

Resolution of Regional Issues at the Yamae Village Community Development Research Institute

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1. Introduction

As our sense of crisis regarding the declining population intensifies, the nature of the local community and sustainability of local authority are again re-examined. It remains the case that the concentration of the population in large cities is not easily resolved and de-population is a serious problem in rural areas. To survive, diverse attempts have been made in many corners of Japan to resolve the social problems of local communities, such as countermeasures against rapid ageing and the declining birth rate, promoting industry and job creation, and

developing special and tourism products. Against this background, the current study focuses on the Yamae Village Community Development Research Institute in Kumamoto Prefecture and the collaborative research undertaken by the Institute. The Institute mainly works in three areas, namely research, information and communication technology (ICT), and human resource development. The current study examines its activities to resolve the challenges of the local area.

2. Yamae Village and major community development projects

2.1 Overview of Yamae Village

Yamae Village is situated in a semi-mountainous area in Kuma Region in the southern part of Kumamoto Prefecture. It stretches 9 km from east to west and 18.6 km from south to north. Its total area measures 12,119 ha, of which about 90% is woodland. The village is roughly divided into two areas,

Yamada and Mae, and houses 16 settlements. Yamae Village came into being in 1889 (Meiji 22), when Yamada Village and Mae Village were merged. Because there is no medical doctor in the village and a limited number of shops, villagers tend to go to the neighboring Hitoyoshi City for medical treatment and

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shopping. Public transport by appointment is in operation, and privately owned taxis are used as vehicles, for which the village subsidizes most of the fare. Furthermore, the village has two elementary schools and one junior high school.

The population on November 30, 2017 was as follows¹⁾. The total population totaled 3,537 people (of which 1,660 are men and 1,877 women), the rate of aging is 32.57%, and the number of households total 1,217. The total fertility rate is 2.00, the 24th highest among the municipalities in Japan²⁾. In terms of immigration to and emigration from the village, in many cases, people leave the village after finishing high school.

The main industry of Yamae Village is agriculture and forestry. As such, there are 253 commercial farms, of which 66 are full-time farm households, 19 are first grade part-time farm households with more income from farming than other sources, and 168 are second grade part-time farm households with more

income from sources other than farming³⁾. To deal with the shortage of farmers and establish agriculture that supports the community, Mae-no-sato, an agricultural cooperative, was set up with 44 farmers in Mae district in June 2017, signaling the beginning of collective farming.

For school education, the ten-year period from 2011 to 2020 has been designated as an ICT research period. According to the national survey of academic abilities and the learning situation conducted in April 2015, the two elementary schools in Yamae Village exceed the national average by 12.2–29.3%. Furthermore, compared to other elementary schools in Kumamoto Prefecture, they exceed the average by 11.7 to 28.7%. In 2016, the village was certified by the Japan Association for Educational Technology as an Advanced Area in the Use of Information in Schools. Observers from elsewhere flock to research seminars in the village, and the schools actively use School Information Supporters to develop digital teaching materials and design lessons.

2.2 Records of community development in Yamae Village

Until now, community development in Yamae Village has been pursued by making the most of community resources. This is guided by input from external personnel and by activating exchange between the village and the outside. Below we review three major examples, namely the villager-director initiative; revival of Marron Gou, the cab-behind-engine bus; and

Yamae Chestnuts.

The villager-director initiative⁴⁾ refers to the practice in which local residents create programs to publicize the attractiveness of the village. The initiative started in 1995, when Mr. Akira Kishimoto (currently a TV producer at Toho TV in Fukuoka Prefecture) arranged that villagers from Yamae introduce the village in a

program on cable TV in Kumamoto City. Following this, neighboring municipalities including Yamae Village and Hitoyoshi Kuma Wide Area Administrative Union joined forces to establish an integrated administration cooperative to deliver classes to develop villager-directors. Teaching delivered in the course has impacted community development and human resource development in many municipalities. The creation of TV programs is appreciated, because local residents can communicate in their own voices through the processes of collecting material, filming, and editing, and because the collection of material by the villager-directors and their planning is linked to community vitalization. At that time, the information infrastructure in Yamae Village was hardly developed; however, in 2003, villager-directors began broadcasting on the Internet. In 2008, Yamae Village Cable TV was established and with it, the initiative was dissolved and absorbed into the new project. The knowledge and experience accumulated through the initiative are now used by Yamae Village Cable TV staff, and programs are created and broadcast through the community channel and the Internet.

