Food and Agriculture Organization of the United Nations (FAO)

Topic: International cooperation in the elimination of hunger, malnutrition and food safety

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Contents

1. Welcome Letter

Honorable dais members and distinguished delegates, welcome to Food and Agriculture Organization of the United Nations, EAMUNC 2019. Here's the greeting from the whole Dais. I'm Fan Rongrong, an eleventh Grader at No. 2 High School of East China Normal University.

Under the main topic, we are going to discuss three sections, including huger, malnutrition and food safety. The delegates are encouraged to dig deep into the causes behind the emerging issues, reach consensus through actively collaborate with all member states and carry out better strategies towards the three issues mentioned above. In addition, the dais recommended that the delegates should fully take social and economic impacts of food related issues into consideration.

Moreover, owing to facts like the fast accelerating global food trade and gap between developed and developing countries, international cooperation is vital to the improvement of the current situation and the fulfilment of the sustainable development goals.

The dais sincerely hoped that the delegates can put forward constructive solutions and have a great time in EAMUNC 2019.

Best regards,

Fan rongorong,

Dais Head of FAO, EAMUNC 2019,

8th July, 2019

2. Dais List:

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3. Committee Introduction:

a. About the Food and Agriculture Organization of the United Nations

The Food and Agriculture Organization (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger. The organization's goal is to achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives. With over 194 member states, FAO works in over 130 countries worldwide, believing that everyone can play a part in ending hunger. Headquartered in Rome, Italy, the FAO maintains offices throughout the world. The organization is governed by the biennial FAO conference, in which each member country, as well as the European Union, is represented.

The conference elects a 49-member Council, which serves as its executive organ. In the late 20th century the FAO gradually became more decentralized, with about half its personnel working in field offices.

FAO is composed of seven departments:

- Agriculture and Consumer Protection department promotes agriculture to eradicate human poverty while also protecting the environment and ensuring safe food practices and standards.
- Climate, Biodiversity, Land, and Water department promotes sustainable management practices for land, soils, energy, water, biodiversity and genetic resources.
- Corporate Services, Human Resources, and Finance department support the entire FAO organization.
- Economic and Social Development department promotes economic development through internal production and for trade.
- Fisheries and Aquaculture department promotes management of aquaculture and fishing.

- Forestry department promotes management of resources through forestry.
- Technical Cooperation department supports member countries in their programs and responds to food and agriculture threats and crises.

The dais would like to suggest that delegates do research and propose ideas in reference to the divided departments of FAO, in pursuit of keeping the conference on track and making the solutions feasible.

b. History of FAO

i. Significant events

As the oldest permanent specialized agency of the United Nations, FAO was established in October 1945 in Quebec City, Canada, in the first session of the newly created UN. Washington D.C. was designated as a temporary FAO headquarters. Following the fifth session of the General Conference in 1949 where Member States decided to move the offices of FAO to Rome, two ships, set sail from Washington in the early spring of 1951 with 76 families on board.

In all, the committee has conducted five World Food Survey, with the last one taking place in 1985. Aimed at better understand the state of nutrition in the world, the surveys conducted signifies problems existing in human's path of fighting hunger

ii. Major campaign and initiatives issued

The contribution of FAO has always been greatly promoted by the establishment of campaigns, initiatives and fund. Note that by understanding of historical action of an organization can you further investigate the solutions as a member.

- The UN Special Fund (1958)

  The Special Fund is created and commences its activities in 1959, based on a total of contributions for that year of $26 million pledged by participating governments. During its first year of operation, FAO is responsible for the execution of approximately one third of the total activities of the Special Fund.

- Consultative Group on International Agricultural Research (CGIAR) (1971)

  Funded to respond to raising concerns of famine mainly due to fast-paced population growth, the CGIAR is created to coordinate international agricultural research centers to reduce poverty and achieve food security in

developing countries. Through the years, the scope of research of the group has grown, covering areas of research as varied as climate change, agriculture and food security

- FAO's Technical Cooperation Programme (1976)

  Established in 1976 to make FAO's technical knowledge available while supporting the development efforts of member countries, the Technical Cooperation Programme today provides assistance in all areas related to the Organization's mandate.

Besides,

The 1974 World Food Conference, held in Rome during a period of food shortages in the southern Sahara, prompted the FAO to promote programs relating to world food security, including helping small farmers implement low-cost projects to enhance productivity.

In the 1980s and 1990s, FAO programs for sustainable agriculture and rural development emphasized strategies that were economically feasible, environmentally sound, and technologically appropriate to the skill level of the host country.

c. Function of FAO

It coordinates the efforts of governments and technical agencies in programs for developing agriculture, forestry, fisheries, and land and water resources. It also carries out research; provides technical assistance on projects in individual countries; operates educational programs through seminars and training centers; maintains information and support services, including keeping statistics on world production, trade, and consumption of agricultural commodities; and publishes a number of periodicals, yearbooks, and research bulletins.

The FAO strives to scaffold member countries to become independent in providing food to their residents while also producing enough agricultural products to become active trade partners with other countries to produce revenue. Focusing on the types of food production that are suitable and prevalent for each country, the FAO works within local cultures with local staff to improve existing practices while leaving local economies intact.

Rather than providing food to countries suffering from famine, the FAO strives to set up sustainable food sources in those countries. For example, after the 2010 earthquake in Haiti left the country in shambles, the FAO quickly launched a series of initiatives designed to keep domestic food production and farm incomes up. Among these was the Haiti Food Security Emergency Tool, which aggregated data on usable roads, crop calendars, land use, livelihood zones and damage information to help improve food production and distribution in the ravaged country.

4. Introduction of the Topic

Written in the topic as key words, “hunger”, “malnutrition” and “food safety” should be the baseline of this conference, and delegates are expected to reach a consensus by seeking international cooperation of eliminating these rampant problems. The topic is based on U.N.’s Sustainable Development Goals (SDGs). Proposed in 2015 as an ambitious blueprint for human development in fifteen years to come, the SDGs provides an overview for the global developing trend. However, the dais would like to emphasize that other goals included in SDGs are not the main body discussed in this committee, except the ones related to our topic.

a. United Nations Millennium Development Goals

The United Nations Millennium Development Goals were 8 goals that all 189 UN Member States have agreed to try to achieve by the year 2015. The United Nations Millennium Declaration, signed in September 2000, committed world leaders to combat poverty, hunger, disease, illiteracy, environmental degradation, and discrimination against women. The MDGs were derived from this Declaration, and had specific targets and indicators.

For 15 years, the MDGs drove progress in several important areas: reducing income poverty, providing much needed access to water and sanitation, driving down child mortality and drastically improving maternal health. They also kick-started a global movement for free primary education, inspiring countries to invest in their future generations. Most significantly, the MDGs made huge strides in combatting HIV/AIDS and other treatable diseases such as malaria and tuberculosis.

Goal 1: Eradicate extreme poverty and hunger

Extreme poverty has declined significantly over the last two decades. In 1990, nearly half of the population in the developing world lived on less than $1.25 a day; that proportion dropped to 14 per cent in 2015.

- Globally, the number of people living in extreme poverty has declined by more than half, falling from 1.9 billion in 1990 to 836 million in 2015. Most progress has occurred since 2000. • The number of people in the working middle class—living on more than $4 a day—has almost tripled between 1991 and 2015. This group now makes up half the workforce in the developing regions, up from just 18 per cent in 1991.
- The proportion of undernourished people in the developing regions has fallen by almost half since 1990, from 23.3 per cent in 1990–1992 to 12.9 per cent in 2014–2016

Millennium Development Goals achievement funds (MDG-F)

Over the past 20 years, the number of stunted children under the age of five has fallen by 88 million. But one quarter of all children are still stunted, and poor nutrition causes 3.1 million child deaths each year.

