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# The Impact of Covid-19 Pandemic on Italian Nature-Based Programs in the Educational, Therapeutic, Training and Leisure Areas

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**Abstract:** In these times of global crisis caused by Covid-19, there is an urgent need to address the topic of nature-based experiences in education: the pandemic has strongly highlighted both the interdependence between human beings and nature, and the need for mending the dichotomic vision that keeps them separate. Experiential education in natural contexts within an ecological framework might have a strategic role in this crucial period to develop anthropologic, civic, and dialogic conscience (Morin, 2001). Through this study, CEFEO Research Center had the objective of investigating the socio-economic impact of Covid-19 on Italian nature-based programs in the educational, therapeutic, training, and leisure areas. From 28 May to 19 June 2020, an online questionnaire was distributed with the purpose of understanding the socio-economic impact of the pandemic on nature-based programs during the lockdown period and during the period of first reopening, and the related needs and new opportunities for the future. The results highlight a paradox: the Covid-19 crisis has caused more problems for a sector which was already suffering from a lack of funding and of social and institutional acknowledgment. Many agencies working in the field lost months of income and numerous working days, and they are uncertain about the future: they are having difficulties surviving in a moment when we need them more.

**Keywords:** nature-based programs; ecological framework; Covid-19 impact

## 1. Introduction

The aim of this study is to investigate the socio-economic impact of the Covid-19 pandemic on Italian nature-based programs in the educational, therapeutic, training and leisure areas. Since the pandemic is a recent and ongoing phenomenon, very few studies have investigated this specific topic to date: some reports from the UK and the US have shown the situation of outdoor education during the pandemic, affirming the important role of the outdoors for young people's recovery, resilience and wellbeing [1–4]. Less specific studies have also examined the strong negative impact of the pandemic generically on social work [5], and others have studied the psychosocial effects of Covid-19 on different sections of society [6].

The urgent need to address the topic not only is due to the paucity of specific studies thus far, but also to the relevance of nature-based experiences in this global and multidimensional challenge that the world is facing, since the pandemic seems to be linked to the lack of connectedness between humans and nature. More and more scientific studies are showing that air pollution caused by human activities has had a huge role in the diffusion of the virus [7–10]. It looks like the dysfunctional relationship between nature and human beings has contributed to this global crisis. Ever since the cartesian division that “might be considered the fundamental cause of all current social, ecological and

cultural crisis. It has grown us apart from nature and from other human beings" [11] (p. 25), we are used to thinking of ourselves as being outside of nature, far from it and dominating it. We are immersed in this strong and deep dichotomy that keeps humans and nature separate, a vision mainly due to our anthropocentrism and delirium of omnipotence. Therefore, a fundamental way for surviving to the present crisis (and avoid future ones?) is to rethink and reposition ourselves and the world around us within a unique system, which is a "dance of interacting parts" (Bateson, 1987 [12]), influencing one another. Since experiential nature-based educational and therapeutic programs were proved to have important effects on personal and social wellbeing and on ecological sensitivity [13–22], they might play—if provided with the necessary conditions—a crucial role in helping us reconnect with the natural environment, contributing to exit from this social emergency, and preventing future crises.

Some characteristics of the Italian context need to be explained in order to better understand the results of the present work. The Italian situation of the nature-based sector (this term meant to include different types of programs in the following fields: environmental education, therapy/rehabilitation in nature, socio-educational outdoor/adventure programs, outdoor sport/leisure/tourism, outdoor training [23]) is not homogeneous. Under the experiential point of view, Italy has an interesting and rich history: nature-based experiences in the educational and therapeutic fields started in the early 1950s, spread especially in the 1970s, and are still expanding nowadays [24]. On the other side, it is just in the last decade that universities and educational contexts are giving some attention to the topic; furthermore, there is not national legislation regulating the nature-based sector and professionals yet, but just some local norms that differ from region to region. Most nature-based workers are in the private sector and lack a stable contract and public funding. Despite the fact that the field lacks institutional, social, and financial recognition and support, in recent years there has been a growing interest for nature-based activities, both from beneficiaries asking for experiences in nature and from researchers increasing their studies in the field. Before the Covid-19 pandemic, the sector was actually expanding. Then, each country has tried to find a way to cope with the Covid-19 emergency by alternating different types of norms and restrictions over time. This research took place in June 2020 and it refers to the period from March to May 2020, with some previsions for the summer. In Italy, nature-based programs, as well as the majority of working fields, were subjected to numerous norms and restrictions. From the beginning of March to the beginning of June, the so-called "lockdown phase", all activities were stopped (except for hospitals and grocery shops or other activities considered absolutely essential). From the beginning of June, the so-called "Phase 2" started; in this phase, many activities could start again, but with consistent restrictions due to many sanitary prevention norms.

