

# Nature and Health

## - Students' perspective on Nature Assisted Interventions

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### Introduction

*Outdoor environments for health and well-being* is the main topic for an international master's programme offered at the Swedish University of Agricultural Sciences, Alnarp, leading to a master's degree with a major in Landscape Architecture (120 credits). The programme is offered at full time and part time study. Each course includes 2-4 meetings. The programme offers both theoretical foundation within environmental perception, place attachment and landscape architecture. There are courses covering topics on health promoting outdoor environments for different groups of users ranging from public places for children's play and education for elderly in sheltered living. The courses also focus on specific target groups with specific needs such as rehabilitation or therapy.

Two such courses are: 1) nature-based interventions (NBI), with focus on the different types of outdoor environments where the natural space is the primary element of the intervention (focus on the landscape and places as health promoting resources) and the course 2) Nature-Assisted Interventions (NAI), with focus on nature and natural elements such as plants and animals as a medium in a health promoting intervention with focus on activities (focus on the activities that can be performed either outdoors or indoors such as hospitals, elder care homes, schools, space shuttles/ in space, etc.).

This factsheet is based on students' work within the course Nature-Assisted Interventions during spring 2018. The course is divided into four modules where the two first blocks provide overview and introduction into the field of research on plant-human interactions and animal-human interactions as well as introduction to practical examples in real world situations. The third module is performed as a case study, where the student visit and study practical examples of Nature-Assisted Inter-



**Nature as a Human Right!**  
Equal opportunities to access Nature Assisted Interventions (NAI)

**Nature** ⇒ a place for Empowerment and Stress Relief.

**NAI activities** ⇒ Health promoting activities performed in different arenas with nature as the key ingredient.

**Equality** ⇒ enable people access to NAI, regardless of their background.

**Proposed solutions:**  
**Common NAI Policy:** code of ethics and quality regulations to ensure quality of NAI and human, animal welfare.

**Governmental funding** to both the NAI sector and the public in need of NAI.

**Easy access** to information about available NAI - activities.

**RESULTS**  
The study is based on compilation of different case studies made by the authors. Field studies, interviews, literature reviews and observations.

We found inequalities in our case studies for individuals in need of NAI to access the activities depending on their background. Our aim was to find causes for the inequalities and propose solutions.

**NAI in Sweden** lack common policy regulations. It is difficult for both companies to market their NAI activities and for all people in need of NAI (public in general, people with functional variations and people with stress related disorders) to find, afford and participate in the activities.

**Funded NAI** have been focused on stress-related disorders but there is a need to broaden the perspective and enable more equal opportunities regardless of peoples' background.

**WHO definition of Health (1948)**  
"Health is a state of complete physical, mental, and social well-being and not merely absence of illness or infirmity"

⇒ A good example of a network bridge that facilitates all these needs is the coordination platform **GreenCare Finland** which includes **Green Care** and **Green Empowerment**. More info: [www.gcfinland.fi](http://www.gcfinland.fi)

ventions with focus on activities (independent of place - outdoors or indoors). The last module focuses on abstraction of knowledge from the cases. The students presented their cases for each other in smaller groups and afterwards, extracted what they understood as the "core essences" of NAI. From there, the students discussed and wrote abstracts on the topic illustrated in posters, presented in this factsheet.

