

POTENTIAL OF MAKER MOVEMENT ON SUSTAINABLE DEVELOPMENT OF REMOTE CROATIAN ISLANDS

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ABSTRACT

In the last 15 years the maker movement, among other things, is changing our society, the way we learn, teach, work, produce and live. For the last 10 years we have not only been researching the topic of this social movement, but we are also part of it. Based on our experience as being part of the maker community and based on our previous research on sustainable development, this paper examines the potential of makers and maker movement. In fact, above all, the paper examines the potential of new agents (such as makers laboratories, art residencies and coworking hubs), and their prospective impact on our society, especially on the sustainable development of non-urban areas such as remote (Adriatic) islands. The question in front of us is: can these new agents have a changing role for these isolated areas? We offer the answer by introducing the story about Adriatic Greenlab Initiative and Biševo Makers Workshops which was held as part of the mentioned initiative. Biševo Makers Workshop presents a real test in the physical environment – remote Adriatic island Bilevel in Croatia, with the main actors – makers, in collaboration with the members of the local community.

KEYWORDS _ *new innovation agents, art and technology makers, remote islands, local engagement, sustainable development*

INTRODUCTION

New innovation agents like makers laboratories, art residencies and coworking hubs aspire to influence our society in a new and sustainable way. In the form of living laboratories, in the existing system they introduce values of community driven development, smart specialisation, nature based solutions, local productivity and global connectivity. Initially these new and innovative scenarios occur in the urban context, leaning on or growing out of existing urban processes, transforming them in the contemporary sustainable way: bringing fresh innovation and collaboration energy - new social and environmental values.

Faced with a century of depopulation and decline of traditional living scenarios, Croatian islands are irreversibly losing values that through thousand year old history shaped their natural and cultural landscapes. Culmination of massive tourism has a beneficial effect on decreasing depopulation, but

tends to be harmful for the environment and social diversities, especially lethal for preservation of traditional agricultural scenarios, as well as occurring of new and innovative activities. In this context, can these new agents, apart from influencing intensive and complex urban environments, have a changing role for the depopulated rural areas like remote islands?

Adriatic Greenlab Initiative, a collaboration between FabLab Zagreb and Faculty of Architecture, University of Zagreb, is exploring the potential of makers movement to provide new synergies of environment and people, nature and technology, science and arts, for the sustainable development of Adriatic islands. In the framework of the initiative, community driven activities on the remote south Adriatic island of Biševo have introduced this concept in the challenging island environment, showing its potentials and limitations.

MAKERS CULTURE AND ITS SOCIETAL INFLUENCE

The emergence of maker culture depends a great deal on our understanding that different people learn through different means. Some are auditory learners, and some are visual learners. Yet another group learns best by doing. These are the makers. Makers at their core are enthusiasts. They are people (technology enthusiasts, educators, thinkers, inventors, engineers, authors, artists, students, artisans etc.), and start-ups and companies, that solve problems and help to create a more sustainable society. Makers motto is “do it yourself” (DIY) and, above all, “let us do it together”. They are, in fact, part of an international community, sharing information and knowledge both through the web and through real physical places, fablabs or makerspaces.



_ Figure 1: Makers working on the island of Biševo. Author: Stjepan Tafra.

Maker culture leans heavily on the idea of constructivism, that is the notion that learning is best done through doing. In the past, this learning technique was used heavily by craftsmen to train their apprentices. It was a perfect fusion of DIY wherewithal and immersion learning. Today, we have moved away from the apprenticeship model, a transition that has been as regrettable as it was inevitable, in favor of long years of formal education. While people today may not treasure the ability to create/make/repair out of the same sense of necessity as they once did, they are finding their lives enriched by creating something new and learning new skills.

The maker movement is a global phenomenon impacting the future of work, product development, education, and learning, and more. Since 2005, Maker Faire (more information: <https://makerfaire.com/makerfairehistory/>) and Make: magazine (more information: <https://makezine.com/>) have been leaders in telling the maker story. Their mission is to celebrate and nurture maker culture and the creative spirit. The maker movement, and its values, can be applied to company culture, and lately we are witnessing some of the ways that makers can champion entrepreneurial boldness and risk-taking. But just as important are those less obvious qualities, the ones that are a little harder to

see and touch. In other words, within the maker movement values exist that can apply to any kind of business venture. And the interesting thing is just how simple they are: 1. The maker movement is particularly keen to remind us that openness, and a spirit of sharing, is not just a good idea, but absolutely essential to continued progress (Value openness – open source represents the future); 2. While some of history's brightest innovators have been unapologetic perfectionists, a great many more made their peace with the fact that nothing will be perfect the first time around, and in many cases, not the third or fourth time around, either (Make Peace with Imperfection – risk taking); 3. Technology, business, and an innovative spirit should bring people closer together, rather than drive them apart (Build a Community); 4. The maker movement places a particular emphasis on creativity and breaking out of the status quo. New products demand new kinds of businesspeople, after all; and the best ones are people who love what they do. (Love What You Do – life is only worth living if we do what we love).

