Research article

Educational Benefits of Green Tourism School Trips in Japan

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Abstract In Japan, green tourism (rural tourism) continues to grow in popularity. This form of tourism is expected to increase the nation's interest in agriculture and promote more interactions between urban and rural people. In Hokkaido, school trips that include hands-on agricultural activities are becoming widely accepted as a new type of green tourism. However, despite wide acceptance, the effects of these trips and related hands-on activities have not been sufficiently evaluated. In this research, the author investigated the educational benefits of school-trip-style green tourism. Surveys were conducted on students from three high schools (n = 597 students) after they had participated in school trips in 2013. The surveys showed that students without any past experience in agriculture tended to have stronger positive feelings towards agricultural activities and farmers. In addition, students also became more interested in becoming farmers in the future. Moreover, because of such visits, the students showed increased interest in food and crops. However, their awareness of agricultural water-use facilities, management organization, and the multifunctional benefits of agriculture was low; this lack of awareness was not related to previous agricultural experience. Therefore, to understand the fundamental benefits of agriculture, simple hands-on activities are not enough. In addition, the program must include lectures that explicitly demonstrate how agriculture preserves natural resources, contributes to a green society, and feeds the nation.

Keywords green tourism, questionnaire research, agricultural experience, school trip

INTRODUCTION

In Japan, green tourism (GT) has been recently promoted and tested as a way to help revitalize rural communities and stimulate interactions between urban and rural people. Green tourism is also called rural tourism, agro-tourism, or ecotourism. Over the current decade, the number of facilities involved in rural tourism has doubled in Hokkaido, which is in the northern part of Japan. This increase is especially prominent in the Kamikawa and Sorachi districts. The increase in the number of facilities is mainly due to increase in the number of visits to farms, farm homesteads, and other agricultural activities. This increased interest correlates with increases in the number of school trips to agricultural areas that were triggered by the *Children's Rural Area Interaction Project* (2008–) and the *Integrated Study in Schooling* (2004–) (Ikegami, 2003, Sawauchi et al., 2009). The diffusion of GT is believed to be contributing to growing public interest in agriculture and rural areas. Green tourism is also believed to be improving public understanding of land improvement projects because young people who have had experiences in rural areas will be part of the next generation that will implement policies for managing those areas. Therefore, it is important for us to understand how participants are affected by school trips to rural and agricultural areas.

However, there have been few evaluations of the effects of GT on participants or of whether current GT programs provide an adequate educational experience. Many previous studies of GT have been confined to its institution worldwide or to the possibility of using GT as a marketing strategy for activating interest in local agriculture. Moreover, few studies have been performed on any impact that GT may have on visitor awareness, appreciation, or understanding of agricultural problems. A few studies of using agricultural visits as educational platforms have involved

elementary students in the research (Yamada, 2006, 2008), and a few studies were intended for high school students. In analyzing student and farmer attitudes to rural tourism with agricultural activities, Kuraoka et al. (2009) found that many students reported positive reactions to their interactions with farmers and to farmer lifestyles. Sawauchi et al. (2009) surveyed high school students who had participated in school trips with agricultural activities; their findings showed that students tended to appreciate the connections with nature and the influence on social life provided by the agricultural experience. These studies serve as the theoretical foundation for this study.

The purpose of this study is to determine how school trips with agricultural activities affect students awareness towards agriculture and whether such trips affect students attitude towards rural communities.

METHODOLOGY

The author surveyed second-grade high school students in ordinary senior high school "A" in Tokyo and in ordinary senior high schools "B" and "C" in Hiroshima Prefecture. These students were participants in school trips with agricultural activities in Naganuma Town, Hokkaido Prefecture. Each set of students participated in agricultural activities over three days and two nights from September to October in 2013. For students from the A and C high schools, questionnaires were returned within one week after their trip. For students in the B high school, the questionnaires were collected soon after their visit. Naganuma Town has participated in these school trips for a decade, and each school has participated for over two years.

The questionnaires addressed three main issues: (a) awareness of land improvement and water management facilities, (b) satisfaction with the school trip experience, and (c) educational evaluation after the experience. Questions addressing parts (b) and (c) were based on previous studies by Yamada (2006) and Sawauchi et al (2009). Statistical analyses of student responses were performed using Microsoft Excel and statistics software R.

Table 1 Respondent attributes

Question	Responses		
Gender (n=596)		Male 268 (45.0)	Female 328 (55.0)
Farmland situation around the residence (n=596)	No existence 204 (34.2)	In patches 305 (51.2)	Spreading around 87 (14.6)
Are your family or relatives farmer? (n=594)		Yes 243 (40.9)	No 351 (59.1)
Did you have an agricultural experience before this school trip? (n=597)		Yes 373 (62.5)	No 224 (37.5)
When have you experienced agriculture at first? (multiple answers allowed) (n=373)	Before entering elementary school 81 (21.7)	Elementary school days 304 (81.5)	Junior high school days 130 (34.9)
Have you ever stayed in farmer house for trip? (n=597)		Yes 171 (28.6)	No 426 (71.4)

(n: valid respondents number, The values in parentheses mean % of valid responses)

RESULTS AND DISCUSSION

Respondent Attributes

More than 50% of respondents reported at least partial farmland near their residences, while about 35% stated that there was no farmland near their residences. About 40% of the students were in a

family of farmers or had relatives who were farmers. Almost 60% of students had had an agricultural experience before this school trip, and many of them had experiences in their elementary schools. About 70% of respondents had not stayed overnight in a farmhouse. The results are summarized in Table 1.

