequate.	Build an adequate path of required width.
Ground	It is made of soil, and during the rainy season it becomes muddy.	Perform construction according to the surface characteristics needed for good mobility.
Slopes	There are no important level changes, except between land and water at the moment of boarding.	Build a floating dock.
Vegetation	It is splendid for observation and offers no obstacle.	
Lighting	It is very scarce, especially at circulation areas and on the roads of access to the refuge.	Install outdoor public lighting.
Information	It is scarce, and the existing one is not accessible.	Place more accessible information.
Rest areas	There are non rest areas.	Build rest areas.
Floor	The floor of the dock is in need of repair.	
Potable water	There are no sources of potable water along the way.	Provide strategic spots with sources of potable water.
Dock	The dock is not accessible. During a certain part of the year, boarding is impossible.	Perform an accessible design, adaptable to the water level. Create an alternate dock at Las Cubas.
Restroom	There are no public restrooms within the refuge.	Build them.
Boats	There are no accessible boats.	Equip boats with a ramp, awning and platforms.

3-DIAGNOSIS ABOUT SIGNALING, INFORMATION, COMMUNICATION AND INTERPRETATION, FOR THE DIFFERENT AREAS STUDIED (MANUEL ANTONIO, PRUSIA AND TAPANTÍ)

a. Diagnosis of results obtained in the workshops at Manuel Antonio, Tapantí and Prusia (for adults)

It is necessary to take into account that people who have never had the experience of visiting a national park cannot know what would be necessary for the park to be a more accessible place as to signaling and interpretation. However, it is important for people to reflect on the real potential of a protected area, for

which it is necessary that the visit begin with a brief explanation about the importance of access to information and signaling. This is so that people can have an educational and critical visit, in relation to their needs. The former chapter of this document contains the results of the diagnosis.

4-SAFETY DIAGNOSIS FOR THE DIFFERENT AREAS STUDIED
(TAPANTÍ, PRUSIA, CAÑO NEGRO, MANUEL ANTONIO AND SANTA ROSA)

➢ Tapantí   9/1/02   Children
➢ The access to the river is unsafe, especially for visually impaired people. It is necessary to delimit the access to the river by means of a gate and signs.

➢ Tapantí   9/1/02   Children
➢ There are no signs warning, for example, about the vicinity of paths with stairs or slippery lengths. Signs in Braille, LESCO and in black and white must be placed.

➢ Prusia, path to the river   19/12/01
➢ There are dangerous cliffs that have no signaling.

➢ Prusia, path to the river   19/12/01
➢ The railing is broken by a landslide beside the path, and it is necessary to bridge the gap.

➢ Prusia   30/1/02 Adults
➢ The railings, paths, bridges, and dangerous zones are not in good conditions, nor are they adequately signaled. They must be conditioned with materials from the park.

➢ Caño Negro 7/3/02   Personnel
➢ The dock is not accessible. Also the entrance and boarding have an inaccessible design. It is necessary to create an alternative dock for all people that complies with safety and accessibility standards.

➢ Manuel Antonio   01/23/02   Adults
➢ Restrooms and showers are located on the sand, on a terrain with a steep slope, so it is necessary to make at least one sidewalk and one railing to have access to them.

➢ Santa Rosa   03/5/02 Children
➢ We found an unsafe bridge, lianas and trees barring the way, and logs and holes on the path. Besides, there is need for accessible information about possible dangers (snakes, etc.). We recommend that the bridge be repaired, the paths kept free of debris, and accessible information be provided for all people about possible dangers, such as snakes, poisonous plants, etc.

CONCLUSIONS

PHYSICAL SPACES

2. There is no accessibility to physical spaces (apply regulations).

The accessibility to national parks is limited in many aspects. We recommend the application of the existing national regulations and other international regulations. What particular regulations must be applied was not determined, nor was an analysis of them performed in order to concretize their application according to the physical space of parks and protected areas.

Instead, the participants of the workshops discussed and recommended the following items:

3. Accessibility to the site's attractions:

    a. Perception
    b. Experience
    c. Interpretation and communication
    d. Challenge (physical an psychological)

Accessibility was analyzed from points of view such as the possibility of perceiving, experiencing and interpreting the natural site and its attractions. Also the need for interpretation and communication of existing resources in national parks was analyzed.

