

## **Mapping Small Islands Communicative Ecologies: a Case Study from the Amami Islands**

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### **Abstract**

This paper provides a conceptual framework for an islands' communication ecology (CE) approach and an overview of the key findings of exploratory ethnographic research that aimed at mapping the CE of the Amami islands. The communicative ecology approach refers to the various forms, resources, activities, channels and flows of communication and information unique to an island or group of islands, to the island context and identity and a milieu of island agents. This research contributes towards an in-depth understanding of these Islands' communicative environment; identifies key island mediated communicative networks and practices; explores the role of media in localized information flows unique to the islands; and attempts to explore how small island experiences can help contextualize the theoretical approach of communicative ecology.

**Key words:** Amami Island, Island Media, Island Radio, Islands Communicative Ecology, Mapping Islands Information Ecosystems

## **Introduction**

This article draws upon a research project aimed at exploring the Amami Islands' communicative environment by identifying key communicative networks and practices that contribute to sustaining the Amami Islands' sociocultural cohesion and investigating the role that key mediated forms of communication, particularly community based, play in localized information flows unique to these islands. The Amami Islands also served as a case study that enabled us to explore how a communicative ecology approach could be relevant to islands studies. The islands' geography, history, infrastructure, development status, social organization and cultural identity provide a rich context for this exploration.

The research, which is interdisciplinary, has been grounded in the wider fields of island and communication studies and the ethnographic approaches of communicative ecology (CE) and information ecosystems (IES) while informed by Amami islands studies. It provides a starting point towards conceptualizing island communicative ecologies (ICE) that are comprised of unique communicative nodes interacting in a multi-directional way (intra-island, inter-islands, trans-peripheral, etc.). It is important to note that in this research we refer to the ecologies of "small" islands. The "small island" status refers not only to geography but also a whole host of other factors including history, transport, education, industry, health and disaster prevention (NAGASHIMA 2016 : 11), and in the context of this research its representation by various island, mainland and international information agents.

Whilst the fieldwork produced rich data on multiple layers of communicative ecologies of the Amami Islands, here we focus on the theoretical and conceptual influences that informed the research and provide an overview of key emerging themes from the mapping of mediated communication networks and practices with particular emphasis on *shima* (island and community) based media (SUWA 2007).

### **Towards a communicative ecology approach for islands**

The very premise of island studies as a distinct field is based on the notion that islands share a set of characteristics that other territories do not. This 'islandness', we would argue, shapes island communicative ecologies in distinct ways as BALDACCHINO (2004 : 278) has proposed in his definition of islandness: "an intervening variable that does not determine, but contours and conditions physical and social events in distinct, and distinctly relevant ways." Similarly, TERRELL (2004 : 11) has argued that islands are "more varied, diverse and complicated places than commonly believed" and that "isolation is not a defining characteristic of island life; to the contrary, it would be argued that islanders are generally more aware of, and in touch with, the worldwide web of human intercourse than others may be." This was supported earlier on by the much-cited thesis of HAU'OFA (1993) who advocated instead of a vast empty space in which separate islands exist, the ocean is the medium that links the Pacific islands into a vibrant field of communication. Islands are special places, according to HAY (2006: 31), who describes them as "paradigmatic places,

topographies of meaning in which the qualities that construct place are dramatically distilled.” This reference to islands as unique places/spaces is often seen in islands studies literature, exemplified here by BALDACHINO’s (2005: 35) observation that “small islands are special because their ‘geographical precision’ facilitates a (unique) sense of place”.

In some parts of Japan, the term *shima*, denoting island, embodies a dual meaning: islands as geographical features and islands as small-scale social groups where cultural interactions are densely intermeshed (SUWA 2007). This concept not only contributes to putting our research in its Japanese context but also provides us with a useful framework when studying island communicative ecologies. *Shima* is seen here as a unique context within which communicative performances take place and produce communicative ecologies that fill this space with meaning. The patterns of communication exchanges develop in various inter-personal, familial, social, cultural and economic networks and accumulate as *shima* communicative ecologies.

*Island communicative ecologies* (ICE) in this research encompasses various forms, networks, systems, activities, interconnections, resources, flows and issues distinctive to these islands (adapted from TACCHI 2006). It also refers to the context in which communication processes occur which involve people engaging with others in their social networks, both face-to-face and using a mix of media and communication technologies. It also contains the identity of participants, the topics of communication and the ways in which things are communicated. CE is also described as a milieu of agents who are connected in various ways by various exchanges of mediated and unmediated forms of communication (TACCHI *et al.* 2003).

By using an ecological metaphor, a number of opportunities present themselves for analysing island place-based communication. It can, for instance, provide a better understanding of the ways island activities are organized, the ways islanders define and experience their island environments, the implications for social order and organization and the kind of transactions that take place between different ecologies (intra/inter island etc.). The ecological metaphor, as HEARN and FOTH (2007: 1) propose, “enables us to define boundaries of any given ecology, and to examine how the coherence of that boundary and the stability of each ecology is maintained.” It allows exploration of what topics of conversation define insiders and outsiders in the island’s ecology and opens up the question of the social sustainability of the communicative ecology of islands.

To understand one aspect of communication within the particular setting of an island, it is necessary to know how it fits into its wider island communicative ecologies. ICE mapping enables a broader comprehension of the complexity of a specific island group or community. And similar to biological ecologies, communicative ecologies have lifecycles that can be described as new or well-established, active or dormant, or in a period of growth or decline. TACCHI and WATKINS (2007) encourage researchers to explore the types of communication activity people are engaged in, the resources available and the understanding of how these can be used. This holistic approach is essential because issues cannot be isolated from the wider systems they are a part, especially more so on small islands that have stronger relational ties (e.g. see below the concept of *yui* in the Amami Islands).

In the context of ICE, the role of an island community radio for instance cannot be understood without understanding the wider communicative ecology of the island and the “diverse positioning and communicative opportunities and experiences” of the island inhabitants. Mapping an island’s CE can demonstrate who has access to different information and communication channels and how factors such as geography, distance and cost can affect island communication practices (see LENNIE and TACCHI 2013).

Similarly, the *information ecosystems* approach provides an additional useful model for mapping ICE. Developed as a tool to understand how information contributes to a more connected and resilient community (INTERNEWS n.d.), it identifies a number of elements that can assist in contextualising an ICE model (see Fig. 1). In this research, the contextualization of this model helped identifying relevant island elements, like island storytelling agents and cultural enablers that are explored in the findings section.

Along with the key elements of the information ecosystem presented below in Fig. 1, HEARN and FOTH (2007: 1) have identified three layers in CE that informed the mapping approach of this research: a *technological* layer which consists of the devices and connecting media that enable communication and interaction; a *social* layer which consists of people and social modes of organizing those people – including for example everything from social groups to formal community organizations; and a *discursive* layer which is the content of communication - the ideas of themes that constitute the known social universe that the ecology operates in.

