

# An analysis of how roadside stations, “Michi-no-eki”, function to promote local revitalization:

## A case study in a rural area in Japan

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### Abstract

Japan is facing a rapid decrease in birth rate and an increase in aging people. In addition, especially in local areas, population is decreasing. In Suzu City in Ishikawa Prefecture, the population has been decreasing dramatically, and the number of aging people accounts for over 40 % of the total number of residents. Our previous study, which was related to the revitalization of Suzu City, showed that a roadside station, called “Michi-no-eki” should be utilized as a place for the residents to buy a light meal because there are no restaurants near the residential area, and should also be utilized for the elderly citizens to have an opportunity to run the business of light meal sales by themselves. In this study, we used a questionnaire to examine the effect of the use of Michi-no-eki as a provider of light meals for the residents and tourists in Suzu City. The sales showed that the running cost of the light meal shop was quite reasonable. In addition, a survey for the tourists was conducted to understand how to more effectively make use of the Michi-no-eki. The results showed that, because tourists often visit the place with their family, building facilities or holding events for family should be considered; other important elements for further development of Suzu City were also found.

### Keywords

aging society, local revitalization, questionnaire investigation, roadside station, rural area

### 1. Introduction

In Japan, manpower is needed in the large metropolitan area for industry, and as such, the population in that area has been increasing. Simultaneously, the population in rural areas has been decreasing and depopulation has become a more serious concern. Moreover, the acceleration of an aging society with fewer children is one of the largest problems in Japan, and it is getting more difficult to continue communities especially in rural areas.

There are many efforts to stop a declining population in rural areas. One effort that the government is working on is the utilization of roadside stations, called “Michi-no-eki” in Japanese. The roadside stations help increase the economic potential of rural areas through employment creation and improvement of services for residents. The Japanese government announced that they support the roadside stations that have pioneering approaches for local revitalization [Ministry of Land, Infrastructure, Transport and Tourism, 2015a].

In this study, we examine how a roadside station in a rural area can help support the vigor of the regional economy by analyzing the results of light meal sale and questionnaire for the customers. Additionally, by conducting a questionnaire for tourists who visited the roadside station we investigate the important elements of local revitalization that the local government should focus on.

### 2. Michi-no-eki (roadside stations)

The *Michi-no-eki* is a government designated rest area set

along normal roads. In 1993, *Michi-no-eki* was enabled by national law. Since then, many *Michi-no-eki* were installed and there are 1,079 facilities spread all over Japan as of November 2015 [Ministry of Land, Infrastructure, Transport and Tourism, 2015b]. The *Michi-no-eki* has basically three functions: rest area, provider of information, and regional linkage. They provide 24-hour access to restrooms and parking spaces. Depending on the region, *Michi-no-eki* have restaurants, shops to sell local produce, parks, lodging accommodations, museums, and other facilities. They also provide information for local tourists by using bulletin boards to give traffic information, medical information for emergencies, and information for sightseeing spots. As for regional linkages, they have small museums or libraries to introduce the region’s history and culture, and host workshops that share the region’s culture.

Because *Michi-no-eki* generate the region’s income and employment, the idea of *Michi-no-eki* received recognition overseas. Regarding local revitalization, the ideas and experiences of some *Michi-no-eki* were introduced to Thailand and they promote selling local products [Kaneko, 2006]. This is a system to provide local food and services to boost local economies and communities and it is suggested to be tested as a pilot project in the UK [Parker, 2010].

### 3. Population and tourists in Suzu City

Many local communities are facing difficulties of keeping their communities because of depopulation. In this research, we studied Suzu City in Ishikawa Prefecture in Japan because it is one of the rural areas facing this challenge.

