

## 143 - DEVELOPING OF A VALIDATION INSTRUMENT TO IDENTIFY THE IMPACTS CAUSED BY PEOPLE THAT PRACTICE SPORTS IN NATURAL ENVIRONMENT

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### Introduction

The man in search of restoring contact with nature, discovered several sports and the rediscovery of others.

"The impression is that this call for environmental issues is a lot associated to the creation of sports related to nature." (Tubino, 2001, pg.29)

For the maintenance of sports activities practiced in natural environments, it is imperative to create concepts clear and well defined in order to generate a social awareness for the use of the ecosystems.

Therefore, it is necessary to be certain that the people that practice a sport such as Mountaineering have a deep sense of responsibility with the environment, in this case the mountain, where the sport is practiced. The man being the main actor in this exchange with the nature should be directed towards the protection and conservation of the environment as their need for self-preservation.

As the mountaineering can be viewed as a non competitive sport, without the need for significant financial resources, where the goal can simply be to reach the top of a mountain, for leisure, physical work or search for a healthy mind, accepts, basically, any person in his practice, only requiring a good physical condition, free time and a spirit of adventure.

With all this, it raises the study problem: which impacts are caused by regular and non-regular mountaineering participant, and to what extent do they have habits and attitudes of preserving the ecosystem?

### Main Goals

Develop and validate a tool to check the perception, the habits, actions of respect and preservation of the ecosystem of a mountain, by the mountaineering users, for the impacts caused to the environment, with focus on the relevant aspects of the practice of the sport maintenance, limited for the climbers, campers, trekking and rappel users, which are types of mountaineering category, in the "Parque Nacional da Serra dos Órgãos".

### Methodology

This questionnaire consists of a number of pre-prepared, systematic and sequential questions. It has been developed based on the Norms of Conscious Conduct in Natural Environments, which is a manual of procedures for people seeking natural environments for their recreational activities. Based on 8 basic principles: the planning, security, the concern with the place itself, the garbage, natural objects, the fire, respect to the animals and respect for the local people, this manual has been released by the Ministry of Environment (MMA) for all national, state and municipal parks.

It has been chosen by the use of closed questions, making it easier to fill out and control it. According to Thomas & Nelson, P. 281, (2002), "the closed questions are a category of questions found in questionnaires or interviews that require a specific response, and that often is organized in sequence and assertive answers.

"Making the questions":

#### A) Data from the interviewed person

1. **Age** - this question allows us to relate the age of the participant of this sport type, how often he practices it and if he is aware of the environmental impact;

2. **Gender** - As in the previous question, this information relates the gender of the chosen sport type, with accuracy and the impacts caused in the environment;

3. **Education** - Information of much importance in association with the level of education of the people and the behavior while in contact with the Nature helping identify the impacts caused;

4. **Sport types**- As mentioned before, the degree of environmental impact is associated to the sport practiced, within each type of sports, there is a need for knowledge of its own;

5. **How often do you practice this Sport?** - With this information, we can understand the connection of the frequency with the acquisition of knowledge according of his awareness in the natural resources and the possibility of the of impacts reduction through better planning and more attention to safety;

6. **Have you ever been a part of an Exclusive Club?** An exclusive club must submit conduct of care and protection to the natural environment and the local practice;

7. **Does your activity cause environmental impacts?** - The knowledge of the person depends of many factors and are not always agreeable with reality. Their knowledge, cultural background, their own feeling, values and information received through the environment they live can determine their actions in the Nature. This shows the impact knowledge, their behavior and the awareness of possible damages done by them;

#### B) Questions about Planning

8. **Have you got in contact with the Park administration to get informed about the rules and restrictions they might have?** - In this question we worry about the Park regulations and previous knowledge of the rules for the use of the natural resources. These rules are made in order to protect the area and its users; lack of knowledge can lead to problems related to rescuing of the users besides the permanent damages to the local fauna and flora.

9. **Did you get informed or consulted about the weather conditions in the place where you want to practice the sport?** Heavy soil, rocky and slippery tracks, coldness, mud, lack of the right material, among other things are some of the difficulties that can be avoided if you know the climate conditions. This may cause you to loose your way during the activity and make it difficult if a rescue is needed in case you get hurt or lost in a risky situation. Removal of the vegetation and erosion can affect the local vegetation, thus affecting the whole ecosystem.