MDG-F's initiatives targeted the poorest and most vulnerable populations, including indigenous communities: 18 of its 24 programme countries hosted more than a third of all the under-nourished people in the world in 2010-2012.

Initiatives ranged from providing low cost nutritional packages to engaging with pregnant and lactating mothers to promote breastfeeding and ensure they are healthy and aware of key nutrition issues. Promoting food security and advocating for mainstreaming children's right to food into national plans and policies were also keys element in our fight against under nutrition. Its initiatives were created to accelerate progress towards the achievement of MDG

1: Eradicating extreme poverty and hunger, and MDG 4: reducing child mortality.

Some of its successes: In Vietnam, nearly one in three mothers now nurse their newborns thanks to an MDG-F programme to reduce child malnutrition. 25,000 children in Guinea-Bissau, where a third of under-5's suffer from stunting, learned better nutrition by cultivating school gardens. In Brazil, MDG-F initiatives reduced the incidence of under-weight in two indigenous regions, where 40% of people live in extreme poverty. As part of its effort to reduce maternal and child mortality in Cuba, the MDG-F helped create human milk banks in six provinces as a way to promote breastfeeding and high quality milk.

b. About SDGs

The Sustainable Development Goals (SDGs), otherwise known as the Global Goals, are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. SDGs were born at the United Nations Conference on Sustainable Development in Rio de Janeiro in 2012. The objective was to produce a set of universal goals that meet the urgent environmental, political and economic challenges facing our world. The SDGs replace the Millennium Development Goals (MDGs), which started a global effort in 2000 to tackle the indignity of poverty.

The goals are interconnected – often the key to success on one will involve tackling issues more commonly associated with another. These 17 Goals build on the successes of the Millennium Development Goals, while including new areas such as climate change, economic inequality, innovation, sustainable consumption, peace and justice, among other priorities. The MDGs established measurable, universally-agreed objectives for tackling extreme poverty and hunger, preventing deadly diseases, and expanding primary education to all children, among other development priorities.

Goal 2: Zero hunger

The SDGs aim to end all forms of hunger and malnutrition by 2030, making sure all people–especially children–have sufficient and nutritious food all year. This involves promoting sustainable agricultural, supporting small-scale farmers and equal access to land, technology and markets. It also requires international cooperation to ensure investment in infrastructure and technology to improve agricultural productivity.

The Sustainable Development Goals Report 2018

A fast-changing climate, conflict, inequality, persistent pockets of poverty and hunger and rapid urbanization are challenging countries' efforts to achieve the Sustainable Development Goals (SDGs), according to a UN report launched in New York today.

For the first time in more than a decade, there are now approximately 38 million more hungry people in the world, rising from 777 million in 2015 to 815 million in 2016. According to the report, conflict is now one of the main drivers of food insecurity in 18 countries. In 2017, the world experienced the costliest North Atlantic hurricane season on record, driving the global economic losses attributed to the disasters to over $300 billion.

The SDG Report presents an overview of progress toward achieving the Goals, which were unanimously adopted by countries in 2015.UN Under-Secretary-General for Economic and Social Affairs Liu Zhenmin said "Transitioning towards more sustainable and resilient societies also requires an integrated approach that recognizes that these challenges—and their solutions—are interrelated. "As the global community moves forward to achieve the SDGs and address existing challenges, reliable, timely, accessible and disaggregated data is critically needed. This requires technology and innovation, increased

resources and political commitment to build strong data and statistical systems in all countries.

c. Hunger and Food Insecurity

i. Status quo of global hunger and food insecurity

Hunger has been regarded as a main obstacle that hinders human beings from pursuing happiness and well-being. According to the statistics provided by the UN, one in nine people today (815 million) are undernourished globally. The majority of the world's hungry people live in developing countries, where 12.9 per cent of the population is undernourished. Referring to specifi7c regions, Asia is the continent with the highest proportion of hunger: the figure is around two thirds. The percentage in southern Asia has fallen in recent years but in western Asia it has increased slightly. Southern Asia faces the greatest hunger burden, with about 281 million undernourished people. In sub-Saharan Africa, projections for the 2014-2016 period indicate a rate of undernourishment of almost 23 per cent.[1] To protect the whole human race and leave no none behind, international organizations such as World Health Organization (WHO) and Food and Agriculture Organization of United Nations (FAO) have dedicated themselves to the cause of hunger eradication. "By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year around." The ambitious 2030 Sustainable Development Goal has set forth a firm determination in ending poverty. In the past few decades, remarkable achievements were indeed fulfilled, thanks to the great effort paid by the entire world. According to the statistics provided by the WHO, The target of reducing extreme poverty rates by half was met five years prior to the 2015 deadline. In 1990, nearly half of the population in the developing regions lived on less than

[1] United Nations, Sustainable Development Goal 2-Zero Hunger: Facts and Figures, https://www.un.org/sustainabledevelopment/hunger/

$1.25 a day. The world sees a miraculous decrease of the rate by 42 percent in around 25 years' time.[2]

Unfortunately, along with the aggravation of climate change and regional conflicts, global hunger has begun to demonstrate the propensity of uprising after a long-term decline. The hunger is on the rise. The absolute number of undernourished people has increased to nearly 821 million in 2017, from around 804 million in 2016. The figure has again rise to almost the same level in 2010.[3]

