

Development Styles of Rural Areas from the Perspective of the Establishment of Three Different Tourism Industries with Rural Landscapes as Resources

Masumi Kikuchi

College of Arts and Sciences, University of Tokyo

Abstract: *The impoverishment of rural communities is a challenge common to both Japan and China. Among them, in three villages in Longji rice terraces areas, three different development patterns with terraced landscape resources have been established: 1, Ping-an village: a tourism industry that welcomes a great number of tourists, 2, Dazhai village: green tourism in the interiors, 3, Guzhuangzhai village: educational tourism based on the concept of eco-museum. In this paper, we first conduct a comparative study of three villages that, while aiming for economic development, are continuing to retain and choose a pattern of life desired by them, and are striving to adapt to market economy without loss of community, tradition and culture. Specifically, we study the following, considered to be aspects of development in the three villages: 1) securing income compensation and funds, 2) finding ways to increase added value, 3) securing labor to shoulder the responsibility of cultivating terraces, and 4) exploring or discovering preservation methods suited to each region. Even with respect to other agricultural rural communities, a study of these four aspects is related to the search for the elements essential for regional development. In addition, as a specific example of development of rural areas, we show the respective development patterns for three villages in the Longji rice terraces areas targeted for study in this paper. Through this we aim to facilitate research on the rural areas of Japan in need of development and promotion, from among the case studies of the concerned areas.*

Keywords: “Sustainable Development”, “Rural Landscape”, “Rice Terraces”, “China”.

1. Discussions Surrounding Farming Villages In Japan

In existing research on agricultural village societies, there are various studies that focus on the shortage of persons in charge of rural communities in mountains and semi-mountains areas, but in most cases the problem has only been pointed out and there are very few cases in which concrete and effective proposals have been made. Measures for eliminating the shortage of persons in charge of rural communities in developed countries, include specific measures such as consumer alliances with urban residents, system of ownership of fields by city residents, farming by volunteers, return to farming by the retired, rural tourism, and entry of corporations in agricultural sector unfortunately, due to the lack of agricultural technology knowledge of the entrant, small scale, and limited range of activities, the aforementioned measures are not a permanent solution for this problem. All these can be assessed from the perspective of finding new persons in charge, but due to the small scale and the limited range of activities and due to the small scale and the limited range of activities and the lack of technological agricultural knowledge of the entrants, these have not become fundamental solutions for the shortage of persons in charge of rural communities in mountainous and semi-mountains areas. Especially in Japan, there have been discussions about measures to ease the shortage of persons in charge for a long time; but in the light of the worsening situation, today there is also research on the active evacuation in sparsely populated rural areas or marginal settlements along the lines of, “What should be advanced is advanced, but what should be cut down should be reduced slightly and absolutely protected” [1].

Like the areas surveyed in this paper, rural communities in mountainous and semi-mountains areas typically use the land for rice terraces and such landscapes can be seen in Japan too where there are many mountainous and sloping land areas. Currently, rice terraces are not just places for food production but are being widely appraised by society as “green dams”, which are places that contribute to the preservation of national land through prevention of soil erosion and flood control, and conserve biodiversity and the rural tourism the scenic rice terraces provide. However, on the other hand, the preservation and maintenance of rice terraces is becoming difficult. Regarding the preservation of Japan’s rice terraces, Nakajima[2] says, “The basis for cultivating rice terraces is not broadening and due to low profitability and an aging farming population, the abandonment of the cultivation of rice terraces has become even more pronounced”. In addition, Nakajima notes that the following are essential in order to maintain rice terraces as well as rural communities of semi-mountainous areas: 1) securing income compensation and funds, 2) finding ways to increase added value, 3) securing labor to shoulder the responsibility of cultivating terraces, and 4) exploring or discovering preservation methods suited to each region.

2. Discussions Surrounding Farming Villages In China

As in Japan, mountainous and semi-mountainous areas of China and other emerging countries in Asia are faced with the challenge of a shortage of persons in charge. In China, 70% of the aging population of the country lives in rural areas [3]. Initiatives in rural communities of emerging countries include subsidies from government poverty relief projects, technical assistance, and regional development through rural tourism. It has also become a social trend for the Chinese middle to upper class to enjoy the rural landscapes, partaking in the scenery, cultural and life. This trend provides the opportunity to bring economic wealth to the impoverished rural areas that need an income policy. However, ways of utilizing resources in the rural areas in China are in their infancy, and in most of the regions it can be said that disruptive development is being carried out. Particularly, the commercialization of the rural area that targets economic profitability in a short period of time leads to the destruction of the region from the point of view of the environment, human life and culture.