This study is exploratory and descriptive in nature: an online questionnaire was used in order to collect information on the socio-economic impact of the pandemic on Italian nature-based programs. The results of the survey show that the lockdown phase has worsened the economic and structural situation of a sector which already had some difficulties in surviving. Regarding future perspectives, uncertainty but also hope and determination are the most spread feelings expressed by practitioners. The main conclusions regard the urgency of social and institutional acknowledgment of nature-based programs and of systemic funding to the sector.

## 2. Materials and Methods

Since this is one of the first studies on this specific topic, we could not rely on previously applied and approved methodologies. For this exploratory and descriptive study, an online questionnaire (made through Google Forms) was used in order to collect information on the socio-economic impact of the pandemic on the Italian nature-based sector. We chose the online survey as it allows us to reach huge samples in limited time, since the research purpose was to collect updated information on an ongoing and continuously changing situation. The convenience sampling started from the results of previous research which had mapped the Italian organizations working in the field in 2018 [24]; in addition, we tried to reach other people and institutions employed in the sector by searching for them

online. The questionnaire was sent to 500 people, and 100 of them (belonging to different organizations, or working individually in the field) answered.

The questionnaire was made of multiple-choice questions, some rating scales, and a few open questions. It was structured in four areas: the characteristics of the organizations/agencies (11 questions), the socio-economic effects of the Covid-19 pandemic during the lockdown period (18 questions), the situation during the phase of first reopening (13 questions), possible future perspectives and connected needs (7 questions).

The data were collected from 28 May to 19 June 2020. The analyses were carried out using SPSS software. Frequency percentage and contingency tables were used to organize and understand the responses. The answers to the open questions were categorized and grouped by topic.

### 3. Results

#### 3.1. Characteristics of the Organizations/Agencies

We collected a total of 100 valid responses, coming especially from the North and the Center of the Italian peninsula. Ninety-five out of 100 participants work in the private sector (cooperatives, associations of social promotion, nonprofit organization, individual agencies, societies . . . ), while 5 work in public institutions. The customers related to these institutions/agencies are more private (94) than public (86) (it was possible to choose more than one answer).

A total of 72 participants stated that the institution they work for is of small size (1–6 workers), 19 said it is of middle size (7–20 workers), and 9 said that it is large (more than 20 workers). We tried to calculate the total number of workers of the responding organizations and it is higher than 635, comprehensive of different professionals (guides, educators, social workers, trainers, outdoor sports instructors . . . ). Since the institutions answering the questionnaire were around 1/5 of those who were found and asked to participate, we estimate that the number of workers in the nature-based area in the Italian peninsula is much higher than 3175. It was not possible to obtain official data regarding the number of nature-based institutions in Italy.

The nature-based programs proposed by the respondents involve people of different ages (Table 1).

**Table 1.** Beneficiaries: age.

N. of Answers <sup>1</sup>	Age of Beneficiaries
34	Children 0–6
70	Children 6–11
84	Teenagers
86	Young adults
87	Adults

<sup>1</sup> It was allowed to choose more than one answer.

The respondents work in diverse areas of the nature-based sector: 78 organize programs in the socio-educational area, 28 in the therapy/rehabilitation one, 83 in leisure, 85 in training (it was possible to choose more than one answer).

The natural environments where the programs take place are different (Table 2), but the majority are in forests.

**Table 2.** Natural environments where the programs take place.

N. of Answers <sup>1</sup>	Natural Environment
19	Urban private green areas
35	Urban public green areas
21	Vegetable gardens
38	Farms (or similar)
57	Forests close to urban areas

**Table 2.** *Cont.*

N. of Answers <sup>1</sup>	Natural Environment
79	Forests distant from urban areas
39	Cliffs
27	Caverns
42	Sea
50	Lakes
62	Rivers/torrents
50	Centers for environmental education
58	Accommodation facilities in nature
4	Other

<sup>1</sup> It was allowed to choose more than one answer.

### 3.2. Socio-Economic Effects of the Lockdown

A total of 67 out of 100 participants said they had to stop their activity completely during the lockdown period (March–May 2020), while the remaining said they could continue some of their activities but not those related to nature-based experiences.

Seventy-six affirmed they lost 100% of their working days. Globally, the nature-based sector lost 100% of their income if compared with the same period of the previous year.