4. Accessibility to natural and cultural resources.

Accessibility to natural and cultural resources, such as historical-architectonic heritage within national parks, was recommended. An example of this is the Santa Rosa Monument. The estate's accessibility was not analyzed. It was mentioned that, during its reconstruction, the opportunity of turning the Monument into an accessible site was wasted. The fact that physical accessibility must be combined with conservation and protection of the historical-architectonic heritage was determined.

5. The use of "universal design" was recommended from the beginning of the project. To this effect, the following points must be considered Universal design as integral element and not as an accessory. This must be regarded as an investment cost and not as an expense.

The use of "universal design" was recommended from the beginning of the project, considering it an investment necessary to all, and not an unnecessary expense.

    - Access (mobility)
    - Technology (construction)
    - Maintenance

- Costs
- Feasibility

Impact on the environment

These subjects of analysis were based on the following premises, which must be coordinated amongst themselves:

a. - Carry out construction in stages, given the limited budgets of many institutions. The planning of accessibility adaptations must be made by stages, in order to overcome the obstacle of financing.

b. - Construction processes and maintenance must have a low cost and cause little impact on the environment.

c. - Feasibility studies about accessibility projects must be carried out, so as to analyze and evaluate their possibilities and their difficulties.

6. Tapantí (example of progress)
   An analysis of the Tapantí Project was recommended, in order to learn about the accessibility design applied at this site.

7. Design according to climate.

   The need to emphasize the design of national parks, focusing on each site's climatologic parameters was mentioned.

   A second stage of research on this subject contemplates a more careful study of accessible design, characteristics and standards that will be applied in relation to climate, kind of ground, existing flora and fauna. The design must consider ecology, and characteristics such as sun, rain, humidity, winds, breezes, and other climatologic aspects in each national park.

Proposals

1. Inter-institutional commission to advice, control and provide extension.

A proposal was made for the creation of an inter-institutional commission formed by several expert groups, and including people from the academic and professional areas, institutions, civil society, and park personnel, which would reinforce the work of the National Rehabilitation Council as to advice, control and extension about accessibility.

INTERPRETATION

Even if each visited area does not have an Environmental Interpretation Program adequate for people with disabilities, the efforts of park rangers to raise consciousness and educate visitors about the national resources they protect, are great and very important. However, there is not a full interpretation of the park's surroundings. The visited paths have no kind of means to promote the knowledge of the resources located in them, nor the interactions that take place between each natural element that is present. This hinders accessibility to the environment for people with disabilities.

The variety in perception –from expressive to inexpressive– of the members of the focus groups, foretell a variety in the form, language and means to allow that the value and importance of natural resources and their interaction be transmitted to this population. For example, the perception of people

with severe disabilities requires a lot of interaction with the personnel, and activities in which the senses of touch and smell are essential, as well as wide spaces for recreation and enjoyment of the environment. People with less severe disabilities comprehend more complex explanations, and may use several resources, such as the ones mentioned in the former paragraphs.

The scarcity of resources and personnel causes client service to be minimum and basic; however, as could be noticed in the policies, there is space to create and develop a program like this. The personnel are very interested and willing to open up their service to people with disabilities, and to improve paths, signaling, infrastructure and information.

For this, a greater training of personnel is required, as well as having the resources to improve and elaborate publications, brochures, guides, maps and signs; to use audiovisual means such as movies, slides and recordings; to improve infrastructure with adequate paths, ramps, bridges, railings; to change the opening direction of doors and knobs; and to build restrooms with greater mobility space and adequate heights, rest areas with accessible potable water, and visitor centers with adequate and interactive exhibits.

SIGNALING, INFORMATION AND COMMUNICATION

The conclusions by area, according to the general results of the workshops, both of children and adolescents and of adult focus groups, are:

Signaling
- Informative posters with a high color contrast are required, so that the person with visual impairment may perceive them.
- Said posters must be placed at accessible places and on a mobile base, so as to provide more visual access to information.
- There must be exhibit rooms that offer information in a multi-sensory way, so that people have access to that information according to their abilities and needs.
- There must be information offered in other communication systems, such as Braille, graphics, LESCO (Costa Rican Sign Language, or that corresponding to each country) and CVG (Visual Gestural Communication).
- Signs must be placed at low and visible places (not covered by vegetation).
- The signs for the restrooms must be placed near the path, so that it can be appreciated from a short distance.