In response to the large rural population that is migrating to the cities, attention is being focused on the measures for the three agricultural issues (rural areas, farmers, agricultural industry) that constitute the basis of Chinese society. Generally, issues such as securing the livelihood of the farmers in the cities, improvement in their working environment and their status are garnering attention. However, as long as the dual registration system that divides the urban residents from the farmers is not abolished, it will be difficult to find solutions to the various problems of the farmers who migrate to cities. Further, it has been pointed out that the dual registration system has a long history and there is very little possibility of it being abolished in the future. Therefore, these three agricultural issues are also profoundly related to the city and in the future there will be a need to address these above-mentioned urban issues. However, at present, measures for these three agricultural issues, often also referred to as the income policy, must be implemented not in cities but in rural areas. Farmers who go to the cities to work do so because of insufficient cash income in the rural areas and hence the importance to ensure that they can obtain a certain income in the rural areas. For this it is desirable to promote industries that complement the traditional agricultural industries of the rural communities.

Till now, in rural communities in China, with respect to promoting industries other than agricultural industries and aiming for improved income for farmers, a representative example is the emergence and development of township and village enterprises. However, township and village enterprises in China can possibly develop only within a completely socialist system. In other words, rural areas in inland China are places with poor efficiency with respect to aspects of production, processing and distribution and it is already evident that it is difficult for them to survive in an atmosphere of international competition. To compensate for these shortcomings, a different, new industry that complements the agricultural industries within the rural communities, such as the rise of tourism industries in the Longji rice terraces areas studied in this paper, hold promise.

3. Learning from the Case Studies about the Potential for the Development of Rural Communities

Till now the author has commuted to the areas seven times from 2007 to 2014 to date, and spent a total of five and a half months on the survey. Interview surveys were conducted focusing on the representative secretaries, managers, and local leaders (all village people) of the respective village committees of three villages.

Even though the four aspects essential for the development of rural areas put forth by Nakajima are difficult to satisfy even today in Japan as well as in China, the results of the survey showed these conditions were considered satisfied in the studied areas of the Longji rice terraces. By viewing the region as a scenic landscape instead of a rural landscape, these regions are aiming for sustainable development of tourism, agriculture, and a way of life for rural residents. Even while being one region and possessing similar resources, the three villages have established tourism industries with their own distinctive character on the basis of their respective from differing conceptualizations and have taken advantage of their specific characteristics. Additionally, the present study examines the future development patterns that could emerge. By formulating a model of the development patterns of rural tourism in these three villages, the paper demonstrates what kind of model would be potentially suitable for a region with given specific features. Also, a study of these four aspects is significant, as this can be effectively utilized for other rural communities aiming for development. The social conditions and political systems surrounding the rural areas in Japan and China differ. However, by depending on the existing rural landscapes in the region and with the common goals of securing persons in charge through the promotion of tourism and agricultural industries and maintaining the livelihood of the local residents, it is possible to find a path for the development of the region.

4. An Overview of the Three Villages in the Longji Rice Terraces Areas

Longji rice terraces areas are rice terraces the have a 600 year history with cultivation beginning from the period of the Yuan dynasty to the period of the Qing dynasty when cultivation reached completion. There are records in old literature that mention the Yao and Zhuang people fleeing the war torn regions of the north to the mountainous areas of the south where there was no need for any interaction with the outside world because of the steep mountain slopes the rice terraces provided [4].

The Ping-an village, Dazhai village and Guzhuangzhai village of the Longji rice terraces areas hardly had any contact with the society outside till the middle of the 1990s and were living a self-sufficient life almost completely centered on cultivation of rice terraces. Recent tourism has shown the rice terrace landscapes to be the greatest regional resource with not much difference in the three villages with respect to the history, rice landscapes, ethnicity, culture, and pattern of life given similar basic conditions and existing resources. However, the tourism industries established differently from separate methods of utilizing resources, and when tourism and the opening up of roads began. Table 1 shows three villages basic information.