10. **Usually, when you do your activity how many people are with you?** - The number of people in an activity can have a great impact in Nature. The noise can scare the animals interrupting their eating, their behavior and reproduction besides leaving their habitat. Making the tracks wider increases the possibility of erosion. Stepping on the soil can destroy the micro fauna reducing the germination process and in some cases destroy underground shelters.

11. **Do you seek more popular places for you to practice your sport during vacation or on holidays?** - This is related to the number of people that go to the same place. During the holidays and school vacation a great number of people seek for leisure in preserved natural areas. The impact on nature during this period is concerned to water contamination and the trash left behind.

12. **Do you have the habit of taking trash with you?** - This should be a routine for anybody; saving the trash to dispose it later is a demonstration of education and respect. Litter can contaminate the soil and the water, it affects the animals' species, changes their eating habits and in many cases it can cause accidents in the area where people practice the sport.

13. **Do you choose your activity based on your fitness condition and knowledge level?** - Very important factor, being

fit and to know what you're doing can diminish the risk for accidents and the need for rescuing the person in the nature.

C) Questions about respect and security

14. **During you practice have you been in an unnecessary risky situation?** - Activities practiced in nature are known for the feel of adrenalin and feeling of adventure.

15. **Do you calculate the time you'll spend on your activity?** - Calculating the time is very important because it allows you to know which material to take and it also decreases the risk in case of getting lost and in case of the need for rescue.

16. **Do you leave your activity schedule with a friend or someone you trust?** - Very well organized activities can have unexpected environment problems and your friend can act quicker if they know your schedule.

17. **Do you let the administration of the park know about your schedule, you level of experience how many people are in your group, the equipment you're taking and when you're coming back?** - The administration of the park is the support place for all the people who practice the sport. Letting the administration of the park have access to the information is very important, this way they can monitor and control the activity, and in case of an accident they can act quickly.

18. **Do you have the necessary equipment for your activity?** - The increasing number of activities practiced in the nature are due to the fact of a great integration with the environment and the equipment technology that can provide security and comfort.

19. **During the activities, have you improvised or used equipment in a way you're not supposed?** - The concern is with using the equipment the way you're not supposed to use, risking the life of the people and increasing the risk level.

20. **Which items below are essential for your sport activity? Even if they are for a few hours?** - Light, clothing, knife, rain coat, hat, food, water, orientation, map, cellular phone, communication radio, first Aid kit, other. The right equipment can give you warranty of a safe practice and sometimes can help you solve problems and to avoid them.

21. **Have you done an activity with not much experience and alone?** - The lack of experience is one of the biggest problems in the adventure modality causing many accidents. Practicing alone although is not unusual becomes risky and any adversity can cause big harm.

D) Questions about caring about the activity area.

22. **Do you use shorter ways in the park tracks?** - The use of alternative tracks in the park besides causing erosion, taking the vegetation that protects the area by opening ways for the rain to carry their cover. Different ways creates difficulties in orientation making the person to get lost.

23. **During the working do you keep going even if the way is slippery, wet and muddy?** - The maintenance of the tracks during the activity is very important for the safety of the people and also to protect the environment. Otherwise people will open another track.

24. **Do you stay at least 60 meters from the water?** - The campers are mostly responsible for contaminating the water environment. This can be avoided using some basic precautions.

25. **During the activity do you lean on against the vegetation or remove it?** - Very common among climbers the removal or leaning against vegetation. It causes a habitat change besides making it dangerous for other people.

26. **Do you usually dig ways for the water to drain or build in order to be more comfortable when camping?** - When camping people tend to build a structure that can affect the fauna and landscape. It can alter the reproductive cycle of the animals besides destroying the rocks.

27. **After the activities do you remove all the evidence of your stay?** - This attitude shows respect for nature and other people, leaving the area clean diminishes the impact in the ecosystem.

28. **Do you take souvenirs from the area of the activities?** - Removing objects from the environment interferes directly to the ecosystem.

E) Questions about litter.

29. **Do you bring all your trash after the activity?** - Depositing trash in the nature causes soil and water contamination. Altering the animals' habitat, their eating habits and some situations it causes accidents.