Communication
- Information must be provided through different communication methods (Braille, sign language, graphics, other alternative and augmentative methods of communication according to what is needed).
- Coordination with the special education sector will be necessary in order to carry out the adaptations required in the area, that is, to create informational guides for working in the classroom, as well as promote in students the desire to visit national parks.
- It is necessary to develop ecological terminology in sign language.
- It is important to point out that park rangers are willing to tend to the visitors' needs.

Information
- Provide multi-sensory information about the paths, flora, fauna, and other characteristics of the area, in order to anticipate the stimuli that will be found in the place.

- Recover information about safety subjects, and adapt it to the needs of the visitors.
- Coordinate with the special education sector in order to carry out the adaptations required in the area, as suggested in the communication aspects, which are transversal to these.
- Park rangers are willing to tend to the visitors' needs.
- There are strategic places with information about the flora, fauna and geography of the place.

TECHNICAL AIDS

After analyzing and testing the use of technical aids on different kinds of ground, the following conclusions were reached:

- They do not grant an adequate support.
- They are unstable.
- They limit access.
- They cause insecurity, exhaustion and discomfort in the user.

Thus, they are one of the reasons that people with some kind of disability are unable to enjoy the natural beauty they could have access to.
In many occasions, those who dare to go to a park have to face the fact that an aid that normally allows them to move freely around, becomes on more of the many obstacles they must overcome.

SAFETY STANDARDS

Paths not adapted to the needs of the visitors	Adaptation of paths to the specifications of law 7600	Mid-term feasibility
Physical infrastructure not adapted to the different objective of the visit of people with disabilities	Adaptation of existing infrastructure	Long-term feasibility through annual operative plans
Flora and fauna not identifies, which may threaten the safety of the visitors	Identification and publishing of the visitors' needs.	Feasible through Community Work with Universities (TCU)
Safety of the visitors through emergency plans not adapted to all of them.	Adaptation of emergency plans so that they are accessible to all visitors	Feasible through coordination with CNE, UCR, OVSICORI, ASP.
Lack of monitoring systems for the different displacements of the visitors	Monitoring system that locates visitors using telemetry tools	Feasible through strategic alliances

Lack of volunteer groups to help attend the visitors with disabilities	Creation and follow-up of local volunteer groups to help attend visitors	Short-term feasibility

LEGAL STANDARDS, PLANNING AND CONSCIOUSNESS-RAISING

1-Based on the integral character and interdependence of human rights and the legal regulation development about people with disabilities of the international code on human rights, we might say that, even if the United Nations system does not have a Convention on discrimination against people with disabilities that implies forceful compliance, there are regional regulations in the American and European systems that incorporate the perspective of people with disabilities within international human rights regulations, and which acknowledge the right of these people to have access to spaces in protected areas.

2- There has been an important legal-regulatory development in the national legislation that, through an integral interpretation of the law, acknowledges the right of people with disabilities to have access to protected areas.

3- Those who must enforce the law do not know about the rights acknowledged in written regulations, both national and international, to effect the access of people with disabilities to protected areas.
4- The population with disabilities does not know about its right to have access to protected areas.

5- There are no plans directed towards facilitating the access of the population with disabilities to protected areas.

6- It is necessary to raise consciousness in the personnel of national parks about the discrimination suffered by people with disabilities and the rights they should enjoy.

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ANNEX 1

SURVEYS

SURVEY FOR PERSONS WITH DISABILITIES

Objective:
To acknowledge the current necessities that the National Park has in order to allow access to visitors with physical disabilities and provide them with the opportunity of enjoying the attractions that this site offers.

1. Date: _____/_____/_____

2. Place: _____

3. Gender: M_____   F_____

4. Age: _____

5. The access to communication for people with disabilities through lectures, audiovisual means, audio, brochures, etc., is: (Mark with X)

    a. _____Good   b. _____Average   c. _____Bad

    Is there any interpretation of communication through sign language in the park?

    Yes _____   No _____

6. The mobility and the access to paths within the park are: (Mark with X)

    a. _____Good   b. _____Average c. _____Bad

    What are the possible problems?

    _____
    _____

7. The mobility and the access at the parking lot are: (Mark with X)

    a. _____ Good   b. _____ Average   c. _____ Bad

What are the possible problems?

_____
_____

8. The mobility and the access to the visitor center are: (Mark with X)

    a. ____ Good   b. ____ Average   c. ____ Bad

9. The mobility and the access to other park attractions such as _____, are: (Mark with X)

    a. ____ Good   b. ____ Average   c. ____ Bad

10. Informational materials are: (Mark with X)

    a. ____Written b. ____Recorded   c. ____In Braille

11. Signaling within the park is: (Mark with X)

    a. ____ Good   b. ____ Average   c. ____ Bad

    Is there any signaling in Braille within the park?