A useful theory in this context is the *Communication Infrastructure* (CIT) which is more inclusive of communication modalities, incorporating new and old media, mainstream, local, and ethnic media, interpersonal communication channels, as well as the communication outreach of community-based organizations (JUNG and BALL-ROKEACH 2004). Furthermore, when speaking of ICE, we also need to take into consideration the *Communication Action* context in which they take place. Here, this context refers to the islanders’ environments (cultural, social, economic, physical, etc.) that affect the availability of different communication connections and the ease of access to them (adapted from WILKIN *et al.* 2007).



Fig. 1. Key Elements of the Information ecosystems model (Internews 2014).

The concept of the *Storytelling Network* (STN) can also be applied within an island communicative ecologies context. STN is created through a storytelling process in which island inhabitants, community organizations and local community media work with each other to construct a vision and a reality for their island communities as places where they belong and in which they engage shared concerns (adapted from WILKIN *et al.* 2007). These stories contribute to maintaining island identities and sustain island in times of depopulation, aging and decreasing employment opportunities and environmental challenges relating to climate change.

The *Communication Infrastructure* (CI) theory offers a valuable framework of analysis through three clearly identified levels of *storytelling agents* (micro, meso and macro) depending on who is the primary storyteller and their islands based audience. While mass media tell stories at a macro level that focus on the nation and beyond with a national or regional audience in mind, the meso level provides more complexity that can be of more relevance to island communicative ecologies. At this level, geo-ethnic media and community organizations act as key agents in defined geographical areas and specific populations (KIM, JUNG and BALL-ROKEACH 2006). The storyteller agents at the meso level work closely with those at the micro level which may include islanders in their networks of family, friends, and neighbours. The focus on meso and micro level storytellers fits well within an island communicative ecologies approach as they address communities like those one encounters in islands that are closely defined by specific geographic features and small-scale social groups where socio-cultural interactions are closely intertwined. When mapping ICE, one needs to take into consideration island community focused media as they act at both meso and micro levels, intermeshing island collective and individual storytelling agents with overlapping and multifunctioning networks (based on kinship, community, intra-island, inter-island, trans-peripheral and diasporic island).

A useful concept to employ in this context is *rhizomes*. Adapting CARPENTIER's (2016) work on community media, a rhizomatic approach to island communicative ecologies can articulate more explicitly the diversity, complexity, contingency and fluidity of island communication networks and agents. A rhizome is non-linear, anarchic and nomadic and connects any point with any other point, unlike trees or their roots. Following this analogy, island community media, unlike their mainland/national counterparts, could be seen as part of a more fluid island interconnected network system that embraces both individual and collective agents.

Small islands are distinctive communities, defined by a collective identity and close, reciprocal relationships. The following section focuses on the Amami Islands communicative sociality as a background context to our case study. Adapted from HARTLEY and POTTS (2014), communicative sociality in the context of these islands refers to the islands language/dialects, identity and kinship relationships that bind island communities together. Along with language and identity, story (communication) enables the collective making of *shima* groups.

## The Amami Islands communicative context

The Amami Islands CE has been shaped by their distinctive and diverse geographical and socio-cultural environment that has conditioned their inhabitants' communicative sociality. Although these islands are seen as one group comprising of eight inhabited islands (Amami Ōshima, Kakeromajima, Yorojima, Ukejima, Kikaijima, Tokunoshima, Okinoerabujima and Yoronjima), each of them consists of a unique microcosm with distinctive identities.

Situated to the south of the Japanese archipelago, the Amami islands are part of Kagoshima Prefecture. They consist of one city, nine municipal towns and two municipal villages with a total population of about 110,000, more than half of which lives in the main island of Amami Ōshima.<sup>1</sup> Amami city has a population of about 43,000. The islands have been experiencing depopulation and similarly to the mainland Japan, they are faced with an increasing aging population. The total population of the Amami Islands has decreased since 1955. In 60 years between 1955 and 2015, the population was reduced by 95,216 people (KAGOSHIMA PREFECTURAL OFFICE 2018: 6).

Infrastructure plays a significant role in CE as it enables information flows. In general, these Japanese islands are well supported infrastructure wise, with frequent flight and ferry connections and subsidized fares that enable not only connections with the mainland but inter and intra-island ones. The origins of this infrastructural development lie in the “Special Measures Law for the Reconstruction of the Amami islands” put in place by the Japanese government in 1954 to address the economic devastation of the Amami Islands after they reversed to Japan in 1953. This law has been revised and has had its term extended every five years until today. Since then, more than 2 trillion yen for operating expenses have been poured into the islands for the task. Projects entailing large scale modifications of the natural landscape such as roads and harbours occupy almost eighty percent of the entire budget (KUWAHARA 2012: 42).

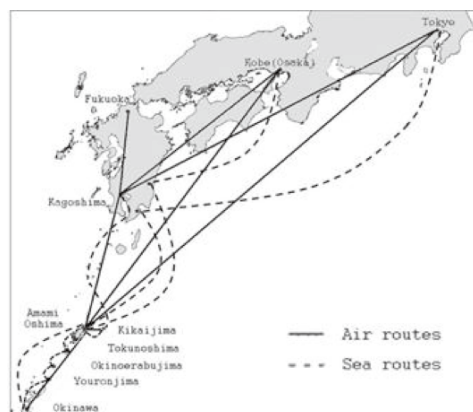


Fig. 2. inter-island and mainland connections (Map recreated by authors).

<sup>1</sup> Amami Ōshima 61,256, Kikaijima 7,212, Tokunoshima 23,497, Okinoerabujima 12,996, Yoronjima 5,186 (NATIONAL CENSUS 2015).

Amami Ōshima's infrastructure system contains 37 tunnels and 20 ports that facilitate intra and inter-island communication (Fig 2). The tunnels have enabled land connection with communities that could have been reached only by boat in the past. The physical morphology of Amami Ōshima meant that several communities had developed distinctive cultures with their own dialects and forms of cultural expression that are still practiced today. Today, the tunnels along with the island's FM radios are playing a significant role in not only connecting these communities across the island but also contributing to a pan island identity.

It has been argued that the collective Amami identity, resulting from Amami's reversion to Japanese administration in 1953 - following eight years of US occupation - and Japanese modernization, has now shifted from "One Amami" to "Many Amamis" (KUWAHARA 2016). Along with this distinctiveness, there are multiple overlapping layers, including the historical and cultural connections with Okinawa that are evidenced today in Yoron and Okinoerabu and to some degree in the other islands too.