Suzu City developed as an important city for trading business with Korea and China due to its location along the coast of the Sea of Japan. Its population was approximately 35,160

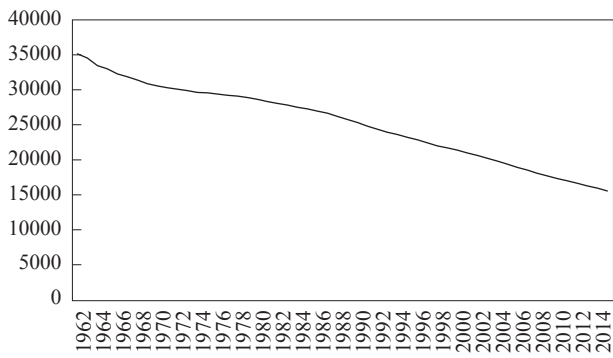


Figure 1: Changes in population in Suzu City

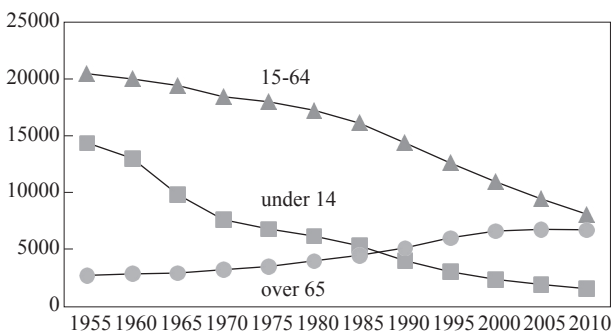


Figure 2: Changes in population of the three age groups in Suzu City

people (7,341 households) in 1962, but it decreased to 15,948 people (6,440 households) in 2014 (see Figure 1) [Suzu City, 2015a]. Additionally, Figure 2 shows the changes in the numbers of three age groups: under 14 years old, between 15 and 64 years old, and over 65 years old. The number of under 64 years old has been decreasing, and the number of over 65 years old has been increasing. Its aging population (over 65) was 41.1 % in 2010 [Suzu City, 2010].

One of the main industries in Suzu City is tourism. The number of tourists can be seen in Figure 3 [Suzu City, 2015b]. The number of lodgers has been gradually decreasing. Although the number of day-trippers once decreased because of the effect of Noto Hanto Earthquake in 2007, it has been increasing recently. Approaching the day-trippers can be the key to revitalizing

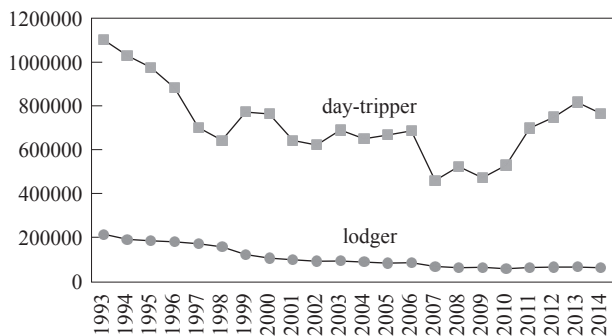


Figure 3: Changes in number of day-trippers and lodgers to Suzu City

this region.

Suzu City is located in the tip of Noto Peninsula whose main industries are agriculture and fisheries in addition to tourism. Especially in the agricultural industry, some areas have become deserted cultivated land. Under these conditions, “satoyama and satoumi in Noto Peninsula” was registered as Globally Important Agricultural Heritage Systems (GIAHS) in June, 2011 for the first time in Japan [Noto Regional GIAHS Executive Committee, 2011]. Satoyama and satoumi means that the mountain side and the sea side areas nearby the populated area have an important source of food, fuel, compost, etc. By using this opportunity, it is expected to make its agriculture and fishing industries sustainable and to revitalize Noto Peninsula as a tourism resource [Hokuriku-Chunichi Shimbu, 2013]. Suzu City has a salt farm and has been trying to keep its solar evaporation method of salt production as one of the GIAHS.

Events of farming and fishery experiences can be good tourism resources. *Michi-no-eki* is a place to introduce those kinds of events to visitors. Therefore, *Michi-no-eki* can be a key to revitalize the area in terms of GIAHS.