Therefore, keeping in mind all the above, it can be said that the approach of maker culture is not completely new in relation to the past, but it is in harmony and in a way responds and recognizes very well today's needs of society. What sets maker culture (perceived as DIY culture on the surface) apart from the traditional culture of crafts is that the artistic and creative elements are often complemented by digital components. The global economy and the latest technologies are utilised in learning and networking as well as in production and distribution. Interest in maker culture has grown as technology has become more affordable and accessible. Equipment that is now within the reach of hobbyists can be used to carry out projects that were previously restricted to the realm of professionals. Further, and logically, the maker also is not an invention of the digital age, but a revival of something that already existed before, only now it has been given another name, one that corresponds to the 21st century. The maker movement has come about in part because of people's need to engage passionately with objects in ways that make them more than just consumers. But other influences are in play as well, many of which closely align the maker movement with new technologies and digital tools.



_ Figure 2: Discussing role of makers on remote islands. Author: Rene Lisac.

Maker communities have a focus on health and wellbeing, sustainable development, local culture and can from that point of view also be seen as a negative response to disposables, globalized

mass production, the power of chain stores, multinationals and consumerism. The act of making is rooted in play, collaboration and curiosity. It develops a mindset that enables us to see ourselves as more than just consumers, but as creators with a bias toward action. Makers combine domain expertise and traditional craftsmanship with modern tools to innovate solutions for themselves and their communities. Can these new circumstances be beneficial also for remote areas, specifically isolated island communities?

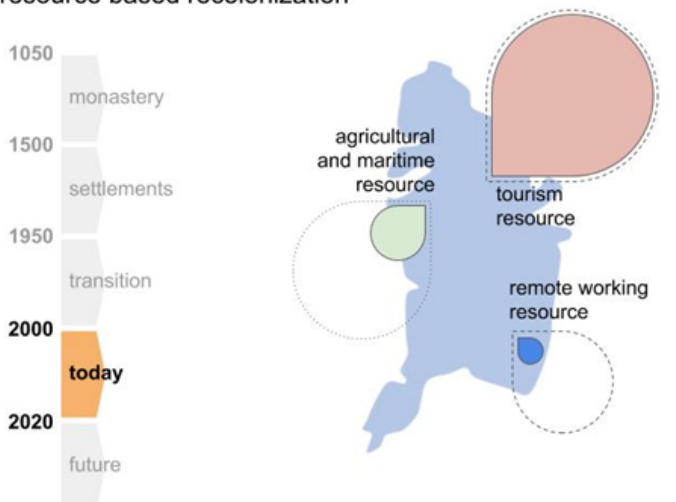
REMOTE ISLANDS SUSTAINABLE DEVELOPMENT

Islands have always had an inherent relation to sustainable development. Inability to rely on other activities and resources, spatial and thus social isolation forces actors in space and their scenarios to a significantly higher level of self-sufficiency. In other words, the unsustainability of one scenario is much more difficult to be lost in the complex networking of processes, as it is the case on land. (Fernandes and Pinho, 2011). Fragile social and economical Island environments have suffered due to depopulation, especially in the most intense period of abandonment of the islands in the second half of the 20th century. Although connectivity to the mainland has been increasing, ensuring work, quality medical care and education, as well as cultural services has become more and more difficult for the small remaining population.

Simultaneously, rural lifestyle has gradually been replaced by touristically driven use of space as a new form of colonization of this valuable spatial resource culminating in the last 20 years (Podgorelec and Bogadi, 2013). Life on the Adriatic islands in the past decades is undergoing these intense and significant developmental processes which will irrevocably direct their economic, social and in particular spatial development. Due to stabilization of the Croatian market economy position in the European Union and thus increasingly intensifying opening up to the global market, this process now has exponential growth. This seemed to be a solution, and indeed the culmination of massive tourism has had a beneficial effect on decreasing depopulation due to financial progress, but tends to be harmful for the environment and social diversities. It is especially lethal for preservation of living scenarios based on traditions and agriculture, and has overall proven to be almost impossible to direct it into a sustainable direction.

BIŠEVO

"resource based recolonization"



_ Figure 3: Working scenarios of the island for sustainable development analysis. Author: Rene Lisac.

Although disadvantages of conventional tourism are more than evident for a long time, its economic strength has never met an at least equal and sustainable opponent. Nevertheless, the ongoing digital age offers new technological possibilities, as well lifestyle trends. Work from home, mobile or remote working present new life scenarios, to join the traditional ones in diverse and sustainable opposition to tourism. This implies using island natural values as a resource for work inspiration and healthy lifestyle. Recent COVID-19 outbreak crisis, together with cancellation of all tourist activities, has undoubtedly put this new agenda in front.

ADRIATIC GREENLAB INITIATIVE AND BIŠEVO MAKERS WORKSHOP

Biševo is a remote Adriatic island of 5.8 km², located 5 km southwest of the island of Vis. The island has a history of settlements since the late Roman times and then the activity of the monastery complex in the early Middle Ages. (Novak, 1954, Skok, 1950) Biševo is not a completely abandoned island, but the fundamental features of the Biševo community have disappeared in the last 50 years. With the intensification of tourism driven activities in the last 20 years, the number of permanent residents has been raised to 11, working in agriculture, fishing and mostly tourism. Occasionally, more people live (50) during summer season, in monthly or weekly cycles. Although all Island activities tend to diverge in conventional tourism, being the most profitable, local initiative "Biševo Island Artist Residency" is an notable local effort to preserve traditional island identity by promoting more sustainable island agendas. Several years of hosting artist and literature groups, and exposing their responsive work on the island and online, together with its active role in protecting the island, the initiative has slowly paved the way for new and alternative island futures.