Social reciprocity and horizontal and egalitarian relationships form an integral part of the islands' communicative sociality. Unlike mainland Japan, Amami's bilateral society is based on an ego-centered bilateral kin group called *haroji* that lacks a specific discriminatory ideology, and the membership could be traced bilaterally. Brothers and sisters were equally positioned. There was no hierarchy among the people in the same generation. *Haroji* functioned as a joint labor organization (*Yui* or *Yuitaba*) in agriculture. For example, they voluntarily united and worked together in sugarcane cultivation, re-thatching of straw roofs, and rituals and festivals (NAKATANI 2013: 54). *Yui* is a manifestation of reciprocal relationships and is interwoven into the island communities' social organization seen in such expressions as "lend *yui*" and "return *yui*" (YAMAMOTO 2001: 754). It is a principle that is manifesting today in the islands mediated communicative practices by informing the mission of island radios, as it will be illustrated further below.

Similarly, another concept that of *myar* plays an important role in the Amamian culture and its communicative ecologies. *Myar* is the public square "where the residents gather and strengthen their cultural and religious ties" (NISHIMURA 2016: 44). It is where *honensai* (harvest festival) has been traditionally held in the summer during which community members engage in traditional dancing, music playing and sumo wrestling and where island storytelling takes place. This space has been adjusting to the changing needs of the island communities but it continues to play a symbolic role in connecting "the inner and outer elements of the community" (NISHIMURA 2016: 49). Uken FM in Amami Ōshima provides an example of that symbolic role that binds the community together through storytelling, a contemporary version of an "on-air" *myar*.

Amami *shimauta* is another important aspect of the islands cultural expression and identity and has a strong presence in the islands FM radio programs. *Shimauta* are folksongs in which high-pitched female and/or male voices are accompanied by the Amami *sanshin* (a three-stringed longneck lute) and sometimes by the *chijin* (drum) (HAYWARD and KUWAHARA 2008: 65). The lyrics of these songs talk about the pain caused by forced labor, by the hardships of life, and by the separation of lovers and friends. Amami *shimauta* are closely

related to the islands folk traditions such as *hachigatsu odori* (August dance) and *uta asobi* (singing game). Amami FM and its Asivi House have been contributing to the revitalization of *shimauta* that often results in hybrid new musical expressions.

### Mapping the Amami Islands communicative ecologies

Mapping ICE refers mostly to drawing conceptual maps (e.g. Fig. 3) and creating or collecting oral or written descriptions of the phenomena that constitute that ecology (adapted by TACCHI 2006). Mapping as a methodology enabled a broader comprehension of the complexity of the Amami Islands' communities and allowed for the exploration of the various types of communication activities island people are engaged in (locally, trans-locally, intra-island, inter-island, trans-peripheral, national etc.), the resources available and the understanding of how these can be used in sustaining island communities.

Research on CE requires decisions to be made concerning the scope of both data collection and analysis (TACCHI 2006). Prior to data collection, a decision was made about the investigative frame of the study; whereas decisions regarding its analytical scope were made after a rich picture of the ecology emerged. The research, conducted over a period of six months in the second half of 2017 in four Amami Islands (Amami Ōshima, Kikaijima, Yoronjima and Tokunoshima), drew its data from formal and informal interviews and discussion groups with key island “storytelling agents” and ethnographic observations. The mapping exercise was designed to strengthen the evidence from observations and interviews by providing additional details from informal conversations with island inhabitants on their information needs and how they use their communication networks and information sources.

With the exception of KATO's work, there is a significant gap in the literature in regards to Amami media and communication landscape, especially from an ethnographic perspective. His two volumes (KATO 2016, KATO and SHINGO 2017) provide a descriptive but comprehensive overview that informed much of this research. Here, we build on this work by adding also exogenous and trans-peripheral media that put into context the islands information ecosystem. Media were also grouped by type and storytelling network levels:

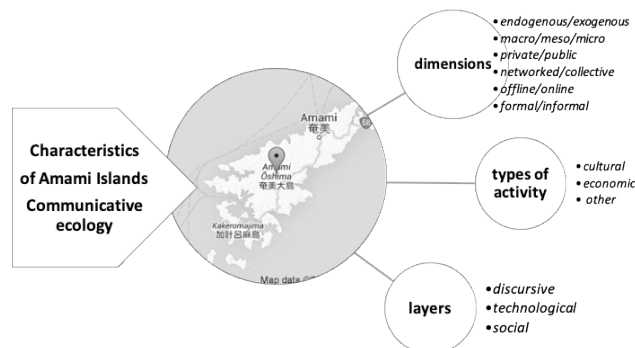


Fig. 3. Characteristics of Amami Islands CE.



*micro*, *meso* and *macro*. Although the main focus here is on *shima* media (endogenous, meso/micro) as key mediated forms of island communication, other forms of information sources and flows have been considered, including the *Bosai Musen* emergency system that serves the information needs of some island communities.

### Selected findings, emerging themes and analysis

An observation that emerged very early into our fieldwork was that we were mapping distinct communicative ecologies with multiple layers, networks and dynamics, many of which overlapped, reflecting each *shima*'s distinct identity (including *shima*/community identities at an intra-island space). Amami Ōshima's ICE attracted more attention given its richer media activity and its vibrant FM radio landscape supported by its larger population, while Kikaijima stood out because of its unique use of the *Bosai Musen* system. Yoronjima in its turn was a good example of an "island on the borders" whose historical and cultural connections and geographical position bind it with that of Okinawa's. Lastly, Tokunoshima's self-identifying as "the island in between" stood apart in many ways from the other islands both in character and communicative practices infused by its inhabitant's competitive nature.

The islands have access to several exogenous (national/mainland and prefectural) media most of which are Kagoshima based, the prefectural centre (see Table 1). Until the arrival of the FM stations in Amami Ōshima ten years ago, the island' only radio access was through NHK, the national broadcaster whose reception is uneven. Whilst most of these media report on the islands and in most cases, like MBC, have an office with a local reporter or send one to cover events like the 2017 heavy floods in Kikaijima, the intended audience is not the island inhabitants but rather that of the mainland. This has implications on the islands representation resulting in locals seeing themselves through the eyes of the mainland.