#### 4. Using Michi-no-eki for local revitalization

We have been investigating the ways to overcome the situation in Suzu City for several years by conducting a survey to collect ideas from the residents in Suzu City [Kawasaki et al., 2011; Minami et al., 2012]. As a result, we found that *Michi-no-eki* might be a useful resource for the revitalization of Suzu City because the *Michi-no-eki* is used as a community space for local people and a tourist place for its souvenirs and tourist information. We also found that there were needs for light meal shops, restaurants or cafes for local people because not enough restaurants or cafes were in Suzu City [Minami et al., 2012].

Our previous results from the survey to Suzu citizens shows that residents think three roadside stations (Suzunari, Suzuendenmura, and Noroshi) in Suzu City should be utilized more as a community space and tourism place [Kawasaki et al., 2011; Minami et al., 2012]. In particular, one of the roadside stations, Suzunari, receives more attention because it is located near the city hall and there are more residents near that station than in the areas of other two roadside stations.

The results of the survey in our previous research also show that most of the people who answered the questionnaires were over sixty, because the percentage of aging population is more than 40 % in Suzu City. The purposes of visits to the *Michi-no-eki* were mainly to buy souvenirs and fresh vegetables from local farmers. Moreover, the results from the open-ended questions to ask about any preferred events for the *Michi-no-eki* show that the percentage of the residents who desire to have a light meal shop at the station is more than 50 %. From these results, we propose that the roadside station could be used as a communication space for local people with a small shop to have a light meal and also as a tourist place because tourists stop by to take a rest, buy souvenirs, or collect tourist information. Because there are many people who are over sixty in Suzu

City, creating employment opportunities for elderly people is important. Therefore, we sell light meals at a shop outside the *Michi-no-eki*, Suzunari to see whether the operation of the shop is manageable.

Figure 4 shows the monthly visitors to Suzu City in 2012. In winter, the number is not high. The number of visitors in May is relatively high, with a peak in August [Suzu City, 2013].

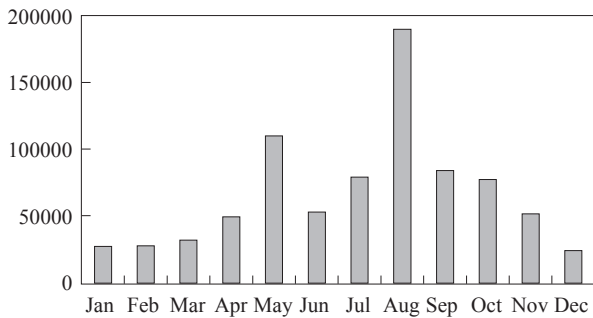


Figure 4: Monthly visitors to Suzu City in 2012

The monthly number of customers at Suzunari is illustrated in Figure 5. As seen in Figure 4, the trend is almost the same. This number is the actual number of people who paid at the cashier. It can be assumed that the number of visitors to Suzunari, which includes visitors who just use facilities, obtain information and do window-shopping, and so on is three times more than this number. In spring and summer, especially August, there are more people visiting Suzunari in comparison with the fall and winter seasons. Suzunari has more visitors in the summer because there are many tourists and customers visiting home.

In this study, we examine whether *Michi-no-eki* in Suzu City can be utilized as a place for providing light meals. A questionnaire was given to customers who bought light meals at our vendor shop. Moreover, we investigated the important elements for the further improvement of *Michi-no-eki* and tourism in Suzu City. Another questionnaire was conducted for the tour-

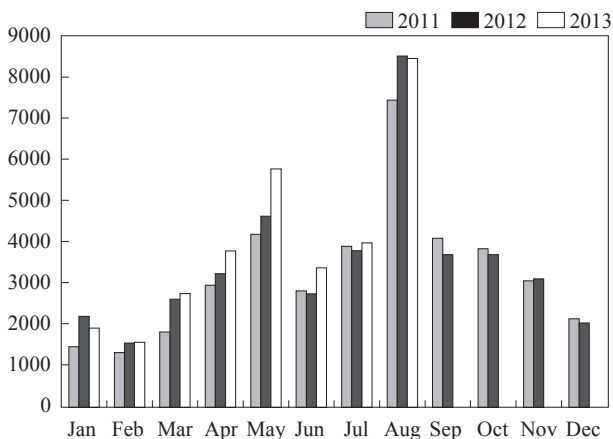


Figure 5: Monthly trend of customers to Suzunari  
Source: Sales data at a cash register in Suzunari.

ists who visited *Michi-no-eki*.