    Yes ____   No ____

12. The personnel's attention to visitors is: (Mark with X)

    a. ____ Good   b. ____ Average   c. ____ Bad

13. Have you received any course on how to interact with people with disabilities?

    Yes ____   No ____

14. Do you consider that visitors with disabilities must face problems in order to... Mark with X

    a. Obtain information?..........…...... Yes ____   No____
    b. Clarify doubts?........................... Yes ____   No____
    c. Walk, climb stairs or others?….... Yes ____   No____

15. In which activity do you think these problems would arise? Mark with X

GUIDE TO DIAGNOSE ACCESSIBILITY IN A PROTECTED AREA

a. ____ Guided tour

b. ____ Comprehension of brochures

c. ____ Others: _____

Explain_____

_____

16. In which area? Mark with X

a. ____ Path

b. ____ Lunch area

c. ____ Visitor center

d. ____ Parking lot

e. ____ Another place _____

Explain_____

_____

17. What level of concern is there about tending to the needs of people with disabilities within the park? Mark with X

a. High ____   b. Low ____   c. None ____

18. Why do you consider this so?

_____

_____

19. What recommendations or suggestions would you make in order to improve service within the park?

_____

_____

20. Through which of the following means should information be provided about nature and the park? Mark with X

a. A guide?.......................................………………………........Yes ____   No ____

b. Sound systems?…....................................………... Yes ____   No ____

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    c.   Brochures in written text and Braille?.......…......……….Yes ____   No ____

    d.   Scale models and materials to feel, smell and hear?..... Yes ____   No ____

    e.   Which of the former would you prefer? a. ____   b. ____   c. ____   d. ____

21. Could you indicate another way of receiving information?

_____

_____

22. What kind of information is provided to the visitor at the booth before entering the park? Mark with X

	in Braille	in cassette	in sign language
a. Transportation schedule and availability			
b. Natural resources			
c. Park rules			
d. Services offered			
e. Maps			
f. Entrance fee			
g. Other: _____			

23. If a new environmental interpretation program for people with disabilities and general public were implemented, what subjects would you be interested in learning about and developing?

_____

_____

Thank you for your time and collaboration.

SURVEY FOR PARK RANGERS

The objective of the present survey is to identify the necessary and useful tools that you need for the enjoyment of this national park´s attractions.

1. Date: _____ / _____ / _____

2. Place: _____

3. Sex: M ____   F ____

4. Age: less than 10 years ____   10 to 15 years ____
**   15 to 20 years ____   20 to 30 years ____**
**   30 to 45 years ____   45 to 60 years ____**
**   more than 60 years ____**

5. Type of disability: motor ____   sensorial ____   mental ____
**   Specify: _____**

6. In your visit you faced problems in: (check with an X, you can indicate all)
**   a. ____ Accessing physical spaces**
**   b. ____ Getting information**
**   c. ____ Getting services from the personnel**
**   d. ____ Enjoying the environment**
**   e. ____ Others. Specify _____**

7. Where did you face the previous problems: (check with an X, you can indicate all)
**   a. ____ Footpaths**
**   b. ____ Picnic areas**
**   c. ____ Bathrooms**
**   d. ____ Parking lot**
**   e. ____ Reception**
**   f. ____ Others. Specify _____**

8. From the following list, which resources do you consider can get to affect the complete enjoyment of the park? (prioritize from 1 to 3, 1 being the most important)

8.1. Physical access
- ➢ **Within the green areas**
  - a. ___ Absence of ramps
  - b. ___ Slippery surfaces
  - c. ___ Signs
  - d. ___ Very steep hills
  - e. ___ Lack of resting spaces
  - f. ___ Lack of banister rails
  - g. ___ Others. Specify _____

- • **Within the buildings**
  - a. ___ Absence of ramps
  - b. ___ Slippery surfaces
  - c. ___ Signs
  - d. ___ Very steep hills
  - e. ___ Lack of resting spaces
  - f. ___ Lack of banister rails
  - g. ___ Inaccessible bathrooms
  - h. ___ Others. Specify _____

8.2. People's behavior
  - a. ___ Ignorance about the disabled population
  - b. ___ Insensibility and intolerance towards the disabled population