Awareness of Land Improvement District and its Facilities

Regarding awareness of land improvement districts, agricultural water-use facilities, and agricultural multi-functionality, more than 85% of the students answered *they don't know* (Fig. 1). Since the survey was carried out after the agricultural visit, the author presume that students did not receive specific instruction about these issues during trip preparation or during the agricultural visit itself.

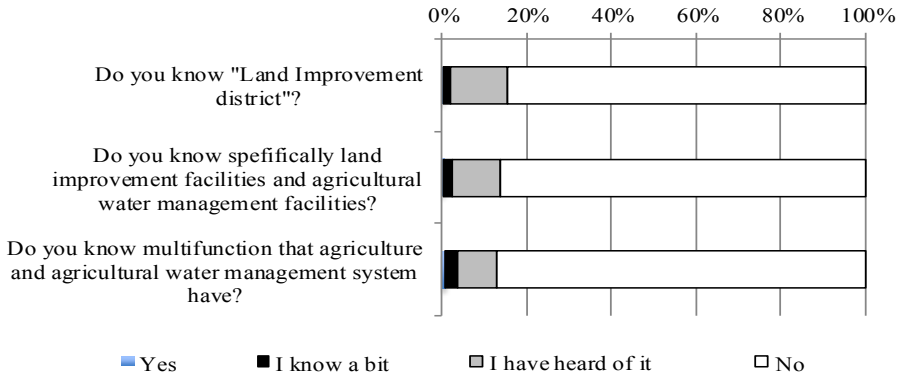

Fig. 1 Survey results for student awareness of land improvement district and its facilities

Impression of the Tour

Table 2 shows the results concerning impressions about the agricultural experience and staying in farmhouses. The table clearly shows that most students had positive interactions with the farmers and they were impressed by the surrounding landscape. As to the particular agricultural activities, more than 60% of the students participated in harvesting, about 41% did other work, and about 35% did weeding. These percentages sum to more than 100% because many students performed more than one activity. Many of the other-work activities involved shipping, such as sorting and packing associated with the harvest season during which the visits were done. Majority students reported that their most memorable activity was spending time with the host farmers; they were less affected by the agricultural activities or with looking at the landscape.

Educational Effects of Agricultural Activities

Table 3 shows the results for educational effects of the agricultural activities. Students were asked to rate their degree of change in awareness at one of five levels via one of these possible responses: agree (5), agree a little (4), neither agree or disagree (3), disagree a little (2), or disagree (1). The table gives the average of these possibilities for each question. Moreover, for each question, a large average score corresponds to a large change in awareness. As in previous studies (Yamada, 2008, Kurauchi, 2009), the questions were divided into three categories: connections with nature, mental attitudes, and connections with social life.

For many questions, the average scores fell between 3.0 and 4.0; this indicates that the school trips generally had a positive influence on the mental attitudes of the students. These results are generally corresponding to those in a previous study. In this study, there were four questions that had scores above 4.0, while in the previous study, less than six had scores above 4.0. Scores were less than 4.0 for the following two questions: "you felt a joy or pleasure to take harvests" and "you

became to mind an importance of cooperation and partnership." But in the previous study, the same questions had scores above 4.0.

For the question "you felt a joy or pleasure to take harvests," responses of "agree" were segregated by high school as follows: about 50% in high school A, about 40% in B, and less than 30% in C. These differences between schools caused the smaller average compared to the previous results. These differences might be related to the relative amounts of time students in each school actually spent in harvesting. Comparing the different farming activities, the ratios of students that did harvesting were in the order A > C > B. So participation in harvesting was not lower in high school C. However, overall work times were generally shorter for students in school C. In particular, for students in school C, 51% of the work time was within two hours. But for students in schools A and B, only 30% of the work time was within two hours (Table 4).

For the question "you became to mind an importance of cooperation and partnership," 70% of the students in each school answered "agree" or "agree a little." However, for high school C, the percentage of "agree" was lower than those for the other two schools. This explains the smaller average score for this question. Responses to the two questions, "you became to mind an importance of cooperation and partnership" and "you felt a joy or pleasure to take harvests" had a higher correlation (0.695) than other relations. So, although we anticipated that the amounts of work time would influence the responses to these two questions ("mind of cooperation and partnership" and "joy or pleasure to harvesting"), correlations were low between work time and the responses.