### 5. Analysis of the results of light meal sale and questionnaire

The light meals were sold at a vendor shop outside the *Michi-no-eki*, Suzunari, on every Saturday and Sunday from April 30th to July 29th in 2012 except during the rainy season, and in the Bon period, which was from August 12th to 19th. During these 17 days, two types of questionnaires were given: one for customers who bought a light meal and one for tourists who visited Suzunari. The results and analysis of the latter survey are explained in Section 6.

As a menu for the light meal sale, we chose curry and rice because curry and rice is one of the top three semi-gourmet foods in Ishikawa Prefecture (1:ramen 2:curry and rice 3:dumpling). Ishikawa Prefecture is famous for “Kanazawa Curry,” which is thicker taste than normal curry. The curry sold in this study was made with a special recipe and vegetables from Kanazawa. Curry is easy to make and easy to keep frozen so that it is a preferable to sell at a vendor shop.

The curry was sold during the lunch time from 11 a.m. to 2:30 p.m. because the time period was the busy time according to our pilot study. The selling price was 500 yen because there was a shop selling curry 1.5 km away from Suzunari and their curry was sold in 500 yen. Figure 6 shows the vendor shop selling curry outside Suzunari.



Figure 6: Curry vendor shop at Suzunari

#### 5.1 Attributes of customers

We conducted the survey to ask about the taste and price of the curry and to obtain information on the attributes of the customers. We received 62 responses.

The distribution of ages for the people who bought the curry is shown in Figure 7. More than 70 % of them are younger than 40. This is because there are many students who bought curry at the vendor shop.

Figure 8 shows the customer origin. Almost one third of customers are from Suzu City or near Suzu City. Additionally, 30 % of customers are from Kanazawa City. Kanazawa city is a prefectural capital in Ishikawa Prefecture and it takes 2.5 hours by car to travel to Suzu City.

Furthermore, as a means of transportation in Figure 9, over 70 % marked “car” and more than 10 % marked “bus”. Therefore, without cars, it is difficult to visit Suzunari. Aging people

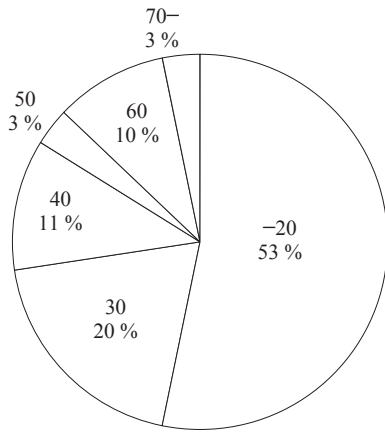


Figure 7: Ages of customers for curry sales

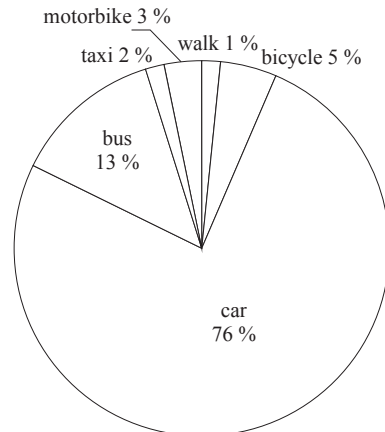


Figure 9: Transportation to Suzunari

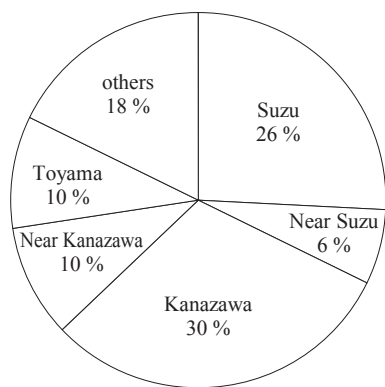


Figure 8: Customer origin

living around Suzunari or in Suzu City do not drive by themselves. So, community buses should be provided to increase the number of visitors.