30. **Do you burn or bury the trash?** - When camping for too long burning procedure of the trash is used. It can start a fire and sometimes burning some types of materials can spread intense smell or intoxicate and pollute the area. When burying the trash animals can get to it contaminating the area or eating what they're not supposed to eat, changing their habits.

31. **Do you bury the dejects away from the activity area or in a whole 60 meters from the water?** - The solid dejects affect the landscape, the water, and the local community. Contaminating the water and causing proliferation of pathogenic items.

32. **Do you bring toilet paper with the trash?** - Toilet paper takes long time to decompose either buried or tossed in nature, increasing the way of contamination of the water and soil.

33. **Do you use soap, detergent, or shampoo for cleaning utensils and for personal use in water sources in the nature?** - This is very common practice during the activities in the nature. Cleaning utensils and washing yourself in the water can contaminate the whole environment affecting animals and the communities.

F) Questions about fire

34. **Do you build a fire for fun, to cook, or to illuminate the area?** - Forbidden in the national parks build a fire can cause burning of the environment destroying nature, properties, and animals and in some cases kill people. The heating of the soil eliminates micro organisms necessary for the vegetation growth.

35. **Do you know the rules for building a fire?** - Even though they are forbidden building a fire is part of the camper experience. When allowed can take all precautions necessary to minimize the impact in the nature.

G) Questions about the fauna and flora

36. **Do you get close to the wild animals?** - It can be dangerous, the relationship with the wild animals should be with distance respecting their territory and habits.

37. **Do you feed the animals?** - The change of eating habits can cause dependency altering of their behavior affecting their survival in nature.

H) Questions about the relationship with local people

38. **Do you work, camp or climb using noisy devices?** - The noise scares animals interrupting their activity such as eating, behavior or reproduction, making them leave their habitat. In the case of population, the noise can bother them besides taking the concentration of the participant increasing the risk of an accident.

39. **Do you do your activities with domestic animals?** - Bringing domestic animals to nature can interfere in the behavior of the local animals. Attacks to small animals, destroying of the vegetation and diseases not common to the ecosystem can happen.

40. **During your activities do you use bright colors?** - Visual pollution and animals running away from the scene can be caused by the use of bright colors in the nature.

• *In all the items except for the questions 1, 2, 3, 4, 5 and 20 it has been included the following: **Is this item important for your activity?** - The person chooses the answers between the two options **yes** or **no** with the objective of identifying the answers that are mostly important.*

The validation procedure followed the seriousness expected for this purpose. The questionnaire had been validated for his context after the detailed analyses of the experts of the many areas involved in protecting the ecosystem.

Eight people (chart 1.), were chosen to observe the way, the coherency the validity and sense of organization in formulating

the questions related to the research.

Attached to this questionnaire there is a presentation letter with the specialist's opinion. The experts chose to maintain, remove, and redo the items. When he chose to redo he would give his suggestions for the question.

There were for steps for the validation process.

Step 1 - Previous contact with a specialist personally by phone or e-mail.

Step 2 - Sending the questionnaire along with a letter explaining the procedures.

Step 3 - The approval of the questionnaire by some environment experts. When building the questionnaire, it was sent to 10 experts with different expertise in environmental issues.

Step 4 - Receiving from the experts their contributions with their opinions and analysis of the work.

This way, after their contributions the final copy of the questionnaire was made. (Chart 2.), used for identifying the impact caused for the practice of mountaineering, with the opinion of the sport participant and validated as study instrument, making it possible the developing of the research.

To be able to identify the needs for the study showed how important it was to build a group of experts, with well known reputation and skill, representing conservation, planning, protection, security and maintenance of the natural areas for the practice of mountain sports. The 08 experts on free will decided to participate in validating the questionnaire used with the mountaineers of the "Parque Nacional da Serra dos Órgãos".

Chart 1.

Experts	
1.	Secretary of the Municipal Environment and Sustainable Development of the city of Petrópolis.
2.	Coronel do Corpo de Bombeiro - Comandante do CBA - Serrana (Comando Bombeiro da Área Serrana) - Comandante do grupoamento de Resgate em montanha e altitude, e combate a incêndios florestais.
3.	Servidora pública, funcionária do PARNASO, Bióloga, responsável pelos setores de pesquisa e Uso Público.
4.	Geógrafo do Instituto Estadual de Florestas - RJ - Administrador da Reserva Biológica de Araras - RJ
5.	Engenheira Agrônoma do Instituto Estadual de Florestas - RJ - Reserva Biológica de Araras - RJ
6.	Geography and Science Teacher of the State Education, President of the vacation Club of Petropolis who practices physical activities and adventures in the nature since 1981.
7.	Forest Engineer of the Secretary of the Municipal Environment and Sustainable Development of the city of Petrópolis.
8.	Forest Engineer of the Secretary of the Municipal Environment and Sustainable Development of the city of Petrópolis.