The second example is the revival of the cab-behind-engine bus. The bus was reinstated when a TV program on community development, which was broadcast in the Kumamoto area, featured Yamae Village. This led to a review of the village's community

resources. In 1992, residents repaired the cab-behind-engine bus, which had been preserved and was on display, and reinstated it. After this, it started to run on the public road. The bus was named "Marron Gou," referring to the chestnuts for which Yamae Village was known. In 2005, it was certified as a Recommended Industrial Heritage by the Japan Industrial Archaeology Society. The National Cab-behind-engine Bus Convention in 2008, which took place in Yamae Village, attracted more than 20,000 visitors (according to the organizer). Now, Marron Gou complements public transport in the chestnut festival and village tours, and is widely used in events to promote agricultural produce from Yamae Village for its popularity.

The project to brand chestnuts, a special produce of Yamae Village, is accelerating. Villagers and non-villagers call all types of chestnuts produced in Yamae Village "Yamae Chestnuts." The production of chestnuts began in full-scale after the Second World War, when they were shipped to Osaka and Nagoya. Obuse and Ena, well known for chestnuts and chestnut-based products, were also interested in buying Yamae Chestnuts. They were presented to the Showa Emperor in 1977; however, when the agricultural cooperatives merged, the brand name Yamae Chestnuts disappeared temporally. Even during that period, the National Chestnuts Summits and Village Chestnuts Festivals were held, and the

re-branding of Yamae Chestnuts started slowly through constructing a processing factory and expanding the product range. Currently, distribution routes other than agricultural cooperatives have been secured, and the chestnuts are featured in events in department stores in major urban areas such as Tokyo and Osaka, served as dessert on JR Kyushu's cruise

train Nanatsuboshi, and in the first class of international flights on Japan Airlines. Yamae Chestnuts were presented at *C'est bon le Japon* in Paris in July 2017, where approximately 1,300 pieces of the product were sold. The popular Chestnut Festival held in autumn attracts more visitors than the total population of the village.

Figure 1: Yamae Chestnut Festival, September 24, 2017



Source: The author

3. Collaborative research

3.1 Overview of collaborative research

The collaborative research project between Yamae Village and Sudoh Laboratory, Interfaculty Initiative in Information Studies, the University of Tokyo began in summer 2015. The aim is for Yamae Village to seek a new direction for and to stimulate discussions on community development by obtaining feedback from the outside and learning from research findings through the consortium.

Thus far, collaborative research has been conducted on drafting the Strategy to Revitalize Yamae Village by Information and

the progress and management thereof. Regarding one priority area in the Strategy, namely agriculture, we are drafting a plan to promote the use of local produce at school dinners and in the community⁵⁾ and on branding the chestnuts⁶⁾. As mentioned, while the branding of Yamae Chestnuts has been ongoing, there was no literature for consumers introducing their history, types, cultivation, and how they are eaten locally. Therefore, we planned and published an official guidebook on Yamae Chestnuts⁷⁾.

In addition, as part of the collaborative research, we conducted fieldwork, planned various surveys, created and counted questionnaires, and reported the survey findings and insights to the village office and villagers. Furthermore, as detailed later, we were involved in planning the Yamae Village Community Development Research Institute, which we jointly run. At the Yamae Chestnut

Festival, we communicated our research findings to visitors by presenting our research findings in the form of posters and by planning and holding seminars to increase knowledge on Yamae Chestnuts. We were also involved in designing the cardboard boxes used to ship Yamae Chestnuts and the coordination of chefs to process the village's agricultural produce.

Figure 2: Fieldwork in the abandoned agricultural land



Source: The author

3.2 Strategy to Revitalize Yamae Village by Information

The Strategy to Revitalize Yamae Village by Information details how to implement the Comprehensive Strategy to Revitalize Yamae Village drafted by the village.

Yamae Village's Comprehensive Strategy for Overcoming Population Decline and Revitalizing Local Economies has four objectives: (1) Job creation to revitalize the village; (2) Promotion of immigration and settlement; (3) Fulfilling the wish to marry, give birth, and raise children to create a happy village; and (4) Realizing a safe life in the village. To achieve these objectives, 62 policies were proposed. The policies are

wide-ranging, and some aim to improve existing activities by making the most of ICT and gathering them in information contents. These 62 policies are reviewed in terms of four perspectives: (1) Affinity with ICT, (2) effectiveness, (3) cost performance, and (4) urgency. As a result, four priority areas to promote the use of ICT have been identified, namely agriculture, the environment/disaster prevention, welfare, and human resource development.

