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Food Spoilage and Waste

Thailand: The Pathway to Reduced Food Spoilage

As of 2020, more than 69 million people inhabit Thailand (“Thailand Population”). In the center of Southeast Asia, Thailand had various ecosystems, such as the forests in the North, level grounds in the Northeast, and rocky coasts in the South (Keyes). Thailand's climate consists of extreme humidity, the key to its success in farming, and a mean annual temperature of 82°F taking into regard the three distinct seasons. Due to its location in the tropics and its climate, Thailand was almost entirely an agricultural nation for the majority of its existence. Recent changes still reflect the importance of farming in the country: Half of the population is rural, living in small villages and growing much of their own food with occasional trips to larger towns for necessities, and arable land made 43.28% of Thailand in 2016 (“Thailand - Rural Population”). The average farm size is 4.5 ha, 450% larger than the size of farms in the country’s neighbor, Japan. Most of Thailand’s farms grow rice, one of the most key crops in Asia, and while sugarcane and tobacco are some of the country’s main crops and exports, rice is the most major crop and export with around 60% of Thailand farmers growing it (Hays).

In 1932, Thailand became a constitutional monarchy. With a monarch as the head of state, this change of government paved the way to an increasing number of people who moved to the capital of Thailand, Bangkok, and other urban cities in the 1960s (Ouyyanont). Agriculture still holds immense importance to the country in terms of its economy and culture, but there is a greater need to fix the issue of poverty within the growing urban population.

In Thailand, the average housing for families is a shophouse or an apartment (Knierim). With 3.7 people as the average family size, compared to 2.5 people in the United States, Thailand is the 22nd most populous country in the world (“Household | United States of America”). Thai cuisine is defined by the street food culture that is common in many Asian countries. For the average family diet, rice is a staple in every meal, and meals also have an accompaniment of a type of meat, including the abundance of fish and seafood in Thailand, and vegetables that are often bought at open markets and grocery stores. To cook food not prepared by street food vendors, the average urban family uses either an electric or gas stove. As some of the most common and popular jobs in urban Thailand are under the domain of sales, engineering, IT, accounting, and administrative roles, many adults without children opt for the inexpensive and easily accessible street food rather than spending time to prepare meals. Thailand’s big cities that are becoming more and more common are similar to the cities in other big nations: bustling with life, filled with establishments, and operating in very little space (Kuehn). There is little time to spare as job openings are always in demand as it is in most big cities. The average wage in Thailand is projected to be around 14,700 THB per month in the year 2020, but this does not necessarily mean Thailand can escape the label of being a third world country (“Thailand Average Monthly Wages”). In terms of its development status and economic indicators, it falls between being a first and third world country. To illustrate why this is so,

Thailand's government pays for the first 9 years of schooling, meaning 6 years of elementary school and 3 years of lower secondary school, but parents have to pay starting in grade 9. As a result, about 85% of primary-school-age kids go to school, but starting at grade 9, disparities in access become more visible (Allan). Education costs around 550,000 THB for the average student, which is less than the price in other comparable Asian countries but still high for many families who cannot afford the cost of sending multiple kids to school (Allan). As for health care, it is a factor that makes Thailand closer to being a first world country: As of 2019, Thailand's healthcare is the sixth-best in the world. Universal health care involves three very distinct programs (Allan). There is the civil service welfare system, which is mainly for civil servants and the families of civil servants. There is also Social Security for private employees, and the universal coverage scheme is available for everyone else after being introduced in 2002.

Beside healthcare and education, access to food and water for people living in poverty in Thailand is an issue that has yet to be completely solved. An aspect of everyday life in Thailand involves not drinking the tap water until it has been boiled, which limits the average person's access to clean water in addition to the country's water scarcity issues. In addition, most urban families have access to toilets, electricity, telephones, and safe roads, but the picture changes in families who live in poverty and those who live in rural areas. Many villages do not have indoor plumbing and still use outhouses, and showering is done through the use of buckets (Kuehn). Some major problems and barriers for families in Thailand include how the agriculture sector makes 40% of all jobs and is a major source of income for the country's rural population (Luedi). Due to mass deforestation and population spikes in recent times, earning a living has become increasingly harder, and access to nutritious food, often defined by fresh and local produce, decreases. Concerning those living in poverty in cities, Thailand has recently experienced an impressive poverty reduction. The percentage of people living below the poverty threshold decreased from around 67% in 1986 to around 7.8% in 2017, but the goal for all nations is arguably to cease poverty entirely (Bartee). Poverty is a topic that still matters and will matter until it no longer exists, and with recent droughts and economic downturns in Thailand, the percentage actually slightly increased in 2016 due to extremely poor farming that year (Bartee). Combined with an aging population and most of the labor force still working in low-productivity farming in a time where the climate crisis is changing all precious conventions, poverty is even more relevant. For the massive population, there are multiple issues that come from the waste that occurs when transporting and consuming food.

