

**Agricultural Environmentalism in a Modernizing World: A Comparative
Exploratory Study of Yilan, Taiwan and Northfield, Minnesota**

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For much of the world, modernity looks like paved roads, shopping malls, and flashing lights on skyscrapers. The industrial and social developments of the last two centuries have catapulted the citizens of many nations into an existence increasingly disconnected with the processes that contribute to their comfortable lifestyles, routines, and ultimately, survival. It is no new phenomenon that many people eat food each day and will never know where it came from, in what manner it was procured, or what was required to create it. Technology has afforded the planet this luxury and curse. Yet the implications of modernization become only more extreme as less people are familiar with their sources of food. In Northfield, Minnesota, a small town situated in the American hinterland, development has resulted in a small city of 20,000, complete with two colleges, a robust downtown culture, and significant presence from major American corporations. Yet the bulk of the land in and around the city is still farmland, as it has been since America's great western expansion. Something of a satellite to Minneapolis-St. Paul, Northfield is on the doorstep of a major metropolis. Enter Yilan, Taiwan: also located roughly an hour from the megacity of Taipei, Yilan has been a farming community for many years. Recently, the prosperity of Taipei and other Taiwanese hubs has bled into Yilan, creating significant development and major shifts in local ways of life. Lands once used for growing rice have been plowed, and shopping malls replaced them; a river which once nurtured tea groves during the Japanese colonial era is now flanked by concrete walls and apartment high rises. In Yilan, the collective farming area has been steadily shrinking, along with the number of people to farm it, creating an urgent call for action among stewards of the land. The construction of "farmhouses", something of a euphemism for newly built vacation homes, has consistently displaced plots of land which were once contiguous and has irreversibly altered the landscape. While Northfield's geographical situation is dissimilar, it has its own concerns for

agricultural preservation. Urbanization is the most severe threat to preservation of farmland and sustainable agriculture, meaning the future of farming in Yilan and Northfield will require moderation of land usage and a continued spirit of progress between local governments and the cultivators of the land.

The global modernization phenomenon introduces a host of threats to farming sustainability which all pose unique challenges to the farming landscape. The first concern is the availability of farmland and the guarantee of people who are willing to farm it. The entire island nation of Taiwan amasses a mere 13,974 square miles of land, whereas the state of Minnesota sits at 86,943 square miles. In reality, only a miniscule portion of Taiwan's land can plausibly be cultivated; much of the island is extreme mountain and jungle terrain. In terms of finiteness of farmland, the triangular county of Yilan faces a more extreme situation than Northfield and its surrounding lands. Thus development in Yilan carries with it, pound for pound, more consequences for the agricultural sector. A farmer who goes by the name Cha commented on one effect of rural development: "The farmland is not a city, and the irrigation capabilities are not there in the same way as they would be [in a city]. Some areas have no sewage system...and with this lack of infrastructure, farmland can easily become contaminated". Construction in Yilan, particularly in more off-grid townships, can create major problems for adjacent and downstream farmers. Sanitary concerns can affect a farmer's ability to sell the products of a harvest, and when the profits are already slim, can result in financial stress. In addition, the developments can break up plots of land which were previously contiguous. This often impacts an area even larger than the original allotment of land, as there must be new irrigation dug around the fields. Pesticide usage is another problematic aspect of farming in Taiwan. Yilan is home to a bounty of organic farmers, and while the negative effects of pesticide use are

widely known, the long term ramifications are a reality that farmers contend with. An organic farmer with a field adjacent to a farm which uses pesticides faces the possibility of cross contamination via the water supply. In Northfield, farmlands which contained pesticides must recover for three years before they can be used to grow certified organic crops. This creates a squeeze on land which can be used for community supported agriculture.

In both townships, the community is the primary source of support for local farmers. Xiang Hao, an organic rice grower in Yilan, relies mostly on friends and family to purchase his crop. He uses a website to get in touch with potential buyers, and often hand delivers his product. This direct farm to table relationship has been developing in Northfield for several years. Community supported agriculture, known as CSA, is an avenue for farmers to directly sell their crops and keep more of the profits. More importantly, they forge a new understanding of ecology through the economic relationship of producer and consumer. Lai Ching-sung of Yilan theorizes the relationship as a cooperative model of production in which the consumer shares part of the risk, and benefit, presented by farming (Tam, May et. al 65). The consumer has direct information about conditions in the field in Ching-sung's model. Furthermore, he implemented a system in which customers could enter a partnership and labour on the land. In this way, the community became self-sustaining, environmentally conscious, and interconnected. The CSA model in Northfield is more heavily focused on the economic side of the relationship, with produce as the commodity being sold at a fixed price over time (usually, one year). But many benefits remain even without CSA members being directly involved with cultivation. Support of local farmers means money will be continuously invested in local sustainable agriculture, stimulating the local economy and protecting the land.

These models of producer-consumer interconnectivity have paved the way for robust local communities and relationships in both Northfield and Yilan.

Despite being home to thriving agricultural communities, Northfield and Yilan especially face the acute concern of unsustainable development. Northfield, opposite of the national trend, retains a young base of farmers growing diverse crops. The active community, sharing of machinery, and friendly atmosphere have made Northfield a hotspot in Minnesota for young farmers seeking to start out (Kelloway). Yet with a growing population, corporatization of the area can begin to encroach upon the farmlands. With an increasing population, air, soil, and water quality all begin to degrade at varying rates. This issue is most formidable in Yilan, which has a significantly smaller area of farmland. The farmhouse problem, as it is locally known, began decades ago. After a Japanese colonial-era land law was improperly grandfathered into local code, farmland was allowed to be divided into pieces and used for home construction. The Japanese law kept newly built houses confined to the same areas, and could only be built in the corners of larger lots. In Yilan, this proscription does not exist. Farmhouses have cropped up at unbelievable rates as wealthy Taipeiers have built the homes as weekend getaways and investments. A walk through the countryside reveals the grossly out of place buildings: concrete and glass boxes among rice fields, massive McMansions rising from the landscape. Each home destroys and replaces a field of top tier farmland, and the effects are irreversible. Farmhouses begin to pollute nearby water supplies, and also raise local rents which farmers can struggle to keep up with. The costs associated with organic farming make it increasingly difficult for Yilan locals to handle the pressure incurred by farmhouse construction. Sherri Meyers, owner of the Northfield Co-Op, says she can see the potential for this problem down the road for Northfield. However, the stages of development are different, and Northfield still has

significant room for commercial growth before farmland could be seriously encroached upon. Both places, marked by their proximity to major cities, have their sustainable agriculture threatened by the looming beast of urbanization.

While Northfield and Yilan face a wide variety of concerns for their futures of agricultural sustainability, the ultimate solution in both cases will be political action. In Yilan, where the farmhouse issue has already reached critical mass, there are already protests and calls for policy change among groups of citizens worried about the future of the land. The problem, after all, was formed by ill-conceived policy; it should be policy again which prevents further damage and plots an ecologically sustainable future for the county. As the sole arbiter of how land can be used, the local government in Yilan must heed the calls from those who know the land best and ensure that the precious farmland remains intact for generations to come. The continued subsidization of organic farming in both Northfield and Yilan will also serve to protect the land and resources surrounding the farms. It is critical for local governments to grasp their distinct individual situations and understand their people in order to provide a sustainable agricultural future. Despite the growing rates of development across the world, cooperation between farming communities and local governments will send the future of agriculture in a positive direction.

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