1. Regarding the affinity of ICT, it is possible to use this know-how, because it can

complement geographic conditions and public transport for those with mobility difficulties, and provide a track record of the environmental improvement of cable TV as well as the accumulation and production of contents by the villager-director. 2. Regarding effectiveness, the strategy aims to build a system in which no-one will be left behind in terms of access to residents' information by publishing the results of the academic achievement test taken by primary schools in Yamae village and placing ICT promotion supporters in each community. 3. Cost performance is an attempt to reduce the costs related to transportation and time by building information services. Furthermore, it is intended to enable the effective distribution of

limited human and community resources (for example, monitoring support for the elderly/people wandering about and shopping sites). In addition, from the perspective of industry support, the strategy can be linked to high value-added agriculture and business opportunities. 4. The degree of urgency seems essential for disaster prevention, education, and countermeasures to deal with harmful animals, as well as for the proper management and planning of the natural environment.

Regarding these priority areas, qualitative objectives were added as an ICT strategy to the KPI objectives indicated in the Comprehensive Strategy, and a five-year schedule from 2016 to 2020 is being formulated. Each area is outlined in Figure 3.

Figure 3: Priority Areas in Yamae Village Development by Information Strategy

1. Agriculture
<ul style="list-style-type: none"> ① “Locally produced, locally consumed” and agriculture (use of local produce at schools, expansion of “locally produced, locally consumed,” increasing the added value of agricultural produce) ② Yamae Chestnuts (traceability to improve quality, marketing, contents production) ③ Employment (a work-share system in agriculture, support for entrepreneurs)
2. The environment/disaster prevention
<ul style="list-style-type: none"> ① Disaster prevention measures/countermeasures to deal with harmful animals (collection, editing, and publication of details of damage, use of social media) ② Management of forestry resources (forest registration survey, drafting of forest development plans)
3. Welfare
<ul style="list-style-type: none"> ① A regime to watch over the elderly (help for shopping, watching over those with dementia and wandering elderly people) ② Provision of stay-at-home care (integration of information among institutions) ③ Pregnancy, giving birth, and child rearing (integration of information sites and enhancement of the consultation regime)

4. Education and human resource development

- ① Education (courses on programming, original contents on eating education, enhancement of Wi-Fi in the learning environment)
- ② Human resource development for the community (creation of information on the community, enhancement of information channels)

(Source: Namiki (2016a))

Some activities need to start afresh in each area; however, many activities sort and re-edit existing projects and publish them on the Internet. These cannot be achieved only by introducing information technology. To make the most of limited human resources, it is

important to review the ways in which information is provided and the communication between residents and the village office, and to increase information for the whole community quantitatively and qualitatively.

4. Activities of the Yamae Village Community Development Research Institute

4.1 Background

As collaborative research continues, the necessity of a department that links the village office and villagers and concentrates on policy formation and surveys has been clarified. In particular, while linkage with other policies is necessary in drafting various plans for the community, the current vertically divided administration may overlook some of these. Furthermore, a consultancy was commissioned to draft a plan, because of a shortage in budget and personnel in some cases. However, the plan has remained unimplemented. Some of the surveys and workshops organized in this manner were carried out to deplete the budget. Consequently, villager volunteers are exhausted and losing interest in community development.

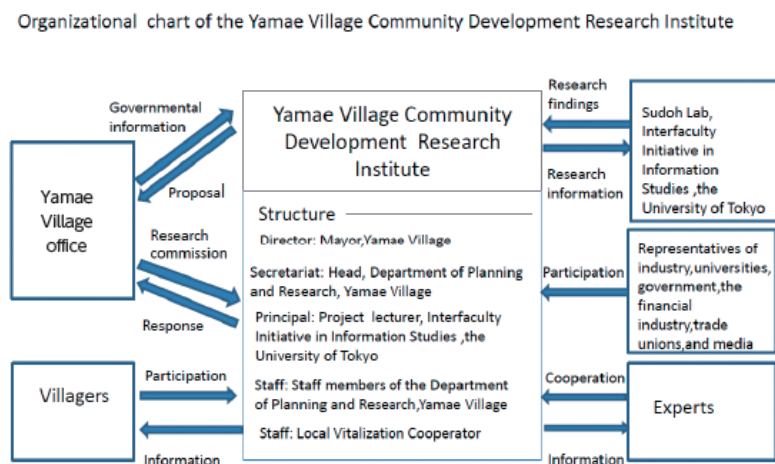
In terms of access to information on the