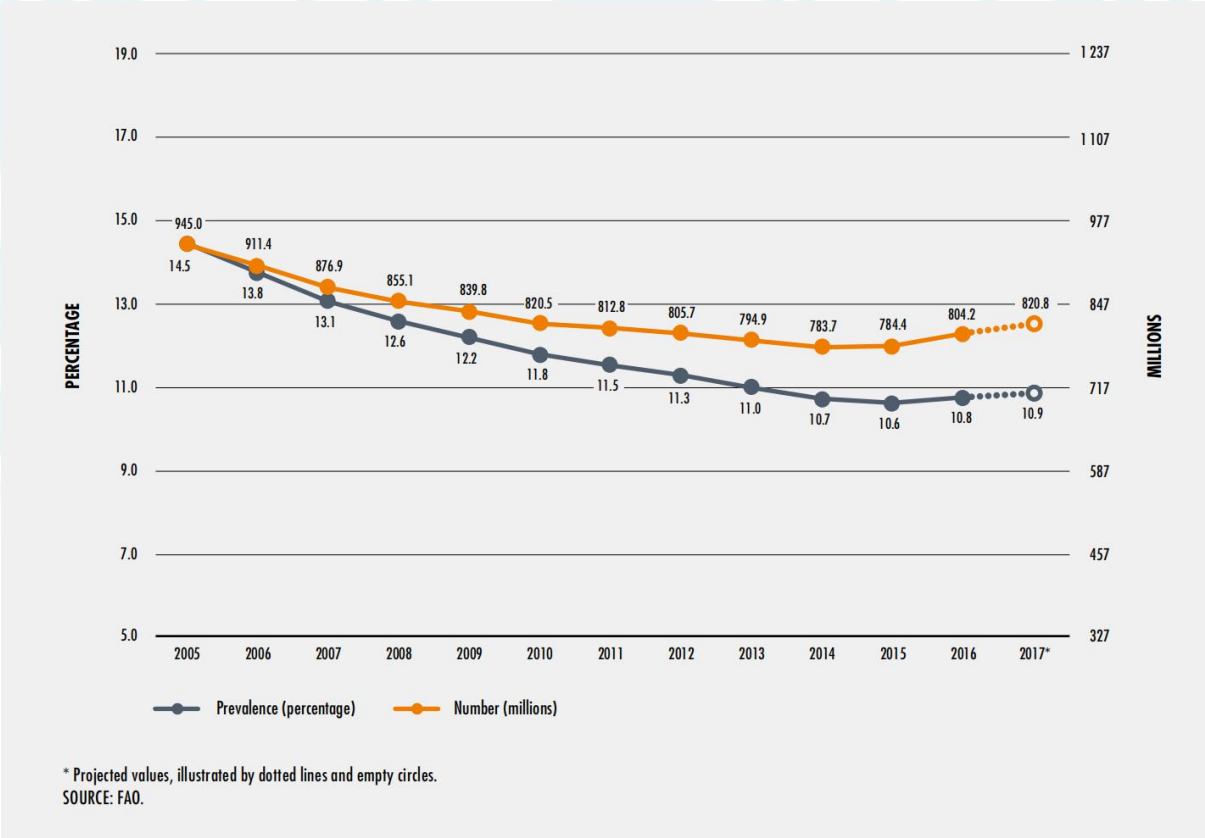


Figure of Global undernourished population trend
Source: FAO Statistics Division

[2] Hunger Notes, 2018 World Hunger and Poverty Facts and Statistics, Progress in reducing the number of hungry people, https://www.worldhunger.org/world-hunger-and-poverty-facts-and-statistics/#progress
[3] FAO, The State of Food Security and Nutrition in the World 2018, http://www.fao.org/state-of-food-security-nutrition/en/

Large-scale food insecurity started to emerge in certain regions, among which are places that is currently raided by severe insecurity. Africa, in particular, witnesses an overall 7.5% increase in the population that is suffering food insecurity from 2014 to 2017. The speed of this growing trend is unprecedented and rather rampant.

TABLE 3
PREVALENCE OF SEVERE FOOD INSECURITY, MEASURED WITH THE FOOD INSECURITY EXPERIENCE SCALE, 2014–2017

	Prevalence (percentage in total population)			
	2014	2015	2016	2017
WORLD	**8.9**	**8.4**	**8.9**	**10.2**
AFRICA	**22.3**	**22.4**	**25.4**	**29.8**
Northern Africa	11.2	10.0	11.7	12.4
Sub-Saharan Africa	25.0	25.2	28.6	33.8
Eastern Africa	25.9	25.4	29.7	32.4
Middle Africa	33.9	34.3	35.6	48.5
Southern Africa	21.3	20.4	30.8	30.9
Western Africa	20.7	21.9	23.8	29.5
ASIA	**7.3**	**6.6**	**6.5**	**6.9**
Central Asia	1.9	1.7	2.7	3.5
Eastern Asia	< 0.5	< 0.5	0.9	1.0
South-eastern Asia	7.3	6.6	9.3	10.1
Southern Asia	13.5	12.0	10.1	10.7
Western Asia	8.8	9.0	9.4	10.5
Central Asia and Southern Asia	*13.0*	11.6	9.8	10.4
Eastern Asia and South-eastern Asia	*2.4*	2.2	3.3	3.6
Western Asia and Northern Africa	*9.9*	9.5	10.5	11.4
LATIN AMERICA AND THE CARIBBEAN	**n.a.**	**n.a.**	**n.a.**	**n.a.**
Caribbean	n.a.	n.a.	n.a.	n.a.
Latin America	7.6	6.3	7.6	9.8
Central America	12.7	10.2	8.3	12.5
South America	5.5	4.7	7.3	8.7
OCEANIA	**n.a.**	**n.a.**	**n.a.**	**n.a.**
NORTHERN AMERICA AND EUROPE	**1.5**	**1.5**	**1.2**	**1.4**

n.a. = data not available.
SOURCE: FAO.

Prevalence of food insecurity 2014-2017
Source: FAO Statistics Division

Background Knowledge

1. Concept: Hunger & Food Insecurity

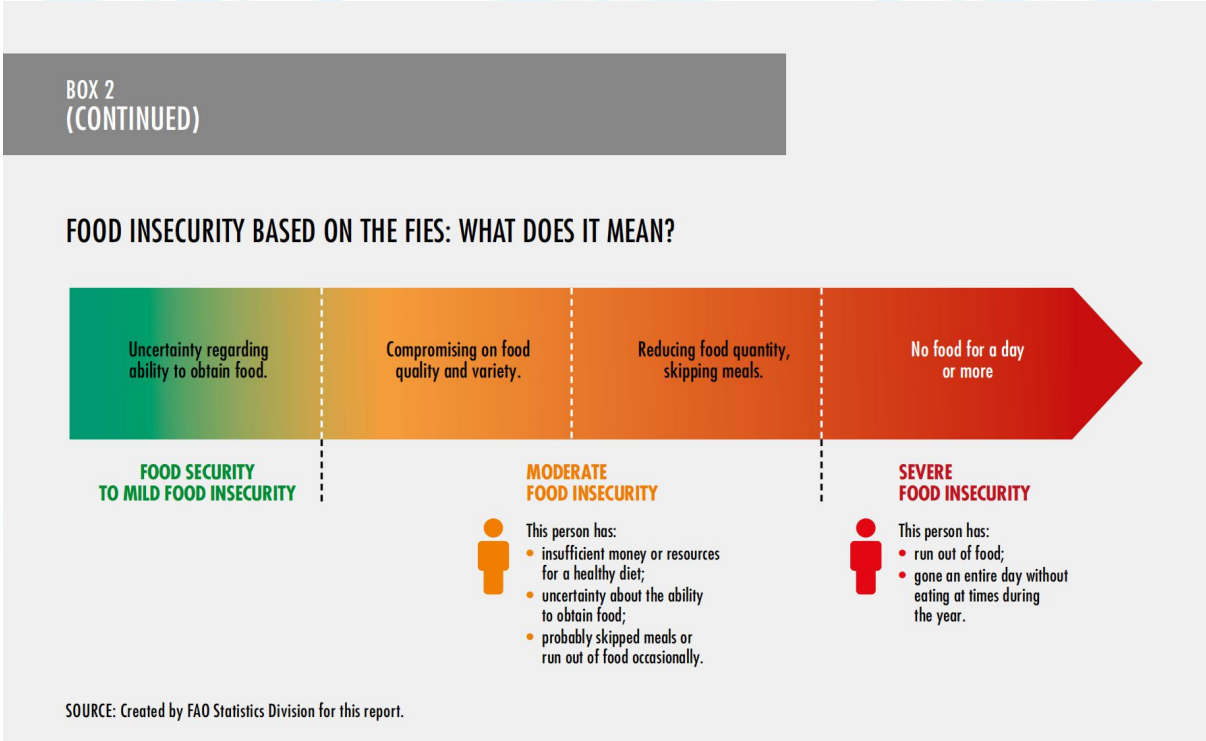
a. Definition of hunger

According to FAO, Hunger is an uncomfortable or painful physical sensation caused by insufficient consumption of dietary energy. It becomes chronic when the person does not consume a sufficient amount of calories (dietary energy) on a regular basis to lead a normal, active and healthy life.

b. Definition of food insecurity

According to FAO, A person is food insecure when they lack regular access to enough safe and nutritious food for normal growth and development and an active and healthy life. This may be due to unavailability of food and/or lack of resources to obtain food.

