

The Dietary Characteristics of An Agriculture-based Economy and Its Impact on Community Health

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Abstract— The social structures and lifestyles of most economies derives its influence from the level of economic growth, or development or the standard of living. Agriculture is not only important for the revenue contributions it has to the economy but also to the community health and food consumption of the communities. Agriculture-based societies are suggested to have unique features that do influence the community health of its citizens. This report provides a focused review of the community health implications of agriculture-based economies.

Keywords— agriculture-based, community health, dietary pattern, economic development

I. INTRODUCTION

The study of Sociology is known to have diverse points of views or can be analysed from various aspects and for different purposes (Plummer 2021). These include social life, social change, the structure of societal groups, organisations, and societies, social vices and its effects, and the social causes and consequences of human behaviour. One of the notable points of most economies for various decades has been the engagement in Agriculture. The top agricultural producing Countries in the world are China, USA, Brazil, India, Russia, France, Mexico, Japan, Germany, and Turkey. Globally, the agriculture industry covers sectors like agriculture equipment, farming, fertilizers, pesticides, warehousing, cold chain, food processing, dairy market, floriculture, apiculture, sericulture, seeds, fisheries, poultry, animal husbandry, animal feed, and bio-agriculture. Agriculture-based economies and especially those that have realised agricultural systems transformation and innovation provides socio-economic and community health-related progress by increasing aggregate income, employment, and productivity. The benefits are quite diverse as most medicines and health supplies have agricultural produce as ingredients. However, the demands for maintaining the agriculture-based economies does also have other effects on the community health. The daily consumption of the food that fuels productivity and life is largely sourced from the agricultural sector. Whilst the various components and departments that depend on the agricultural sectors are provided with employment opportunities that generates a multiplier effect on the economies that have agriculture as a part of their resource. These work alongside the resilience of the health systems, the investments in the supply chain, compensation, dedicated supervision, continuous training, and performance management necessary for rapid community response in case of medical emergencies (Ballard et al, 2020). The quality and quantity of food that is nutrient-enriched or nutrient-deficient and the supplements that are made available through the agricultural sector for the

health of the communities in the economy, contributes directly to its health and wellbeing.

Till date, agriculture is a vital source of revenue in many countries and is suggested to be the world's largest business although the contribution it has on countries depend on factors like, the agricultural systems transformation and innovation, effective and quality engagement of the factors of production, and suitable applicative research and development within the sector (FAO 2018). Based on resource constraints and limited industrial progress across some economies of the world, agriculture has been the main driver of economic growth in most rural areas, and in the least developed and developing economies. An estimated 45 percent of the world's population live in rural areas where most of the agriculture occurs. Furthermore, the estimated aggregate demand for agriculturally produced staple food, or commodities and processed food has also grown comparatively in developing countries. Understandably, 75 percent of the world's economically active economies obtain its livelihood from agriculture. Which is composed of a material number of pastoralists, fishermen, small-scale and subsistence farmers, who collectively produce most of the agricultural produce consumed worldwide.

Various academic research covering a wide range of topics such as Agricultural policy and international institutions, as well as agricultural research over the past decades, have often considered small-scale and subsistence farmers as outdated models of a pre-industrial form of production (FAO 2018). The focus has sometimes been on the impact of agro-chemicals on traditional agriculture (Song et al 2021), the politics surrounding the use of agro-chemicals in agriculture (Clapp 2021), the economic importance of agriculture (Beckman and Countryman 2021), agriculture as a panacea for economic growth (Oluwole et al 2021), the dietary patterns and health (Steck 2020), and climate-smart agriculture and politics (Branca et al 2021). Much of the academic work has been done on agriculture-based economies and on community health separately, however, there is still a gap in the literature for research that focuses on the contributory health impact of the agriculture-based economies and their sociology on community health. This research provides a different look at the practices within agriculture-based economies and its associated community health implications. It will provide some contribution into the community health policies that could potentially be developed to solve some of the health challenges triggered or compounded by these practices.

II. THE COMMUNITY HEALTH OF AGRICULTURE-BASED ECONOMIES

In general, an economy's dietary habits are shaped by the economic development or standard of living. What the citizens of the country can purchase to consume is directly a reflection of primarily their purchasing power. This purchasing power can be extrapolated from the aggregate development ranking of the economy. Thus, the more developed a nation, the higher the probability that they can purchase healthier options of food to consume. Notably, the efforts that go into growing healthier choices of food, tend to make them much more expensive compared to the less nutritious food options. Eating based on cost and price means most agriculture-based economies eat mainly high carbohydrates-enriched meals and less of what is potentially expensive. This will have a contribution to the health and wellbeing of the community. The global records suggests that there are over 570 million farms in the world, of which 90 percent are run by individuals or a family that also rely primarily on family labour (FAO 2014). In most farming communities, the feeding structure and decision is not only limited to the members of the family that are working directly in the agriculture field but to the whole household. Not only will those who are working in an agriculture-based setting be eating the food decided on to provide the much-needed energy to the workers, but other members of the family will most likely be eating the same dietary mix. Regardless of the age, the sexes, age groups, education levels, and body mass index (BMI) categories, weight and specific health characteristics, this will have other side effects on those who are not exerting such energy during the day (Harrison et al 2019).