TABLE I: Basic information of three villages in Longji rice terraces area

Ping'an Village	Dazhai Village	Guzhuangzhai Village
•History: 600 years	•History: 600 years	•History: 450 years
•Start Electrical Services on 1990	•Start Electrical Services on 1999	•Start Electrical Services on 1990
•Start a Tourism on 1996	•Start the Tourism on 2003	•Start the Tourism on 2010
•Zhuang People	•Yao People	•Zhuang People
•180 houses, 780 people	•278 houses, 1100 people	•226 houses, 883 people
•Rice Terraces : 667km ²	•Rice Terraces :4000km ²	•Rice Terraces :4500km ²
•Average annual Income 2012: 4300 RMB	•Average annual Income 2012: 2800 RMB	•Average annual Income 2012: 1000 RMB
•"Rural Metropolis"	•"Traditional Village Community"	•"Eco-museum"

Guilin Longji Tourism Company manages the entry ticket for entering the Longji area and when entering the area it is obligatory for the tourists to buy a ticket. From 2002 to 2010, the ticket was 50 yuan per person changing to 80 yuan in 2011 and 100 yuan in 2014. Once one buys the ticket one can freely visit the three villages during the length of one's stay and the validity period is not restricted. The profits from the tickets are utilized for developing infrastructure including sidewalks and toilets in the areas and for external propaganda activities. In addition, 7% of the annual ticket profits are given to the village committee of each village and then distributed to every house in that region, providing some income to the residents of the regions.

5. A Study of the Four Elements of Development of Rural Communities in Longji Rice Terraces Areas

5-1. Securing Income Compensation and Funds

Currently, local residents can obtain income is through their businesses related to the tourism industry and secondly through direct payment from the government as part of the environment protection policy or ecological policy and the poverty relief compensation. While the government affiliated travel agencies manage the sale of entry tickets, residents provide accommodations, food and beverage, baggage transport, crafts, and other tourism related services to tourists. Therefore, one can say that income can be improved depending on the efforts of each individual. However, not everyone can conduct tourism-related businesses due to constraints such as required equity, personal preferences, and location. Compared to the self-sufficiency before the late 1990s, the gap between the rich and poor is growing today. Even in comparison to the self-sufficiency before the 1990s, the gap between the rich and the poor is growing today.

Since the start of the tourism industry in the region, the amount and type of compensation paid by the government is increasing and this has become a huge means of securing funds and income. As mentioned above, currently electricity, roads, and methane gas infrastructure has already been completed and the subsidy system in the relevant regions is primarily centered on the domains related to the landscape formations in the region. Although, on the one hand with respect to the details of the compensation for each region, compensation money is paid directly by the government; on the other hand in order to conserve the rice terrace landscapes and preserve the rice terrace flower project developed as an agricultural off-season rice landscape formation, there are detailed regulations for thorough hunting of undergrowth and managing the ridges between the rice terraces and for building standardized structures. In this way, the compensation often takes the form of ecological compensation related to the preservation of the environment, and the maintenance and kind of formation of the rice terrace landscapes that can be considered the greatest resources that support the tourism industry. Further, the development of these rural areas can serve to be a model for the neighbor rural areas and other impoverished rural regions in China, in the process providing support to the regions and functioning as models of income compensation for relief from poverty. Although there are several government regulations related to landscape formations in the region, a lot of support is also received. One can say that the compensation from the government is majorly the aim of maintaining the balance between the tourism and agricultural industries and for balancing the income disparities due to the diversification in the means of livelihood.

5-2. Securing Labor for Cultivating the Rice Terraces

In the Longji rice terraces areas, residents are moving away from agricultural industries due to the development of tourism industries. The rise in tourism has made obtaining income within the village possible, leading to a decrease in young people moving away and resulting in an increase in the resident population. Additionally, migrant cultivators from neighboring rural areas have settled and flourished in the Longji rice terrace areas and have become persons in charge of new agricultural industries.

