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Atlantic Wonder. Exploring Nature and Design in Madeira island

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Abstract: This paper describes and reflects upon the experience of the first international summer school “Atlantic Wonder” (SSAW18) happened in Madeira last July 2018. This event was the first experiment of a wider research that pretends to understand how Design can contribute to the preservation of natural resources and ecosystems. This summer school was designed with a complex programme using a series of different tools and approaches (i) to tackle the lack of a conversation and culture on a local level recognising Nature as one of the main resources; (ii) to put in dialogue an international design group of participants with local experts working in the fields of biology, botany, geology, agronomy and sustainable development; (iii) to experiment a new design driven, Nature-led approach. The SSAW18 allowed cross-fertilization and interdisciplinary responses that in the end of the experiment resulted to be collaborative, novel and inspiring.

Keywords: Nature Centred Design; Walking as learning; Design process; Nature; Learning from Ecosystems.

1. Introduction

A tree gives us back our potential of vision,
brings us back to ourselves with a capacity of seeing and living.
Luce Irigaray, *Through Vegetal Being*

In the last thirty years, Madeira island has suffered enormous transformations in terms of infrastructures to facilitate mobility (highways, tunnels, harbours), construction, intensive agriculture and tourism facilities, which had a big impact on the natural landscape and on the delicate ecosystems of the island. In this context we have started to question the role of Design in the sustainable development of such a small and rich territory. Madeira island is a privileged place where one can find forest and ocean, high mountain and coast line almost side by side. The natural, geological and geographic characteristics provide the best scenario where to observe and discuss

most of the problems the Earth is facing, such as pollution, wildfires, floods, desertification and climate change, endangering and threatening the local population.

We have started a research project that intends to tackle these issues. To understand the approach, we initially devised the idea of a summer school as a pilot project aiming to:

- raise awareness about the importance of Nature, its resources and ecosystems;
- open the dialogue to international and multidisciplinary contributions through a positive and collaborative approach;
- identify a new design driven and Nature-led approach.

We identified two main issues to tackle locally: (i) the lack of a conversation and culture recognising Nature as one of the main resources to preserve and not to be taken for granted; (ii) the absence of a constructive dialogue between the numerous local experts in biology, botany, geology, forestry, agronomy and sustainable development, having different perspectives, opinions and visions about how Madeira's landscape and natural ecosystems should be treated.

We also observed that the island reveals a complex, sometimes contradictory, relation between humans and Nature where on one side political actions are intended as a way to protect Nature, on the other to exploit it. For instance, the government supports the overbuilding of large hotels, while conversely, private eco-tourism enterprises flourish with the influx of new visitors to the island. The intensive agriculture has been questioned by a rising number of local organisations promoting organic farming. And the continuous risk of wildfires is counterbalanced by the efforts of reforestation and conservation of endemic botanic species.

As Design researchers and educators working in this island, we got interested into the vast literature regarding Design and Nature, from ecological design to natural design (Papanek, 1995), the different methods and approaches born to foster Nature inspired solutions such as by biomimicry, the bioneers (<https://bioneers.org>), 'cradle to cradle' design (McDonough and Braungart, 2002), and started to feel more responsible toward the Sustainable Development Agenda by the United Nations (www.un.org/sustainabledevelopment/development-agenda/). We tried to combine these resources with our experience with the Human Centered Design approach, collaborative and participatory design processes and methods.

In the meanwhile, we became more aware of the benefits of being directly in contact with Nature during our numerous hiking trips in Madeira forests. With the time we also learned that knowing and walking have the same root, a trace of this very old connection is still present in many languages. Somehow, in contemporary Western societies, we lost our relationship with the slow rhythm of walking, that allows us to enter in a meditative pace, to know by taking the time we need (Kagge, 2016). We observed in our daily teaching and working experience how our bodies are not made to stay sit indoor for many hours. In fact, it was through walking that we first experienced the world as humans. Then we started to question the limiting experience of teaching (and learning) mainly within the walls of a classroom and wonder if we could expand the learning moments on field, in contact with Nature, by walking and exploring, with the company and contribution of other disciplines and types of expertise. When we started to define the summer school, we clearly wanted to try to intersect the different concepts with different learning rhythms and environments (indoor and outdoor) with a new design driven and Nature-led approach.

Beyond sustainability lies an attitude of designing with and as a part of nature, learning from natural processes how we meet human needs within the limits set by the biosphere (Wahl, 2009).

2. Atlantic Wonder Summer School

We conceived a six-days summer school as an international, interdisciplinary and collaborative environment where to start building constructive conversations on sustainable development in Madeira and encourage a new Nature-led design approach.