The food that most agriculturally reliant economies eat was designed by farmers and for farmers in its composition and nutrient index. This is because over several decades, the main occupation and contribution to GDP in those nations would have been agriculture. To show the size of the population that is affected by this practice, the statistics available suggests that the agricultural sector accounted for 57.4 percent of total employment in sub-Saharan Africa and 42.2 percent in Southern Asia in 2017. An estimated 866 million people were officially employed in the agricultural sector: Of which, 292.2 million were in Southern Asia, 148.4 million in Eastern Asia and 215.7 million in sub-Saharan Africa (ILO 2018). Although the share of total employment in agriculture has declined over the past decade, the total number of workers in agriculture in sub-Saharan Africa has grown (ILO 2018). More people are working in the sector and whatever traditions and practices that are being engaged in especially if it does have an impact on their health will have a widespread impact. With a few exceptions, the economies that are agriculture reliant will be engaging in traditional agricultural techniques, methods and systems instead of agricultural transformations and innovation based on the number of economies that have been able to purchase the much-needed agriculturally

based transformation systems out of the number of nations that are agriculture sector based. The amount of people who are affected is worth putting into perspective. Based on the records, a third of the world's economically active economies obtain its livelihood from agriculture (FAO 2018). Such practices will require high energy foods and depending on the type of agriculture being practised may have the same energy requirement daily. Due to the energy exerting nature of most farming practices in the region, most farmers will start their working day with a high energy rich meal which will have health implications.

The culture of eating and all eating habits including tastes are acquired. This means that in economies that have this understanding and the means to acquire a healthier lifestyle, will be changing their eating habits, lifestyles and investing into research into the appropriate foods and nutrients or supplements to ensure the citizens are provided with the necessary healthy lifestyle. Although nutrients from dairy foods are difficult to replace, and their replacement with calcium-equivalent foods may adversely affect the nutritional profile of the diet, the research findings suggest that the daily intake of milk and its alternatives in the Canadian population has voluntarily decreased over time (Vatanparast, Islam and Shafiee 2021). The eating choices, habits and culture is based on education level, awareness, the availability of alternatives, the costs of the alternatives, the desire for a healthier lifestyle and contributors for whichever choice is made. Furthermore, milk and alternatives contribute substantially to nutrient intakes, nutrients adequacy and nutrient inadequacy among the Canadian population (Auclair, Han, and Burgos, 2019). Another research findings suggests that Individuals with Mexican, Dominican, and Central American heritage had better overall dietary quality compared to other groups. Whilst all the different classes of people can improve their eating habits to align more with the Dietary Guidelines for Americans (DGA) by reducing sodium consumption and improving fatty acid ratios (Anna Maria Siega-Riz, et al). This is possible based on the standard of living of the people which will show in their ability to fund such important life alterations.

Living long requires not only a good functioning heart, kidneys and lungs but other healthy organs too that are contributed to by what is eaten. High sodium intake is a leading modifiable risk factor for cardiovascular diseases leading some economies like Canada providing recommendations for her citizens to adhere to voluntary sodium reduction guidance (SRG) targets on sodium intake (Smith et al 2021). The recommended practice that aids living long is normally the cutting down of sugar, salt, and meat from a certain age. This is possible where there is the awareness of this medical fact, in addition to the healthier alternatives, the means to switch and purchase them, the willingness to change from the tastes and eating habits that one has acquired over time. Where there are limitations of education, those who work in the agricultural sector may not have a certain level of understanding and knowledge of the importance of regulating and making healthy choices or the means to switch even when they have the desire to. As such the pervading drive behind the decisions is the quest to satisfy the hunger most times to the neglect of the nutrients. Traditionally, food that is rich in carbohydrates will normally be the preferred choice. This also has the long-term effects of storing the excess fat that is not used on the day (Febriani, Soesetidjo, and Tiyas, (2019).

The advancement of research in nutrition has led to the discovery of the effects and impact of excessive carbohydrate (SFA) intake on health leading to recommendations of nutrients and food intake in some countries. In 2019 there was a revised version of Canada's Food Guide (CFG) that recommends limiting the consumption of processed foods that are high in saturated fatty acids (SFA), (Harrison et al 2019). Where the development of the economy has allowed for the import of cheaper alternatives to healthy eating, the citizens who may be on a limited income may choose to indulge in the cheaper alternatives instead of growing their own nutritious substitutes. The less nutritious options may also be more affordable than the highly nutritious alternatives which may be far cheaper to source and produce. Additionally, the limited technologically enabled agricultural systems have the effect of increasing the cost of growing and producing or processing food. With this absence, the locally produced food tends to be a lot more expensive as compared to the imported substitutes that may have benefited from subsidies and economies of scale in their origin economy.