Food insecurity can be experienced at different levels of severity. FAO measures food insecurity using the Food Insecurity Experience Scale (FIES) shown below:

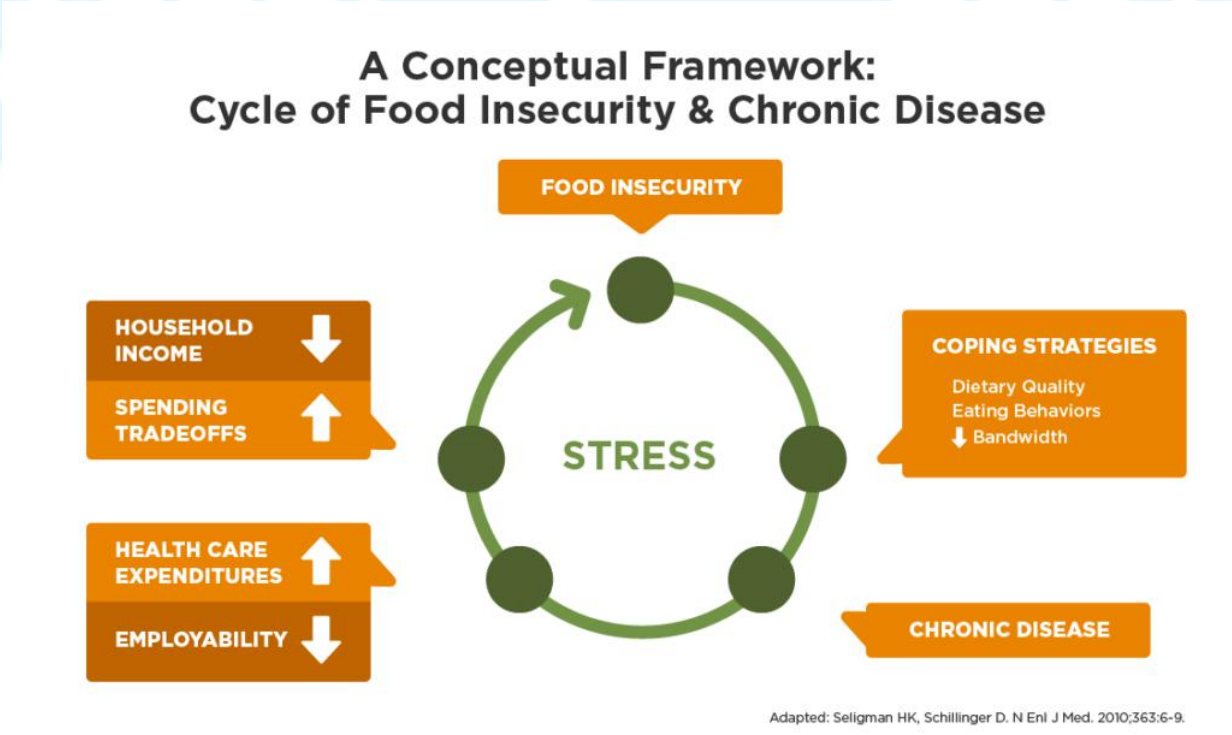


Different Level of Food Insecurity
Source: FAO Statistics Division

c. Vicious consequence brought by food insecurity

i. Health problems

Food insecurity is considered to be directly correlated with malnutrition (including overweight, obesity, and under-nutrition) which further implies its relationship with health issues. Researchers have found that people who suffer from chronic food insecurity are more likely to suffer from diet-related diseases, including but not limited to diabetes II, high blood pressure, cardiovascular diseases. In most cases, a vicious cycle is formed once an individual or a household get into the trap of food insecurity. The following model explicitly illustrated the conceptual cycle of food insecurity and chronic disease.



Conceptual cycle of food insecurity and chronic disease
Source: https://hungerandhealth.feedingamerica.org/understand-food-insecurity/hunger-health-101/

ii. Financial impotence

Chronic food insecurity surely leads to degradation in labor force quality, for the loss of nutrition that is crucial in sustaining physical and psychological health. The impact is most significant to industries that have heavy reliance on labor work. The problem could be regional. Developing countries possess 98% of the population who is currently under hunger and food insecurity, whereas it is also the place where prosperous manufacturing industries push forward the economic development. These countries will have to accept the fact that hunger will gradually corrode their advantage in labor force and limit developmental impetus. Subsequently, economic slowdown is observed and citizens are getting less wealthy than usual. A vicious cycle is again formed. Thus, a solution ought to be formulated to break the vicious cycle in order to tackle the problem.

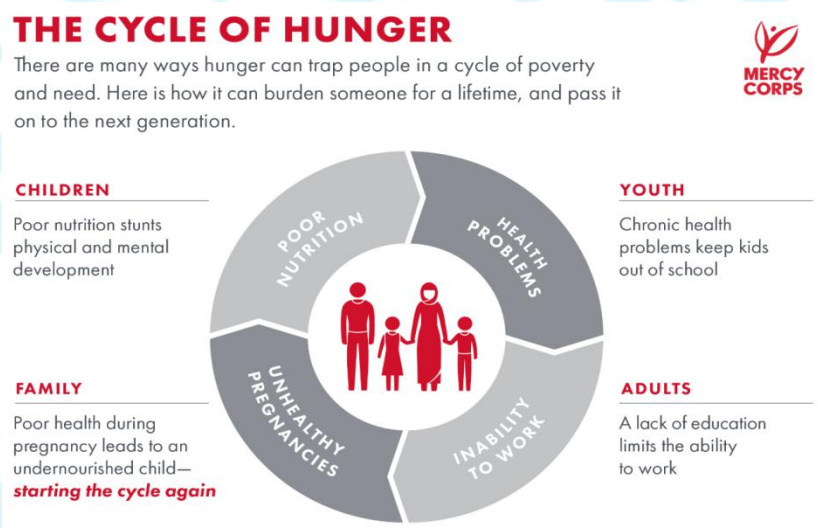
iii. Social disorder

Food insecurity is also a common factor that contributes to the uplift of crime rate. Human beings have natural instinct in prioritizing self-survival and survival of the people they love. Accordingly, theft, murder, robbery is prevalent in regions under severe food insecurity. Moreover, food insecurity brings about negative impact on psychological health, which to certain extent intensify the problem. A research team of Clemson University, United States of America carried out a related experiment, aiming to shed light on the cause-and-effect relationship between food insecurity and crime rate. The result was astounding. The research demonstrated that one percent increase in food insecurity leads to an increase in the violent crime rate of approximately 12 percent holding other predictors of violent crime with other variables kept

constant. The impact that food insecurity has on crime rates also changes based on the income level and population of the community.[4]

d. Special group: kids and the elderly

Kids and elderly are relatively more vulnerable to food insecurity and hunger compared with teenagers and adults. Nutrition intake is critical for kids' early physical and mental development. In early childhood, adequate nutrition can ensure healthy growth, proper organ formation and function, a strong immune system, and neurological and cognitive development.[5] Undernourishment of children not only renders deficiency in development, but also triggers a series of negative effect that again forms a vicious cycle. Kids face higher risk of mortality when encountering hunger, for they are far too young from being able to participate in any form of labor activity to make livings. In addition, kids are thought to lack basic abilities to cope with hunger and food insecurity.



The cycle of hunger
Source: https://www.worldhunger.org/world-child-hunger-facts/

[4] Jonathan Randel Caughron, Clemson University, "*An Examination of Food Insecurity and Its Impact on Violent Crime in American Communities*" (2016), *All Theses*. 2565. https://tigerprints.clemson.edu/all_theses/2565

[5] Hunger Notes, World Hunger Facts, https://www.worldhunger.org/world-child-hunger-facts/

The word 'wasting' refers to having a low weight-for-height ratio (often using BMI index as indicator) according to the WHO Child Growth Standard. Children affected by wasting have a higher risk of mortality. An analysis from 2013 indicated that 875,000 deaths (or 12.6 percent of all deaths) among children under five years of age were related to wasting, of which 516,000 deaths (7.4 percent of all deaths among under-fives) were related to severe wasting. Whereas the mortality risk associated with wasting is highest in the first few years of life, low weight-for-height continues to be a nutritional problem even for older children.[6]

The major underlying reason behind the phenomenon is lack of basic knowledge which arouses inadequate and unbalanced feeding. In addition, wasting is very often associated with food insecurity.