Table 1. Exogenous (mainland/national/prefectural: macro).

| TV  | Radio                                 | Newspaper/print            |
|---|---------------------------------------|----------------------------|
| MBC (Minami Nihon Broadcasting Co., Ltd.)<br>TBS TV group                     | NHK FM<br>(all Amami Islands)         | <i>Minam Nihon Shinbun</i> |
| KTS (Kagoshima Television Station Co. LTD.)<br>Fuji TV group                  | NHK AM radio 1<br>(all Amami Islands) | <i>Yimiuri Shinbun</i>     |
| KTY (Kagoshima Yomiuri Televisoin)<br>Nihon TV group                          | NHK AM radio 2<br>all Amami Islands)  | <i>Mainichi Shinbun</i>    |
| KKB (Kagoshima Broadcasting Corporation)<br>ANN group (TV Asahi News Network) | MBC AM radio<br>(all Amami Islands)   | <i>Asahi Sinbun</i>        |
| NHK Kagoshima   |                                       | <i>Various magazines</i>   |
| NHK ETV   |                                       |                            |
| BS (Broadcasting Satellites)  |                                       |                            |

Table 2. Endogenous Amami Islands Media (micro/meso).

| Print                             | Radio  | Cable TV   | online   |
|-----------------------------------|--|--|--|
| newspapers                        | Magazines/newsletters  |  |  |
| <i>Nankai Nichi Nichi Shinbun</i> | <i>Horizon</i><br>(no longer in print)   | Amami FM   | Amami TV   |
|                                   | Town newsletters<br>(Setouchi-cho, Tatsugo-cho,<br>Kikai-cho, Tokunoshima-cho,<br>Isen-cho, Amagi-cho,<br>Wadamari-cho, China-cho,<br>Yoron-cho) | Tatsugo FM   | Tokunoshima TV   |
| <i>Amami Shinbun</i>              | <i>amammy</i><br>(women/mothers advertising guide)   | Setouchi FM  | SSTV San San TV<br>(Wadomaricho,<br>Okinoerabujima)  |
|                                   | <i>JOBSENBA</i> (local job ads)  | FM Okinoerabujima  |  |
|                                   | <i>Mishoran Gaido</i> (food guide)   | Rajio Kikaijima<br>(No longer in operation)<br>Tokunoshima Seiten Net<br>(no longer in operation)<br>Tokunoshima mini FM | Amamin:<br>blogging platform<br>(all islands)<br><br>Online versions of<br>local advertising<br>guides |

What is worth noting here in terms of the islands overall information landscape (Table 2) is that with the exception of Amami Ōshima, the rest of the islands have an uneven island media presence, especially the smaller ones which tend to consume either private commercial media from the mainland or NHK (when reception allows it). Kakeromajima and Kikaijima have limited reception of some local FM from Amami Ōshima. The only local media available to all islands are the two newspapers (meso level) distributed from their base in Naze, with local reporters in some of the other islands (it is significant to note here that during typhoon season the newspapers distribution is impaired). This excludes the various municipal newsletters (micro level) posted to residents' homes or distributed by the village chair and found in public buildings but which form part of the information ecosystem of all island communities. This unevenness in mediated communication however does not indicate a weaker information ecosystem or less diverse CEs but rather that other forms of networks and flows are used to cater to the information needs of the islands' inhabitants. For instance Kikaijima has turned its *Bosai Musen* into a vital information dissemination system or Yoronjima that tends to consume Okinawa's media. In Kikaijima for instance the village chair distributes important information material to designated leaders of reading groups who ensure information reaches all inhabitants, especially elderly who often live alone and are less mobile. And in Tokunoshima, sharing information face to face and through phones and social media is an effective way of reaching fast a large number of people. Tokunoshima is typical of small island communicative ecologies in the way in which daily informal communication remains central in everyday life. This informality, especially around certain locations and activities (i.e. Bullfighting) has contributed to rich communication patterns where everyone is informed of each other's activities. One islander referred to this communication mode as akin to the "coconut wireless" phenomenon in other Pacific islands (TACCHI *et al.* 2013).

The award winning *Horizon*, Amami’s only magazine in operation since 1994, ceased to print in 2014 but past copies are available online and in tourist spots and airports, a valuable ‘archive’ of easily accessible format and content. *Horizon* was primarily acting as a window into the local island cultures and nature targeting visitors. As Yuriko HAMADA, the editor mentioned, she wanted something produced locally of high quality that local people would be proud of (interview with Yuriko HAMADA 7/7/17). The high quality and rich visual and textual content was illustrated by original photography taken by her spouse, Futoshi HAMADA, award winning photographer and ecologist. This magazine stands as a good example of an endogenous publication that its originally external audience focus can be seen as an effort to balance island representation from within.

The four Cable TVs are small operations functioning at a micro level and catering to very specific communities. This aspect of the islands mediated communication shares characteristics with community media. Although they are private operations, with the exception of Tokunoshima, they are part of hyper-local information flows, focusing on cultural/social activities, inclusive of their mainland diaspora, serving directly the communicative needs of their communities and acting as community based storytelling networks.

The islands blogosphere is a recent phenomenon and still under development. Amamin (<http://amamin.jp/>), the main blogging platform, was created in 2010 by Kojiro FUKADA, a young Amamian who upon returning from Tokyo identified a lack of island information online produced locally. He addressed this by offering a series of workshops in all islands and despite initial hesitation and even suspicion, eight years later there are over five thousand users, 95 percent of which are local bloggers, ranging from a wide background. Each island has its own blogging page and the blog categories range from fishing to pets, hotels, daily life, child raising, local dialects, music etc. On average, 150 bloggers upload stories daily. His agency based in Naze produces also the islands’ only advertising guides, including one for women/mothers (40 thousand copies), one for local job ads and one food guide (150 thousand copies). A printed version has been offered since 2013 to cater to older people and hotels’ needs. His agency also runs *Sabakure* (islands events online) to promote local businesses activities. His approach is “cool and local” as he tries to give a

Table 3. Trans-peripheral overlapping CE layers (meso).

| TV  | Newspapers           | Radio  |
|---|----------------------|--|
| BBC (Ryukyu Broadcasting Corporation (JNN group) (received in Yoronjima nad Okinoerabujima)             | <i>OKINAWA Times</i> | Radio Okinawa (received in Yoronjima and Okinoerabujima)                               |
| QAB (Ryukyu Asahi Broadcasting Corporation) (TV Asahi group) (received in Yoronjima and Okinoerabujima) | <i>RYUKYU Shinpo</i> | RBC radio (Ryukyu Broadcasting Corporation) (received in Yoronjima and Okinoerabujima) |
| OTV (Okinawa TV) (FNN group) (received in Yoronjima and Okinoerabujima)                                 |                      | AFN radio (American Force Network) (received in Yoronjima and Okinoerabujima)          |

distinctive island character in design and production of each guide but also make them look contemporary and professional. He believes that improved information dissemination can help the islands economic development (Interview with Kojiro FUKADA 28/8/17).

