

GLOBAL INFORMATION SOCIETY WATCH 2018

Community Networks



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This edition of GISWatch came into being alongside a brand new baby boy. Welcome to the world, Ronan Diga!

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Sarantaporo.gr

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www.sarantaporo.gr

Introduction

In 2010 a group of friends from the village of Sarantaporo in the municipality of Elassona in Greece built a website, Sarantaporo.gr, to promote their village. However, they could not show the website to people in the village because the villagers did not have internet access. Due to the remote location and small population density of the area, the telecommunication providers found little or no commercial interest in deploying infrastructure to bring internet connectivity to the region, leaving the local population with no alternative.

With no previous knowledge and experience in building a wireless network, the team turned to examples of community networks in other parts of the world to learn from their experience and practices, such as the Athens Wireless Metropolitan Network,¹ guifi.net² in Catalonia, and others.

Volunteering their time and effort, and collaborating with the community, they soon managed to build their first wireless mesh network in the village of Sarantaporo. In doing so they provided open internet access to the inhabitants and visitors to the area.

Soon community members from neighbouring villages approached the project's core team – called the “Sarantaporo.gr” core team after their village website – and asked them to build similar networks in their villages. Over the following three years, until 2013, the network was deployed in 15 villages in the area.

In 2013 we founded Sarantaporo.gr as non-profit organisation (NPO) and soon after, at the beginning of 2014, we managed to secure funding from a European Union (EU) FP7³ programme to build our backbone network. The wireless network connected

the villages to each other and extended as far as the nearest city, covering a line-of-sight distance of 50 km. These wireless links provided connectivity via the local university, the University of Applied Sciences of Thessaly,⁴ which offered a 1 Gbps backhaul as a social responsibility service to the local unserved communities of the region. Today 11 villages are connected to the backhaul, served by an average of more than 30 Mbps symmetrical internet connectivity.

The agreement signed with the university was part of a collaboration strategy which involved a diverse array of stakeholders, such as the Greek Free/Open Source Software Society (GFOSS),⁵ Athens' Hackerspace.gr,⁶ P2P Lab,⁷ the Alliance of the Commons,⁸ the Social and Solidarity Economy (SSE)⁹ movement in Greece, third-party service providers, and others. These collaborations outlined the character of the Sarantaporo.gr wireless community network as a holistic approach to supporting the local communities, and not strictly as a technological endeavour.

Our mission is to bridge the digital divide in the region. Sharing this mission with local communities has been perhaps the single most significant challenge we have faced until today. As none of the Sarantaporo.gr core team members lives in the region (the closest member lives in Larisa, 80 km away, while most of us live in Athens, the capital of Greece, 450 km from Sarantaporo), it has been quite challenging to maintain communication with locals and even more so to share our vision and mission and align these with local communities.

To tackle this challenge we spent a great deal of effort and resources organising events and training workshops and tried diverse communication tools. Eventually we managed to identify local champions in every village. These are the most engaged and active members of the local community. Their contribution has been invaluable in maintaining and

4 https://www.teilar.gr/index_en.php

5 <https://gfoss.eu>

6 <https://www.hackerspace.gr>

7 www.p2plab.gr/en

8 https://commons.gr/about_en/

9 An umbrella term for various social and solidarity initiatives in Greece.

1 awmn.net

2 <https://guifi.net/en/node/38392>

3 Seventh Framework Programme, an EU research and development funding programme. https://ec.europa.eu/research/fp7/index_en.cfm

expanding the local community network and also in creating ties between the villages, empowering the community which is built around the wireless network. Today we count more than 70 community members in our network, 20 of whom are women.

Sarantaporo.gr has managed to drastically change the lives of local people. Visiting doctors in the villages are now able to prescribe medicines using the health portal, the elderly inhabitants get to have their grandchildren visiting for longer periods since they now can enjoy internet connectivity in the village, local farmers can discover new markets for their products and raw materials, and locals can communicate with friends and family abroad, which makes them feel less isolated.

Organisational sustainability

As an NPO, Sarantaporo.gr consists of a group of 10 people (the core team). The NPO was deemed the most appropriate at the time of registering it in 2013, due to the social and voluntary nature of the endeavour. The NPO is run by an executive committee, comprised of up to three administrators who are elected every two years by an assembly. Important decisions about the course of the endeavour are reached via consensus in the assembly, which takes place bi-monthly, or on an ad hoc basis when the need arises. The basic mode of operation is “do-ocracy”: members suggest actions and, if not vetoed by other members, they go ahead and try to fulfil them.