We identified and involved different actors to build a diverse team of mentors, experts and stakeholders ready to contribute with their own knowledge and experience. Of the five mentors three were design theorists in the field of sustainable design, design philosophy and design history; two were design practitioners in the field of design for future scenarios and information technology. The local experts invited to share scientific contents were from different disciplines, such as botany, biology, entomology, agronomy, geology. They operate in different institutions in Madeira and use different approaches to observe and understand Nature. Finally, the stakeholders we involved were representatives of local organisations, from public institutions (PI), to private enterprises (PE) and non-profit associations (NPA); these were: the Marine Biology Station (PI), the Natural History Museum (PI), University of Madeira (PI), Fajã dos Padres (PE), SoloBio and FreshBio (PE), Organica (NPA), Cowork Funchal (PE).

Initial objectives of the SSAW18 were to:

- Generate interdisciplinary dialogues around the theme “Design & Nature”.
- Identify the role of Design in the complexity of perspectives, theories and challenges regarding climate change, wildfires, desertification, pollution and floods in Madeira Island.
- Define an alternative way of learning about and from Nature – especially in the field of Design, based on walking and being on field.
- Co-design creative and strategic responses for sustainable futures in Madeira.
- Use these responses to try to disrupt the local consideration of Nature as resources – such as land, woods, sea and fresh water, to be exploited and, on another side, as a theme to be addressed just from one disciplinary and technical point of view.
- Capitalize on the opportunity to strengthen collaborations and to enrich this research with partner institutions and visiting guests.

2.1 General Guidelines

We structured the AWSS18 programme following the Inspiration, Ideation and Implementation phases of the Human-Centered Design process by IDEO and articulating activities on field, theoretical contributions, social events, methods and tools (Figure 1) to provide the participants a new approach to learning and designing for Nature.

	ACTIVITY	METHOD	TOOL
INSPIRATION	DAY 1 Exploration in Nature #1 <i>Observing from another point of view: from Eira do Serrado to Pico Areeiro</i>	Walking with an expert with an agronomist and a Local entrepreneur	.travel journal .camera
	Pill of knowledge <i>"Design for Life. Creating Meaning in a Distracted World"</i>	Frontal lecture by a design theorist	.travel journal .multimedia presentation .bibliographical references
	Opening Party	-	-
	DAY 2 Exploration in Nature #2 <i>Observing the tide and discovering hidden worlds in Caniço (the sea)</i>	Observing with an expert with a marine biologist	.travel journal .camera
	Exploration in Nature #3 <i>From Ribeira Brava to São Vicente, Fanal, Levada dos Cedros (the touched and untouched landscape)</i>	Walking with an expert with a botanist	.travel journal .camera
	DAY 3 Exploration in Nature #4 <i>Learning from the forest: Curral das Freiras, Encumeada, Laurisilva</i>	Walking with an expert with an agronomist, a biologist, an entomologist	.travel journal .camera
	Pill of knowledge <i>"Where Does Nature end (and Design starts)?"</i>	Frontal lecture by a design historian	.travel journal .multimedia presentation .bibliographical references
	Nature Talks <i>"From Collections to Time"</i>	Open discussion with mentors, Local experts, participants and other people from Madeiran community	.travel journal .camera
	Networking Party	-	-
	DAY 4 Exploration in Nature #5 <i>Learning from the Sea: (1) A guided tour at the Marine Biology Station (2) The sea and organic farming at Fajã dos Padres case</i>	Observing with an expert (1) with marine biologists (2) with agronomists and local organic farming entrepreneurs	.travel journal .camera
Pill of knowledge <i>"On Futures, Design & Islands"</i>	Frontal lecture by a design professional	.travel journal .multimedia presentation .bibliographical references	
IDEATION	Let's Design! Mapping the Complexity & Defining the Design Challenge	Brainstorming > Clustering > Team forming > Brainstorming > Shaping the Design Challenge	.post-it notes paper and markers the nature&design library
	Creative Dinner #1 Tasting the land's offering	Tasting and meeting organic farming in Madeira: products and producers	.food (local products) .promotional material about the local organic farming
	DAY 5 Yoga Re-balancing the energies	Yoga exercises Led by a professional yoga teacher	-
	Let's Design! Ideas Ideas Ideas	Brainstorming, Meeting other experts and people, Ideate, Sharing with the mentors, Presentating to the whole group	.Exercise of Reflective Practice Guidelines (1) Our Design Challenge (2) Understanding the Context
	Pill of knowledge <i>"Design for Sustainability"</i>	Frontal lecture by a design professional	.travel journal .multimedia presentation .bibliographical references
	Let's Design! A designerly interpretation of the challenge	Ideate and Experimenting, Prototyping, Sharing with the mentors, Presentating to the whole group	.Exercise of Reflective Practice Guidelines (3) A designerly interpretation of the challenge
	Creative Dinner #2 Expanding the discussion to new guests	Informal conversation on themes and ideas	-
	DAY 6 Yoga Re-balancing the energies	Yoga exercises Led by a professional yoga teacher	-
	Let's Design! A design response	Finalising the design response and Sharing with the mentors	.Exercise of Reflective Practice Guidelines (4) Our Design Response is..
	Exhibition <i>of the three design responses</i>	Implementing a visual telling of the design responses and design thinking processes	.Four Posters layout based on guidelines 1,2,3,4
IMPLEMENTATION	Final Presentation	Pitching the design response and Getting feedback from experts, Local stakeholders and mentors	.The Four Posters .Evidences also called lo-fi prototypes .Pitches
	Closing Party Networking	-	-