From the answers of the participants, we estimate that more than 36.000 people could not benefit from the nature-based activities proposed by these institutions in the considered period. Since the institutions answering the questionnaire were around 1/5 of those who were found and asked to participate, we estimate that more than 180.000 people could not benefit from nature-based activities.

Many workers in this period had a salary reduction or lost their job; some of them received public funds, and just a few had stable working conditions (Table 3).

**Table 3.** Workers' situations during the lockdown phase.

N. of Workers <sup>1,2</sup>	Situation
367	Lost their job or the chance of having a new contract
471	Had a salary reduction
186	Received public funds or help
99	Had a stable working condition

<sup>1</sup> Out of approximately 635 workers. <sup>2</sup> It was allowed to choose more than one answer.

Workers feelings at the end of the lockdown period were various (Table 4). Positive and hopeful feelings are prevalent, but many of them do feel worried.

**Table 4.** Workers' feelings (Likert scale: 1 = "Not at all"; 5 = "Very much").

Feeling	Mean	St. Dv.
Active and ready for job reorganization	3.94	1.06
Still searching for new solutions to restart	3.34	1.25
Worried not to be able to restart like before	3.33	1.36
Trustful about reopening	2.97	1.10
More conscious about myself	2.93	1.28
Stressed	2.83	1.17
Worried about losing my job	2.55	1.34
Rested	2.53	1.18
Nervous	2.47	1.24
Regenerated	2.24	1.27
Angry	2.06	1.41
Depressed	1.62	0.93

During the considered period, many respondents tried to keep in touch with the beneficiaries of their activities in different ways: videoconferences, video calls, phone calls, webinars, emails, social networks ... (Table 5).

**Table 5.** Types of contact with beneficiaries during the lockdown period.

N. <sup>1</sup>	Type of Contact
29	Did not keep in touch
18	Tried to keep in touch, but did not succeed
14	Kept seeing the beneficiaries in different activities (not the nature-based ones)
53	Kept in touch through online events or proposals (webinar, articles, reflections, videos, suggestions ... )
53	Kept in touch through email exchanges
69	Kept in touch through social network or messages
29	Kept in touch through video calls

<sup>1</sup> It was allowed to choose more than one answer.

One-third of the respondents kept in touch with other people working in the nature-based sector in order to discuss the emergency situation, its consequences, and hypothesis for the future.

### 3.3. Situation during the Phase of First Reopening

The question regarding the chance of restarting nature-based activities during summer received positive responses: only 6 participants answered that they could not, while 22 did not know yet if they were able to reopen, and 72 affirmed they could. The uncertain answers were probably due to the moment of the survey, in which the new sanitary norms were still being defined and were not clear yet.

Almost 1/3 of the respondents (28 out of 100) then affirmed that they would need to modify completely their proposals due to the new norms; 67 said they had to modify them just partly. The main changes needed had to do with the number of participants in order to keep the physical distancing, and with the organization of some of the activities because of the new restrictions to transportations and accommodation facilities.

Almost 1/3 of the sample (30 out of 100) was not able to make predictions about the loss of working days during summer because of the limited information they had about the new regulations in that moment; 1/3 affirmed they would probably lose 70% or more of their working days (Table 6).

**Table 6.** The loss of working days from June to August 2020: predictions.

N. of Respondents	Percentage of Working Days They Will Lose during Summer
4	0%
2	10%
3	20%
7	30%
5	40%
9	50%
7	60%
11	70%
9	80%
6	90%
7	100%
30	With the information we have now, we cannot make previsions

Concerning the economic loss, around 1/3 of the sample (35 out of 100) was not able to make predictions; regarding the remaining respondents, we compared their total income of summer 2019 to their prevision for summer 2020 and the alarming result was that they would probably lose around 90% of their income.

The prediction regarding the number of people that will not benefit from nature-based activities from June to August 2020 is at least of 14.000 people, considering that more than 1/3 of the sample (34 out of 100) could not make predictions and considering also that the institutions responding to our questionnaire are only 1/5 of those who were asked to participate, so probably the number of lost beneficiaries is much higher.

Furthermore, with the new norms and restrictions, workers in the nature-based area are afraid that some educational aspects related to the relationship with the beneficiaries might be negatively influenced, especially by social distancing and protection masks (Tables 7–9).

**Table 7.** How much might social distancing affect the relationship with the beneficiaries under a pedagogical point of view?