Every three months we organise an open assembly in one of the villages. All of the local community members can participate and voice their proposals. Decisions reached in these assemblies are advisory and not binding for the NPO.

In order to empower locals to engage more actively in the life of the community networks, we organise and deliver workshops and seminars. Apart from digital skills building, these seminars are also about communication and community building. We secure sustainability by including train-the-trainer sessions for the more keen community members.

In terms of funding we try to diversify our streams to ensure financial resilience. Currently our revenue mix comprises private donations, yearly member subscriptions, local services fees, grants and programme funding. The Internet Society (ISOC), an international organisation, and the EU-funded programmes netCommons¹⁰ and CONFINE¹¹ are a few of the funding sources for our organisation.

¹⁰ <https://netcommons.eu>

¹¹ <https://confine-project.eu>

Part of our revenue is used to participate in international meetings, conferences and networking events with other community networks around the world. In November 2017 we co-founded the ISOC Community Network Special Interest Group (CNSIG)¹² along with other community networks from all over the world during the Internet Governance Forum (IGF) 2017 in Geneva. The CNSIG serves as a vehicle through which community networks from around the world can develop, strengthen and promote the community network model, draft common strategies, share experiences and expertise, debate policy and regulatory issues, and present their views through their direct involvement and participation.

Technical sustainability

Our community network comprises two layers: the backbone and the access layer. The backbone network is a tree and mesh topology based on 802.11 and other networking standards. It utilises redundant routing per backbone node with two or more links with failover (not load-balancing). The access network is a mesh topology, based on 802.11 and proprietary standards. The available throughput (~60 Mbps symmetrical on average currently) is not purposefully limited per device or user. It is provided on a best-effort basis and shared among members on a good neighbour principle.

The main considerations concerning the backbone are capacity, reliability, resilience, and central monitoring and administration. Resilience, for example, is a critical factor for the given region. Power outages are quite regular in the area and when they happen, not even phone landlines work (legacy phone lines had been converted to VoIP). This, combined with the isolation of the area due to extremely bad weather, results in quite severe conditions for local inhabitants. Adding resilience to our network by installing UPS devices in each node ensures that a communication channel will almost always be available for locals to use.

Access network considerations concern ease of installation, admission control, central monitoring, end-user support, and administration. Of great importance to our community network is end-user support. Considering that our network users are not mere customers, but members of our local community, it is critical that we build a trusting relationship and that we do not just provide customer support, but also empower local community members. We partly achieve this via our instant messaging channel, which we use daily as a communication tool.

¹² cnsig.info

A statement by one of our community members is indicative: “We couldn’t have dreamt of this level of support from incumbents.”

Sarantaporo.gr: Social actors and a community that is a “work in progress”

In the case of Sarantaporo.gr we have learned that community networks are not only networks of a certain community but also networks that enable community. Community networks constitute infrastructure that, in a first instance, aims at covering the tangible needs of a local population by filling, bridging and closing gaps, whether they be communicative, social, technical, institutional or other. However, this reading often presupposes that there is “community”, that its members will want to own and manage the network, that the gaps are acknowledged by all, and that their filling or bridging is consciously pursued.

The villages in the area west of Mount Olympus do not form a cohesive community, either in administrative, cultural or economic terms. Nor were locals familiar with the existence of the technology in question and the possibilities it could offer. Consequently, the initiative and mediation by a group of experts/activists (the core team) was essential for the community network to be created, developed and sustained, and for locals to be informed and involved. We should not fall into the trap of viewing rural communities as the passive recipient of a one-way beneficial offering. Neither should we assume that the communities we work in have a strong sense of social cohesion. Instead, based on our experience in the wider area around Sarantaporo, we need to emphasise the enabling dimension of community networks, the potentiality and openness that they activate, the serendipitous, dynamic and collaborative manner in which needs are traced, problems are addressed, solutions are devised and community is moulded, in ways that could not have been anticipated or planned.

Having said that, we need to be aware of history and its implications in trying to discuss “the sort of people whose names are usually unknown to anyone except their family and neighbors but who nonetheless are major historical actors when they act collectively.”¹³ According to Hobsbawm, such people, widely known as “the common people”, are actually far from common given that when they have acted collectively they have made a difference and can again shape history. So Hobsbawm advocates for a “history from below”, the history of

committed men and women not as passive subjects of macro-history, but as progressive forces of society, which is something else we have learned in the field working on Sarantaporo.gr.