Figure 1. The AWSS18 programme map: design thinking phases, activities, methods or approaches, tools.

The **Inspiration** phase, corresponding to the first three days of the programme, was dedicated to learning about the island's landscapes and ecosystems through fieldwork, theoretical contributions and self-reflective dialogues.

We felt that the fieldwork was essential to understand about the past, present and future of the varying Madeiran landscapes and ecosystems because of the constant human intervention and the natural responses to it. We defined walking and being in the nature as a form of learning. We involved some local experts in biology, botany and agronomy to lead the "Exploration in Nature" and to provide the participants the spectrum of multiple scientific, political and social perspectives and opinions existing in Madeira on how Nature should be treated and "managed".

The Inspiration phase also included different forms of theoretical interventions, such as:

- The "pills of knowledge", four frontal lectures by the invited mentors with the intent of guiding the participants to reflect upon the relation Humans-Nature and the role of Design in shaping sustainable futures;
- The *Nature Talks*, a conversation with mentors, local designers and experts open to the Madeira's community, to reflect on Nature, the role of explorations and collections, the concept of time. The Nature Talks followed the *DESIS Design Talks* format (www.desis-philosophytalks.org).
- The *Creative Dinners* as social moments where the participants and mentors could meet and learn from some other local stakeholders (e.g. researchers, farmers, entrepreneurs) interested in Nature preservation and sustainable development.

The objective of this phase was to provide the participants direct experiences and theoretical contents to reflect upon the relation between humans and Nature, the Madeiran present conditions, future risks, problems and potentialities.



Figure 2. Explorations in Nature. Walks led by local experts in botany, biology and agronomy.

To begin the **Ideation** phase, we asked the participants to brainstorm around the initial questions raised by the local experts and mentors, as well as the lessons learnt in the first days of the programme. To navigate the complexity of the conversations and facilitate the process, we clustered the thoughts into three main themes and asked the participants to form their teams according to their interest. It resulted as one team for each theme, such as forest, water and agriculture.



Figure 3. Brainstorming and clustering the topics and questions encountered in the first days of summer school.

We invited them to embrace a Nature thinking approach to deal with the interpretation of what they learnt and to try to turn the insights into tangible ideas. We provided them with specific guidelines to conduct an exercise of reflective practice within the complexity of scientific information and data, opinions and perspectives, variables and opportunities concerning Nature, the island and sustainable development. The guidelines (Figure 5) were meant to be a tool to manage the design process intensity and time constraints. The objective of the Ideation phase was to map the complexity, define a design challenge to tackle, think about ideas that responded to the challenge, experiment and prototype, finalise a design response (see Figure 1) to present to experts and local stakeholders and open a conversation on what Design can and could do for Nature in Madeira.