_ Figure 4: First Biševo Makers Island Workshop. Author: Rene Lisac.

The idea of testing the role of Makers on the Adriatic Island has been quickly developing over the last few years. 1st Makers island workshop, organized by "Biševo Island Artist Residency", Fablab Croatia, Faculty of Architecture Zagreb with the support of Vulca European Program as part of Adriatic Green Lab Initiative, was held in September 2019 on the island of Biševo. The primary goal of the Workshop was to have a diverse group of makers work together, while using their simple technological skills and creativity to solve local issues and leaving their DIY projects to the local community. After a month of preparations in their home cities, 7 international participants from EU context together with 4 croatian organizers have spent a week working on the island, assembling and testing their projects. Three main topics, developed in cooperation with the locals, were: 1) Remote sensing & mapping of island (creating 3D spatial database using Drones, AUV and 3D scanning devices),

2) Plastic waste collecting & recycling (solutions to the local community, to manage, recycle and reuse plastic and glass waste) and 3) Water related problems (solutions for collecting, testing and filtrating water). In the same time the whole process was to be observed and continuous theoretical discussions were held to clarify the role of makers movement for sustainable development of remote islands. Discussions also included the locals who critically evaluated theoretical statements from practical, real life perspective.

THE POTENTIAL ROLE OF MAKERS IN REMOTE AREAS (CONCLUSIONS)

People have always used their hands to make things, both because their circumstances have made it necessary and simply because it gives them pleasure. So, creation has always been a part of human life, and most people are makers, even though they are not aware of it. As times have changed, makers have wholeheartedly embraced new (digital) technologies and integrated/combined them with old (analog) technologies, to create a whole new level of DIY and innovation. They exchange solutions and co-design in a participatory way, they prototype and validate innovations. Today they represent a real cultural movement capable of having an enormous impact on the economic and social development of communities. This is because of their ability to explore new avenues or simply to go along existing ones in a new way. We believe that maker culture and makers can help not only urban but also non-urban areas such as remote Adriatic (Croatian) islands and that they have a great potential and important role regarding their sustainable development. With the Maker Movement we are seeing a new culture of manufacturing rising because many makers combine technological interest with a societal mission. We should in fact look to the maker movement for tips on how to create an ecosystem of talent, connections, and learning that will lead to a truly innovative economy and society.

Having a sustainable work scenario on the island without a doubt presents a fundamental element for preventing depopulation in a sustainable development manner. Important missing facilities that directly follow, like medical care and education, are becoming more and more available in forms of tele/remote medicine, e-education and similar. This all is a precondition to forming or preserving island communities, whose diversity has been threatened over the years by monofunctional tourist activity.

Although occurrence of makers activities on the island can at a certain level support basic needs such as work, education, and health care, it does not represent a game changing factor for the contemporary sustainable island development shift. Still, in the following phase of supporting the connectivity and practical needs of isolated islands and their non-resilient communities, makers movement has its strongest influence. New simple and available technical solutions and inherent creativity of makers movement represent an ideal upgrade on traditional DIY skills of islanders. Their methods as repairing and recycling vs. throwing, innovating and improvising as well as down to earth practicality support island life as closed ecosystems. Last but most importantly, positive energy for collaboration, life improvement and sharing represents the strongest resource for regenerating weakened island social structures.

REFERENCES

- _ Anderson, Chris. 2014. *Makers: The New Industrial Revolution*. New York: Crown Business.
- _ bisevoislandartistresidency.org 2019. "Prva Makers otočna radionica." Last modified September 14. Accessed September 21, 2019. <https://bisevoislandartistresidency.org/en/makers-island-workshop/>.
- _ Fernandes, Ruben; Pinho, Paulo. 2017. "The distinctive nature of spatial development on small islands." *Progress in Planning*, Vol. 112 (February): 1-18.
- _ Novak, Grga 1954. "Otok Vis i Biševo u srednjem vijeku." *Starohrvatska prosvjeta*, Vol. III No. 3.: 105-

130.

- _ Podgorelec, Sonja; Klempić Bogadi, Sanja 2013. *Gradovi potopili škoje - promjene u malim otočnim zajednicama*, Zagreb: Institut za migracije i narodnosti.
- _ Make Community LLC. 2020. "Maker Faire." Last modified September 30. Accessed October 1, 2020. <https://makerfaire.com/>.
- _ Make Community LLC. 2020. "Make Magazine." Last modified September 30. Accessed October 1, 2020. <https://makezine.com/>.
- _ Skok, Petar. 1950. *Slavenstvo i romanstvo na Jadranskim otocima. toponomistička ispitivanja*. Zagreb: Jadranski institut JAZU.