N. of Respondents	Educational Consequences of Social Distancing on Relationship
10	1—Not at all
13	2—Only a little
16	3—To some extent
29	4—Rather much
32	5—Very much

**Table 8.** How much might the sanitation of environments and tools affect the relationship with the beneficiaries under a pedagogical point of view?

N. of Respondents	Educational Consequences of Sanitation on Relationship
26	1—Not at all
30	2—Only a little
20	3—To some extent
18	4—Rather much
6	5—Very much

**Table 9.** How much might the use of personal protective equipment affect the relationship with the beneficiaries under a pedagogical point of view?

N. of Respondents	Educational Consequences of Personal Protective Equipment on Relationship
9	1—Not at all
28	2—Only a little
29	3—To some extent
19	4—Rather much
15	5—Very much

Summarizing the answers to the open question regarding the type of impact that the new sanitary norms might have under the pedagogical point of view, participants believe there is a risk of affecting: sociality, relationship, trust, communication, body perception, corporeality, collaboration, sharing, group dynamics.

### 3.4. Future Perspectives and Needs

Around 1/3 of participants (35 out of 100) affirmed that the present situation has opened new possibilities in the nature-based sector.

The multiple-choice question regarding the participants' perception of the long-term effects on their chance to continue their activities reveal different opinions, hopes and fears (Table 10).

It is really interesting that most participants (69 out of 100 answered "very much", and 22 "rather much") believe that nature-based activities in the educational, therapeutic, training and leisure areas might have a very important role for the general restart after the lockdown period. In the following short answer question, they also explained how:

- Attending natural environments is fundamental to go back to normal everyday life and reduce the risk of social withdrawal
- The lockdown period encouraged many people to reorientate their lifestyle towards biophilia and sustainability
- In nature it is easier to keep distance, so it is the most suitable environment in which to start social contacts again
- Contact with nature is relaxing and restorative both under the physical and psychological point of view
- Natural environments stimulate growth and learning holistically.

**Table 10.** The long-term effects on nature-based activities.

N. of Respondents	Opinion on the Possibility to Continue Their Nature Based-Activities
21	Will reorganize and will reopen at full capacity
48	Don't know yet: it depends on future chances
30	Will have to modify or reduce the proposals
0	Will have to close the institution
0	Won't be able to propose nature-based activities
1	Other

Many participants also believe that after the pandemic there will be new working opportunities for the nature-based sector (14 = "Very much"; 32 = "Rather much"; 39 = "To some extent"; 12 = "Only a little"; 3 = "Not at all"). Some examples of new nature-based opportunities after the pandemic according to the participants:

- Schools (and other educational institutions) could finally understand the importance of nature-based education, both for didactics and relationship purposes
- Local tourism could flourish as well as the re-discovery of geographical areas previously ignored
- Open spaces reduce the risk of infection, therefore people will prefer them
- During the pandemic people felt an increasing need for spending time outdoors, as they became aware of how healthy it is. There is a higher and growing desire for recontacting Nature.

The final questions regarded workers' opinions on the short-term and long-term needs of the sector. The main ones are about the social and official recognition of nature-based activities, and financial help (Table 11).

**Table 11.** Nature-based workers' needs (Likert scale: 1 = "Not at all"; 5 = "Very much").

Needs	Short-Term		Long-Term	
	Mean	St. Dv.	Mean	St. Dv.
National guidelines promoting nature-based activities	4.5	0.98	4.27	0.99
Social recognition of our job	4.18	1.07	4.33	0.96
Tax relieves	3.81	1.26	3.64	1.37
Government financial aid	3.77	1.21	3.35	1.39
Financial help for beneficiaries to foster their participation	3.72	1.33	3.75	1.34
Opportunities for discussion with other workers in the sector	3.6	0.99	3.68	1.03
Opportunities for discussion with specialists	3.57	1.07	3.74	1.02
Opportunities for discussion with politicians	3.5	1.23	3.56	1.27
Support for planning and designing activities withing the new norms	3.16	1.16	3.2	1.24
Help in access to credit	2.95	1.42	3	1.38
Mortgages suspension	2.8	1.54	2.69	1.47
Psychological support for beneficiaries	2.21	1.17	2.16	1.13
Psychological support for workers	2.18	1.11	2.22	1.16

#### 4. Discussion

With the Covid-19 pandemic and the related restrictions, the Italian nature-based sector suffered from a sudden stop, both under the economical and the organization/planning points of view: the data we collected through the present research—although partial—show the huge economic loss that was caused both by the lockdown period and by the uncertainties and restrictions during the first reopening phase. During the lockdown period, 76% of the institutions belonging to the sample lost 100% of their working days, and just a small amount of them could benefit from financial aid, probably due to the fact that this working sector is often uncertain and season dependent. The majority of workers in the nature-based area lost their job or the chance of renewing their contract, and the rest suffered from salary reductions.