Operating at municipal and village levels, *Bosai Musen*, Japan's local government disaster administration wireless broadcast system, can be found in all Japanese islands (INAGAKI 2017). Although it might not fit in the conventional media category, we would argue that is still part of a mediated system of communication. Most communities have either a loud-speaker mounted on a tall poll in a central location or a device installed in individual homes at municipal cost or a combination of both. The degree of access, areas covered, frequency of use, budget allocation, amount and type of information and engagement with it, channels, as well as their technology status, varies significantly depending on individual islands or island community. Many island communities rely heavily on this system to get information not only about weather emergencies but also vital community related news. The islands' typhoon weather patterns frequently cut off communities for days and *Bosai Musen* often provides the only access to reliable information. Our observations point at a system that is overall well integrated into the everyday life of the islands and forms an important part of their information ecosystem. An example of this from Kikaijima will be further explored in the thematic analysis section.

The southern islands of Yoron and Okinoerabu receive Okinawa media (see Table 3). Their geographical proximity to Okinawa Island facilitates an overlapping CE that is strengthened by a shared communicative sociality rooted in historical, cultural and linguistic connections. As one inhabitant argued, "it makes more sense for us to be part of the Okinawa Prefecture. It's where we go for shopping, emergencies and other needs." "It's

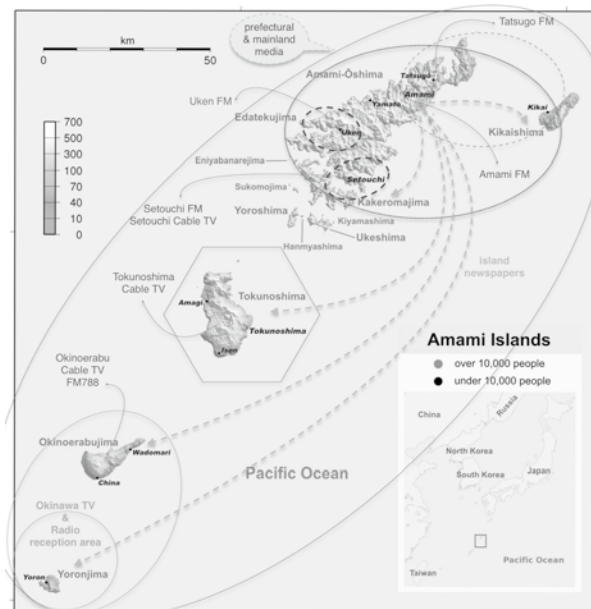


Fig. 4. Amami Islands mediated communicative flows (Source: authors using map by [https://commons.wikimedia.org/wiki/File:Amami\\_Islands-en.png](https://commons.wikimedia.org/wiki/File:Amami_Islands-en.png)).

more useful for us to listen to Radio Okinawa for the weather forecasts” explained another inhabitant, as the typhoons come from the south and pass through Okinawa first. Although we have seen Okinawa newspapers on sale in Naze, the main trans-peripheral CE overlap occurs with these two southern islands. The sea as HAU’OFA (1993) argued, is a medium that links these Islands into a vibrant field of communication.

The visual mapping of the Islands mediated communicative flows shows some of overlaps operating at times at intra and inter island levels (Fig.4). Whilst our mapping exercise produced a descriptive overview of the islands information ecosystems that adds to KATO’s (2016) and KATO and SHINGO’s (2017) previous research, it also resulted in rich ethnographic observations that revealed the role island media play in nurturing island identity and resilience. Resilience is seen here as a culturally mediated response to some of the challenges small islands often face, i.e. weather, aging population, depopulation and so on (DAWSON 2018). The following section presents an analysis of some emerging themes in regards to key *shima* mediated communication practices and how they reflect the Amamian social organization concepts of *yui* and *myar* and serve as a first step towards a contextualized island communicative ecologies approach.

### Three Interconnected Communicative Ecology Layers

Earlier in this paper, HEARN and FOTH’s (2007) concept of social, technological and discourse communicative layers was raised as potentially useful characteristics of ICE and for thematic analysis. In this case, our findings provided evidence of a significant technology layer without which the information infrastructure of the islands would have been challenged. The Naze based *Amami Communication Systems Company* is central in providing technological support that sustains the island’s community media and other information networks and infrastructure, including for instance maintaining transmission antennas, installing radio technology, training and servicing the *Bosai Musen* system, etc. Having this technical expertise on location in the islands is crucial as it enables self-sufficiency. The company’s owner, Hiroichi KABAYAMA, is a central figure in this layer of the islands communicative ecology by facilitating island storytelling networks.

The social layer manifests in the natural ability of island media to tap into existing social, cultural, economic and local administrative networks that allows a symbiosis among them and direct contribution to island life. The concept of *yui* is expressed here through program sharing between the radio stations in Amami Ōshima and newspapers and the kinship based relationships often informing programing like for instance Setouchi Cable TV’s unedited broadcasting of school cultural events. Care is taken not to cut out anyone in case disgruntled grandparents call to complain about their grandchild being edited out. The owner is also mindful not to cause local conflict and undue competition in his small community by not offering advertising options, a revenue that his small operation can benefit from. This we argue demonstrates the strong relational accountability aspect of small island communities (see THOMAS *et al.* 2016).

And lastly, at a discursive layer, we have found that the content of the islands mediated

communication practices are diverse and representative of the many island dialects, musical and other cultural expressions, all genders embracing and reflecting Amami's traditional egalitarian society, cross-generational, diasporic, participatory and democratic in its horizontal structures and operations and community focused with elements of inclusiveness of others outside the community and the islands. Uken FM for instance has a female manager who facilitates a highly inclusive programming that brings together an older male teacher with a younger woman in a local dialect learning program, a young mother with her two children running the community's book club, a comedy show by youth and an elder *chijin* player. These layers are interconnected in their ability to cater directly to the islands communicative sociality that enables the circulation of island storytelling.

### **Shima radio's contribution to new communicative practices and dynamics**

One of the key findings from this research indicated that the FM Radios in Amami Ōshima have dynamically altered the CE landscape of this island. While the trend started with Amami FM in the capital Naze, there are now three more radios representing very distinctive island communities, making them an important aspect of the island's information ecosystem. As one Amamian commented, "*I cannot imagine Amami Ōshima without radio now*" (*Yuko*). Two of them stand out, Uken FM, Japan's smallest capacity community FM, and Amami FM an urban radio with pan island characteristics. The Radio stations, like the many island tunnels, have opened up in a symbolic manner the individual *shima* communities to the collective Amami Ōshima community creating new perceptions and experiences of island identity.