**5.2 The results from curry sales**

Figure 10 illustrates total curry sales in period A (Saturday and Sunday from April to July) and period B (the Bon period). The Bon period is considered to be the time to visit one’s an-

cestors’ graves. Therefore, many Japanese companies give summer vacation to their employees around this time. During both periods the maximum number of customers was 24 people per day and the minimum number was 4 people. The average (*av*) was 11 (average sales of curry). During period A and B, the average number of visitors was 13 people and 8 people, respectively. Even during period B, the number of the curry sales did not increase. This might be because it was hot during the time and people preferred ice cream to curry.

Table 1 shows the standard deviation ( $\sigma$ ) and coefficient of variance ( $cv = \sigma / av$ ). Because there are large variations for the whole period, the coefficient of variance in periods A and B is large. However, in each period, the coefficient of variance is small, which means the number of curry sales is stable.

We analyze the number of sales and the weather each day to

Table 1: Coefficient of variance

	Whole period	Period A	Period B
$\sigma$	5.54	5.89	4.10
$cv$	51.5	45.3	49.7

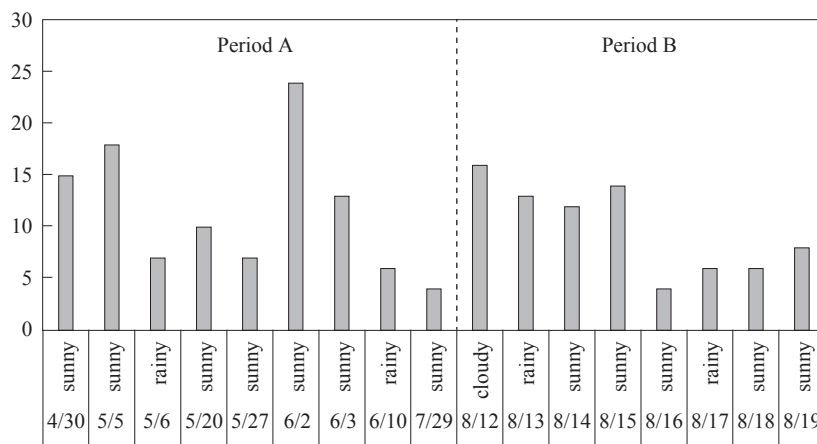


Figure 10: Curry sales in period A and B

see if curry sales depend on the weather. The average number of sales for each type of weather was 12 sales for sunny days and 8.75 sales for rainy days. There was only one cloudy day. Therefore, there was not enough data to describe the tendency of the sales.

Regarding the taste of the curry, over 80 % of customers evaluated it as “good”. We calculated the average score of the taste evaluated by Suzu citizens and tourists (not from Suzu City) respectively counting “good” as 3 points, “average” as 2 points, and “bad as 1 point. The average score was 2.8 for Suzu citizens and 2.9 for tourists. Therefore, curry taste did not seem to impede the sales results. Moreover, as for the price (500 Japanese yen), over 80 % of customers evaluated it either as “cheap” or “reasonable”. We also calculated the average score for price. It was 2 for both Suzu citizen and tourists. Most of the customers felt the price was reasonable. At this price, expenses for the ingredients, heating, and electricity are about 150 yen per curry. The gross profit was 3,850 yen per day on average. When the curry was left, it was kept in a freezer. Therefore, there was no loss of ingredients. The wage for the person who was selling the curry was 1,000 yen per hour. It could be manageable to run a light meal shop in summer. Also, it could be possible even for elderly citizens to run business of a light meal shop at *Michi-no-eki* if *Michi-no-eki* provides the space for the light meal shop inside or outside of the building.

**6. Analysis of the results from the survey for tourists**

**6.1 Attributes of tourists**

We asked tourists who visited Suzunari to fill out the questionnaires outside the building during the 17 days when we were also selling the curry. This questionnaires were given to the tourists by hand asking if they are tourists or not. The total number of tourists who answered was 147. The number of male tourists was 75 and that of female tourist was 72. The distribution of their age for male tourists is illustrated in Figure 11 and for female tourists in Figure 12. The percentage of male tourists in forties is higher than that of female tourists and the percentage of female tourists in sixties is higher than that of male tourists. However, it can be observed that all generations equally visited Suzunari.