8.3. Transportation access
  - a. ___ Long distance between the parking lot and the park
  - b. ___ Lack of a suitable place for people to get in and out of the bus
  - c. ___ No access to the transportation inside the park (if there is any)

8.4. Access to the environment according to the disability

a. **Which senses do you mostly use to enjoy the park?**
(prioritize according to your disability from 1 to 3, 1 being the most important)
___ **Sight**   ___ **Smell**   ___ **Touch**   ___ **Hearing**

b. **What suggestions would you have for enabling you to better enjoy the surroundings?**
_____

8.5. Access to information
a. ___ **Lack of documents in Braille**
b. ___ **Little information accessible**
c. ___ **Absence of a language interpreter**
d. ___ **Nonexistence of cassettes**
e. ___ **Others. Specify_____**

9. By which of the following means would you like receive information about nature and the national park?
a. By means of a guide   ___ yes   ___ no
b. Sound equipment   ___ yes   ___ no
c. Pamphlets with text or in Braille   ___ yes   ___ no
d. Models and material to feel, smell and hear   ___ yes   ___ no

From the previous, which of them would you prefer?
a. ___   b. ___   c. ___   d. ___

10. Can you indicate another way by which you would like to receive information?
_____

11. Have they bothered to take care of your needs at the national park?
___ **Very much**   ___ **A little**   ___ **None**

Explain why_____

12. What recommendations or suggestions would you give to improve the access to the park for the disabled population?

_____

Thanks for your cooperation!

SURVEY FOR TOURIST OPERATORS

Application questionnaire for tourist operators about service preferences of people with physical disabilities in protected areas.

24. Name of the entity: _____

25. Gender: M_____   F_____

26. Have you ever provided tourism services to protected areas for people with physical disabilities? Mark with X

    a.   Yes _____   b. No _____ (omit the rest of the questions)

27. What services does your company offer for people with disabilities? Mark with X

    a.   _____ Guide service in the areas

    b.   _____ Transportation services

    c.   _____ Others: _____

28. What recommendations do you think would favor the service to people with physical disabilities in protected areas?
    a.   As to infrastructure?

_____

_____

    b.   As to interpretation (guided tours, paths, lectures, etc.) and group guidance?

_____

_____

6. What does the tourist operator require in order to offer a better service?

    a.   _____ Communication in sign language
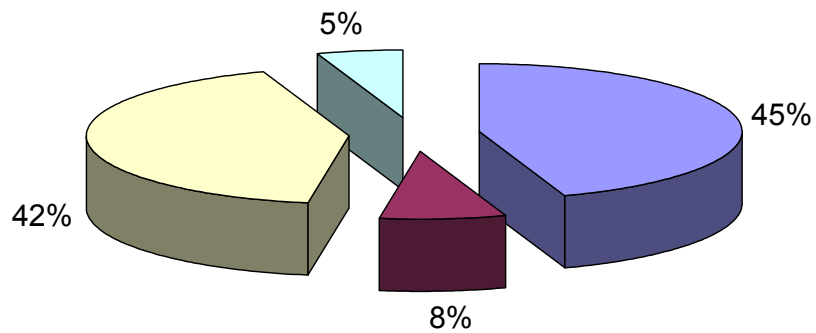
    b.   _____ Information in Braille

    c.   _____ Specialized transportation

    d.   _____ Others:_____

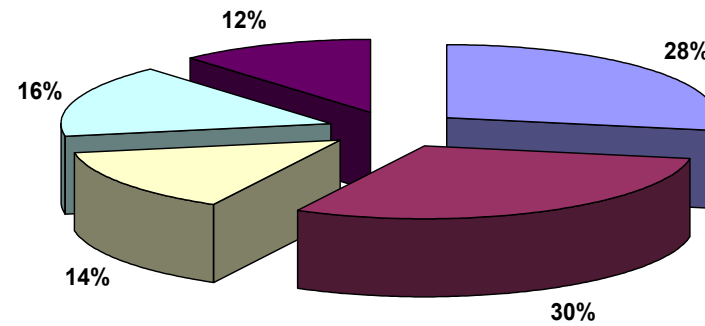**Thank you very much for your collaboration.**