From the research already done, food that is consumed by the body needs enough time and energy exerting activities during the waking hours of the day to be expired from the body. As a result, and in most cases, food that is eaten after a certain time in the evening does not have enough time to digest into the human body before the person goes to bed. The food that is eaten especially if it is a high-rich energy or fattening contents may not be burnt and therefore it is stored on the body. A highly mobile individual and person who engages in activities that require a lot of energy may end up using the energy stored however, where this is a daily habit, there will always be a storing and piling up of excess stored fat on their body. Medical research into eating patterns and nutrients suggest that most of the sicknesses, cancer and causes of death are attributable to weight. Having and maintaining the appropriate weight as recommended by the health professional is a good way to extend life or keep unwanted

sicknesses away. The research work done suggests that after 60 years of age, excessive cow meat consumption is not good for the health but most of the eating lifestyle in various agriculture reliant economies is meat focused (Dikaïou et al 2021). Overweight and obesity are among the most significant contributors to illness and adverse health outcomes including metabolic syndrome, diabetes mellitus and cardiovascular disease (Andonian et al 2019). Most people are here nowadays engaging in Vegan, nutrient selection, gluten avoidance, and many other health-conscious eating decisions. Some are as a result of prescription by medical practitioners or as a sickness avoidance strategy (Mudryj et al 2021). In many developed and highly researched nations there is more preference for natural sugar instead of industrially produced sugar. In some cases, there is the recommendation of not eating after 6pm based on the understanding that food eaten after this time does not get the opportunity to be digested into the body and thus is stored by the body as fat.

What constitutes a healthy diet has undergone some changes due to the advancement and dynamic research into the roles that food has played in the health of people and in the prevention of diseases and based on what has been identified as essential nutrients, or other food components and supplements. Significant research findings support the intake of specific food groups, certain nutrients, and dietary patterns in preventing common non-communicable diseases (NCDs) and promoting health. Various dietary patterns designed to reduce disease risk, includes Dietary Approaches to Stop Hypertension (DASH) or Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) diets, which are healthier alternatives to the traditional western diets (Cena and Calder 2020). Various reviews and analysis have reported significant associations between certain cancer types and dietary patterns (Steck 2020), dietary patterns and osteoporosis (Muñoz-Garach et al 2020), dietary patterns and childhood obesity (Liberali, Kupek and Altenburg de Assis, 2020), dietary patterns and chronic disease prevention (Neuhouser 2019) and the benefits of vegetarian dietary patterns with cardiovascular disease (Kahleova, Levin, and Barnard, 2018)

In addition to reducing the intake of processed sugar, reducing the size of food portions and the time that one eats, mobility nowadays for most people who live in agriculture-based economies as well as other economies is limited. A lot more of the technological advancements and innovation has taken over a lot of the things that people used to have to move around to make it happen. Many things are now remotely done with the appropriate gadgets. With the use of cars, a lot of walking is reduced, many physical and energy requiring activities like cooking are now converted to activities that use a comparatively reduced energy input. The research done so far suggests that to live long, there are some things to do to ensure a lot more of the energy that is taken into the body is being used and expired. This brings in the concept of physical exercises that takes out the toxins out of the body and gets the heart beating better. Meeting the physical activity recommendations has been an important protective factor for diabetes and other diseases especially if combined with a higher quality diet (Xu et al, 2022). A healthy lifestyle appears to have the greater impact on diabetes prevention in middle-aged men and women.

Considering the origins of all the systems, programs, and developers of wholesale national exercises, one will notice that they have originated mostly from developed economies instead of agriculture-based economies. Many of these are in economies that are not agriculture based although they do consume agriculturally produced goods. In most economies, the use of gyms and other physical exercise centres require membership and payments which will normally only be patronised by those who can afford. The fees and other obligations potentially eliminate a lot of people who could have made use of the facilities to maintain a healthy life.

III. CONCLUSION

The general characteristics of the agricultural sector is that most agriculture-based economies also have low literacy rates which also means the workers have very little appreciation of their eating habits on their health. In such economies, producers, consumers, and societies use scarce and natural resources in the production, processing, marketing, and consumption of agriculture-based produce. An agriculturally based economy would essentially have the means to produce what the citizens of the nation need for their subsistence in addition to what can provide them with health. In an ideal world, an agricultural based economy should be growing what they need but this depends on the relevant research means/capability, the relevant interest, and the absence of cheaper alternatives (its easiest and cheaper to buy the pills).

Those who work in agriculture require higher energy for the work. This designs their eating and dietary needs. An equal intake if used during the day limits obesity however, for non-agricultural workers, or non-working people who use the same eating habits of an agricultural worker are bound to carry excess weight. One used to be on that diet but stops working in the sector but continues with the same eating pattern and also continues to store excess weight which will have unique community health contributions. Various eating options inspired by the research are being practised in various developed nations although

the cost to implement them in economies depends on the standard of living and economic development. The right diet and exercise are some of the factors prescribed for the prevention of diseases and other complications later in life

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