ABSTRACT

Aging is now the most crucial issue in Taiwan, and its impact on the farm villages is even more severe. According to the report made by the National Development Council, the total population of Taiwan will be reduced by a quarter in 2050. The trend of low birth rate and aging is more and more apparent, resulting in the shortage of rural labor force and the slow growth of agricultural economy, making it difficult to pass on rural culture and traditional lifestyle. Therefore, various methods of regional revitalization are adapted to re-boost the energy of farm villages. In Fuli, Hualien, one of the most remote farm villages in Taiwan, “FuliMaker: Rural Living Experimental Hub” has been founded to solve the current issues through different approaches.

FuliMaker aims to turn the “inconvenience” of the farm villages into advantages. For example, the low associability of Fuli makes it possible to preserve its natural environment and cultural landscapes. Solving the problem of aging, providing the elder long-term care system and attracting the young generation to return are the most important tasks. Taking “agricultural production” as a niche and taking into account “quality of life improvement” and “ecology preservation,” FuliMaker is built to serve as an experimental hub carrying out the rural development and rural revitalization. Projects such as developing various crops and vegetation to balance the current over-production of organic rice, increasing the production equipment to meet real needs, and establishing a goods collection and trans-shipment center are putting into practices. Furthermore, the Three-Level agricultural tourism is also taking place, giving farm villages a comprehensive development for entering the Six-Grade Industry.

Keywords: Aging, regional revitalization, rural revitalization, Six-Grade industry
INTRODUCTION

Fuli, as a remote farm village, is no different from any other farm villages in the world, facing the same issue of aging and losing of young generation. However, through all kinds of efforts, we try hard to solve the problem.

Figure 1. FuliMaker Rural Living Experimental Hub location in Fuli Township

Where is Fuli? Fuli lies at the south end of Hualien County in the eastern Taiwan. Sitting in between its north township, Yuli, the second large administration center in the south Haulien, and its south village, Chilshang, one of the most famous sights for rural tourism, the development of Fuli seems to be weak and slow. Therefore, carrying out an experimental project in Fuli plays a leading role. In Fuli, agriculture is the biggest economy body, which almost all of the Fuli people depends on for day-to-day living. Therefore, the aging of labor force and the decline of agricultural production have great impact on local society. Here, the transformation of primary and secondary industrial sectors is urgent, and the upgrade of tertiary industrial sectors to meet local people’s need is also crucial. How to utilize local agricultural production to accord the six-grade industry promoted by government and to create a three-way win effect and increase the value of production is the top priority.

MANNA is an agricultural cooperative organization with 40 organic farmers under contract. The current total organic farming area is about 72 hectares, and the number is gradually growing. In corresponding to people’s expectations to have healthy and safe food, MANNA introduces new farming concepts and ideas to help farmers to adapt to organic farming. The main product of MANNA is organic rice. In addition, MANNA provides seasonal special products cultivated by its contract farmers to market, such as mushrooms on log, pomelo, pineapple and corn.

Taking the social responsibility as the organizer of the cooperative, MAANA aims to mutually share the profit with contract farmers, and to achieve co-marketing with the idea of co-branding. Transcending the past traditional relationship of buy-and-sell between food dealers and farmers, MAANA engages farmers in the operation of the cooperative. After doing comprehensive inventory, MAANA gets to understand the specialties of each member and regards every member as a featuring “spot”. Whether the specialty is the diversity of farming or others (for example, farm stay or community guide), MAANA connects each “spot”, forming a “line” of experiencing the rural lifestyle and furtherer developing a “plane” to enhance local economy. MAANA and its member farmers are interdependent. By changing the relationship and working together with the farmers, MAANA pursues the improvement of crop quality and farming technology, trying to help the agricultural industry to develop sustainably.
Fuli is famous for its good natural environment, having no industry pollution. Located in between the Eurasian Plate and the Philippine Sea Plate, Fuli sits in a rift valley. Combing the topography and the huge difference of its day and night temperatures, the rice of Fuli seems to be cultivated in a sauna-like environment and thus owns very special flavor. The high quality rice of MANNA grows in the paddy fields in Luoshang, the first organic village of Taiwan, Youngfong, a traditional Hakka village, and Fongnan, an aboriginal tribe preserving the terraced paddy fields cultural landscape designated by the county government, and is irrigated by the clear waters of Xiuguluan River passing through the maifanshih of Coastal Mountain. In this area, the soil presents a dark-brown color, which the local Hakka people call it “wu-ni” or “black clay,” containing high percentage of organic matter and various micro-elements in the soil. The unique natural environment is the best niche to implement organic farming.