The young people's distancing from agriculture and the aging of the agricultural employees is a phenomenon seen in other rural areas in semi-mountains regions and in the Longji rice terraces areas. In particular, the shortage of persons in charge of agriculture in Ping-an village is expected even by the village people to become even more noticeable in the future. In this situation, there are migrant cultivators from extremely impoverished neighboring rural areas who have started coming to the Ping-an village for rice terrace cultivation as persons in charge of new agricultural industries. In the Ping-an village if we consider only the rice terraces being cultivated currently we see that the percentage of rice terraces distributed to one's household and cultivated by the

household is about 65%, and those not cultivated by the household and outsourced to other cultivators in the village is about 30%. Finally, rice terraces not cultivated by household farmers and not outsourced to other households has been outsourced to farmers for have come to the Ping-an village as day laborers. Generally, if the management of an outsourced rice terrace is over a year, the rice harvested belongs to the party to which the work has been outsourced. Also, with respect to the subsidy of the rape blossoms project and also in case of the rice terraces landscape management the subsidy per 1 MU paid by the government is generally as per contract received by the party to which the work has been outsourced. As the farmers who come for day labor from neighboring regions outside the village, the outsourcing party supplies them with food and accommodation and outsources rice terraces cultivation depending on whether they are resident. Apart from the money for the food and accommodation, in Ping-an village it is common to pay a daily wage of 100 yuan. Generally, in the 3-4 days of planting from May to June and the 3-4 days of harvesting from October to November there are households that employ residents from outside the village.

The current trendies that residents of the village tend not cultivate the rice terraces of their household and hire rice terraces cultivators from outside the village who are day labourers, and rapidly moving away from agriculture as pointed out by Ping-an village leaders. Planting and harvesting are periods with the maximum labor in rice terraces cultivation, but apart from this, daily farm work such as repairing the ridge between rice fields, cleaning the water channels and forest management are important work related to the conservation of rice terraces. By employing people from outside the village for several days a year and doing only planting and harvesting and simply thinking that the cultivation of the rice terraces of one's household has been done, amounts to neglecting the agricultural tasks that support rice terraces landscape formation, even though they are not directly connected to the aforementioned rice terraces landscape formation. Hence there are instances of this being a bad influence or a burden on the residents of other villages including the owners of neighboring rice terraces. At present, the percentage of migrants workers from neighboring rural areas who come to the village for rice terraces cultivation are about 5 percent. However, due to the forays into villages with tourism industries and the migration of young people for work to these villages, the percentage of people who outsource rice terraces cultivation to other households in the village is currently already 30% and hence it is expected that outsourcing to parties outside and in the village will progress even in the future. In addition, the village committee is anticipating that in the future there will be no village people doing rice terraces cultivation and are hoping that the government will gather farmers from the neighboring rural areas and the rice terraces cultivation in Ping-an village will be conducted as employment by the government

In village Dazhai and Guzhuangzhai, the situation of employing farmers from outside the village for rice cultivation, as seen in village Ping-an, does not exist as of now. In both the villages, the economic income has improved substantially due to tourism industries and because of this the situation in which people are moving away from agricultural industries has progressed. This is an aspect that is undeniable but on the other hand as the tourism industries had started developing in the villages, each village committee notes that the aspect that agriculture is also being protected is a significant one. This is because as stated above, it has become possible to earn some cash income in the village without going out of the village to work and there has been a significant decrease in village people who go out to work. People stay in the village and more or less become involved in agricultural work in the process of their daily life. Also, due to the presence of tourism industries, the government carries out strict management for the conservation of rice terraces, and not only in the village, and this has had a huge effect on the conservation of rice terraces.

5.3. The Way to Increase Added Value

For about 600 years, the three villages though self-sufficient were isolated and extremely poor areas. Given this background, the diverse weaknesses that existed in these regions have been transformed into strengths in the process of social change. There were various reasons that were a hindrance to development, primarily, aspects such as a familiar environment with inconvenient transportation, an altitude in which two crops cannot be raised, ethnic minorities, and workers in rice terraces who could not apply modern agricultural methods. In this section we study how the relevant regions viewed these aspects as having a unique character and utilized them for added value towards tourism industries.

The residents of the area, as ethnic minorities, have a history of persecution and repression faced at the hands of the administrations of the respective past eras, but the specific characteristics of their attire, daily customs, faith and culture are today important elements that they can utilize as tourism resources. Today, the situation has

changed. Policies favoring the ethnic minorities and amidst the three grave agricultural challenges, it has become possible for the relevant regions to become models of development through self-supporting endeavours and to receive huge support and subsidies from the government as they are functioning in accordance with government ideals and policies.