Without specific aids and without certainties regarding how to apply the sanitary norms, the first reopening phase appeared to be quite critical. Our sample's answers (collected within the first half of June) show strong uncertainty for the future: more than 1/3 are not able to make predictions on their possibility to work in the next months; on the other side, those who think they can go back to work are afraid to lose more than 70% of their working days. On one side, the major obstacles are related to the physical distancing norms, and to the restrictions concerning the transportation and accommodation facilities; on the other side, the main difficulties regard the fear that these restrictions might affect the core characteristics of nature-based activities: interpersonal relationship, trust, body perception, collaboration, sharing, group dynamics . . .

It is a paradox: on one side, nature-based potential is becoming more evident and acknowledged; on the other side, the difficulties of the nature-based sector are considerably increasing, putting this important social capital at risk. In this emergency situation, the workers who answered our questionnaire state two important needs: on one side, they ask for social recognition of their job; on the other side, they require national effective guidelines promoting nature-based activities in the educational, therapeutic, and leisure areas.

#### 5. Conclusions

The Italian "nature-based sector" is made of different institutions/agencies that work in the following areas: environmental education; nature therapy/rehabilitation; socio-educational programs; outdoor sport, leisure and tourism; outdoor and experiential training [23]. People working in this sector (guides, educators, trainers, psychologists, social workers, education specialists . . . ) operate "in nature" with different roles and multiple purposes: educational programs for schools, therapeutic programs, training, touristic accommodation, environmental education. They work in small- and medium-sized institutions/agencies and they simultaneously cover multiple roles: workers, coordinators, managers, project planners, etc.

In Italy, there are no official data on the size of the "nature-based sector", but we know that some of these institutions were founded decades ago, while others have been recently created. Before Covid-19, this sector appeared to be growing throughout Italy because of a new interest towards the natural environment, its benefits, and its need for protection: there was an increasing request for nature-based activities both from private citizens, and from some public institutions (schools, medical services, social services . . . ).

With the Covid-19 pandemic and the related restrictions, the need for contact with nature has increased. The natural environment is known to provide multiple benefits [13–22], so it might meet many needs, both during the emergency and in a long-term perspective:

- the need for distancing and open spaces in order to reduce the risk of infection;
- the need for vitamin-D and for movement, in order to strengthen physical health;
- the need for relaxation and for mental stress reduction
- the need for ecological consciousness in order to reduce environmental damages (e.g., air pollution) and reduce the risk of future pandemics or other global problems;

- the need for solving the dichotomy between Humans and Nature, but also between mind and body.

This is why we need to give legitimacy to a sector that, despite its important history in Italy, is still little recognized and promoted here. It is a lively sector, rich in skilled and passionate professionals who are demonstrating their will to constantly reinvent their jobs, as this research shows. Despite being worried about the changes they need to make to their way of working due to the sanitary norms, and despite the alarming forecasts for the next working season, almost everyone is trying to reorganize their job and to find new creative solutions in order to face the challenges imposed by the emergency norms.

A suggestion aiming to support this sector could be the inclusion of outdoor activities in school programs, with purposes related to learning, connection with nature, interpersonal relationships, social skills; skills that have been dormant during the whole forced lockdown and distancing periods. Another example could be to promote local tourism through financial aid, with the purpose of rediscovering—in a sustainable way—unknown and precious natural locations.

Coherently with the results of the surveys conducted in other countries [1–4], the main conclusions emerging from this research regard the need for social and institutional acknowledgment of nature-based programs and the necessity of more systematic funding. Therefore, there are important implications for institutions and policy-makers who are strongly invited to consider the importance of nature-based experiences and to strengthen the support, acknowledgment, and financing to the sector. Implications for stakeholders are also significant. Since our Research Center is formed not only by researchers but also by practitioners, stakeholders were actually involved also in the construction of the questionnaire; thus, this research is from stakeholders and for stakeholders, trying to give legitimacy to their job and to the urgencies in the sector. We strongly believe that both the results and the implications of the present study are internationally relevant. Since the pandemic has spread worldwide and since other countries are experiencing similar difficulties in the nature-based sector (as shown in the cited UK and US reports [1–4]), we ought to collaborate in order to build a better future for the nature-based sector and consequently for people who will directly or indirectly benefit from it.

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