Old variety

All of the members of MANNA cultivate the Kaohsiung 139, which was developed by the Kaohsiung District Agricultural Research and Extension Station in 1968 and was introduced to the market in 1971. It is the oldest variety in the crop market, which farmers are really fond of. Currently, Kaohsiung 139 is only cultivated in the south of Hualien and Taitung area and it is especially popular in Fuli. The rice has a light and sweet taste. It is also very chewy and stringy. The quality can compete with the Japanese Koshihikari. The most special character of Kaohsiung 139 is its flavor stays the same even when it is cooled after cooked so it is very suitable for making sushi. Although there is a white part on the surface making Kaohsiung 139 less beautiful, its charm has not been reduced but conquers the taste of the Japanese, who give Kaohsiung 139 a romantic name, ugly beauty.
FARMERS UNITE TOGETHER

In addition to farming, every farmer of MANNA has their own unique skills that are considered very special. They can provide various activities, including hand-made tofu with mud volcano water, hand-made blanket, hand-sewn bag with traditional Hakka clothes, hand-made Hakka rice cake, tribe tour, and offer different seasonal products, such as organic soybeans, corns, pomelos, and pineapples. When MANNA promotes these products, it actually starts with the concept of "sharing". Let the farmers no longer fight alone, but put all their resources together as one brand to sell out the products and tell the stories of the farmers. These stories help to create the organic and non-toxic dream of MANNA.

Although the farmers share the same brand, their individual characteristics are high-lightened. Through integrating the different elements, the unique operation of the organization has been created. Multi-dimensions management helps MANNA to connect resources to different farmers. From spots to lines and plains, the leisure agriculture industry has been established. MANNA, as a platform, realizes the concept of farm to table.

INTRODUCING TECHNOLOGIES IN AGRICULTURE

Traceability system

Taking the advantage of the popularity of smart phones, the use of APPs in traceability system has been introduced. Farmers no longer made paper documentation but make on-line digital records. On the one hand, the system helps to emphasize the individual value to each farmer. On the other hand, the farmers are expected to take more responsibility in farming. The collection of Big Data can easily help to set up a role model case, sharing the best performed farming experience with the other farmers that can help to make reliable predictions of possible diseases when rice is growing.

Carbonization of rice husks

Using the carbonization machine developed in cooperation with the Industrial Technology Research Institute, to increase the additional value of the rough gluten (rice husk) produced during the milling process. The black material produced after the carbonization of rice husk can enhance the absorption of heat and increase the ground and water temperature to help the growth of plants and reduce the cold damage. Its loose and porous texture makes the soil or medium ventilate well, giving oxygen supply to the roots. It not only enhances the water retention capacity of the sandy soil, reducing the dry damage and softens the clay soil, reducing wet damage, but also contains more soluble sputum, which can enhance the disease resistance of the plant. Moreover, the good salt substitution can help plants to absorb nutrients, make stems and leaves thicker and sounder. The carbonization of rice husks is indeed a good concept of reuse. One of the biggest breakthroughs of this new machine is to collect the vinegar of rice husks which is produced during the carbonization process. The vinegar can be used as a very effective disease control material in the farms. Physical control can be achieved by using its special smell to prevent insects from destroying the crops.

CROSS-DISCIPLINARY COOPERATION

In the past few years, through cross-disciplinary cooperation, people from various professional backgrounds are introduced to Fuli. Interesting events and projects have occurred in Fuli. Fuli has been changed accordingly and the lifestyles of farm villages have been presented in various ways. Farmers, researchers, scientists, artists, architects, landscape architects and marketing analysts all work together, boosting new sparks and initiating diverse changes in the farm villages. The key is to increase “concerned population” to become the best engine of regional revitalization.
Initiating a creative experiment

Figure 3. Process of initiating a creative experiment

Implementation of landscape design

Pursuing the core values of the spirit of the Satoyama, in cooperation with professional landscape architects and architects, the production site in the Yongfong Village is well built with a comprehensive planning. It is divided into rice fields, gardens, processing area and administrative office, giving visitors a harmony sense with nature.