Next, since the relevant regions are tropical and sub-tropical regions, many of the neighboring regions are raising two crops. However, the Longji rice terraces areas that are in the mountains have a high altitude and as the temperature in the winter is low, two crops cannot be raised. This was also one of the reasons that had made the area extremely impoverished, but as the four seasons are distinct, one can see a clear transformation on the rice terraces landscapes in each of the four seasons, there are many tourists who come again to see a different landscape and currently this has become a strength of the region. The fact that it is a region that is geographically positioned inconveniently in the interiors is an advantageous condition from the point of view of management of entry tickets. Further by utilizing the presence of internationally famous tourist spots such as Guilin and Yangshou in the neighboring areas, it is possible to further attract the tourists to the Longji rice terraces areas and this has become another strength of the region. In this way, those aspects that hindered development and made it difficult to extricate the regions from extreme poverty in the period of self-sufficiency, are today being utilized as factors in the development of the region through the presence of tourism industries.

These aspects are today distinctive advantages that are making the rural landscape resources of the region more valuable and it is important to utilize them strategically.

5.4. Preservation Methods Suited To Each Region

Each village has utilized the characteristics specific to the village and the three villages have established three tourism industries with rice terraces landscapes as tourism resources: Ping-an village as a convenient tourism site; Dazhai village as an area in the interiors with green tourism, and; Guzhuangzhai village as a site for educational tourism. Among the regions, in the Ping-an village the period of tourism development started the earliest. Roads were established quickly and as the village is small with the spots for seeing the rice terraces concentrated together, all levels of accommodation facilities, and various kinds of farmhouse restaurants are present. Hence, Ping-an village has established a convenient tourism place which can welcome a great number of tourists. Therefore, it is economically affluent and is referred to as the rural metropolis by the neighboring regions.

After about seven years after the development of tourism industries in the Ping-an village, in 2003, the tourism industry was also officially started in Dazhai village. Dazhai village is situated in the mountainous regions more than one hour by car from Ping-an village. The village has a wide area, the settlements are scattered in the village and each of them can be reached by traversing up and down the mountains with continuous sudden steep slopes. To reach the rice terraces sightseeing spots constructed in several places, there is no other way but to walk from the parking lot at the foot of the mountain on paths with slopes for 1-2 hours. Based on the differences from Ping-an village and on the characteristics of their own village the village committee and the village as a whole are making efforts to establish a green tourism kind of tourism industry type. Especially, the shared understanding of the village people has been expressed in the slogan “We will not become a second Ping-an village”. This reflects the thinking of the Dazhai village people who are critical of the past conflicts of the people of Ping-an village with the government regarding the form of management of the tourism industry and the profits amidst advancing commercialization and increasing wealth of the people of Ping-an village. Also, on the other hand, this can be understood as a view based on an understanding of the fact that it is difficult for Dazhai village to establish a kind of tourism industry similar to Ping-an village or secure an income parallel to that of Ping-an village due to the geographical conditions and the characteristics of the Dazhai village. The study also revealed that many village people following the village committee shared the idea that they want to welcome tourists who desire green tourism and who are interested in and understand the culture and environment of the village with its unchanged way of living and culture [5].

In addition, ten years after the start of the tourism industry in Ping-an village, the tourism industry began in Guzhuangzhai village in 2010. Guzhuangzhai village had the opportunity of observing for many years the advantages and disadvantages of managing a tourism industry from the tourism operations already underway in Ping-an village and Dazhai village. The interviews of the village committee also revealed that Dazhai village is trying to conduct the tourism business by utilizing the experiences of the two villages. Especially, one can say that it was easier to start a tourism industry that was different from the previous two villages due to the support

and authorization from the government for the eco-museum system project in which the entire region is regarded as a museum and preserved and transformed into a heritage. In the educational tourism in and outside Guzhuanzhai village it was first, traditionally, generally considered natural to think that one could pay money and receive services. Also, there was a strong tendency to think that there would be no problem no matter what one did and the many problems exposed in the tourist spots in each region changed the thinking of the Chinese tourists leading to the objective of building new relationships between the tourists and the local people. Further, rather than simply tourism that pursues only economic benefits, the village people consider this an opportunity to learn about their own existence that in the long term is connected to the inheritance of one's own culture. The eco-museum system has just started but is a tourism industry that aims to be a third industry different from those mentioned above.