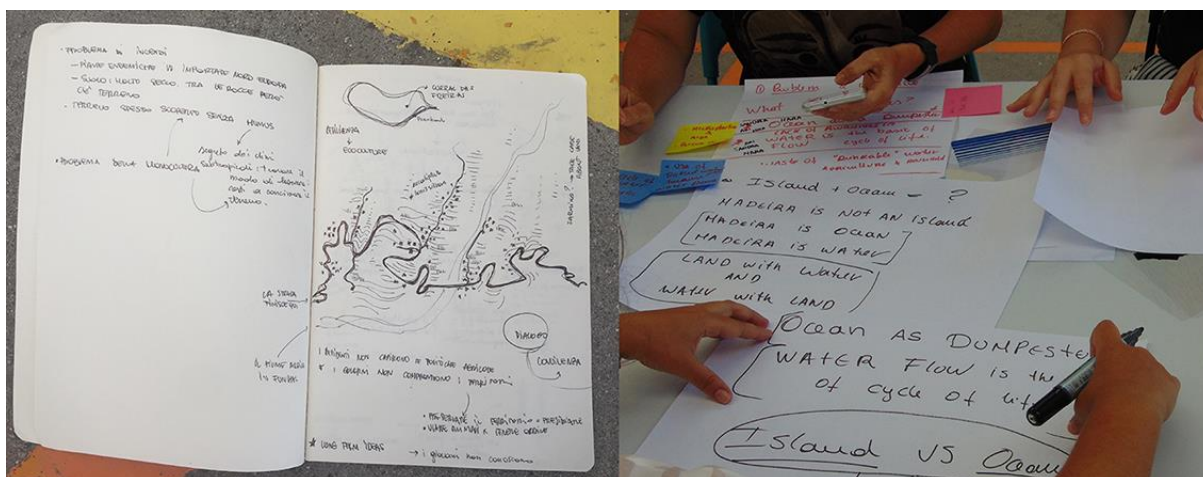


Figure 4. From notes and sketches on field to definition of the design challenge in team.

We planned the ideation phase considering also the quality of the work environment, such as:

- A flexible work space provided by the Cowork, to encourage collaboration and dynamism between the participants and local stakeholders visiting the SSAW18.
- A Nature & Design library with numerous books about nature, design and Madeira island, available any time for consultation, to stimulate the Nature thinking and ideation process.
- Two Yoga classes before starting the day, to remind us that we, as humans, are part of Nature as energetic living beings.

- Two Creative dinners as social moments where to learn, have fun and build new friendships at the same time.

For the **Implementation** phase we asked the teams to visualise and make as tangible as possible their thinking process and design response. We provided the layout for four posters to be used for a final exhibition and presentation to local experts and stakeholders on the last day of the SSAW18. The posters followed the guidelines (Figure 5) and had the following titles: The Design Challenge; Understanding the Context; A Designerly Interpretation of the Identified Challenge; Our Design Response.

Mapping the Complexity > Understanding the Context > Experimenting > Designing a Response

<p>1</p> <p style="text-align: center;">THE DESIGN CHALLENGE</p> <p>>> The problem we want to tackle is... <i>Write it in a simple and short sentence that also a five years old kid can understand.</i></p> <p>>> Our objective is...</p> <p>>> Keywords, Key-Questions and Values</p> <ul style="list-style-type: none"> > Identify 5 keywords related to your topic. > Identify 3 questions to focus your discussions and your research. > What are the values you will be guided by or that will be expressed in your <i>design response</i>? <p>>> Benefits</p> <p>Describe the benefits you expect to achieve by tackling the design challenge you have identified, thanks to the intervention you propose.</p>	<p>2</p> <p style="text-align: center;">UNDERSTANDING THE CONTEXT</p> <p>In relation to your Design Challenge describe what you have learned about the past, the present, and possible future of Madeira.</p> <p>i.e. reflect and summarise what you learned</p> <ul style="list-style-type: none"> > through the explorations in Nature > by meeting the experts > from the mentors' perspectives (the 'pills of knowledge') > by reading suggested texts > impressions and conversations in Madeira > the <i>Nature Talks</i> discussions <p>You can also use images, sketches, diagrams to support the description.</p>
<p>3</p> <p style="text-align: center;">A DESIGNERLY INTERPRETATION OF THE IDENTIFIED CHALLENGE</p> <p>>> Frame your challenge in a designerly way</p> <p>Issues, tensions, opportunities, stakeholders, obstacles.</p> <p>>> Illustrate the process</p> <ul style="list-style-type: none"> > thinking: questions, ideas, thoughts > doing: sketches, diagrams, images > connecting: links, relationships > strategies: stages, developments <p>>> Show the route you have taken</p> <p>Decisions; rationale; included issues; excluded issues</p> <ul style="list-style-type: none"> > Is it a 'product' design process - to do what? > Is it a 'service' design process - to enable what? > Is it a co-design process - who are the participants? > etc. 	<p>4</p> <p style="text-align: center;">OUR DESIGN RESPONSE</p> <p>>> Briefly describe (with images and words) your design response:</p> <ul style="list-style-type: none"> > our design response is... > it will achieve this... > the main promoter or champion will be... > the key beneficiaries will be... > the key stakeholders will be... <p>>> Be visual!</p> <p>Sketches, images, diagrams, photo montages, collages, moodboards, scenarios, storyboards, maps, videos, objects. Make it real!</p> <p>>> Potential impacts</p> <p>(Describe how your proposal could impact positively on environmental, economic and social levels).</p> <ul style="list-style-type: none"> > Practical- utility, achievement > Personal - spiritual, identity > Social - ethical, community > Environment - reducing, preventing, building, growing > Economic - grants, support, profits, incentives

Figure 5. The Exercise of Reflective Practice Guidelines, following the process: mapping the complexity, understanding the context, experimenting and designing a response.