**Sayings - In this item we'll show the expert's opinions:**

AV. 1 - " I used your questionnaire very clear, objective and coherent. I chose to respond items "B" e "C", pretending I practiced hiking in the park, which made easier to understand the purpose of the questions. I reconfirm the clearness and relevancy."

AV. 2 - "The questionnaire offers basic knowledge of the situation but I think it is important to inform people about the basics procedures, the risks, and how to behave in case of a problem such as getting lost or a heart attack, etc."

AV. 3 - "The questionnaire get to know the knowledge level of security and conduct of the interviewed person. After reviewing the questionnaire, the suggestions above were made as a tool to achieve the objectives of the work."

AV. 4 - "I considered satisfactory and the criteria technical."

AV. 5 - "The form was very broad."

AV. 6 - Very complete few changes. I think the item of the local population should have more analysis of the social conditions and influence of the local culture.

AV. 7 - Did not give a final opinion.

AV. 8 - Did not give a final opinion.

**Conclusion:**

The items of the interview had its context validated through the opinion of the experts who found the question clear, relevant and coherent. They gave their opinions, choosing to maintain, reformulate, or take an item out in necessary, making suggestions, that were taken or not, according to the percentage of answers, (for each question equal or higher than 50% interventions), therefore, for keeping an item, changing it or removing it, it must be indicated for at least 4 (four) experts. This way, we concluded that this questionnaire has been validated and it can be used as a tool to study the participant's behavior when practicing mountaineering and the impacts they cause in the "Parque Nacional da Serra dos Órgãos".

QUESTIONÁRIO		DADOS DO AVALIADO	
1. IDADE:		( ) FEMININO	( ) MASCULINO
2. GÊNERO:		( ) 1º GRAU INCOMPLETO	( ) 2º GRAU COMPLETO
3. ESCOLARIDADE:		( ) 1º GRAU INCOMPLETO	( ) 2º GRAU COMPLETO
4. MODALIDADE ESPORTIVA:		( ) CAMINHADA	( ) TREKKING
5. QUAL A FREQÜÊNCIA DA PRÁTICA ESPORTIVA?		( ) RÁPIDA	( ) OUTRAS
6. FAZ OU FAZ PARTE DE ALGUM CLUBE EXERCICIOSISTAS?		( ) NÃO	( ) SIM: Qual?
7. A SUA ATIVIDADE PROVÓCA IMPACTOS AMBIENTAIS?		( ) NÃO	( ) SIM:
8. Você já entrou em contato com a administração do parque para se informar sobre as regulamentações e restrições existentes?		( ) Não	( ) Sim
9. Você já se informou ou consultou sobre as condições climáticas no local de sua prática esportiva?		( ) Não	( ) Sim
10. Geralmente, realiza a sua prática acompanhada (a) de quantas pessoas?		( ) 1 a 5	( ) 6 a 10
11. Você procura os locais mais populares para sua prática durante as férias ou períodos prolongados?		( ) Não	( ) Sim
12. Você tem a habilidade de levar para sua prática sacos para acondicionar o lixo?		( ) Não	( ) Sim
13. Você escolhe suas atividades de acordo com o seu condicionamento físico e o seu nível de experiência?		( ) Não	( ) Sim
14. Durante a sua prática você se sente com necessidade de:		( ) Sim	( ) Não
15. Você calcula o tempo que gastará durante a sua prática?		( ) Não	( ) Sim
16. Você deixa algum resíduo da sua prática com algum amigo ou alguém de confiança?		( ) Não	( ) Sim
17. Você atua a administração do parque sobre o seu roteiro, sua:		( ) Não	( ) Sim
18. Você dispõe dos equipamentos necessários para sua prática?		( ) Não	( ) Sim
19. Você, durante a sua prática, imprime ou utiliza equipamentos de forma inadequada?		( ) Não	( ) Sim
20. Quais dos itens abaixo você considera essenciais para sua prática esportiva, mesmo de apenas algumas horas? Classifique por ordem de importância de 1 a 5, sendo "1" o item menos importante e "5" o mais importante. (selecione apenas CINCO opções).		( ) 1. LANTERNA	( ) 2. JACACAIBO
		( ) 3. CANIOTE	( ) 4. CAPA DE CHUVA
		( ) 5. CHAPEU	( ) 6. ALIMENTO
		( ) 7. ÁGUA	( ) 8. BISSOLA
		( ) 9. MALHA	( ) 10. TELEFONE CELULAR
		( ) 11. ESTOJO DE FERRAMENTAS	( ) 12. OUTROS:
21. Você já realizou a sua prática com muita esportividade e saúde?		( ) Não	( ) Sim
22. Você utiliza trilhas nas trilhas do parque?		( ) Não	( ) Sim
23. Durante a caminhada para sua prática, você se mantém na trilha ou mesmo se desviando encorregado, molhada ou imersa?		( ) Não	( ) Sim
24. Você caminha a pelo menos 40 metros da água? ( ) NÃO ACAMPAR		( ) Não	( ) Sim
25. Durante a prática você se aplica ou remove alguma vegetação?		( ) Não	( ) Sim
26. Você करा valores para o movimento da água ou constrói estruturas não autorizadas para um maior conforto? ( ) NÃO ACAMPAR		( ) Não	( ) Sim
27. Após a sua prática, você remove todos as estruturas de sua passagem?		( ) Não	( ) Sim
28. Você traz embalagens materiais dos locais de prática?		( ) Não	( ) Sim
29. Você traz todo o seu lixo de volta da prática?		( ) Não	( ) Sim
30. Você queima ou enterra o lixo?		( ) Não	( ) Sim
31. Você enterra os dejetos fora das áreas de prática e em um buraco a 40 metros da água?		( ) Não	( ) Sim
32. Você traz o papo e higiênico junto com o lixo?		( ) Não	( ) Sim
33. Você utiliza sabão, sabonete, detergente ou sabão, para a limpeza de utensílios e higiene pessoal em fontes de água?		( ) Não	( ) Sim