Like children, senior citizens are also exposed to the peril of food insecurity and hunger. The problem is extremely severe, for the elderly is typically more vulnerable towards physical diseases. However, this special group is seldom mentioned and discussed in global conference, whereas it exists objectively. It is of great necessity to take more consideration concerning the elderly when discussing solutions towards the elimination of hunger and food insecurity.

[6] FAO, UNICEF, WHO, WFP, I FAD, *"The State of Food Security and Nutrition in the World2018" (2018)*

ii. Potential causes of hunger and food insecurity

For years, specialists have studied the key causes underlying the occurrence of hunger and food insecurity. The most prevalent theory suggested that single factor hardly accounts for all the outburst of hunger and food insecurity throughout this planet, whereas the joint effect of various factors eventually renders the tragedy.

Hunger and food insecurity are now most commonly attributed to poverty, agricultural disadvantage, war and displacement, and food wastage.

1. Poverty

a. Current situation

Poverty has been one of the most prevalent cause of hunger and food insecurity. Researches have illustrated that the major part of the population that lives under hunger clustered in low and middle income countries. According to the statistics:

- 767 million people, or 10.7 percent of the population, live in extreme poverty with less than $1.90 per day.
- 2.1 billion people live on less than $3.10 per day.
- 328 million children are living in extreme poverty.
- More than half of the extreme poor live in Sub-Saharan Africa. In fact, the number of poor in the region increased by 9 million, with 413 million people living on less than US$1.90 a day in 2015, more than all the other regions combined. If the trend continues, by 2030, nearly 9 out of 10 extreme poor will be in Sub-Saharan Africa. [7] (World Bank)

As the statistics, had demonstrated, the poverty status in Sub-Saharan region accords with its current circumstance of hunger in general, further validating the close relationship between poverty and hunger. From another

[7] World Bank, Overview of Global Poverty, 3 April 2019, https://www.worldbank.org/en/topic/poverty/overview

perspective, the status quo in Sub-Saharan region is alarming. A more thorough and effective solution ought to be reached to combat the deeply rooted. Gaining $1.90 every day is undoubtedly insufficient to purchase adequate healthy food and nutrition. It should also be mentioned that world bank played a rather decisive role in providing financial aid to areas suffering from extreme poverty.

2. Agricultural disadvantage

a. Necessity of an agricultural revolution: various challenges

On 20 February 2015, José Graziano da Silva, then FAO Director-General expressed his opinion about future agricultural development at International Forum on Agriculture and Climate Change held in Paris. He directly pointed out modern agriculture's unsuitability in combating global hunger. Four years has passed, progress was hardly made and the challenges remains severe.

And in a 2017 report called the future of food and agriculture: Trend and Challenges, FAO stated their concern towards current agriculture productivity and future population. It is estimated that the global population will come to 9.7 billion and urban citizens will take up two-thirds of the global population by the year 2050. [8]

The accelerating population growing speed is imposing tremendous pressure on the agriculture system. The process of urbanization is unlikely to slow down which means agricultural land will further decrease. To meet the ever-growing demand, it's of great necessity to enhance farming productivity. Climate change is no longer an anticipatory tale but instead an observable monster raiding the farmland across the world. A report released in March, 2014 by the UN's intergovernmental panel on climate change (IPCC) elucidated that

[8] FAO, Info-graphic: The Future of Food and Agriculture, 2017.2, fao.org/publications/fofa/en

dramatic drop in global wheat and maize production is already taking place. IPCC has been emphasizing the importance of mitigation and adaptation towards climate change in recent years, which includes but not limited to the following strategies: deploying emerging technology, environmentally-sustainable use of fertilizer, and developing more equitable trading system. [9]

b. "The ephemeral success"

Starting from 1950s to late 1960s, an agricultural revolution saved the human race from doom of hunger. In the year of 1798, the famous demographer Robert Malthus once predicted that an impending famine is going to bring a catastrophe to the globe. He believed that the agricultural development will fail to keep up with the increase in human population. After WWII, several places on this planet were gradually dragged to the verge of famine. An American agronomist called Norman Borlaug sensed the peril in his trip to India. He believes that a revolutionized agricultural mechanism must be implemented to protect human beings from hunger. With the help of the Ford Foundation and Rockefeller Foundation, agricultural modernization was finally carried out. Technology was definitely the main theme of the revolution. In order to push forward the productivity, modern agricultural technology such as synthetic fertilizer, pesticide, scientific seed selection, etc. were first deployed. Along with the development of bio-technology, high-yielding variables were cultivated through genetic selection and hybridization. The achievement was indeed remarkable, whereas the public voice wasn't optimistic. Just as Norman Borlaug had addressed his famous speech on Nobel Prize award ceremony, the green revolution is not a tactic that saves human from hunger forever. New strategies ought to be reached to guarantee sustainable food production.

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[9] IPCC, FORTY-SIXTH SESSION OF THE IPCC, Working Group II Outline, Montreal, Canada, 6–10 September 2017
https://www.ipcc.ch/site/assets/uploads/2018/11/AR6_WGII_outlines_P46.pdf

c. Agroecology and climate-smart agricultural: The savior of Global hunger?

i. Definition of Agroecology

According to FAO, Agroecology is based on applying ecological concepts and principles to optimize interactions between plants, animals, humans and the environment while taking into consideration the social aspects that need to be addressed for a sustainable and fair food system. By building, agroecology can support food production and food security and nutrition while restoring the ecosystem services and biodiversity that are essential for sustainable agriculture. y can play an important role in building resilience and adapting to climate change.[10]

10 elements of Agroecology
Source: http://www.fao.org/agroecology/home/en/

ii. Case study of agroecology

[10] FAO, Agroecology Knowledge Hub, http://www.fao.org/agroecology/home/en/

Smallholder farmers particularly in climate vulnerable developing countries such as Myanmar are facing increasing challenges related to food insecurity and climate change. Since 2014, the Myanmar Institute for Integrated Development (MIID) has been actively working with ethnic Taungyoe villages in southern Shan State, Myanmar, to build climate change resilience in part by promoting and implementing agroecology. The project consists of a six-village cluster that straddles two hilly townships in southern Shan State in the Inlay Lake region. The villagers there face extreme climate changes and decline in water acquisition. Apart from that, basic access to good-quality housing and infrastructure is lacking. During the reformation, Farmers were provided the opportunity to discuss solutions using their intimate local knowledge of the ecology, geography and land use practices in the region. The technician role facilitated group sessions by introducing new techniques, encouraging existing techniques that were helpful, particularly sustainable customary practices, and highlighting the drawbacks of some recently adopted methods for increasing yield including the dangerous use of chemical products that could sacrifice long-term productivity. Overall, smallholders in the project area have commenced practices that manage pests naturally, increasing the return of healthy bio-activity and improved soil fertility and yield by adopting naturally available fertilizers. Smallholder farmers have improved overall soil fertility by reducing the use of synthetic chemicals and adopting natural pest and disease methods. Crop diversification has increased with the introduction and improvement of existing crop production that both support subsistence farming needs and additional income through inter-cropping ginger with another bean. Hillsides are increasingly being reclaimed with sustainable methods of land preparation, mulching and green manure that support soil moisture, fertility and

increase yields. Local knowledge also played a rather important role in helping new technology to fit in domestic environment.[11]

iii. Definition of climate smart agriculture (CSA)

According to FAO, Climate-smart agriculture (CSA) is an approach that helps to guide actions needed to transform and reorient agricultural systems to effectively support development and ensure food security in a changing climate. CSA aims to tackle three main objectives: sustainably increasing agricultural productivity and incomes; adapting and building resilience to climate change; and reducing and/or removing greenhouse gas emissions, where possible.[12]

iv. Elucidation of CSA policies

Climate smart agriculture ought to be prioritized in governmental agricultural policies, aiming to revolutionize the current agricultural system. Implementation of such policy should and must be also activated in regional level and local level so as to bring fundamental changes to the basis of agriculture. Coordination between government and local NGO facilitates the innovation in related technology and policy. Incentives for financial aiding is undoubtedly crucial in helping the implementation of governmental policies. Accordingly, advertising is critical in encouraging funding.