Table 2 Impressions of agricultural activities and living in a farmhouse

Question	not at all	a little	neither	quite a lot	very much
Could you enjoy the interaction with farmers in this school trip?	10 (1.7%)	8 (1.3%)	13 (2.2%)	98 (16.4%)	467 (78.2%)
Could you enjoy the rural landscape in this school trip?	7 (1.2%)	13 (2.2%)	16 (2.7%)	132 (22.1%)	429 (71.9%)
Which kinds of farming work did you do ? (Multiple answers allowed)	seeding 17 (2.8%)	transplantation 6 (1.0%)	weeding 206 (34.5%)	harvesting 353 (59.1%)	others 247 (41.4%)
Which matters do you stand out in your memory in this school trip? (Multiple answers allowed)	life in farmers house such as meal or sleep 319 (53.4%)	talking and spending along with host farmer 367 (61.5%)	spending days along with friends 309 (51.8%)	agricultural experiences 284 (47.6%)	viewing of rural landscape 211 (35.3%)

Only one question had a score below 3.0:"you'd like to become a farmer in the future." Responses to this question for each high school were 2.72 in school A, 3.16 in B, and 2.46 in C. The average for the three schools was 2.72 (Table 3). Schools B and C are in the same prefecture. It is somehow expected that more local students would prefer to become farmers than urban students but results show that, even in the same prefecture, attitudes towards employment differ greatly. Correlations were comparatively higher between "you'd like to become a farmer in the future" and each of these questions: "mind to care about nature and creature grew up," "your knowledge and understanding to food and crops deepened," and "your knowledge to agriculture deepened." This means that more activities in agricultural programs like these have the potential to encourage certain students to engage in farming in the future.

Compared to other relations, correlations were lower between respondent attributes and perceived educational benefits of the visits. This suggests that earlier agricultural experiences and student residential environments were not direct factors in changing students attitudes towards agricultural activities. This indicates the possibility that future education can improve students attitudes towards agriculture.

Table 3 Educational effects of school trip with agricultural activities

	Question	Score	Previous Score*
(a)	Connection with nature		
	you felt a joy or pleasure to take harvests.	3.95	4.46
	mind to care about foods grew up.	4.29	4.18
	mind to care about nature and creature grew up.	4.10	4.17
	you have become interested in food and crops.	4.03	4.02
	you have become interested in nature and creature.	3.78	3.84
	your knowledge and understanding to food and crops deepened.	3.77	3.61
	you developed abilities of observation and scientific knowledge to nature and creature.	3.46	3.22
(b)	Mental phase		
	you became to be cheerful and vigorous person.	3.86	3.79
	you are able to get widly sense of value.	3.67	3.71
	your sensibility was cultivated.	3.30	3.49
	Aggressiveness and independence grew up.	3.69	3.42
	you became to be even-tempered person.	3.46	3.38
	you became to be a patient person.	3.58	3.33
	your expressiveness improved.	3.49	3.28
	your imagination faculty improved.	3.43	3.28
(c)	Connection with social life		
	you understood an importance of sweating with effort.	4.09	4.27
	you became to mind an importance of cooperation and partnership.	3.95	4.21
	you'd like to live in this region.	3.63	3.69
	you became interested in agriculture.	3.73	3.63
	your knowledge to agriculture deepened.	3.73	3.63
	you have thought seriously about your future (e.g., occupation).	3.68	3.60
	your knowledge to region you stayed in deepened.	3.72	3.52
	you'd like to become a farmer in the future.	2.72	2.46
		3.78	3.84

note：Score means the average point of the following answer.
5=Agree, 4=Agree a little, 3=Neither agree nor disagree, 2=Disagree a little, 1=Disagree.
**Quoted from Sawauchi et al.（2009）*

Table 4 Working time in a day

	How many hours did you work in a day? (average)					
School	0-1	1-2	2-3	3-4	4-5	Over 5(hr)
A	6.1%	25.0%	38.3%	17.9%	6.6%	6.1%
B	5.4%	21.8%	22.4%	19.7%	17.0%	13.6%
C	18.0%	33.2%	21.2%	17.6%	6.8%	3.2%

CONCLUSION

In this study, surveys were administered to high school students who had participated in school trips to farms in rural areas. During the trips, students interacted with farmers and their families and engaged in agricultural activities. The surveys were designed to measure the educational benefits in particular agricultural, provided by the trips. The results show that agricultural activities during the trips were effective in increasing students interests in agriculture, particularly for those students who had had no previous exposure to farming. These results were generally corresponding to those in a previous study. The author expected that students attitudes would depend on their place of residence and on earlier agricultural experience; however, no such tendency was exhibited in this study. Although many students had strong positive reactions to their time spent with farmers, the students had little awareness of land improvement policies that support rural agriculture or of the multifunctional effects of agriculture on society. To deepen students awareness of these issues, not

only should students participate in agricultural activities, but farmers should also explain the role of land improvement and the many benefits agriculture provides to society.

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