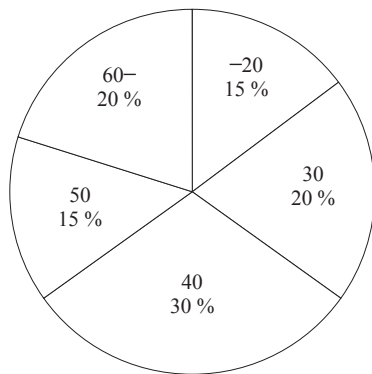


Figure 11: Ages of tourists (male)

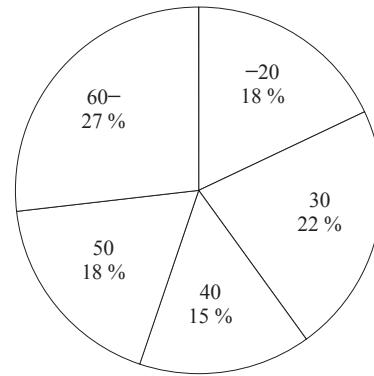


Figure 12: Ages of tourists (female)

Locations from which tourists came are shown in Figure 13. More than 10 % of tourists stayed in Suzu City for sightseeing. The total percentage of people from Ishikawa Prefecture and Toyama Prefecture is approximately 38 %. In Figure 14, the details of others in Figure 13 are shown. Tourists from Chukyo area. Kanto area and Kansai area are 35 % and 24 % respectively. This tendency is different from the tendency in Ishikawa Prefecture, which is in the order of Kansai, Kanto and Chukyo [Ishikawa Prefecture, 2014].

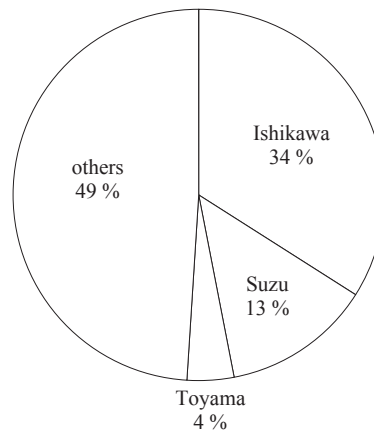


Figure 13: Tourist origin

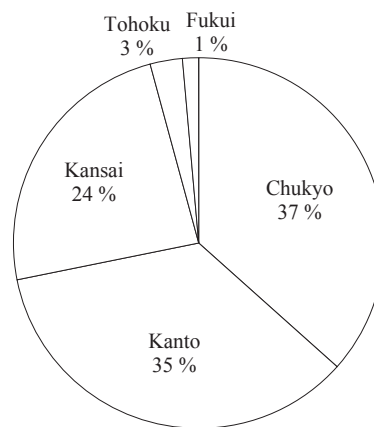


Figure 14: Tourist origin (others in Figure 12)



The purposes of the visits were homecoming visits (43 %), sightseeing (38 %), motorcycle rides (5 %), and others (14 %). As seen in Figure 15, most of the tourists visited with their family, followed by couples. The percentage of lodgers in Suzu City was 40% and the percentages of lodgers in Wakura or Wajima were 20 %. Wakura or Wajima are located in Noto Peninsula and they are popular sightseeing places. Day trippers totaled almost 37 % of visitors. Approximately 50 % of the visitors traveled with their family. Therefore, the menu for the light meal shop should consider this make-up.

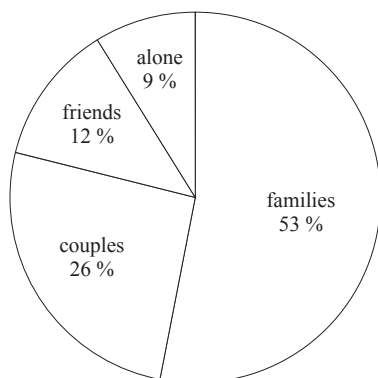


Figure 15: Characteristic of visitors

### 6.2 Suggestions for the utilization of a roadside station

In the questionnaire, in addition to the demographic questions, there are three open-ended questions:

- Q1. What are the good points of Suzunari? What should be improved?
- Q2. What is your image of Suzu City?
- Q3. What do you expect of the local government in Suzu City?