[11] Claire Burgess with Nyi Nyi Lwin and Wah Wah Htun, *Agroecology Case Study Addressing the Challenges of Upland Farming in Southern Shan State for Climate Resilience, 2017.11.30*
[12] FAO, Climate Smart Agriculture, http://www.fao.org/climate-smart-agriculture/en/

3. War and displacement

i. Issue Overview

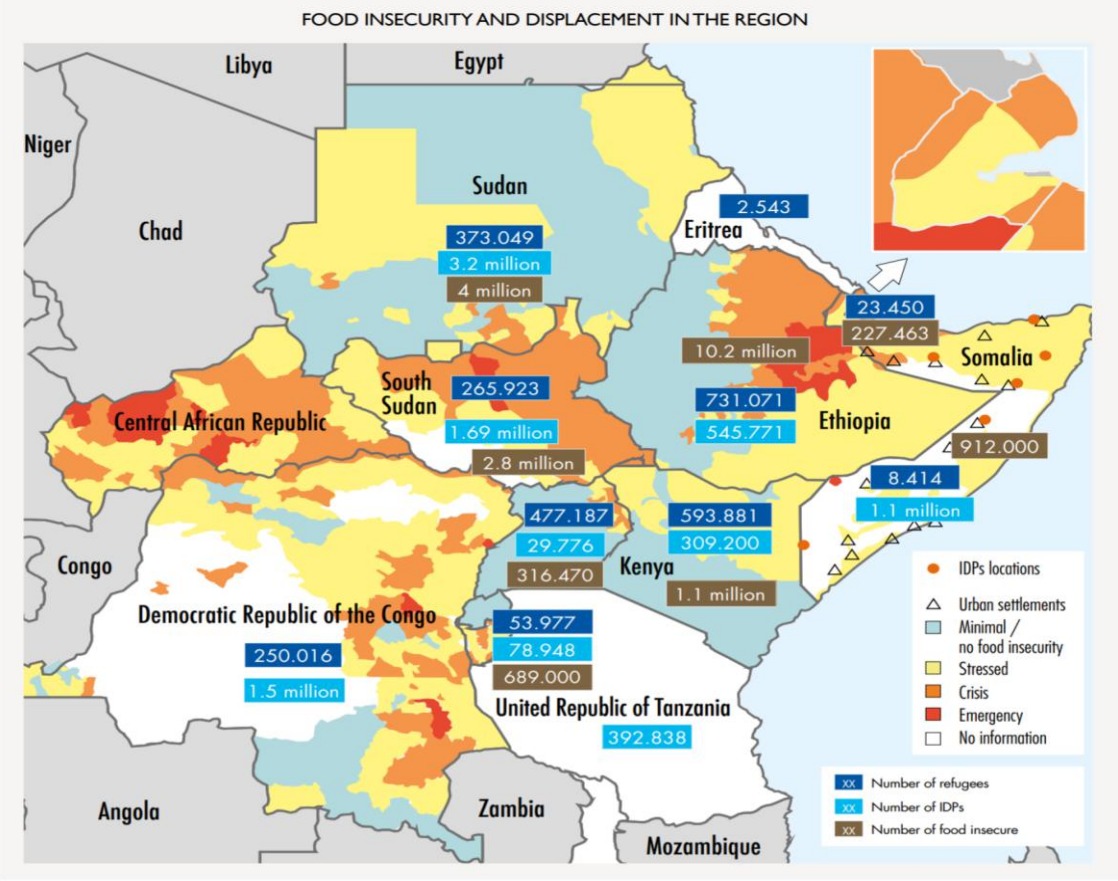
In the past few decades, increasing international friction and armed conflicts had contributed large-scale food insecurity in affected areas to a significant extent. According to the data provided by FAO:

- The proportion of undernourished people living in countries in conflict and protracted crisis is almost three times higher than that in other developing countries.
- 93% of people living in extreme poverty are in countries that are politically fragile, environmentally vulnerable, or both.
- Post-conflict countries with high food insecurity are 40% more likely to relapse into conflict within a 10-year time span.
- Conflicts concerning natural resources are twice as probable to reoccur in the five years after hostilities end compared with conflicts where natural resources are not an issue.
- Agriculture accounts for two-thirds of employment and one-third of GDP in countries in protracted crises.[13]

From Afghanistan to Syria, persistent war had imposed deadly effect to local citizens, by indirectly depriving their stable access to food. FAO had been fully aware of the severe circumstance in certain places where acute hunger is constantly taking away people's lives and marked down 8 region that requires special attention and efforts. The 8 aforementioned regions respectively refers to Afghanistan, The Central African Republic, The Democratic Republic of Congo, Lake Chad Basin, Somalia, South Sudan, The Syrian Arab Republic Yemen.

[13] FAO, LE MONDE DIPLOMATIQUE *Peace and Food Security,* II - MAY 2016

As the map has showed, of the 8 regions aggregate in the horn of Africa, the upper east coast of the continent. The underlying reasons of collision in these region is complex and intricate, whereas scarcity of resource is believed to be one of the major reasons. The dried monsoon doesn't't bring much moist to the inland regions from the Pacific ocean. The joint effect of drought and other harsh weather condition leaves the people endlessly seeking for food. Scarcity of resources brings up war while war itself aggrandize the situation, forming another vicious cycle.



Food Insecurity and Displacement in Regions with armed conflicts
Source: LE MONDE DIPLOMATIQUE by FAO, II - MAY 2016

ii. Possible Solutions

1. Humanitarian Aid

In regions with armed conflicts, a humanitarian decline is very likely to be observed. Along with a failing economy, the social aggregate demand and social aggregate supply of food can't be balanced. Accordingly, humanitarian aids including financial aid, nutrient and food supply are especially essential in these cases.

2. Cease Fire

Termination of armed conflicts is the most effective and direct way to stop starvation in the war-prone areas. On 24 May 2018, UNSC unanimously endorsed Resolution 2417, which paves the way for addressing conflict-induced hunger. The Resolution is an unambiguous condemnation of starvation and a tool of war and places the protection of, and access to, the most vulnerable in situations of conflict on the agenda of the UNSC.[14] Humanitarian treatment towards civilians is once more emphasized. Consummation of monitoring and international intervention mechanism might bring the light of hope back to the abyss of despair.

