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Learn from the Region, Grow up in the Region - Student Activities through Rice with Local Government and Regional People

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At University of Kochi, four years ago, started the *Risshishachu* project, an educational program began that the students are planning and implementing on their own initiative under the support of the university. Our group "COME☆RISH", one of *Risshishachu* project team has the belief that we want to convey the delights of rice and the goodness of Japanese-style meals through rice, and want to do something for the region. In addition, we aim to grow rice mutually with regional people. In the present research, we report the results in summary of the past activities of COME☆RISH. Activities were divided into three categories (public relations, planning, learning). In the public relations, participation in community events, creation and distribution of recipes and pamphlets, sending information by social networking service were conducted. In the planning, proposal of boxed meal at department store, convenience store, event, and public food service were performed. In the learning, the knowledge of rice was deepened by rice planting, rice reaping, environmental learning, and sensory test of rice. We are also value information sharing within the group. In particular, it reported the plans and progress of activities at the meeting/week. Furthermore, we drew up manuals so that we can work smoothly in the future. The sales of rice has increased 4.5 times (4.4t → 20.2t) in the four years from the start of the project to current year. We think that our activities not only mutually grow in the relationship with regional people, but also helped to improve sales.

Introduction

Kochi prefecture is situated on the pacific side of Shikoku island in Japan, and the forest ratio in Kochi prefecture is 84%, which is the highest rate in Japan (As at March 2012). In addition, Kochi prefecture has many agricultural crops grown due to its temperate climate, and fishing is also flourishing because it fronts the Pacific Ocean. However, Kochi prefecture is the second highest aging ratio (32.2%) in Japan. From this, the declension of the region is progressing due to lack of personnel such as agriculture, forestry, fishery and cultural succession.

The University of Kochi has four faculties, Faculty of Cultural Studies, Faculty of Nursing, Faculty of Social Welfare and Faculty of Nutrition. Especially, the Faculty of Nursing, Faculty of Social Welfare and Faculty of Nutrition is an undergraduate department that acquires specialized licenses in the medical and welfare fields, and the Faculty of Nutrition has trained a registered dietitian with expert knowledge and skills concerning nutrition. Also, since fiscal year 2013, University of Kochi established "*Risshishachu* project" to support students who actively address regional issues in Kochi prefecture. The *Risshishachu* project has three goals. 1) Students with high interest in local issues collaborate with local people. 2) Students learn what they cannot learn only by campus

through activities with local people. 3) University and region create a structure that lead to better regional development and development of human resources. And, the *Risshishachu* project provides students with support for activity funds, support activities such as activity consultation, and lectures for skill improvement.

In 2013, eight students of the Faculty of Nutrition set out rice planting while receiving guidance from rice farmers in the Onomi area, Nakatosa cho, Takaoka-gun, Kochi Prefecture. Students thought that they wanted regional activities in Onomi area from this rice planting experience. Also, Onomi Ecology Farmers (EF), a rice farmer who conducted rice planting guidance, thought that wanted many consumers to taste delicious rice. Therefore, we organized a student team called "COME☆RISH" to realize a thought of both, and as a result of applying to the *Risshishachu* project, the project was adopted. From this, it was determined to conduct regional activities with EF.

Thus far, in Japan, primary school students experience in agriculture as food education activities, also there are many reports of regional activities by agricultural high school students¹⁻³⁾. However, there are few reports that university students aiming to be a registered dietitian are tackling rice dissemination activities and regional activities from a nutritional point of perspective.

Therefore, in this report, we will divide into the three fields of PR, planning, learning from the activities of CR of the past four years and introduce.

Materials and Methods

Organization of COME☆RISH

The initial COME☆RISH was active only 13 students of the Faculty of Nutrition, but the current number is 58 people. In order to make COME☆RISH organizational operation we made five groups of "public food service group", "school festival group", "breakfast cooking class group", "organoleptic examination team" and "event group". The work of each group in charge is the planning of the content of activity, adjustment of schedule, negotiation with outside personnel such as EF.

There are two activity goals of COME☆RISH. One is the regional revitalization of the Onomi area. And, the other is the spread of the Japanese type meal, mainly rice, which is a staple food of Japanese people based by nutrition point of perspective. Japanese people consumption of rice is on a down trend, the annual consumption of rice per person is highest at 118 kg in 1962, but 55 kg in 2015.⁴ One of the reasons for the decrease in consumption of rice is thought to be Westernization of meal.

Organization of onomi ecology farmers

Onomi Ecology Farmers (EF) is the group that enhances the evaluation of Onomi rice cultivated in Nakatosa Town Onomi area, develops charming rice cultivation such as harmony with the environment, exchange with consumers, stability of management. And EF is active with the aim of connecting regional agriculture to the next generation.