The Implementation phase objective was to demonstrate the audience the capacity of the design approach to respond to the complexity of the themes and current debates in a creative, strategic and holistic way. We asked the participants to imagine how their design response could become real (e.g. thinking about the potential partners and stakeholders, the channels of communication; creating mock-up or evidences of the service or system proposed). We asked them to prepare a pitch that could explain their designerly interpretation of the identified challenge and encourage a discussion with the invited experts, stakeholders and mentors as an initial assessment of their responses. The final exhibition and presentations represented the opportunity for us to test the interest of the local experts and stakeholders into Design and in collaborating with us for building a new solving problem approach to complex issues regarding Nature preservation and sustainable development.

2.2 The outcomes from an exercise of reflective practice

The fourteen participants were all women, coming from different study and work background (such as, Product Design, Yacht Design, Graphic Design, Digital and Interactive Media, Information Technology, Social Sciences) and countries (Portugal, Italy, UK, Turkey, Germany, Romany, Sweden).

They formed three teams to focus each on one of the three macro-themes: four people worked on agriculture, four on water and six on forest. Thanks to the provided guidelines and the constant dialogue with the mentors and us, they were able to prepare and present their design responses in less than 48 hours. The design responses by the three groups highlighted a common awareness of the importance of preserving and respect Nature. They also contributed to new conversations among the international and multidisciplinary group and demonstrated how design process can be driven by a positive and collaborative approach.

They started by filtering the quantity of information they received through the *explorations in nature* and *pills of knowledge* and identified the problem that in their opinion was more urgent to tackle. The Figure 7 resumes the responses, trying to highlight the fact that all the three are on a system level (such as, product-service system, infrastructure system and service system) and look at the impact on environmental, social, cultural and economic side.

The teams presented their designerly interpretations of the design challenge and design responses with the support of the four posters mentioned in the section 2.1, and also using different strategies for prototyping: from video and evidences (AgroGYM), to acting (ReVERT), to mock-up of webpages and evidences (GOForest).

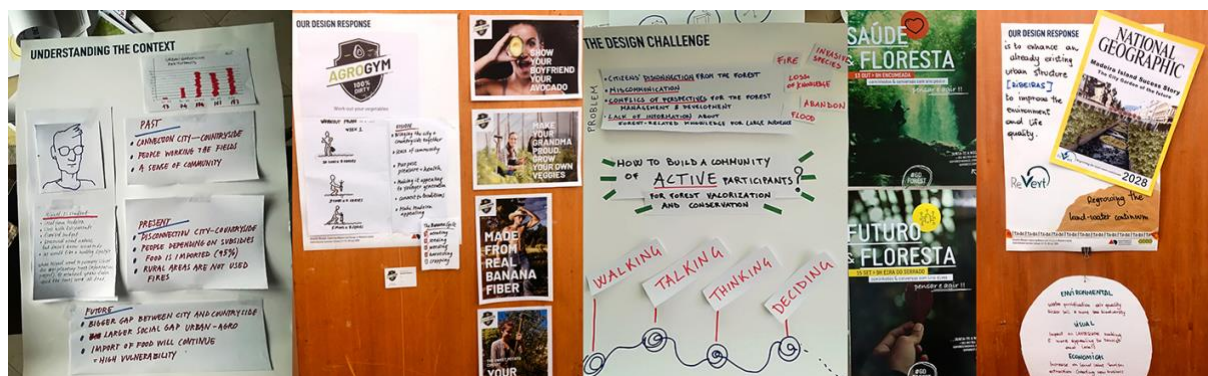


Figure 6. The Design responses, poster presentation of the design proposals called AgroGYM, GoForest and ReVERT.