The responses from these questions were analyzed by the tourists’ origins, the locations where the tourists came. The

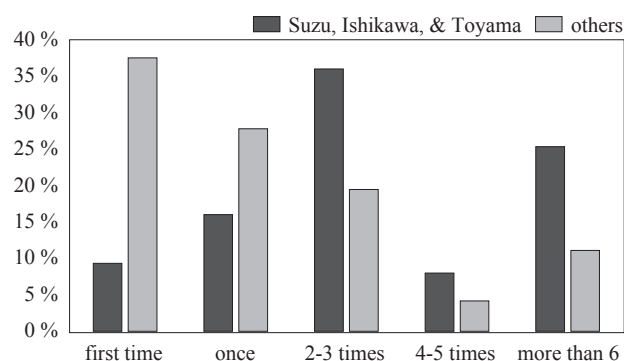


Figure 16: Frequency of Visit to Suzu City

places are divided into two groups: Group A ( $n = 75$ ) is from Susu city, Ishikawa Prefecture, and Toyama Prefecture which is next to Ishikawa Prefecture. Group B ( $n = 72$ ) is from other prefectures. Figure 16 shows the frequency of visits to Suzu City from these places. Visitors from Suzu City and neighboring places (Ishikawa and Toyama) visit Suzu City more often than visitors from other prefectures.

Tables 2, 3, and 4 show the responses for the open-ended questions as mentioned above. The responses for these open-ended questions were classified into several categories. This classification process was done by one person’s subjective decision.

For Question 1, there were 12 responses from Group A and 10 responses from Group B, respectively. For Question 2, there were 43 responses from Group A and 41 responses from Group B, respectively. For Questions 1 and 2, some responses have more than one comment. Therefore, the numbers in the tables do not correspond to the number of responses.

For Question 3, there were 23 responses from Group A and 12 responses from Group B, respectively. For these responses, each response has one opinion. Therefore, the total number is the same as the response number.

For Q1 (What are the good points of Suzunari? What should

Table 2: Responses for Questions 1

good points			
Group A		Group B	
a variety of goods	3	a variety of goods	3
friendly service	2	very clean and neat	2
very clean and neat	2	clean restroom	1
good rest space	1	good handcrafted goods	1
		using old station	1
need to improve			
Group A		Group B	
need to use the old station	2	need more local products to sell	3
not busy with people	2		
a little expensive	1		
need more chairs	1		
need restaurants for light meals	1		

Table 3: Responses for Questions 2

positive image			
Group A		Group B	
natural riches	12	beautiful beaches	11
peaceful location	6	peaceful location	7
beautiful beaches	5	good seafood	5
developing	2	friendly people	3
friendly people	2	natural riches	3
good seafood	2	beautiful scenery	2
beautiful scenery	1	close to the beaches	2
busy with people	1	tip of Noto Peninsula	2
clean air	1	beautiful night sky	1
nice place to enjoy	1	clean air	1
parent's hometown	1	salt	1
power spot	1	Charcoal Stove	1
tip of Noto Peninsula	1	Hotel 'Lamp no Yado'	1
		Noroshi Lighthouse	1
		Suzu Pottery	1
negative image			
Group A		Group B	
countryside	5	countryside	2
far	2	expensive	1
quiet	2	gloomy	1
expensive gasoline	1	much less popular than Wajima	1
few places to enjoy	1	not many buses	1
lots of old people	1	quiet	1
not good at PR	1		
slow	1		