[14] UNSC, Resolution 2417---Protection of Civilians in armed conflict, 2018

4. Food wastage

i. Definition: Food Loss vs. Food Waste

It is estimated that annually, one third of the food produced is wasted globally. According to FAO:

Food loss refers to any food that is lost in the supply chain between the producer and the market. This may be the result of pre-harvest problems, such as pest infestations, or problems in harvesting, handling, storage, packing or transportation. Some of the underlying causes of food loss include the inadequacy of infrastructure, markets, price mechanisms or even the lack of legal frameworks.[15]

Food waste, on the other hand, refers to the discarding or alternative (non-food) use of food that is safe and nutritious for human consumption. Food waste includes but is not limited to the following genres:

- Fresh produce that deviates from what is considered optimal in terms of shape, size and color A typical example is products removed from the supply chain during sorting operations.
- Foods that are close to, at or beyond the "best-before" date are often discarded by retailers and consumers.
- Large quantities of wholesome edible food are often unused or left over and discarded from household kitchens and eating establishments.[16]

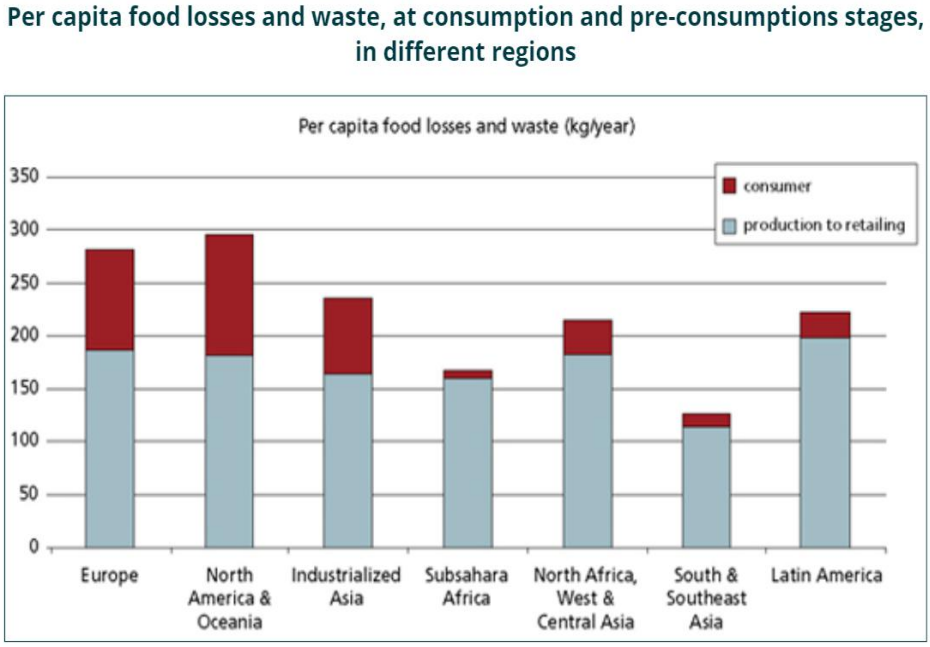
ii. Current Status

According to the statistics provided by FAO, roughly one third of the food produced in the world for human consumption every year — approximately 1.3 billion tones — gets lost or wasted. Food waste and loss is not a phenomenon limited to developed countries. Instead, the trend has

[15] FAO, Food waste and Food loss, http://www.fao.org/food-loss-and-food-waste/en/
[16] FAO, Food waste and Food loss, http://www.fao.org/food-loss-and-food-waste/en/

stretched its claws to the developing countries. Industrialized and developing countries dissipate roughly the same quantities of food—respectively 670 and 630 million tones. Referring to food wasted and lost per capita, developed countries where industrialized food productions are prevalent, have relatively higher food wasted compared with developing countries.

Infographics: proportion of different sorts of food wasted or lost
Source: http://www.fao.org/save-food/resources/keyfindings/en/



Per capita food lost and wasted at consumption and pre-consumptions stages in different regions
Source: http://www.fao.org/save-food/resources/keyfindings/en/

Based on the current status, it is of great necessity to further develop a more inclusive and equitable cooperation mechanism in distributing food so as to halt hunger while avoiding loss and waste.

iii. Possible Solutions

1. Bio-energy conversion

Food waste can be converted to usable energy which can be utilized in industrial production. New bio-technologies such as anaerobic digestion(AD) effectively converts food wasted and lost into electricity. AD is a natural breakdown of organic matters, generating compound of gases, including water vapor, methane, etc. These biogases can be then used to generate electricity and heat. In many cities across the globe, this technology is already put into use. It is still not clear whether bio-energy conversion technology fits in large-scale food wastage treatment. Thus, wider and deeper research are still urgently requested.[17]

2. Infrastructure investment

According to FAO, in developing countries, food waste is mainly related to inadequate infrastructure, while in more developed countries it is largely a problem in the marketing and consumption stages.[18] Regional and international investment is surely crucial to some of the developing countries that are facing both food loss and hunger. Moreover, many NGO and global initiatives are actively contributing concrete investment to regions that require investment. The SAVE FOOD initiative which is supported by FAO, UNEP, Messe Düsseeldorf, interpack and various other regional and international organizations is currently playing an active part in related campaigns.[19]

d. Food safety

[17] World Biogas Association & Ricardo Cepeda-Márquez, Kathrin Zeller: GLOBAL FOOD WASTE MANAGEMENT: Executive Summary(AN IMPLEMENTATION GUIDE FOR CITIES)
[18] FAO, reducing food loss, waste key to fighting hunger, UN official stresses at global forum, UNNEWS, 21 October 2013
[19] SAVE FOOD, https://www.save-food.org/

i. Current food safety issues

Food safety, defined as "to protect food against failure, breakage, or accident", is a key to sustaining life and promoting good health. However, according to the WTO, an estimated 600 million – almost 1 in 10 people in the world – fall ill after eating contaminated food and 420 000 die every year, resulting in the loss of 33 million healthy life years. Among them, Children under 5 years of age carry 40% of the foodborne disease burden, with 125 000 deaths every year.[20]

Additionally, as the trade across countries increased to more than 1 trillion dollars, a strengthened global standard of food safety is needed.

ii. Major foodborne disease

Foodborne illnesses are usually infectious or toxic in nature and caused by bacteria, viruses, parasites or chemical substances entering the body through contaminated food or water. The most frequent causes of foodborne illness were diarrhoeal disease agents, particularly norovirus and Campylobacter spp. Foodborne diarrhoeal disease agents caused 230,000 (95% UI 160,000–320,000) deaths. The burden of foodborne diseases is borne by individuals of all ages, but particularly by children under 5 years of age, and by persons living in low-income sub-regions of the world.

Foodborne diseases are an important cause of morbidity and mortality, and a significant impediment to socio- economic development worldwide, but the full extent and burden of unsafe food, and especially the burden arising from chemical and parasitic contaminants, has been unknown. Unfortunately, the burden of foodborne diseases to public health and welfare and to economy has often been underestimated due to underreporting and difficulty to establish causal relationships between food contamination and resulting illness or death.

[20] Food safety, https://www.who.int/news-room/fact-sheets/detail/food-safety

In some subregions, the burden of foodborne diseases is the highest. The highest burden per population was observed in Africa, followed by South-East Asia subregions and the Eastern Mediterranean subregion. Diarrhoeal diseases were the most common cause of the burden.

1. Enteric Hazards

Enteric diseases are defined as diarrhoeal and other illnesses due to bacteria and viruses. Salmonella and Campylobacter[21] are among the most common foodborne pathogens that affect millions of people annually – sometimes with severe and fatal outcomes. Different kinds of bacteria are associated with various kinds of food. For instance, Foodborne cases with Campylobacter are mainly caused by raw milk, raw or undercooked poultry and drinking water. Enterohaemorrhagic Escherichia coli is associated with unpasteurized milk, undercooked meat and fresh fruits and vegetables.