Onomi rice cultivated by EF is named the special case Onomi rice (Eco rice), and it is distinguished from ordinary Onomi rice. Eco rice is cultivated according to EF's own cultivation calendar. Cultivation methods include prepare soil, using organic fertilizer, and reducing agricultural chemicals. In addition, EF improves the soil by utilizing environmental purification microorganisms (yorozu ai) to protect the water and the environment of the river.

Main activities schedule

The main activities of COME☆RISH are as shown in the table1. The first COME☆RISH activity of the new financial year begins by applying to *Risshishachu* project (Fig. 1). Students of the COME☆RISH present presentations to the adjudicators of the *Risshishachu* project on the amount of money necessary for the activity plan and activities, and the adoption will be decided by the adjudicators. The COME☆RISH can obtain grants and activity support when adopted by *Risshishachu* project. In rice planting in June, as well serves as an exchange with EF and students newly joining

COME☆RISH, and new students learn activities of EF and basic work of rice planting (Fig. 2). In September's breakfast cooking class, we teach elementary and junior high school students in the Onomi area about the importance of breakfast and make breakfast with elementary and junior high school students. In October and November, many events related to agricultural crops are held as it is the harvest season of many agricultural crops (Fig. 3). Therefore, the activities of COME☆RISH also become more numerous. And the results of the activities of one year and usage of subsidies will be reported at the final debrief meeting of *Risshishachu* project in March.

Table 1. One year main activities schedule of COME☆RISH

Month	Activity contents
May	Risshishachu project trials meeting
June	Rice planting
July	Aquatic organisms survey
September	Breakfast cooking class
October	Rice reaping, Harvest festival and School festival
November	Risshishachu project interim report
December	Public food service
January	Sensory test of Eco rice etc. Interaction with farmers in the Onomi area
February	Recipe collection or leaflet completed
March	Risshishachu project final report meeting

Results and Discussion

Public relations about the activities of COME☆RISH

The COME☆RISH in the early in the establishment, activated with the goal of getting many people to know Eco rice. There, students of the COME☆RISH decided to produce a recipe collection and leaflet as a tool for public relations. The original dishes prepared by the students and the dishes which the local farmers routinely make were posted in the recipe collection. Also, students described the nutritional value of each of the dishes prepared so that we can know the calorie intake etc. Students posted how to sharpen rice and how to cook rice on the surface of leaflets, and posted the Onomi area tourist maps in the back side of leaflets. Students distributed a tools these public relations at the harvest festival to be held in Sunday market and Onomi area to be held in Kochi city for residents in Kochi prefecture and tourists outside the prefecture (Fig. 4). However, we considered that simply distributing public relations tools cannot convey the tastiness of Eco rice to consumers. So, we called for consumers to tasting Eco rice at the same time as distributing public relations tools.

As other public relations activities, we asked to interview the Kochi Shimbun Co. Ltd about the COME☆RISH and asked to introduce Kochi Shimbun (Kochi newspaper) subscribers to the COME☆RISH activities. In addition,

students take photographs of activities such as rice planting, harvesting and harvest festival and send activity information using SNS such as HP and Facebook.



Fig. 1. Presentation by the COME☆RISH students at *Risshishachu* project review board



Fig. 2. Rice planting by the COME☆RISH students



Fig. 3. Rice harvesting by the COME☆RISH students

Planning events in cooperation with students and corporations or regions

Students of the COME☆RISH devised a box lunch development in collaboration with department stores or convenience stores or Onomi area farmers.

In boxed meal development with department stores or Onomi area farmers, the aim gets consumers to know about the ingredients of Onomi area, we made and sold the bento using prepared side dishes using Onomi area ingredients and cooked Eco rice (Fig. 5). As well, students also sold rice balls to cause consumers to feel the tastiness of the Eco rice itself.

In boxed meal development with a convenience store, we focus on the health problems of Kochi Prefecture people and plan to sell healthy boxed meal (Fig. 6). We looked into the health problems with regard to the Kochi prefecture's dietary habits. As a result, Kochi prefecture found health problems such as shortage of vegetables (dietary fiber) and iron, overdose of salt, increase of breakfast skipping rate in adolescence.⁵ The COME☆RISH and the convenience store conducted consultations and decided to develop a healthy boxed meal focusing on vegetables (dietary fiber) and salt, among these health problems.