These FM stations have not only contributed towards sustaining and strengthening the local information ecosystem of their communities but also generated new cultural expressions through the promotion of contemporary island music and other cultural practices, including popularizing the island's dialects that were mostly used by the older generation. Their program sharing<sup>2</sup> has also forged stronger intra-island exchanges that are in their turn forging a stronger island identity described below by Amami FM's founder reflecting here on the listeners' response to the dialect programs:

*I thought that the consciousness of the difference might mean identity [...] We cannot notice our identity if we don't have relative objects. After Amami FM was established, FM Setouchi was also established. In a sense, Naze and Koniya are now conscious about each other. One day, a chief of Setouchi-cho Chamber of Commerce heard the Naze dialect from an Amami FM program thorough FM Setouchi and said that this (Naze dialect) might affect their children. Until then, they didn't care about radio program from Kagoshima City or Tokyo, but if there comes a thing that is easy to compare, identity sprouts. (Interview with Kengo FUMOTO, 17/7/17)*

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2 Amami FM, Uken FM and Setouchi FM share program content.

Amami FM's emergence as "the radio of the islanders, by the islanders and for the islanders" seeks to enable Amamians to recognize the physical and cultural value of their islands, to treasure and further strengthen the "yui" island value (ties between people), and to pass down to the next generation the uniqueness of the island's culture (Amami FM mission statement). The concept of *yui* is expressed here through program sharing with other radio stations in Amami Ōshima and the kinship based relationships often inform programming like for instance the morning school show that encourages children while interviewing each other to mention their parents or grandparents names ("*Whose grandchild are you?*").

The founder of the station, Kengo FUMOTO, saw the need to have a "pan-islands radio station" and although he has not succeeded in getting it to their other islands, the station's central location in the islands capital plays a significant role in building the young people's local radio literacy by showcasing local young musicians. In an island that did not have its own radio, learning how to tune to it and creating a listening habit involves a programming that engages all ages, cultivating the audience from early on. FUMOTO who is also a drums player for the Salmon and Garlic rock band demonstrates below the important role this station plays in nurturing new musical expressions in the island:

*One of the expressions of the [island] identity can be seen in shimauta or August dance. I think we are not inheriting the figure but the heart. So, the figure should be ok to change over time. For example, I think it is ok today to preform shimauta by playing contemporary band music if it could be understood by the audience...I am drumming because I want to send the message that the island is fun and cool. (Interview with Kengo FUMOTO, 17/7/17)*

This island musician recognizes the need for Amami islands to keep generating new musical traditions building on the old ones. In that sense, Amami FM has become a successful vehicle that provides a continuum between the old and the new in a way that embraces different audience needs.

Uken FM has become an indispensable part of its small community's communicative landscape, "a communication rather than an information tool" as aptly described to us by FUMOTO, and not just for keeping the pigs away in the fields as it has been anecdotally reported. Established in 2010 as a replacement of the *Bosai Musen* system, Uken FM involves forty community volunteers in its program making. Community radio has specific characteristics that set it apart from commercial or national radio broadcasting, and Uken FM demonstrates how a community radio station can be innovative, engaging, resourceful and a key part of sustaining island communities:

*...aims to maintain the inherited traditional culture of Uken village and pass down the charm of the village by providing the **information of disaster prevention** which is important to the life of the people, by **sharing the local information** and by **cooperating and working together** with municipality, NPOs, various organizations, residents, schools, shops and so on through undertaking community FM. (Uken FM*

mission statement)

Uken FM is the first community radio to combine radio and *Bosai Musen* functions. As the community had no radio access in the past, the municipality distributed for free a radio device to all community members, especially as it switches to *Bosai Musen* function in emergency situations. Catering to such a small community (less than 2000 people) with its own dialect and distinctive cultural traditions, the station has now become the voice of the village. Here anonymity is not welcomed, people complain if their names are not mentioned, they are keen to be heard and acknowledged. Many of the programmes have a chatty tone found in face-to-face informal encounters in the community. For a community that had no radio literacy, they have embraced it as their alternative “on-air *myar*” (village square).

### Island communicative rhizomes

In our research the concept of communicative rhizomes (CARPENTIER 2016) has provided a tool for a clearer articulation of the diversity, complexity, contingency, resilience and fluidity of *shima* communication networks and agents. The island’s mediated communication practices, unlike their mainland (national and prefectural) counterparts, are seen here as part of a more fluid island interconnected network system that embraces both individual and collective island agents. In Amami, the person with the technical expertise facilitates information flows that enable community, intra and inter-island communicative practices and acts at the same time as an individual agent in setting up Tatsugo FM where his own daughter acts as a manager. *Nankai Nichi Nichi Shinbun*, the island’s most established newspaper, has been instrumental in supporting island dialects through its sponsoring of the annual Speech Contest in the past. And Miyuki SAKUI, a young Kikajima hotel receptionist and important local community cultural enabler, also acts as the local reporter for one of the Amami newspapers.

But the best example we could provide for this rhizomatic metaphor is the on-air and off-air co-habitation of Amami FM and its Asivi House (live performance space) that has been connecting the islands with the mainland and the rest of the world while creating new, hybrid, experimental cultural expressions that demonstrate a confident island culture that can absorb outside influences by making them their own in distinctive ways. For instance, the Asivi House hosted in 2017 a jointed performance by a Japanese Flamenco group and a local young female *sanshin* and *shimauta* artist that resulted in an impressive experimental musical and dancing performance. Isolation is clearly not this island’s defining characteristic as TERREL (2004) argues. Amami FM station uses the Asivi House as Naze’s off-air, real time and space ‘*myar*’ where invited artists give traditional, contemporary, island and international performances. The radio is acting then as an amplifier promoting both events and performers that can be heard by other parts of the island through program sharing with Uken FM and Setouchi FM. Its *myar* role is also exemplified in the night street festivals organized in the center of the city broadcasted live in Naze and rebroadcasted later in other parts of the island.



## Shima storytelling networks, agents and cultural enablers

Using the storytelling network approach (WILKIN *et al.* 2007) facilitated the emergence of an important theme in our ICE mapping. These networks are created through a storytelling process in which Amamians, community organizations and *shima* media work with each other in ways that allow a shared construction of a vision and reality for their island communities as places where they belong and in which they share their concerns. The ‘*shima* stories’ generated and circulated through these networks by individual and collective agents - “on air” or in print, digitally, or face to face - shape island identities in a culturally and socially relevant manner while enabling access and participation in information flows that contribute to *island agency*. Most importantly, these networks and agents demonstrate how the practice of *yui* continues to define the islands communicative sociality. Our observations show how individual island agents are not operating on their own but as part of a *shima* collective that facilitates and influences each other’s contribution and it is intricately linked to relational accountability and social trust (as seen in other Pacific island cultures, i.e. THOMAS *et al.* 2014).