6. Assessment and Challenges of Longji Rice Terraces Areas

In self-sufficient villages, in case the development due to tourism industries is done within a short span of 10 years, gradually a disruptive commercialization takes place and there are many places in China where the regional societies have collapsed and the natural environment has been destroyed. In the relevant regions in this study too, the emergence of cash income gave rise to disparities between the rich and the poor and the material affluence led to some environmental damage. This also gave rise to governmental support, led to the emergence of the value of rice terraces by the people within and outside the village and a renewed recognition of the ethnic culture including a simultaneous increase

in the regulations and constraints and an increase in the labor force. Further, the job creation due to the tourism industry and the interaction with the outside world led to an increase in people from outside the village. In this way, the changes in the region due to the tourism industry when seen individually, had plus and minus existing simultaneously. However, generally speaking, due to the tourism industry, residents of the region are staying in the Longji rice terraces areas and people from outside the village are coming together. People are coming together and living their daily life and this is the very basis for the development of the region. In addition, the existing resources of the region are being utilized and the extremely impoverished living environment has been improved. Due to these reasons, it can be said that the tourism industries that have utilized the rice terraces landscapes of the Longji rice terraces areas have been successful in conserving and maintaining the rise terraces and improving the livelihood of the residents of the region. They have also created possibilities in the future. Also, the three neighboring villages utilizing regional resources that are much the same, have transformed elements that till now were impediments to development into strengths and established tourism industries of different types that have utilized the differing regional characteristics. This has enabled them to be appraised as an example to other rural areas.

7. Implications for Rural Communities in Semi-Mountains Areas in Japan and China

The Longji rice terraces areas and the many semi-mountains regions in Japan, when compared to the Yangzijiang River environs or the vast, rural areas of America with fertile plains, it can be easily concluded that in yield, quality and efficiency of agricultural work they are significantly worse. However, apart from the traditional objective of agriculture, today apart from the production of agricultural goods, they are being appraised from the point of view of the aim of environment conservation and landscape formation and maintenance and this assessment and demand is beginning to be established in the market economy and in society. Due to this, among the abundant forest resources, it has become possible to utilize the characteristics of semi-mountains regions with traditional, small scale agricultural forms. Further, in order to connect them to the economy it is essential that other industries such as tourism industries be developed parallel to agriculture.

In semi-mountains rural areas, as there is no economic income from agriculture it is important to secure income from a side business. In other words, in order to sustainably develop the agriculture, agricultural life, and rural landscapes in these regions it is indispensable to have a side business. Originally, in many rural areas including the relevant regions in this study, doing side business is not a recent development. In rural areas, apart from production of agricultural goods, the residents also engaged in various industries such as forestry, food industry and stock-raising and construction business. Among the diverse occupations of rural area management,

one can say that it is natural for the tourism industry to emerge as a side business utilizing the existing resources of the region in accordance with the changes in times.

The multifaceted agricultural industry need not be confined to an industry for food production, but as an industry for which it is good to have diverse goals and forms. The incorporation of side business in the regions in this study, support the development of agriculture and rural areas and are an essential means of development.

Based on the study of the Longji rice terraces areas, the four elements studied in this paper, namely, 1) securing income compensation and funds, 2) finding ways to increase added value, 3) securing labor to shoulder the responsibility of cultivating terraces, and 4) exploring or discovering preservation methods suited to each region, can be considered elements indispensable for the development of the semi-mountains rural areas in Japan. Seeing these in the light of the conditions in each region and studying the forms suitable for each individual region can be considered the first step in aiming for the development of Japan.

8. References

- [1] Naoki Hayashi, *Withdrawal Plan from Rural Area*, Gakugei Press, 2010, p.4.
- [2] Minehiro Nakashim, *Japanese Rice Terraces*, Kokinsyoin Press, 1993, pp.165-177.
- [3] Xinghua Zhao, *Study of Rural Population Aging*, Journal of Wurumuqi, No.1、 Party School of CPC Urumqi Municipal Committee, 2007, p.23.
- [4] Fuqiang Li, *Rural Aria System in Modern Society : Changing of Ping-an and Guzhuang*, Science Press, 2009, pp.78-82.
- [5] Masumi Kikuchi, *Dynamic Conservation of the Rural Landscape as a New Resource*, Waseda University Press, 2012, pp.136-138.