Chart 2.

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## **DEVELOPING OF A VALIDATION INSTRUMENT TO IDENTIFY THE IMPACTS CAUSED BY PEOPLE THAT PRACTICE SPORTS IN NATURAL ENVIRONMENT**

### **ABSTRACT**

The goal of this work is to build and validate a tool to study the environmental impact caused by the sportsman, that practices mountaineering with his own opinion describing and developing a tool (questionnaire) capable of analyzing the conduct and behavior of the mountaineer, get quantitative and qualitative data of the mountaineer, his place of activities and the possible impacts related to his behavior when practicing the sport. This tool was built, after analyzing the whole environmental problem, seeking the necessary data in order to understand and analyze this phenomena in our society, giving sources to study the sport within the environment, its variables, impact possibilities, prevention tools and protection of the ecosystem, knowing the positive and negative points of the mountaineering practice in the "Parque Nacional da Serra dos Órgãos". Based on norms of consciousness conduct in Natural Environments, this tool intends to be more than a simple assessment questionnaire but a tool to help elaborating public politics towards sports practicing in natural environments, helping to reach the sustainability in mountaineering.

**KEYWORDS:** Sports, Mountaineering and Sustainability.

## **LE DÉVELOPPEMENT ET VALIDATION D'INSTRUMENT POUR IDENTIFIER LES IMPACTS CAUSÉS PAR LES PRATICIENS DANS LES ACTIVITÉS PHYSIQUES DANS LES AMBIANTS NATURELLES.**