community, villagers had very little access to official materials, because places in which to make information public were lacking. In addition, while it was assumed that many surveys were conducted in the past, these reports and related materials were not properly preserved and stored, and there was insufficient literature to help community development, which was not catalogued. Moreover, the visualization of the current situation of the village and research projects to enable it were not considered important. As a result, the village office had been acting without enough information from villagers, and decisions about projects are made without sufficient information provided by the village office to the villagers and various committees. There is no university

or research institute near Yamae Village, and skills to formulate policies and conduct surveys cannot be mastered overnight. This means there is no quick fix. To deal with this challenge, the Institute has been set up to edit

information from both the village office and villagers and serve as a basis to carefully consider how to deal with problems in the community. The organizational chart is illustrated below. (Figure4)

Figure 4: Organizational chart of the Yamae Village Community Development Research Institute



(Source: Website of the Yamae Village Community Development Research Institute)

4.2 Activities of the Yamae Village Community Development Research Institute

The Yamae Village Community Development Research Institute opened in January 2016⁸⁾. It aims to edit information held by Yamae village office and villagers as data or contents and develop projects and policy recommendations to solve problems in the community. Furthermore, it aims to use information technology in the life of the village to achieve safety and security as well as to enhance welfare, increase income by promoting industry, and create employment.

The Institute's activity is categorized into

three major fields: (1) Research, (2) ICT, and (3) human resource development. Regarding point 1, namely research, the Institute collects/analyzes various data on Yamae Village and visualizes them in an easily comprehensive manner. It also provides information for policy making in Yamae Village. Thus far, the Institute has proposed policy recommendations regarding the drafting of a strategy to use information and manage its progress, published materials about the community such as the handbook of village governance, collected and

published information regarding chestnuts, and set the agenda for the Yamae Chestnut Consortium⁹⁾. In addition to interviews with various experts and an investigation of preceding cases in other communities, to expand opportunities to gain feedback from villagers, it conducted online questionnaire surveys with village office monitors, established ICT promotion supporters in each community, and collected information from these. Insights and data obtained from the surveys or research are provided to Yamae village office as appropriate to improve its operations. Regarding point 2, ICT, the Institute is

exploring the possibility of realizing a safe and secure life for villagers and securing employment using drones, inputting data about the agricultural produce of the village in the GIS system, and producing and editing community contents. In terms of point 3, human resource development, the Institute lets villagers use its facilities and various tools to assist community development by the villagers, operates the facilities, and helps input. The Institute further plans and holds Institute Seminars to contribute to community development and to provide learning opportunities such as on marketing.

Figure 5: Villagers using the electronic blackboard in a meeting



(Source: Yamae Village Community Development Research Institute)

Figure 6: The Institute's facilities and some of the tools



(Source: Yamae Village Community Development Research Institute)

5. Conclusion

As discussed, the Institute has just begun its activities, and two different organizations, a village office and university, are engaged in collaborative research making the most of everyone's strengths and know-how under the objective of sustainable community development while deepening mutual understanding. Important is that the Institute is not solely engaged with commissioned research, but also involved in drafting various plans and managing their progress including the information strategy. It learns from villagers and preceding cases from other communities, and has created a constant feedback loop to bring about improvement. Furthermore, it is important in community development to enrich community contents

both qualitatively and quantitatively, publish community materials and data and ensure easy access to them, and enhance communication between the village office and villagers by making the most of the knowledge and experience of communicating the attractiveness of the community, which has been cultivated by the villager-director initiative. There are many examples of how a local authority establishes a research organization. Among these, the Yamae Village Community Development Research Institute serves as the basis to connect the village office and villagers by introducing external personnel and their wisdom and by discovering community resources.