### Abstracts and Posters on Nature-Assisted Interventions - the essence

#### Nature as a Human Right!

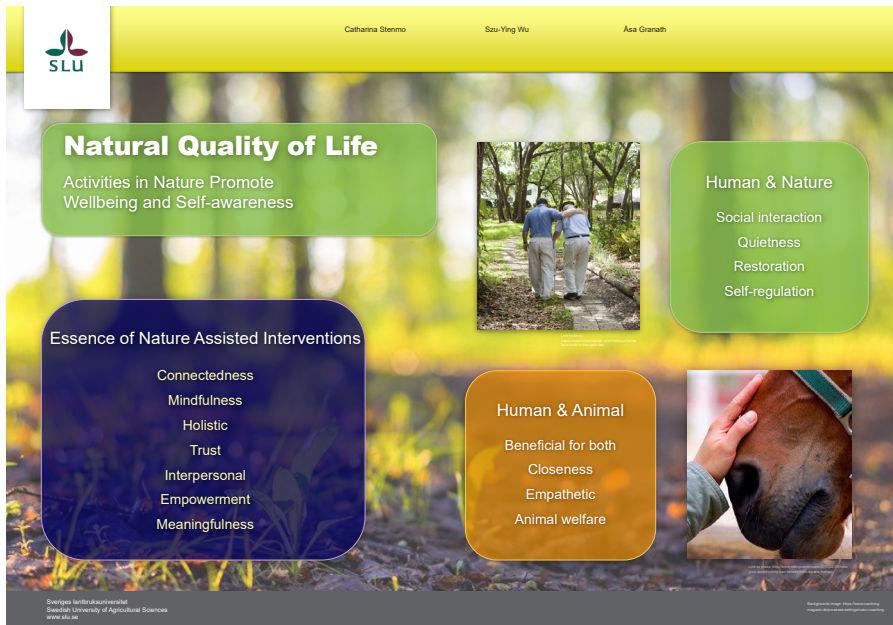
Kerstin Ekeland-Sjöberg, Tetiana Kasaba and Anna Poock

Health is a state of complete physical, mental and social well-being and not merely absence of illness or infirmity (WHO, 1948). In today's society, with increased demands

both personally and professionally, sick leave numbers are rising. In Sweden, the most common cause is stress-induced illness. Here, we see an increase in Nature-Assisted Interventions (NAI), activities with nature as the key element, aimed at this user group, which are subsidised, funded and prescribed as a compliment to medication. It is important to broaden our perspective and see activities assisted by nature also as an important health promoting and empowering tool for individuals with functional variations as well as the public in general, but this is less acknowledged and funded.

Not everyone has the means or the ability to get out on their own; thus, they require help from others to experience activities that include Nature- and Animal-Assisted Interventions.

Our aim was to investigate the reasons for



**Natural Quality of Life**  
Activities in Nature Promote Wellbeing and Self-awareness

**Human & Nature**  
Social interaction  
Quietness  
Restoration  
Self-regulation

**Essence of Nature Assisted Interventions**  
Connectedness  
Mindfulness  
Holistic  
Trust  
Interpersonal  
Empowerment  
Meaningfulness

**Human & Animal**  
Beneficial for both  
Closeness  
Empathetic  
Animal welfare

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that both body and mind matter. Mind-set could potentially make a difference in how someone experiences actual illness, whether the person feels ill or well. Experiencing some control over yourself and your situation gives you a sense of strength and empowerment, which, in turn, enables you to endure almost anything. Interventions are not place dependent. A way of reducing stress and other mental problems is to connect to natural settings, either by being in nature or by being together with animals in another setting. Interventions are often group activities where people with similar life situations meet.

Activities might then serve to bring people together and promote connectedness. To find meaning in life could be hard for someone who has been on long-term sick leave and who may be suffering from depression or other mental issues. Reconnecting with nature, perhaps through a therapy dog, might give back some sense of meaningfulness. Doing activities by oneself in nature could contribute to a sense of tranquillity, which, in turn, brings restoration and the self-awareness that comes from being present with one's thoughts. Self-awareness can affect the ability to take in therapeutic treatments and also lead to better self-regulation. Animal-Assisted activities are beneficial for both humans and animals. The way we treat animals is a reflection of how we treat ourselves and perceive each other. Interaction with animals leads to a higher empathetic intelligence. Doing activities together with animals provides mutual closeness, warmth and comfort, which can reduce stress and depression.

In short, we feel good when we give ourselves Natural Quality of Life!