	FOREST	WATER	AGRICULTURE
NAME	Go Forest!	ReVert	AgroGYM
WHAT IS IT?	it's a product service system for community building to preserve Madeira's forests. The system includes activities such as Walks&Talks with experts, online tools to learn and meet. Product-Service System	it's an infrastructure intervention - vertical gardens - along the water canals walls crossing the city. It also calls the active participation of citizens and schools. Infrastructure System	it's a service for young people living in the city who wish to train their body, but can work the land and contribute to sustainable farming regeneration. Service System
PROBLEM	<ul style="list-style-type: none"> . Citizens' disconnection from the forest . Conflicts of perspectives for the forest management and development . Lack of information about forest related knowledge to a large audience . Miscommunication 	Humans built water irrigation systems ("levadas" and "riberas") that today are like "highways to dumpster": more and more soil, chemicals and garbage flow into the Ocean, suffocate algae contributing to the sea desertification.	<ul style="list-style-type: none"> . Disconnection between city and countryside realities . 95% of the food available in Madeira is imported . Rural areas are abandoned causing more risk for wild fires spreading . Many people depend on subsidies
DESIGN CHALLENGE	<p>How to build a community of active participants for the forest valorization and conservation?</p> <p>∨</p> <p>How to bring people back to the forest to walk, talk, think and then decide for its healthy future?</p>	<p>How to prevent the flowing of pollution into the sea?</p> <p>∨</p> <p>How to make people understand that the island is a part of the Ocean?</p>	<p>How to make the care of the land and landscape interesting to young people?</p> <p>∨</p> <p>How to make farming and working the land appealing to urban people, in particular young ones between 18 and 40 years old?</p>
BENEFITS & IMPACT	<ul style="list-style-type: none"> . <i>Social</i>: more informed, aware and active citizens; ready to discuss about environmental issues and participate for land/forest development. Also, increased sense of belonging to the land, the Region and Nature. . <i>Cultural</i>: improvements in knowledge-transfer processes where local enterprises and professionals meet science and vice-versa . <i>Economic</i>: promotion of a responsible and sustainable tourism model 	<ul style="list-style-type: none"> . <i>Environmental</i>: constant water purification, improved air quality, richer soil and guaranteed sea biodiversity . <i>Visual</i>: improvements on the urban landscape making it more appealing to tourists and locals . <i>Economic</i>: increase of land value, interest in investing and new business that revitalise the area, more flux of tourists and citizens. . <i>Social</i>: more active and responsible citizens 	<ul style="list-style-type: none"> . <i>Cultural</i>: bringing urban and country lifestyles closer and keeping certain traditional rural activities alive . <i>Social</i>: building a sense of community and promoting a sense of purpose that combines pleasure with healthy lifestyle . <i>Environmental</i>: making farming appealing to the younger generations and regenerate abandoned lands. . <i>Economic</i>: regenerating the land value

Figure 7. The Design responses by the three teams.

To conclude, the three design responses confirmed the necessity of a shift of consciousness (Wahl, 2009) within the local society and communities toward the value of Nature as a common resource to be respected and protected. Through their design interpretations, all the teams suggested that change can happen only if by informing people through more accessible language and channels. Also by building a new culture that re-conceptualises our relationship with Nature, that is recognising humans as part of It and not as ruler figures.

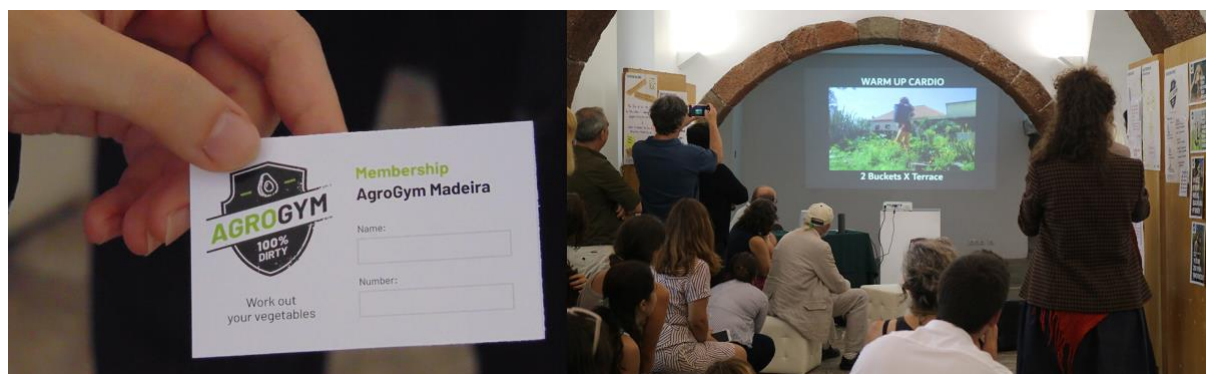


Figure 8. AgroGYM: one of the service evidence and the promotional video shown to support the pitch.

2.3 Reflecting on the experience

During our conversations, organizers and mentors, some important questions regarding terminology and philosophical issues rose up. One regarded the necessity to rethink our understanding and interpretation of time and ecology when designing. How should we address the conflict between Nature time and human needs, when creating new policies or designing new systems, services, communication tools and products? How can we propose artifacts that, in order to be effective, must last longer than the lifespan of a human being? Nature has been adapted by humankind to serve its needs and wishes. Would it be possible for us to return to the original relationship between Nature and time?

Another point regarded the term “Nature” in a very general way, referring to forests, sea, rivers, trees, flowers, animals. By the time, we started to question this term that we were using so extensively. For instance, can we really call Nature what we find in Madeira today? Is it all natural what surrounds us or is it just all artificial? Said that, would it be correct to think and talk in terms of dichotomies or strict definitions?

Reflection upon the experience was made through observation and participation during the programme itself and after the closing of the summer school. The participants were asked to answer to an online questionnaire; the mentors were interviewed via skype; the stakeholders were involved in informal conversations.