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- ¹⁾ Based on Yamae Village's "The number of households and population (on November 30, 2017)," <http://www.vill.yamae.lg.jp/userimage/13/jinkou291031.pdf> (Accessed on December 22, 2017)
- ²⁾ Based on "Specified report of vital statistics by public health center and municipalities from 2008 to 2012" by the Ministry of Health, Labour and Welfare <http://www.mhlw.go.jp/toukei/saikin/hw/jinkou/other/hoken14/dl/2-3P.pdf> (Accessed on November 5, 2017)
- ³⁾ Based on data provided in the *Census of Agriculture and Forestry* <http://www.machimura.maff.go.jp/machi/contents/43/512/details.html> (Accessed on December 22, 2017)
- ⁴⁾ Because of these activities, Yamae Village has been highly praised, as evidenced by the village receiving Minister of Internal Affairs and Communications Award for the Information and Communication Month (organizations) in 2008 and the 9th Regional Prize (organizations) by the Association for Media in Digital. The villager-director initiative has spread to Toho Village and

Suginami city in addition to the Hitoyoshi Kuma areas.

- ⁵⁾ We drafted “Yamae Village’s Vision for the Future: From Using Local Produce at Schools to Sustainable Agriculture” (2016c). In drafting the policy, we conducted a questionnaire survey of 384 pupils from elementary and junior high schools and 55 organic farmers in Yamae Village.
- ⁶⁾ “The Current Situation of Yamae Chestnuts” (2016b) reports on the questionnaire survey of visitors to the 2015 Chestnut Festival, survey of media reporting and literature on Yamae Chestnuts, survey on recipes, survey on products and menus, and a lecture by a chef holding a cooking demonstration.
- ⁷⁾ “The Official Guidebook to Yamae Chestnuts : A Year with Yamae Chestnuts” (2017). The abridged version is published as “The Official Guidebook to Yamae Chestnuts: Yamae Village Is Full of Chestnuts” (2016).
- ⁸⁾ Various media including Hitoyoshi Shimbun and Kumamoto Nichinichi Shimbun have reported on the opening of the Yamae Village Community Development Research Institute and collaborative research.
- ⁹⁾ The Yamae Chestnut Consortium has been established to promote sixth industrialization using Yamae Chestnuts to vitalize the community economy through job creation; achieve an autonomous, sustainable community; and enhance the Yamae Chestnut brand in and outside Japan by improving the projection and processing of Yamae Chestnuts. The Consortium comprises chestnut farmers and processors, staff from Kumamoto Prefecture and Yamae Village, and those related to the university.

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The current article reports on community development and activities to solve problems in Yamae Village, Kumamoto Prefecture. Collaborative research with Yamae Village started in summer 2015. It aims to revitalize community development through the organization of a consortium-type group by Yamae Village and by introducing external perspectives and research findings. Thus far, collaborative research has contributed to the drafting of the Strategy to Revitalize Yamae Village by Information to achieve the four objectives and 62 policies set in the Comprehensive Strategy for Overcoming Population Decline and Revitalizing Local Economies. The Strategy to Revitalize Yamae Village by Information has reviewed 62 policies in terms of 4 perspectives: (1) Affinity with ICT, (2) effectiveness, (3) cost performance, and (4) urgency, and has defined 4 priority areas in information strategy, namely agriculture, the environment and disaster prevention, welfare, and human resource development. A five-year plan for the period 2016 to 2020 has been drafted for the priority areas by adding qualitative objectives to the quantitative objectives in the Comprehensive Strategy for Overcoming Population Decline and Revitalizing Local Economies. In the field of agriculture, one priority area in the information strategy, namely collaborative research, has contributed to drafting the plan to promote school dinners and reach the ideal of “locally produced, locally consumed” in the community and research on the branding of the chestnuts. Currently, we are engaged in managing the progress of these projects.

Yamae Village Community Development Research Institute was established in January 2016. The institute engages in research and policy recommendations to solve problems in the community. In addition, collaborative research is involved in the running and planning thereof. The major activities of the Institute comprise three areas: research, ICT, and human resource development. Specifically, it is involved in identifying problems in the community through research and investigation, planning the use of ICT to benefit residents of Yamae Village, and providing learning opportunities for community development and entrepreneurship support, as well as in assisting community development by the

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villagers. Yamae Village Community Development Research Institute connects the village office and villagers and serves as the support base for community development lead by the villagers.