### The Essence of Nature-Assisted Interventions - Awareness, Connection and Sense of Unity in Nature

Sara Malve-Ahlroth, Felicia Eckersten, Josefin Wilkins, Åse Svanegård

The aim was to understand and clarify the essence of Nature-Assisted Interventions (NAI) by defining its components. Knowledge from individual NAI case studies presented at a group seminar was used in a process of brainstorming and mind-mapping. A starting point was to analyse the definition of Animal-Assisted Interventions (AAI), as used by the International Association of Human-Animal Interaction Organisations (IAHAIO) and apply this definition to all NAIs. Semantic analysis included defining both denotative and connotative meanings of words. A model of NAI was developed based on new definitions of

inequalities in the accessibility of Nature-Assisted Interventions (NAI) and to find solutions for equal opportunities and possibilities for people to access NAI regardless of their background.

The study is based on compilation of three different case studies (CS), interviews, literature reviews and observations. The case studies are:

Nordens Ark, Hunnebostrand, following outdoor activities with focus on individuals with functional variations. During a project spanning over three years, they worked with courses for caretakers and caregivers, with the ambition that the participants feel safe and secure in the forest regardless of circumstances (physical or/and mental).

Amygdalus, Stockholm, a daily activity centre which provides different activities for people with intellectual impairments (autism) by using The Garden of The Senses in Stockholm.

PaulssonPaleo, Halmstad, a family run company on a rural farm. They work with activities focused on nutrition and functional training. Their aim is to help individuals live a healthier and stronger life.

Common policy regulations in Sweden regarding NAI is weak, which makes it difficult for companies to market their NAI activities and for people in need of NAI to find, afford and participate in the activities. Funded NAI activities have been focused on stress-related disorders. However, there is a need to broaden the perspective of NAI to enable more equal opportunities regardless

of peoples' background. A good example of a network bridge that facilitates all these needs is the coordination platform GreenCare Finland, which includes Green Care and Green Empowerment.

Solutions are to form and develop:

NAI Policy: code of ethics and quality regulation to get equality for everyone i.e. public in general, people with functional variations and people with stress related disorders.

Governmental funding for both the NAI sector and the public in need of NAI.

Easy access to information about available NAI activities.

Reference: <http://www.who.int/about/mission/en/> [accessed spring 2018]

### Natural Quality of Life

Catharina Esther Regina Stenmo, Åsa Granath

Nature-Assisted Interventions are about promoting health and well-being by using nature, including nature elements, plants and animals. Interventions are goal directed activities for improving mental and physical health, which are key elements for well-being. By nature, we are social beings. We seek to connect with others and need interpersonal interaction in order to feel included and to feel we are worthy. This also leads to a higher sense of trust, in ourselves, our abilities, in other people and in our natural environment.

Mindfulness is a way of being present, feeling grounded and aware of the here and now. Being in nature has the same effect. It is also of importance to take a holistic view

the components: Nature, Intervention, Facilitator and User as well as the interactions and processes linking these together. All aspects of the model are equally important for it to be considered a NAI. The theory of Connectedness to nature (e.g. Schultz, Mayer and Frantz) was used as a framework in defining *nature*, comprising elements such as water, air, soil and sun as well as plants, animals and humans, in relation to experiencing a sense of meaning and well-being. A sense of coherence and empowerment is acquired by nurturing a balanced approach to nature. *Intervention* suggests the act of stopping, settling or changing a process or state of being. A *facilitator* guarantees quality assurance through knowledge and responsibility. The *user* can be individuals, families and communities with certain needs. In order to promote development, enhance well-being and improve quality of life, interventions need to be structured and aligned with the intention and purpose, relevant to the needs of users. The role of facilitator as a responsible professional provides a safe place for the user to cultivate positive experiences or change. In addition to the benefits for humans proposed by IAHAIO, there needs to be a more holistic approach to well-being concerning plants and animals as well as the environment. A more comprehensive definition is required in order for the facilitator and user to experience the full potential of NAI.

**Nature-Assisted Interventions**

**– a Passing Phase**

*Ann-Marie Bäckström, Andrea Hallórsdóttir, Katriina Kilpi*

Nature-Assisted Interventions refer to activities where nature is used as an integral part or as a tool for an intervention, instead of strictly as a setting for the intervention (nature based). While this definition of NAI is well known in some Scandinavian countries, entirely or slightly different definitions of NAI are used in other countries and contexts. Variations of common NAI methods include e.g. therapy animals in elderly care, design and urban planning, rehabilitation indoors with nature inspired surroundings and care farming.