Although less covered by the media compared to climate change and other crises, the food spoilage crisis is a key concern of the world at the moment. With the global population abundantly growing, either the production of food must increase or food spoilage must be minimized with more care placed in effective food distribution. The second option has been chosen by the United Nations Development Programme (UNDP) as to not waste resources and energy in a flawed process that is currently hurting our world. As of 2019, reducing food waste is a sustainable development goal of the UNDP, which has a goal of a 50% reduction before 2030 (Srisuwannaket & Liumpetch). In 2017, according to the Pollution Control Department in Thailand, the organic waste in the country made up 64% of Thailand's municipal waste. This number does not include the waste dealt with private waste-management contractors. 64% of the total waste collected is food waste, and very little of it is recycled: The Bangkok Metropolitan Administration only recycles about 2% of all the food waste collected, and the remaining 98% is sent to landfills that are far from satisfactory in terms of hygiene and efficiency (Srisuwannaket & Liumpetch).

The amount of food waste is also increasing, which is likely due to the increasing amount of people living in cities. Examples of this issue can be seen in everyday activities. Rosa Rolle, Technical Coordinator of the Save Food Campaign, said on this topic, “While this is a global issue, and while there are no exact figures on how much food is wasted at the consumer level or in the foodservice and food retail sectors in Thailand, it is easy to see in many restaurants that food prepared for consumers often isn’t finished by them” (“Thailand Launches National”).

While there are groups that are hit harder than others by food spoilage, it’s an issue that ultimately affects all members of society. The increase in food waste increases the amount of trash in landfills, which in turn harms the environment and the people that live in both rural and urban areas. Another problem for urban populations is the excessive trash on the streets, and for rural populations, an issue is decreased profit as a portion of food waste happens during transport. Food spoilage does not discriminate on the basis of gender, but for the children, their futures are deteriorating as more of the environment is ruined, and for the elderly, their quality of life before passing goes down, too. No one is excluded from the effects of food spoilage, marginalized and majority populations alike, because, as Thongchai Suwansichon, Director of Agriculture Section of Thailand Research Fund, said, “Food loss and food waste is a major problem affecting the entire world.” Everyone is impacted by this crisis either directly or indirectly, such as through the destruction of the environment. As Mr. Werner Kossmann, Project Director from the Thai-German Climate Programme of GIZ Thailand, put it, “Loss of food and food waste causes large amounts of organic waste. Improperly treated organic waste is considered as one of the causes of greenhouse gas emissions. Because organic waste releases methane that is 14 times as potent as carbon dioxide, the bulk of the food waste problem represents hazardous waste” (“Thailand Launches National”). As the climate crisis becomes more and more dire, food wastage needs to be included in the solution and effort to raise the quality of life of those living in Thailand and all other countries. The solution to food wastage has many parts, and not all parts will work everywhere in Thailand as it’s a country of diverse populations and places, but there is a definite need for change to begin as soon as possible. A new lifestyle will have to be implemented through educating the masses and utilizing the rise of social media and technology, such as GMOs and recycling centers, and the government will have to play a large role in incentivising establishments and corporations to reduce waste, penalizing excess wastage, and aiding processes that dispose of food without harming the environment.

There are already some programs put in place in Thailand to tackle food wastage. For example, The Pledge on Food Waste certification is an award that hotels can earn if they reduce a large amount of food loss and waste from their hotels (Jelski). However, awards can’t force all establishments to have higher standards, and hotels aren’t the only contributors to food waste. Thailand’s supermarkets are another category where food spoilage must be changed. An example of a supermarket working to change for the better is Tesco, which reduces its food waste by donating extra food, using recyclable materials to increase produce shelf life, and working with farmers to grow popular crops (Thapanachai). This interaction between consumer and farmer is key to their operations in reducing food waste.

Thailand can also look to other countries to implement other ways to deal with food waste. In 2016, France made a law that ordered stores larger than 400 square meters to donate surplus food, and refusal

means a hefty fine (Buzz). Setting a penalty for food waste in Thailand may be a solution, but enforcement may be more trouble than its worth.