### **RÉSUMÉ**

Ce travail se consacre à être une élaboration et validation d'un instrument que puisse évaluer les impacts environnementaux engendrés par les pratiquants des modalités sportives qu'il compose le montagnisme, selon la perspective montagniste lui-même, en décrivant le développement d'un dispositif (questionnaire) capable d'obtenir les données quantitatives et qualitatives sur le montagniste, son endroit d'activités et les impacts possibles par rapport à ses attitudes pendant la pratique sportive, à travers l'analyse de son comportement et la conduite des pratiquants du montagnisme. L'instrument a été construit, après une réflexion sur la problématique environnementale, dans l'intention d'une recherche sur les données nécessaires à la compréhension et à l'interprétation de ce phénomène dans notre société, en engendrant des subsides à une analyse des rapports entre le sport avec l'environnement, leurs variables, les possibilités d'impact, des actions mitigatives, des instruments de prévention et de protection environnementale, ce qui peut promouvoir la connaissance des points positifs et négatifs des pratiques du montagnisme dans le Parc National de la Montagne des Organes. En prenant comme base les Normes de Conduite Consciente dans les Ambiants Naturelles, ce questionnaire a l'intention d'être un important instrument d'aide dans l'élaboration des politiques publiques dédiées à la pratique sportive dans des ambiances naturelles, ce qui contribue à l'obtention de la soutenance dans le montagnisme. **MOTS-CLES:** Sport, Montagnisme et Soutenance.

## **EL DESARROLLO Y LA VALIDACIÓN DE INSTRUMENTO IDENTIFICAR LOS IMPACTOS CAUSADOS POR LOS PRACTICANTES EN LAS ACTIVIDADES FÍSICAS EN AMBIENTES NATURALES.**

### **RESUMEN**

El objetivo principal de este trabajo es la elaboración y la validación de un instrumento para valorar los impactos ambientales causados por los practicantes de las modalidades deportivas, que compone el montañismo, en la percepción del montañista propio, describiendo el desarrollo de una (cuestionario) herramienta capaz de obtener los datos cuantitativos y cualitativos sobre el montañista, su lugar y de las actividades y los impactos posibles relacionada con sus actitudes durante la práctica deportiva, a través del análisis sobre el comportamiento y las conductas de los practicantes del montañismo. El instrumento fue desarrollado, después de una reflexión sobre la problemática ambiental, buscando los datos necesarios al conocimiento y la interpretación de este fenómeno en nuestra sociedad, proporcionando subsidios para un análisis de las relaciones del deporte con el ambiente, sus variables, posibilidades de impacto, acciones mitigadoras, los instrumentos de prevención y la protección ambientales, perspicaz así, los puntos seguros y negativos de las prácticas del montañismo presente el Parque Nacional de la Serra de los Organos. Tendo como la base las normas de la conducta deliberada en ambientes naturales este instrumento piensa ser mucho más de sólo un cuestionario de evaluación, mas una herramienta importante en la que ayudo el elaboración de la política pública devuelto para las prácticas deportivas en ambientes naturales, contribuyendo de este modo, para llegar a la sustentabilidad en el montañismo. **PALABRAS CLAVE:** Deporte, Montañismo y Sustentabilidad.

## **DESENVOLVIMENTO E VALIDAÇÃO DE INSTRUMENTO PARA IDENTIFICAR OS IMPACTOS CAUSADOS PELOS PRATICANTES NAS ATIVIDADES FÍSICAS EM AMBIENTES NATURAIS.**

### **RESUMO**

O objetivo principal deste trabalho é a elaboração e validação de um instrumento que avalie os impactos ambientais causados pelos praticantes das modalidades esportivas, que compõe o montanhismo, na percepção do próprio montanhista, descrevendo o desenvolvimento de uma ferramenta (questionário) capaz de obter dados quantitativos e qualitativos sobre o montanhista, seu local de atividades e os possíveis impactos relacionados às suas atitudes durante a prática esportiva, através da análise sobre o comportamento e a conduta dos praticantes do montanhismo. O instrumento foi construído, após uma reflexão sobre toda a problemática ambiental, buscando os dados necessários à compreensão e interpretação deste fenômeno em nossa sociedade, fornecendo subsídios para uma análise das relações do esporte com o Meio Ambiente, suas variáveis, possibilidades de impacto, ações mitigadoras, instrumentos de prevenção e proteção ambiental, conhecendo assim, os pontos positivos e negativos das práticas do montanhismo no Parque Nacional da Serra dos Órgãos. Tendo como base as Normas de Conduta Consciente em Ambientes Naturais, este instrumento pretende ser muito mais que apenas um questionário de avaliação, mas uma importante ferramenta de auxílio na elaboração de políticas públicas voltadas para as práticas esportivas em ambientes naturais, contribuindo assim, para alcançar a sustentabilidade no montanhismo. **PALAVRAS-CHAVES:** Esporte, Montanhismo e Sustentabilidade.