NAI can be beneficial e.g. for people suffering from depression and schizophrenia, autism, learning disabilities, dementia, and behavioural problems or as a rehabilitation.

Though recent studies show positive results, inconsistencies in definitions and varying levels of education and training among practitioners prevent broader implementation. No standardised worldwide protocol exists for Nature-Assisted Interventions regarding who

**The Essence of Nature-Assisted Interventions**  
Awareness, Connection and Sense of Unity with Nature

**Conclusion**  
NAI encompasses all aspects of nature and involves the interactions between intervention, facilitator and user. All are equally important for it to be considered a nature-assisted intervention.

**Result**

- Nature**  
Elements (e.g. water, air, soil and sun), plants, animals and humans.
- Intervention**  
Changes, settles or stops a process or state of being.
- Facilitator**  
Quality assurance through knowledge and responsibility.
- User**  
Individuals, families and communities with various needs.

**Goal**  
Clarify the essence of Nature-Assisted Interventions (NAIs) with the purpose of better understanding how development, health and well-being are facilitated through connections with nature.

**Method**

- Individual NAI case studies
- NAI Powerpoint presentations
- Brainstorming and synthesis
- Deconstruct AAI definition (IAHAIO)
- Semantic analysis
- Redefine NAI components
- Theoretical framework

**Connectedness to nature** (e.g. Schultz, Mayer and Frantz)  
"People derive a sense of meaning and emotional well-being from being connected to the natural world."  
Frutkin, H. 2018. Oxford textbook of Nature and Public Health: The Role of Nature in Improving the Health of a Population.

can carry them out or how they shall be designed for any given diagnosis.

Using nature for enhancing human well-being and health is not a new concept, and it is experiencing a revival in many countries. However, practitioners are experiencing difficulties in, e.g. marketing their efforts and convincing public bodies to buy their services. The potential of NAI in playing a larger role has not yet been recognised.

Disconnection from nature has been found to be central to the rising social-ecological-environmental crises. Multiple benefits of Connectedness With Nature (CWN) have been linked to physical, social and psychological health and well-being. CWN supports happiness and more purposeful, fulfilling and meaningful lives. CWN is found to be a reliable predictor and motivator for environmentally responsible behaviour (Ives et al., 2018). NAI can enable meaningful interaction with nature; therefore, it can be considered as one possible pathway to CWN.

Similarly, the rising healthcare costs due to ageing populations and lifestyle related diseases such as chronic stress and burnout, depression, etc. are **burdening national eco-**

**NATURE ASSISTED INTERVENTION**  
A passing phase

**FROM RESCUE MODE TO SOURCE MODE**

THAT MAKES NAI/NBI A PASSING PHASE TOWARDS A SOCIETY THAT RECOGNISES THESE CONCEPTS AS THE NORM.

**WHAT'S THERE TO BE GAINED FROM NAI**

- Disconnection from nature is linked to the rising social-ecological-environmental crises. Multiple benefits of connectedness with nature (CWN) include physical, social and psychological health and well-being (2).
- NAI can enable meaningful interaction with nature for various target groups and hence be considered as one pathway to CWN.
- Rising healthcare costs due to aging populations and lifestyle-related diseases are burdening national economies throughout age categories.
- NAI and NBI offer solutions in both preventive and curative forms.
- Easy access, low threshold in getting started, and low maintenance costs, make NAI a cost-effective and sustainable solution to implement and maintain in one's daily life.
- NAI offers a variety of fulfilling employment opportunities in preventive/curative form in a cross-disciplinary field.

On European scale, there is growing recognition in nature based solutions. The European Green Deal's objective shall be the leader in transitioning with nature for more sustainable and resilient societies (3). As one of these NBS, there are significant gains to be had from Nature Assisted Intervention and Nature Based Intervention. Well designed and performed nature, research and economic calculations at all levels are needed to help make NAI/NBI more prominent in society.