Table 4: Responses for Questions 3

Group A	
need more PR for tourism	5
need more restaurants	4
keep as it is	3
need more convenient transportation	3
need more development (population/facilities)	3
need more stores/facilities	3
“Hang in/Keep trying” (supportive comment)	2
Group B	
need more PR for tourism	3
need more restaurants	3
keep as it is	2
need more stores/facilities for the young/children	2
need more development (population/facilities)	1
need more accommodations	1

be improved?), the good points are similar between Group A and Group B. There are a variety of goods in Suzunari and the facilities are very clean. However, the things that need to be improved are different. In Group B, visitors from non-neighboring prefectures feel that Suzunari needs to sell more local products (e.g., fresh vegetables). People who visited for the first time might have expected to be able to purchase more types of vegetables. The neighboring people might know more infor-

mation about Suzunari such as stores for fresh vegetable sales because they visit more often. Moreover, neighboring people think that the old railroad station should be utilized. The place where Suzunari is located used to be a real railroad station and the platform still exists. This platform can be used as an added-value tourism resource.

As for Q2 (What is your image of Suzu City?), the image of Suzu City, the common comments from both groups were mostly positive. Neighboring people feel there is lots of nature and its peacefulness are strong points. Visitors from other prefectures think the image of Suzu City is its beautiful beaches. We surveyed people in summer. Therefore, it can be assumed they visited Suzu City for the beautiful beaches. Additionally, some sightseeing spots or local specialties were listed by Group B. These can be used for public relation activities in the tourism industry. For the negative image, most responses for both groups were the countryside. In particular, Group A has more comments on this negative image. People who live closer to Suzu City might think that being in the countryside is not good. However, it can turn out to be a good point because Suzu City is a very beautiful place with its mountains and beaches. Visitors from far places think Suzu City is good for their vacation because they can stay without any noises such as in urban cities. There were some comments such as not being good at PR because its name is not as well known as Wajima or Wakura. Because Suzu City is located in Noto Peninsula and closer to those popular tourist places, Suzu City has the potential to

become more popular as a sightseeing place.

For Q3 (What do you expect to the local government in Suzu City?), both groups made similar comments. Suzu City needs more active PR for their tourism and needs to put more guides like signboards. In addition, both groups want more restaurants or cafes in Suzu City. This request was also seen as a result of the survey to the Suzu citizens. This is an urgent issue for Suzu City. These results should be considered by not only the government of Suzu City but also the citizens of Suzu City. To make a change, they need to work cooperatively for its revitalization.

## 7. Conclusion

In this study, we investigated the ways to utilize a roadside station, *Michi-no-eki*, in Suzu City by conducting surveys. We found that light meal shops were wanted by both residents and tourists. In this study, we examined the operation of a vendor shop selling curry because curry was one of the top three semi-gourmet foods in Ishikawa. This pilot study shows that 11 curries (5,500 yen) were sold per day on average. After subtracting expenses for ingredients, fuel and light (150 yen per day), the hourly wage for the seller was 1,000 yen and the gross profit was 3,850 yen per day. Since the period of conducting this study was during the peak time of the year, we need to investigate the possibility of running this vendor shop in winter.

From the results of the survey, the menu should be considered according to the requests from citizens and tourists. They both need light and easy-to-eat meals because the purpose of the visit to Suzunari is to buy souvenirs, use restrooms, or rest on their way to other sightseeing places. The ingredients to be considered should be local specialties such as Noto beef, seafood, or fresh vegetables. Additionally, the menu should be related to the local culture or lifestyle of the local people.

The *Michi-no-eki* can be utilized as sightseeing spots by building from the resources they have. For example, Suzunari's old station can be a restaurant or place to take a rest with light meals by setting up more chairs and tables with a vendor. Additionally, playground equipment could be installed for young people or children with *Michi-no-eki*.

Suzu City has great tourism resources such as its natural setting and beaches, local specialties, and roadside stations, among others. However, Suzu City is less popular than Wajima or Wakura. The sightseeing route including these popular places should be developed and advertised. Moreover, a tour to experience nature, beautiful beaches and sky, and local food should be planned for people in urban areas or foreign tourists.

A transportation system is needed for local people especially aging people. Revitalization of the place needs the cooperation between the residents and the local government. The requests from tourists should also be considered. This collaboration will contribute to the redevelopment of the communities and it could prevent serious depopulation in the future.

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