ANNEX 2
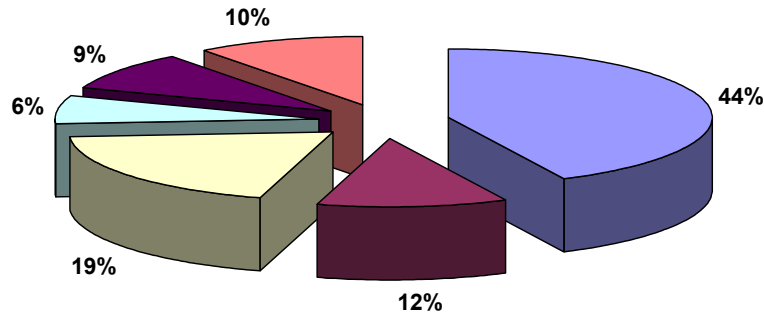## SURVEY RESULTS

POPULATION WITH DISABILITIES

5%

45%

42%

8%

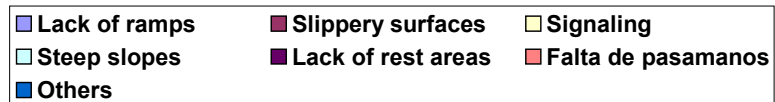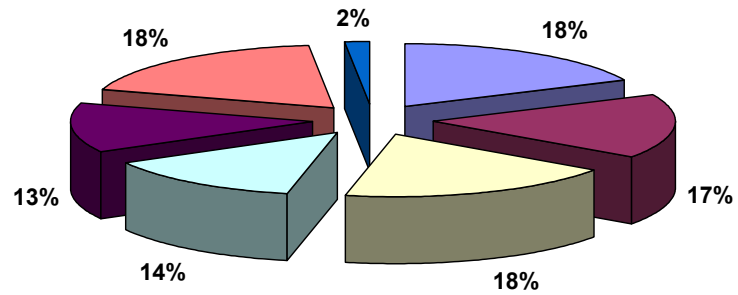| motor | mental | sensory | motor and mental |

ACCESSIBILITY PROBLEMS

12%

28%

16%

30%

14%

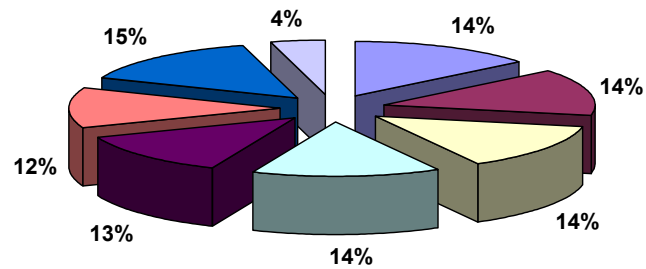| a. Accessing physical spaces | b. Obtaining information |
| c. Obtaining services from the personnel | d. Enjoying the environment |
| e. Others | |

PLACES WITH ACCESSIBILITY PROBLEMS

10%
9%
6%
44%
19%
12%

| a. Paths | b. Lunch areas | c. Restrooms |
| d. Parking lots | e. Reception | f. Others |

DIFFICULTIES IN ACCESS TO OUTDOOR AREAS

2%
18%
18%
13%
17%
14%
18%

Lack of ramps	Slippery surfaces	Signaling
Steep slopes	Lack of rest areas	Falta de pasamanos
Others		

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DIFFICULTIES IN ACCESS TO FACILITIES

4% 14% 14% 14% 15% 12% 13% 14%

☐ a. Ausencia de rampas	☐ b. Superficies resbalosas
☐ c. Señalización	☐ d. Pendientes muy inclinadas
☐ e. Carencia de lugares de descanso	☐ f. Falta de pasamanos
☐ g. baños inaccesibles	☐ h. Otros

KNOWLEDGE OF THE NEEDS OF THE POPULATION WITH DISABILITIES

11%
7%
82%
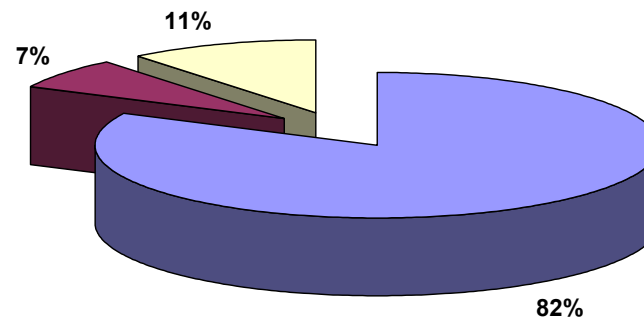
☐ Sin conocimiento ☐ Con algun conocimiento ☐ Con conocimiento

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