Drawing on participant observation in the area where the infrastructure of Sarantaporo.gr is located as well as social media ethnography and multi-sited ethnography – that is, ethnography pursued in more than one geographical location – to include not just the local users/node-holders of the network but also the core team members that do not reside in the area, we became aware of the importance both of personal histories of the individual participants and of the historical context of Thessaly, the administrative region in which the villages of the network are located.

The rural movement in Thessaly, which sprang up at the beginning of the 20th century and extended into the first years of the century, was one of the strongest movements within the then newly established Greek state. Similarly, the cooperative movement was born in 1900 when 24 peasants established the first agricultural cooperative in Almyros, a town in Thessaly.¹⁴ The contemporary collective action in Elassona that is the result of setting up the community network is seen in this light.

The life trajectories both of the local node-holders and of the core team members who were interviewed shed a similar light on the communities we worked in. Sarantaporo.gr is a “work in progress”, a community of people whose participants are rational social actors rather than docile consumers. Given that the state was unable and the market unwilling to provide connectivity, they were in a position to identify the crack in the system that gave life to Sarantaporo.gr. Following Hobsbawm’s train of thought of a “history from below”, we argue that communities have the potential to muster collective power that can bring about social change.

Legal and regulatory issues

As far as the law in Greece is concerned, non-profit community networks are considered equal to any other internet service provider, with the same licensing requirements for spectrum. This, for example, makes it very difficult to license channels in an interference-free band such as 11 GHz, which would be great for point-to-point backbone links. Yet the Wi-Fi band which we utilise is unregulated, and this allows us to operate our community network without the requirement for any special licence.

¹³ Hobsbawm, E. (1998). *Uncommon People: Resistance, Rebellion and Jazz*. New York: The New York Press.

¹⁴ Patronis, V., & Mavreas, K. (2004). Agricultural Cooperative Organizations in Greece throughout the 20th Century: A Critical Overview. *Journal of Rural Cooperation*, 32(1), 51-62.

The owner of the equipment is the Sarantaporo.gr NPO. Each piece of equipment is provided to the community members as a loan. The maintenance cost for the access layer is covered by the village community, while the cost for the backbone layer is covered by the NPO.

Action steps: The future

When we first deployed our community network, many locals felt that there was no use for it, since they were used to living an isolated life in the rural countryside. Soon the profound impact became evident in every aspect of their lives: social cohesion, economic development, citizenship empowerment, health services. The local population realised the possibilities of how digital inclusion could improve their lives. This was a stepping stone for the locals to pursue even better connectivity and more active engagement. We continue to nurture our relationship by organising local events and assemblies, providing training via workshops and promoting transparency about the operation and management of the community network.

Sharing and an open culture lie at the heart of our endeavour. We strive to collaborate with other community networks around the world and seek to share our knowledge and experience so that others can benefit from them, just like we benefited from the stories of other community networks before us. The three components that are *sine qua non* for

creating a successful community network are: infrastructure, local community and training/education. Deploying infrastructure, building a local community to run and manage it, and educating locals to acquire digital skills are necessary pillars towards a sustainable community network.

Over the next few months we are organising our first mission to Northern Tzoumerka, another mountainous area in Greece, in the Epirus region, in an attempt to work with locals towards building the first node of their community network. Given that it is important to cultivate human relationships in parallel to the network, we are taking members of our local communities to the region to share their experiences and tell their stories.

Among the many challenges we face for the future, perhaps the single greatest is to discover ways in which the community network can serve inhabitants as a local infrastructure. In other words: what is the added value of the infrastructure for locals if it is disconnected from the internet? The answer to this question can be a defining one for the future of our community network and others around the world. Currently and in the near future we will be exploring technologies and experimenting with peer-to-peer approaches and the local deployment of services. Data retention and management, safeguarding privacy, information sharing in the local context, e-health and agricultural internet-of-things technologies are fields of interest we wish to explore.

Community Networks

THE 43 COUNTRY REPORTS included in this year's Global Information Society Watch (GISWatch) capture the different experiences and approaches in setting up community networks across the globe. They show that key ideas, such as participatory governance systems, community ownership and skills transfer, as well as the "do-it-yourself" spirit that drives community networks in many different contexts, are characteristics that lend them a shared purpose and approach.

The country reports are framed by eight thematic reports that deal with critical issues such as the regulatory framework necessary to support community networks, sustainability, local content, feminist infrastructure and community networks, and the importance of being aware of "community stories" and the power structures embedded in those stories.

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2018 Report

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