By renovating the site, the “multi-fictional hall” has been created, which is mainly used as a venue for farmers to learn new knowledge and exchange ideas. In recent years, meetings with visitors from all over the world have also taken place in this hall. In every meeting, the specialty of Fuli and FuliMaker has been again and again discovered, and the efforts made by the young people who returned to the villages have been recognized and appreciated. This high-quality meeting space does play an important role.

When art meets agriculture

The production base was transformed from an abandoned sugar refinery. With the help of an artist, the once mottled walls were converted into a large-scale painting and the process of rice production was turned into an easy understanding picture book on the wall, becoming a very good material for food and agriculture education. It not only increases the children's interests in understanding the knowledge of rice farming, but it also enhances the joy gained from the learning process. A book publisher even contacted FuliMaker for the cooperation of publishing the picture book. All of these events show that farm villages can have other additional commercial value in the process of economy transformation.

“Fuli Harvest Music Festival” introduces Fuli to the world

Every fall, when the rice is about to be harvested, the young people who returned to Fuli holds the “Fuli Harvest Music Festival” on the massive meadow of the production site. Most young farmers live a Half-Farmer-and-Half-X life. It is very common that a farmer is also served as a B&B owner, a barista, a community tour guide or a restaurant owner at the same time. Through farmer’s market, music performance and picnics, we present the diverse culture of Fuli and share the beauty of life in Fuli. Combining the natural landscape is the most special highlight of this music festival. Magnificent mountains and rice fields are the background of the stage. Besides attracting people from outside Fuli to come and enjoy the beauty of the rural area, the most important reason to hold the event is to bring local residences together and to arouse the appreciation to the land where they own and live every day.
“Rural Life” can be a culture, can be a product, or can be said as an attitude. Farmers live their lives in accordance with the day and night. They sow different vegetation according to the 24 solar terms. Every day they live in harmony with the rhythm of nature, and thus the rural culture is born. As a farm village of slow pace, a farm village with very few changes in appearance, and a farm village with the highest percentage of paddy fields in Taiwan, what has been changed in Fuli after launching the “Fuli Harvest Music Festival”? What has been achieved because of the public engagement of young people who returned to the village? Will more possibilities be created or the lifestyles and values of farm village are transformed? We wish to enrich the tourism and cultural resources with the authentic attitude towards rural life, to emphasize the values of farm villages and assure rural culture, and to promote an environmentally friendly and sustainable agricultural production.

CONCLUSION

Farm villages should be developed towards the Six-Grade Industry to retain the diversity of rural life. At the moment, agriculture is on a transitional stage of traditional agriculture and refined agriculture, and it is embracing the era of information technology. To cope with the imbalance of the organic rice market, multi-crop cultivation is introduced. To give a better storage environment for these different vegetations, a full-function refrigerated warehouse is built in the production site. With the organization structure of a cooperative, the farmers are fully engaged in the operation. Combining with farm village tours, the concept of farm-to-table is realized with the operation of farmers’ market to increase the economic value. We aim to encourage young people to return home (U-Turn), to attract migrants (I-Turn) to reside, and to increase employment opportunities in the region. If this model can be implemented, it can be replicated to other farm villages.

Strengthen the function and operation mechanism of the “local network” and take it as a communication and information platform for regional revitalization and talent hunt. In order to create a connection between life improvement and economic development, the information exchanged in the physical space or the virtual network should be fully expressed and linked. Form the operational structure by regularly meeting. Pass on the beautiful natural landscape, the local history and life stories to new generations. Not only the high-quality rice, vegetation, mountain and water resources will be passed on, but also the history and legend of Fuli will be passe on through storytelling and become the foundation of local values.

We hope to establish the core spirit of "FuliMaker” using local features and specialties, to build a common identity and to promote the brand, “Fuli” from inside the community to outside. With the help of cross-disciplinary cooperation, we introduced professionals from various areas and encourage both to embrace the concepts of “U-Turn” and “I-Turn.” Although we are expecting more young people to move to the farm villages and work together, what we can do now is to build a Satoyama lifestyle, concerning the three aspects of production, ecology and life quality. Who said that the next decade we have to live in the city? In other words, we expect more young people to be able to work and live in the farm villages, and these experiments are done to try to solve the problems in farm villages.

Date submitted: September 17, 2019
Reviewed, edited and uploaded: October 9, 2019