The United States also implements a tax deduction to encourage donation, and there is legal protection from liability if the food brings illnesses (“Donations”). The current lack of legal protections for food donors in Thailand results in less efforts of donation, and organizations are afraid to even attempt to help. Currently, SOS is the only food waste distributing organization in Thailand that operates with the safe standards (Srisuwannaket).

Educating the masses about the gravity of food spoilage is another facet of the solution. Schools are an ideal place to start; the younger people are, the more likely they are to adopt new lifestyle changes. However, to target the general public, many countries have created media campaigns to raise awareness (University of Houston). Raising awareness among producers, distributors, and consumers is a low-cost and relatively simple way to reach out to people in the modern-day as most people are constantly exposed to the media. This aspect of life has led to the creation of mobile apps/websites, such as Food Cloud and Too Good to Go, to sell surplus and damaged produce online (Roy). These apps/websites are easy to implement and becoming more accessible with the increase of areas with internet access, and customers are attracted by lower prices. Technology is becoming more and more common even in rural areas, and utilizing this fact is important for the success of this part of the solution.

Another solution is introducing more genetically modified produce that have longer shelf lives. While beneficial, the cost of research that goes into GMOs is great, and the fear that goes with what many people deem to be “an excessive amount of GMOs” and the possibility of one-time use seeds limit this solution. There are no proven health risks that come along with increased GMOs, and poor living conditions should only improve with the introduction of more GMOs; however, more long research is still needed for a definite answer (Raman). With GMOs, crops are also much easier to farm, and as of 2020, the Food and Drug Administration (FDA) and Environmental Protection Agency (EPA) of the United States still say that GMOs are safe for ingestion (Raman).

The above solutions are mainly directed to the urban populations in Thailand. In places with fewer resources and people, food waste recycling centers can be utilized to help families create organic fertilizers to be used for farming. Such practices have been in use in Japan to combat their own issues with food wastage (Skinner).

As a lot starts with nationwide legislation and new standards, the government of Thailand is needed to take a major role in solving food spoilage. To start implementing the solutions from other countries, the government can promote the apps that sell damaged produce, and it can simultaneously use media campaigns to create more public awareness of this issue. Once people care about this topic and are more familiar with it, then they will likely receive taxes and possible penalties more graciously. The next step is creating laws that frees organizations from the potential liability issues that come with donating food. Legislature can also contain stricter transport and storage protocol so less produce is damaged. To keep in line with Thailand’s cultural norms, which include values of respect, self-control, and a

non-confrontational attitude, efforts should be made to highlight the need for lessened food waste to respect the future of the land and the people (Williams). A barrier that would make it difficult for the government to become actively involved in solving food wastage would be the recent protests that have lasted for years; the protestors, calling for government reform and democracy, will likely distrust new policies in these rough times (Row). However, it must be noted that many protesters are young and are calling for reform to improve their country (Row). If outside organizations and people can introduce food wastage to them, it's possible that Thailand's younger generations will adopt and advocate for solutions for food wastage as well as their other concerns, spreading the news to more people through social media.

While the government holds a key role in the process of decreasing food waste in Thailand, nonprofits and civic organizations can be invited to take a role. For example, the International Food Waste Coalition is a nonprofit association of many food organizations that have the goal of reducing food waste throughout all food services ("International Food Waste Coalition"). They have started with Europe, but reaching out and giving resources to other countries like Thailand is one of their aspirations. The effort and money needed can be assisted by their forces, but other ways of funding these solutions are needed. A few possibilities are selling government bonds and creating donation campaigns, a common strategy that many other campaigns utilize for revenue. Emphasis of the country's future is ideal as, over the last few decades, the government has encouraged a strong sense of nationalism and patriotism through practices such as two daily broadcasts of the national anthem (Suwanvanichkij).

To be sustainable and not simply a quick fad of the times, it's important to start this lifestyle from a young age. Reducing food waste is undeniably a way of life; it affects all aspects of daily living, and because of that, it needs to be started early on through education and practice. For instance, in Japan, the order of their society is implemented from before elementary school and by community members (Tendre). If Thailand starts a similar way of raising the next generations, then the mindset will last and usage of the above solutions will continue on. Legislation will likely change to adapt to new circumstances, and new technology will render some solutions ineffective, but once a mindset takes hold in a society, then the effects can truly last.

Food wastage is not a problem of our times; it has always been an issue, but only now are the effects of ignoring this issue appearing more frequently in our lives. Humankind has allowed it to become a crisis. With the world's growing population and the presence of poverty and hunger, the importance of solving food wastage also grows. While change in an entire nation cannot happen overnight or even during a lifetime, change in the right direction for a more sustainable future is better than no change at all.

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