**nomies** throughout varying age categories. NAI and NBI can offer a range of activities, in both preventive and curative form. Due to easy access and low to no maintenance costs, NAI can be easy to implement and maintain in one's daily life.

Finally, with possibilities for both preventive and curative forms of use, NAI offers a varie-

ty of fulfilling employment opportunities in cross-disciplinary areas.

We highlight the potential impact that NAI can have on the environment and the society at large. We suggest a move from the rescue mode to the source mode where NAI and NBI become the norm.

Reference: Ives, C. D., Abson, D. J., von Wehrden, H., Dorninger, C., Klaniecki, K., & Fischer, J. (2018). Reconnecting with nature for sustainability. *Sustainability Science*, pp. 1–9. Springer Tokyo.

## Discussion and summary

### Beyond health – Nature-Assisted Interventions – even when getting well is too far away

Magnus Andersson

In Resilience research, the question is no longer how can we get back to a state of equilibrium that is sustainable again; rather, the focus is to stay away from the definite thresholds, bounce back, recover some good when possible, and strengthen our capacity to prevail when the outcome is not going to improve. Human progress has evolved when we have learned to harvest nature in new ways. In the course Nature-Assisted Interventions, four groups have focused on different aspects of how we can look upon the concept of taking Nature to the user, with interventions that assist our capacity to cope better even when we might be too far away from getting well again.

One group focuses on the structure of Nature-Assisted Interventions and suggests a model and some components to it. They start to build a model around the theory of a connectedness to nature, where empowerment and a sense of coherence can be reached using an ecological approach, where we feel good about nurturing nature. Through interventions, it is possible to instil positive acts that will change, stop or stabilise a state of being. This is done by a facilitator, an actor who uses knowledge and responsibility to cultivate positive experiences or change with

the help of nature for specific users with certain needs.

Another group reflects on the need to problematise and broaden the definition of health stated by, for example, the United Nations in 1948 to include more health promoting aspects. Some people do not have the capacity to act in a health promoting way to the same extent as others; thus, there are inequalities. Activities that include nature, plants and/or animals can be key elements in a healthy lifestyle. Therefore, there is a need for assistance in enabling the experience of positive impacts of nature to all groups, as there is such variation in the capacity to reach and use places where activities in nature can take place. Sometimes, the natural resources, plants and animals must be brought to the users.

A third group calls for a normative shift away from a rescue mode to a source mode, where we form our way of living into being more in accordance with the essence of Nature-Assisted Interventions as well as with Nature based interventions. The rationale here is that our present way of organising our society is not in balance with a sustainable and ecological way of life, which creates problems both for individuals and for society as a whole. Our Connectedness with Nature calls for more of an ecological lifestyle that would benefit our health and well-being. This would also be a better way to keep fiscal costs for healthcare and sick leave at lower levels.

Finally, the fourth group promotes a natural quality of life through Nature-Assisted Interventions. They look to Mindfulness as an inspiration for how human beings can culture a natural mind-set that can empower us to endure almost everything. Reconnection to nature can foster a better capacity to experience meaning and a 'mindful' natural quality of life, regardless of the placement and our current health status. Animal-Assisted Interventions can help us to achieve an emphatic intelligence and to reflect on how we want to be treated ourselves.

## Concluding remarks

Nature-Assisted Interventions seem to be an obvious way to promote resilience in individuals, groups and societies. We all want to experience quality of life, even when we need to face the fact that our health is going to fade away. Nature seems to offer a proven health promotion resource that can be used wherever we are and so long as we live. Connection to nature can help us stay on the safe side of the critical health thresholds. As humans, we desire to tame nature and to care for our vulnerable. Cultivation of nature is possible in new ways and can be used even beyond health when some quality of life is the major outcome. Nature-Assisted Interventions offers examples of such new ways.

## Acknowledgment

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  - På webbadressen <https://pub.epsilon.slu.se/> kan detta faktablad hämtas elektroniskt