These storytelling agents are often acting as *shima* cultural enablers. It is evident that by creating a new storytelling network through *shima* radio, the Islands’ local media ecology has changed considerably. Its founder, FUMOTO, acts not only as an agent who runs a network but also as a cultural enabler and catalyst for change. He displays a high level of island identity awareness, the result of his identity crisis journey which saw him returning to Amami Ōshima after living in Tokyo:

*“Gradually the feeling became strong that I want to play my role in the place that people know me [...] island... is a place where people share time and place, and where people [collectively] create the value of happiness every day. In the city, there is segregation, while in the island you see an attitude of acceptance”* (Interview with Kengo FUMOTO 17/7/17)

FUMOTO here instinctively defines that unique sense of place that HAY (2006) and BALDACHINO (2005) referred to. When asked if it is easy to recruit Radio staff with a media background, his reply provided further evidence of his role as an enabler: *“I recruited those young people who are interested in the island and in revitalizing island. In the interview, I don’t care about their technical knowledge but I care about the motivation.”* In our encounters with some of his current and former staff, we observed a similar high level of awareness of their island identity.

Miyuki SAKUI is one of them, a young woman who returned to Kikajima after studying in the mainland and working for a period at Amami FM. The latter shaped her way of seeing her own island and taught her how using media can be an effective way of strengthening local people’s pride in their *shima* culture. Although her day job is in a hotel, she acts as the local reporter for one of the Amami newspapers. As an agent that contributes to the islands

storytelling networks she demonstrates an understanding of her role and the importance for her fellow islanders to see their stories on the media:

*It's important to have Kikaijima stories in island newspapers for others to read but it's more important that my stories are read by island people as there is much information flowing into the island from the outside world but not enough information from the island by locals. (interview with Miyuki SAKUI, 20/8/17)*

She noticed that in comparison to other Amami islands, Kikaijima gets little exposure in island media and that locals are contented whenever they make it to the news. She felt that this is not enough:

*I think "feeling happy" replaces "let's do it properly" and "let's learn about our island more". I often hear that traditional culture is difficult to continue because of lack of young people who want to learn it. I think one reason is taking pride in living in Kikaijima is diminished. I am working to change their minds by using the media well. (interview with Miyuki SAKUI 20/8/17)*

The list of storytelling agents and cultural enablers is a rich one, including the founder of Amami's blogosphere mentioned above, another young Amamian professional whose contribution to the creation of a new digital storytelling network has changed the islands CE and who shared the same level of island identity awareness with FUMOTO and SAKUI. The HAMADA couple have a long standing record in serving the islands CE and agency by generating island stories from within for external audience. KABAYAMA, the Amami Communication Systems owner, is another significant catalyst for change who played a central role in the establishment of Uken FM. It was at his instigation and support that Uken Village Hall took the decision to replace its *Bōsai Musen* system with a community radio. All these island agents act synergistically, "lending *yui*", in a manner akin to sharing their labour in "thatching the roof" of their islands mediated space, weaving together their stories, providing technical expertise, building networks and facilitating information *shima* flows.

### **Meeting diverse audience needs**

The islands media cater to diverse audience needs. Established media, like the islands two newspapers, cater to the older population which is used to print media. Obituaries and birth news announcements are for instance the most popular items in these newspapers reflecting the demographics of their readership. And the online island guides are now also printed to cater to older population. SAKUI, the reporter from Kikijima indicated the print preference, "*The good point of newspaper is that they are accessible any time while TV and radio are not*". Even if the newspapers arrive late due to typhoon transport disruption, the islanders are still content to read stories about their islands.

An example of how different island media serve different communities in distinctive

manner is the Setouchi Cable TV. Its owner and former electrician, Masao TAKEHARA, has been running his cable TV in the small town of Koniya for nearly 30 years. The live broadcasting from the town's port with *shimauta* playing in the background acts as a window into the town's life for the elderly and less mobile inhabitants, another example of the symbolic myar function of *shima* media. Setouchi Cable TV's real time recording and CD content dissemination of community events reach not only its local community members (parents and grandparents are keen to have recordings of their children's cultural day school performances) but also the mainland diaspora whose events TAKEHARA also records and disseminates in CD format. In this manner, he is acting as a local storytelling agent not only at a micro but also meso level as he caters not only to the local community but also to its diaspora. Setouchi TV, like the other islands Cable TVs, acts like a visual community archive.

While provincial community radio creates parallel "on-air" community spaces that include all community members, urban community radio caters to new audiences with an interest in contemporary island music. Amami FM's second open air studio, in one of Naze's market arcades, also serves as a convenience store and aims at strengthening direct interaction with its audience by being more visible to the younger listeners and visitors to the island. Having an open air studio sharing space with a shop was deliberate:

*In the beginning, I made the studio soundproof like the image of a studio in the mainland, but later, I thought that the open space studio where children's voices are heard including the sound of the bustle of daily life is much better. That's ordinary life. (FUMOTO, interview 22/8/17)*

The *Horizon* magazine was a publication that although it was primarily produced for visitors to the islands acting as a window to their culture and nature from within, it was also read by islanders who saw it as an affirmation of their identity.

The different manifestations of the *Bosai Musen* system also provides evidence of how old (loudspeakers) and new technologies (digital devices) as well as alternative modes (radio station) can enhance island information flows and meet different communities information needs in an overlapping manner.

### **Island weather and its impact on ICE**

The undoubtable connection between human and nature ecologies is evident in the islands where strong weather patterns form an integral part of *shima* life. During the typhoon season, strong winds, and heavy rainfall, causing landslides and stopping transportation cut off the islands for several days at a time, including the disruption of newspapers delivery. The islands natural habitat contours their communicative ecologies and information ecosystems, as the *Bōsai Musen* unmistakably demonstrates. A good example of how important this system is for island information flows is Tokunoshima where depending on the weather, the ferry will choose between two ports to berth. In the past *Bōsai Musen* would

announce on the morning of the ferry arrival which port was operating that day saving the locals from taking an unnecessary 40 minutes' drive from one port to another. This service is no longer available much to the islanders' consternation.

Along with *Bōsai Musen*, public funding has been made available to Cable TVs and FM stations for disaster and emergency broadcasting. It was in fact because of this island weather that Amami FM became popular with the younger audience. During the 2010 heavy rainfall, the radio went on live broadcasting inviting listeners to share information with many calling to find out if their relatives were safe or pass on messages about their safety. Setouchi TV's extended recording of floods caused by passing typhoon often finds its way to the mainland news outlets.

### ***Bōsai musen*: an unexpected finding in the island's information ecosystem**

One of the key findings from this research was the use of *Bosai Musen* and its integration in the islands information ecosystem. While emergency broadcasting has been traditionally its main function, island municipal administrations often use them to broadcast local public announcements. Whilst a disaster broadcasting system is hard to miss as it is very visible and audible and part of the Japanese islands landscape, it is because of its very obvious function that its other role in the island CE have not been paid the attention it deserves. We believe that it is this other role that illustrates well one of our key points in this research: small islands' unique micro-communicative ecologies shape and ascribe unique meaning to information flows and uses. *Bosai Musen*, has been shaped by these island communities to serve their own unique information needs, outside emergency and disaster times.