Fig. 4. Distribution of recipes by the COME☆RISH students in Kochi City



Fig. 5. Development of boxed meals in collaboration with the COME☆RISH students and department store



Fig. 6. Discussion for boxed meal development by the COME☆RISH students and convenience store



Fig. 7. Dish up the main dish by the COME☆RISH students at public food service

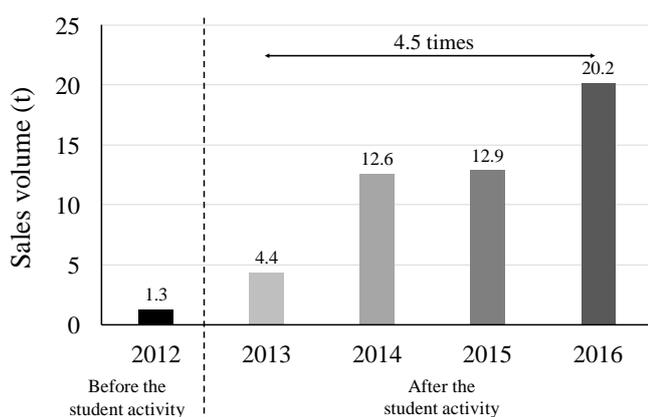


Fig. 8. Change in sales volume of Eco rice by activity of EF

The nutritional value of the healthy boxed meal was set at 600 kcal or less for energy, 6 g or more for dietary fiber, and 2.5 g or less for common salt.

Students of the COME☆RISH operate a public food service for local residents and farmers in the Onomi area only once a year (Fig. 7). There are two reasons for operating the public food service. The first one, we have operated the public food service to get students learn nutrition management, quality control, and hygiene management, which are important in food service management. The other is for introducing the COME☆RISH activities and local crops to residents of Onomi area. Therefore, students serve dishes published in the COME☆RISH recipe collection and dishes used locally harvested crops.

Learning the features and organization management of Eco rice

The COME☆RISH aims at spreading Japanese type meal centered on rice. Students of the COME☆RISH are learning about the characteristics and nutrients of rice at the University of Kochi, Faculty of Nutrition, but many students do not know about rice cultivation methods. Therefore, Students of the COME☆RISH had to learn from basic knowledge of rice first. As a cultivation method of rice, we had EF to teach methods of rice planting and harvesting using agricultural equipment, and we learned the importance of agriculture and the hardship of production, and students also learned from EF how to cook rice deliciously with a rice cooker.

In addition, students needed to recognize the difference in quality between Eco rice and other rice. Therefore, students of the COME☆RISH were evaluated the "looks", "scent", "stickiness", "taste", "hardness" of Eco rice and other rice for teachers and students of the Faculty of Nutrition, and they learned the characteristics of Eco rice. These learned contents were described in recipes collections and leaflets by students, and also were introduced in cooking classes.

"Reporting, contact, consultation" is very important in operating the organization. Students of the COME☆RISH are holding meeting at once a week. Each event person in COME☆RISH shares information within the team by reporting progress of the event and after the regional activities at the meeting. Students are creating activity manuals that summarized the activity contents and the activity management schedule. We believe that the activity manual will be very effective as a means to take over activities at the time of generation change within students of the COME☆RISH. Through these efforts, students of the COME☆RISH are learning how to continue organization management and COME☆RISH activities.

Conclusions

At the University of Kochi, around 10 teams conduct regional activities every year under the *Risshishachu* project. Regional activities conducted by university students are reported to be classed into four types, and

the four types are "seminar type", "educational program type", "circle type", "club activities type"⁶⁾. The Seminar type is a type that conducts regional activities on an individual basis as an elementary course, and the educational program type is a type where regional activities are conducted mainly by universities and classroom lessons, and the circle type is a type that carries out extracurricular activities without receiving support from the university, and the club activities type is a type that carries out extracurricular activities while receiving support from the university. Recently, "educational program type" and "club activities type" are increasing in regional activities by students, and activities of *Risshishachu* project seem to belong to the club activity type.

Regional activities by the COME☆RISH have been in the fifth year, and students and EF have started to get results by activities so far. We think that the communication skills of students have been improved to the highest degree by the COME☆RISH activities. The registered dietitians work content is to provide nutrition guidance to healthy people or injured people, to support health maintenance and promotion or medical treatment. For this reason, a registered dietitian needs skill to ask the subjects about problems related to eating habits, and to convey them in an easy-to-understand way. Students of the COME☆RISH had Eco rice tasted to tourists and local residents at each event, and the students conducted a questionnaire survey on Eco rice. But, students are required to have the skills to pass on the contents of the questions briefly and to hear many opinions efficiently in order not to put a burden on the subjects of the survey. We think that students can make full use of the communication skills gained through COME☆RISH activities in interviews conducted in nutrition screening for sick persons. In this way, students were able to get the skills difficult to obtain by only university lessons by regional activities.

It is reported that the significance of learning by regional activities is to develop students with the ability to build trusting relationships with diverse communities and actively move local people through active learning in the region⁶⁾. The EF members are activating together with students of the COME☆RISH in farm activities and many events, and EF members have brought about a change in their consciousness by watching the students working hard.

EF members improved their communication skills by actively negotiating with consumers at each event. As a result, the sales of Eco rice have increased 4.5 times (4.4 t→20.2 t) in the four years from the beginning of the project to current year (Fig. 8). We think that the regional activities of the students made it possible to improve the awareness and communication skills of EF members..

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Conflict of Interest

All the authors declare that they have no conflict of interest.

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