Regarding the participants we submitted a quantitative and qualitative questionnaire, structured in three parts. This is another tool we chose to verify if our aims were achieved:

1. Did the SSAW18 raise awareness about the importance of Nature, its resources and ecosystems?
2. Were the multidisciplinary contributions and collaborative approach proposed in the workshop beneficial to establish new bridges of dialogue and stronger responses?
3. Did the given tools and themes lead to generate a Nature Design practice?

The questionnaire was divided into three parts. The first one corresponded to the first aim and included questions about the participation in the SSAW18. We wanted to analyse the participants' opinion about the overall experience; the main highlights; how the experience contributed to their professional/studies activities; the interdisciplinary character of the SSAW18; the most compelling activities and the most difficult parts of the programme.

The second part regarded the contents, tools and approach proposed in the programme. We wanted to understand the participants' expectations before attending the SSAW18, how they considered the Design role to be toward Nature before and after the experience; if the SSAW18 galvanized their interest upon Nature and sustainable development; if they have applied anything learned during the SSAW18 in their own professional or research activities; and finally, which part of the programme supported their reflection upon Nature and design thinking process.

The third part was dedicated to open questions about the overall experience. Through this final part we also wanted to get some feedback and suggestions for future activities.

The sample includes 12 participants. Their origin varied from Britain, Germany, Italy, Portugal, Romania, Sweden and Turkey. The age range was between 23 to 45 years old. 33% of the participants were PhD students and PostDoc, 25% professors, 16% freelancer designers and 16,7 undergraduate students. All of the them work or study in Design field.

The main results that have emerged from this questionnaire are:

1. 83,4 % of the participants considered the overall experience as "Outstanding" (41,7%) to "Very Good" (41,7%) 16,7% "Good".
2. The highlight of the SSAW18 were: "walking and field work" (75%); "talking with the local experts" (75%); "Learning about Madeira context and nature" (58,3%)
3. This experience contributed to their professional activities giving them: problem solving tools; Design process guidelines; ability to connect Nature with design; ability to work with a network of designers and scientists interested into Nature.
4. About the interdisciplinary approach, the participants learned more about: the possibility for every profession to approach Design and Nature in a creative way. The importance of the citizen participation in decision-making processes; co-design practices and cultural background. Innovation Design requires a holistic perspective and the interdisciplinary character of the SSAW was a bonus for teamwork. The SSAW format could be relevant even for more students, such as engineers, architects, designers, marketers and business students. Finally, one can learn outside the classroom "You can have a lecture in a wood"; the detailed and informed knowledge of the experts, exemplifying during the walks as the major considerations of all.
5. "Did the SSAW18 boost your interest upon Nature and sustainable development?" 100% yes
6. The most compelling activities were: "Excursions around Madeira and Levada walks" (75%); Followed by the "Visit to Faja dos Padres", learning about sustainable agriculture (66,7%); "Levada walks in the forest" (58,3%). The less compelling activities were: the "Creative dinners" (16,7%); "Field work by the sea" (16,7%), "Yoga sessions" (16,7%); "Pills of Knowledge and Nature talks" had 25% of interest.
7. The most difficult parts of the whole experience were: "to deal with the complexity of the themes and discussions" (41,7%) and "working in big groups" (41,7%); followed by "defining a problem and to give a Design response in a short period of time" (25%).
8. The expectations regarding the role of Design before and after the SSAW18 are quite interesting. Before attending the summer school 75% of the participants considered that the role of Design is "Creating new visions / future scenarios". After attending the programme, (66%) considered the role of Design to regard "Promoting new social / communities

initiatives"; (58,3%) considered the design role to be, "Facilitating dialogue / Visualising complexity", and "Facilitating strategic thinking" both before and after attending the programme.

9. The activities that supported the reflection on / understanding of Nature and design thinking process were *execquo* (75%): "Walking in Nature" and "Brainstorming with the other participants and mentors". The second relevant aspect was that (66,7%) considered to be "meeting with local experts" the activity that help them. The ones that impacted less were: "pills of knowledge", the "creative dinners" (16,7%) and the "yoga sessions" (8,3%).
10. Regarding future initiatives, all of the participants required more time (more than 6 days) and more free time, to reflect and to relax. Increasing the duration of the Summer School would allow to have more time for experimentation and activities related to fieldwork and more time for the Design process and project and less for theoretical contributions.