*Bosai Musen* was introduced into Kikaijima in 1988 and its digital upgrade, completed in 2015, covers all 3,600 households. Whilst all islands have this system used both for emergency and community information dissemination with varying degrees of area cover and frequency, our observations from Kikaijima pointed that it has developed unique characteristics that make it stand out as the island's key mediated communication system. This is demonstrated in some of its functions identified during our fieldwork: village clock (chiming at 12pm, 3pm and 5pm); a channel for public announcements with fixed broadcasting time (early morning and evening) for the Town Hall (i.e. recruitment calls for Town Hall, district meetings, election announcements), Village Chief, Police (i.e. elderly people missing), school/community (i.e. invitation to/reminder for the annual cultural school festivities; chiming at 5.30pm during school time and 6pm during summer to remind children to return home from playground; reminders to drivers to be careful with students on the streets at the start of the school year), Agricultural Association/ Cooperative (i.e. land registration of sugar cane harvest and production per farmer), Council of Social Welfare, Health related services (i.e. reminder for rabies injections). During the dry season, it reminds the island inhabitants to close their car windows when crossing sugar cane fields to avoid getting wet from the water sprinkle system. And on the rare occasion that the island makes it to the national news or other regional media, an announcement is sent out early in the

day in the manner of “we made it to the national news, don’t miss tonight’s TV program!” But it is the death announcements, aired at the request of the deceased family, that merit more attention. Funerals are considered a public rather than a private matter in these island communities. The information on who has died, when and where and funeral service details are seen as a community matter. Even if there is no request from the deceased’s family, the community head will still air the funeral information as a matter of public concern.

Whilst this appears to be the Radio that you do not have a choice to switch on/off, a “top down” information system acting like a “Benevolent Big Island Brother” beaming into the neighbourhood or your dining room, when examined closely there is evidence that it enables *Island Agency* by sitting in the center of the islands information landscape, filling in an obvious gap while balancing out local information flows and dynamics and strengthening the impact of information as it is delivered by a local “agent” that is seen as socially trustworthy (see DALE and SPARKES 2010). In terms of island community development, information - and an equal access to it - is a vital element in enabling informed voice, engagement and participation in small island communities.

### **Towards an integrated island information ecosystem model**

Islands, like “all communities and collectives need to communicate, to express themselves, to inform and be informed, to dialogue with others, and to network. To have these communication needs met is the right of every community and collective” (NUESTROS MEDIOS, cited in FULLER 2007:5). This research has provided evidence that Amami’s media not only serve directly their island communities’ information needs but also shape and are shaped in their turn by the islands communicative sociality. They share most characteristics of community media (FULLER 2007) and whether private or community/public owned, their limited reach, small and low cost capacity, engages directly with the islanders and reflects specific island community needs and interests.

Based on this mapping of Amami Islands CE, an integrated communicative ecology approach for islands has emerged based on the Internews information ecosystem model which requires further contextualization of its key elements. The model groups together elements of this ecosystem as they are represented in their respective island environments while putting emphasis on human and social indicators, communication content and structures.

Small islands are distinctive communities, defined by a collective identity and close, reciprocal relationships (*yui*). A significant characteristic of *shima* is the direct and frequent contact between their members and the feeling of ‘belonging’ and ‘sharing’ that has developed over a period of time from within. Island communities are actively constructed by their inhabitants whose island identity results from this process. The inhabitants of islands create their identity from their constructed social communication structure (Fig.5). Island media are oriented towards the communities they serve. Their relationship however with their *shimas* goes beyond the traditional one-way communication. Island media often function like community media that offer the means of expression of the island rather than

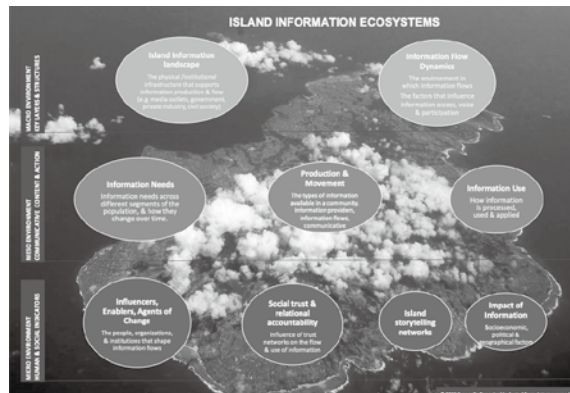


Fig. 5. Island ecology map (Source: authors adapting Internews information ecosystems model (photo by Evangelia PAPOUTSAKI, design by Anusha BHANA).

for the island and in which the island community members often participate as storyteller agents, contributing to the production and performance of *shima* meaning. This kind of communication networks can be used to strengthen island identities and help manifest this identity to the outside world, especially with the increased use of social and online media. Island media thus can be seen, like community media as CARPENTIER *et al.* (2003) has argued in his extensive body of work, as an alternative choice to the market and state media and by extension to the centralized, mainland often based production and dissemination of information that draw the focus away from the island communities.

## Conclusions

Our research has identified several elements of the islands CE that serve directly the various islands' communities, contributing to their wellbeing and towards maintaining a sense of island identity with strong links to local dialects, cultural expression, and community organization. The ICE mapping provided evidence that elements of the island culture, like that of *myar* and *yui*, are still present and actively shaping the communicative actions of the islanders.

Amami's mediated CE contains several elements of what makes island communities resilient. These include a healthy information landscape and dynamics of production, movement, access, use and impact based on local information needs, social trust and agents of change/cultural enablers. If resilience is a culturally mediated response to a challenge, this research shows that Amami Ōshima's FM Radios play an important role to this island's mediated communicative ecology that strengthens its resilience.

By mapping the Amami Islands CE, this research has explored the potential contribution of a contextualized communicative ecology approach to island studies. The six months fieldwork yielded rich data that deserve a more extensive presentation and analysis. This article served as an initial overview of the key findings and emerging characteristics of the islands CE but it is by no means exhaustive. To complete the mapping, the remaining four islands also need to be included and the emerging themes need to be elaborated further.

## Acknowledgements

This research was made possible with the generous contribution of the Centre of Pacific Islands Research at Kagoshima University that provided Associate Professor E. PAPOUTSAKI with a research fellowship in 2017 and enabled the collaboration with Professor S. KUWAHARA whose intimate knowledge of the Amami Islands and extensive islands networks contributed to an in-depth study that would not have been otherwise possible. Special acknowledgments also go to Mr. and Mrs OKU whose island hospitality enabled us to have a first-hand experience of *Bosai Musen's* important role in Kikaijima's CE and all those Amamians that shared so generously their time with us.

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