Through an overall look, we can consider that our expectations were fulfilled. We understand the programme was complex, full of activities, immersive and demanding either intellectually and physically speaking. On another hand, the importance of the theme and impact on the participants life was considerable successful. We believe that the role of designers as transdisciplinary integrators and facilitators in participatory processes (Wahl & Baxter, 2008) was achieved. To reinforce this, someone left us this comment "On a personal matter, the overall experience is still on my top list of best things that happened to me. I am thankful, that I went out of my daily routine, working in a multinational company in a small desk, and I experienced another type of project work and creativity. The biggest change after the summer school is that I became aware of the environment around me and I have set my own work ethics."

Considering the **mentors** opinion during and after the SSAW18, we wanted to know from them mostly how they evaluated the overall experience and their considerations on the role of Design towards Nature. All mentors commented positively on the initiative because of the diversity of activities and openness toward different disciplines and methods; the effort in gathering different kinds of expertise, from mentors to local stakeholders, and participants. On the other end, they also highlighted the importance of balancing the programme in order to let the participants explore both the island and the themes on their own, leaving more space for personal research and discovery. The mentors agreed on the role of Design in trying to disentangle the complexity and the interdependencies existing when preserving, protecting, using, managing Nature, its resources and ecosystems. Also, they declared that:

1. Designers have still much to learn from traditional ways and natural ways to try to answer complex issues in a simple way, like for instance organic farming (Stuart Walker).
2. Design, intended as process, is "a formable language in which to articulate ideas and concepts and hold a conversation, regardless of whether, if ever, a goal is attained" (Gabriele Oropallo).
3. Design can integrate different needs and perspectives by considering desirability - what different communities love and get engaged with - and durability, that is about solutions able to impact and last longer after the initial momentum (Nicola De Franceschi).

The **stakeholders** left us positive comments on the SSAW18 programme and final outcomes, probably also because this was their first experience in seeing designers, non-experts in agronomy, biology, botany, trying to tackle some of the themes and topics that usually are discussed only in scientific and technical environments. Although expecting to get more detailed design responses by the participants, i.e. more specifications to implement the presented service-systems, all stakeholders understood the limitation of time and, instead, appreciated the variety and creativity of ideas and proposals. In particular, the stakeholders:

1. Learned that Design is not only about “styling” but also about process, strategy and holistic thinking;
2. Realised that SSAW18 opened the doors up for a wider and maybe more constructive discussion about the problems we are now facing globally, such as pollution, wildfires, floods, desertification and climate change, and
3. because of the immersive programme format, generated more dialogue and reflection than any other scientific event occurred in the island so far.

3. Conclusions

To speculate about futures is an antidote to the imagination deficit of society, to the dichotomies of thought, the monocultures of logic that petrify us into the ever-present [...] Maybe we should look at Madeira as an archipelago of futures, islands of possibility in an ocean of change. (Nik Baerten, “On Futures, Design & Islands”, SSAW18).

The initial plans were ambitious for the themes and topics we touched along the six days of activities. More than practical and detailed solutions to current problems and challenges, were the philosophical questions behind terms and ways of thinking that interestingly impacted on the conversations we had with participants, mentors, local experts and stakeholders.

Through the summer school we learnt that nothing is untouched - especially in Madeira - and what we use to call Nature is generally result of human intervention. The island of Madeira witnessed the destruction of the original forests, intensive farming along with the repeated introduction of many new plantations, numerous works of hydraulic systems (levadas), lands for centuries continuously reshaped into terraces under the work of farmers, periods where the forests were forgotten and could grow again; and then again fires followed by failed reforestation operations.

While we can question the very idea of ecology (Descola, 2010), imagining that space can't be inhabited permanently (Coccia, 2018) and look at the indifference of Nature towards humanity (Stuart Walker, Nature Talks in SSAW18), we can start by interrogating the narrative of “the emergency of rescuing” Nature. Since the beginning of the SSAW18, the marine biologists, agronomists and botanists we involved, gave us the same message: humans don't need to protect Nature, instead, protect the existing “balance” in which humans can live in. As the relation and order between human beings and Nature change, Nature, following its own time, will create a new balance where humans probably would not be able to survive.

This small island gives us the privileged position of meeting all the scientists, activists, small entrepreneurs, associations, public institutions involved with Nature in many different ways, to test

some intuitions and work on a smaller scale. SSAW18 represented the first chance to root locally a new conversation on Nature, while connecting with the international debates, cultures and research. And for this reason, it can be considered a case of “cosmopolitan localism” (Manzini, 2009). The format of this experiment resulted as a good platform where to rise the questions concerning the relationship between Design and Nature either for us as researchers and for all people involved in the project. Considering the context of Madeira, it was also a great opportunity to expand the local problems to a wider audience, increasing the debate about complex themes from a local to a global level. Furthermore, for a wider research this experiment has contributed largely to reinforce our primer idea on relating a design-led process to Nature. The mix of methods and tools provided to the participants shown us that we can start to develop a new design process, that we would define as *Nature Centered Design*.

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