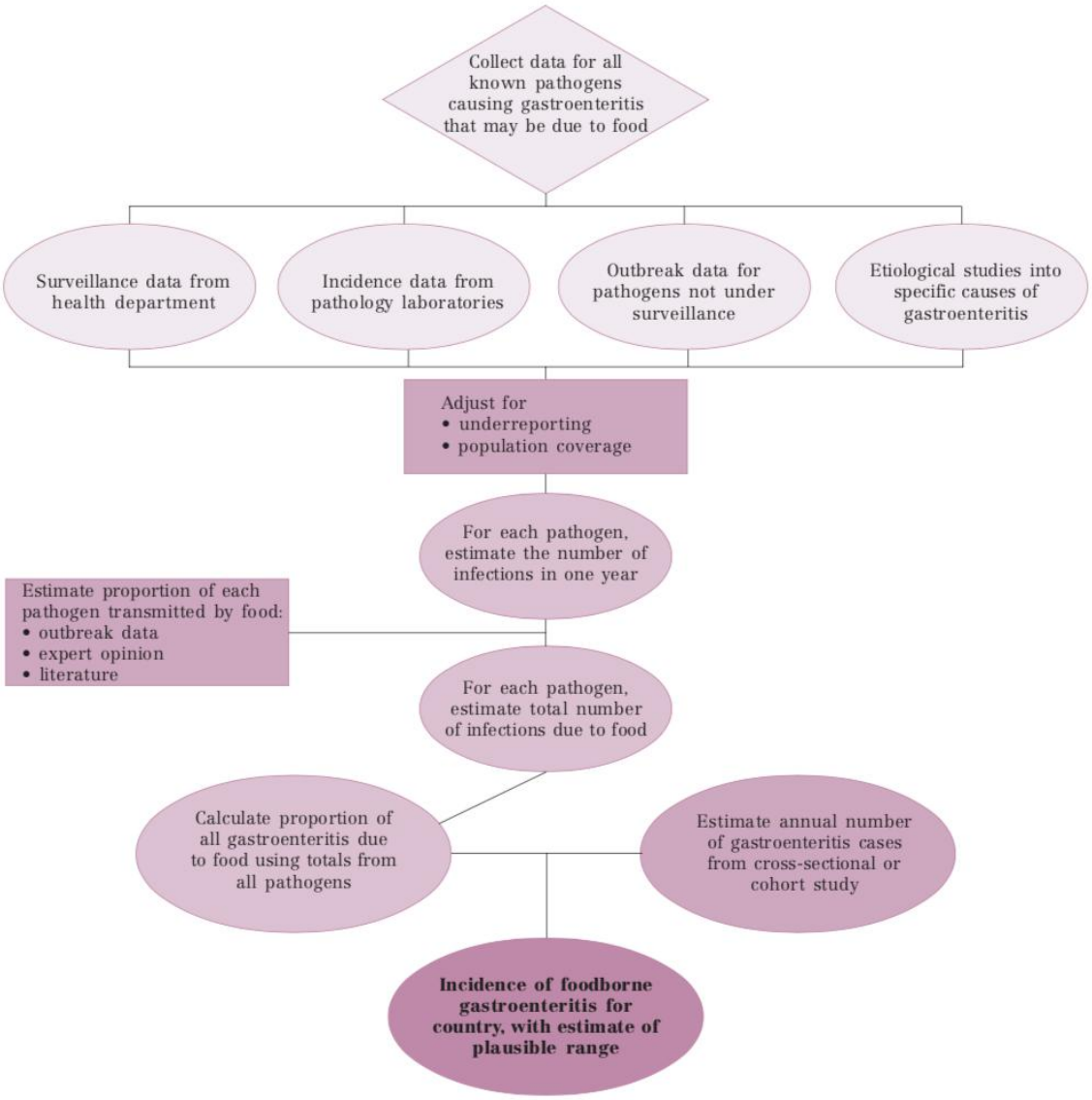
2. Parasites Hazards

Parasitic diseases could be potentially transmitted by food. According to the WTO[22], some parasites are only transmitted through food. Others may infect people through food or direct contact with animals. Other parasites enter the food chain via water or soil and can contaminate fresh produce.

a. Possible solutions:

Here's the process for estimating the incidence of foodborne gastroenteritis in Australia.[23] It shows the full mechanism of the estimating system.

[21] WHO ESTIMATES OF THE GLOBAL BURDEN OF FOODBORNE DISEASES? , from https://www.who.int/foodsafety/publications/foodborne_disease/fergreport/en/
[22] Food safety, https://www.who.int/news-room/fact-sheets/detail/food-safety
[23] WHO Consultation to Develop a Strategy to Estimate the Global Burden of Foodborne Diseases, from https://www.who.int/foodsafety/publications/foodborne_disease/burden_sept06/en



Source: Adapted from Foodborne Illness in Australia: Annual incidence circa 2000. Department of Health and Ageing, Government of Australia, Canberra 2005

The process for estimating the incidence of foodborne gastroenteritis in Australia

Although several foodborne disease burden estimates now exist, they are mainly from developed countries. On the other hand, in highly endemic zones, adult subjects either maintain the parasites acquired when young or can be newly infected as the consequence of inhabiting a zone of high infection risk. In large parts of the world the data required to underpin such estimates are completely lacking. In most subregions that failed to report national prevalence, incident estimates and the collection of data can only be done by implementing

model and data from other countries and this leads to inaccurate estimates of the burden of foodborne diseases.

What should also be known by the delegate is that intercountry variations in the proportion of illnesses attributed to food must be considered in the attribution model. This clearly depends on many factors including the dominant causes of foodborne illness and dietary habits in those settings. It is possible that risk profiles may be similar in developed countries and developing nations that are making major improvements in their food safety supply systems. Alternatively, there may be different pathogens contaminating food and at much higher levels, which will affect the incidence of foodborne disease in developing countries.

In order to execute the data collecting and evaluating system, a communication and training strategies should also be required. WHO, FAO and other relevant partners will have to collaborated closely and undertake regional consultations.

The dais strongly encourages the delegates to look into the solutions mentioned above and carry out more specific solutions. Beside the two solutions mentioned above, delegates are also recommended to consider the source of the bacteria, virus and prion.

3. Chemicals and Toxics

Chemicals and Toxics can cause acute poisoning or long-term diseases, such as cancer. Much of the foodborne chemical information currently available is from developed countries which have a comparatively low burden of acute chemical-related diseases. However, acute chemical poisoning is a serious cause of morbidity and mortality in developing countries; this may warrant the collation and estimation of such data in these settings particularly.

- Aflatoxins are poisonous substances produced by certain kinds of fungi (moulds) that are found naturally all over the world; they can contaminate food crops and pose a serious health threat to humans and livestock. Aflatoxins also pose a significant economic burden, causing an estimated 25% or more of the world's food crops to be destroyed annually.
- Fumonisins are naturally occurring toxins produced by several species of Fusarium fungi (moulds). Fumonisins can have significant health effects in livestock and other animals. While the evidence for adverse health effects in humans is currently inconclusive, there are concerns that exposure to fumonisins may contribute to various serious adverse health outcomes such as cancer and birth defects.
- Co-exposure of fumonisins with aflatoxins

a. Possible solutions

Both Aflatoxins and Fuminisins can be controlled pre- and postharvest.[24] The most long-term, stable solution to controlling pre-harvest aflatoxin contamination is through enhancing the ability of the crop to resist fungal infection and/or prevent production of aflatoxins by the invading fungus. This can be achieved through plant breeding or through genetic engineering of crops of interest. However, these processes are laborious and time consuming. Effective, sustainable and universally applicable pre-harvest intervention strategies are needed.

Apart from reducing contamination pre- and postharvest, it is recommended that the delegates should think further about what the consumers can do.

4. Food supply chain

[24] New food safety series launched in February 2018, from https://www.who.int/foodsafety/foodsafetydigest/en/

A food supply chain or food system refers to the processes that describe how food from a farm ends up on our tables. The processes include production, processing, distribution, consumption and disposal.

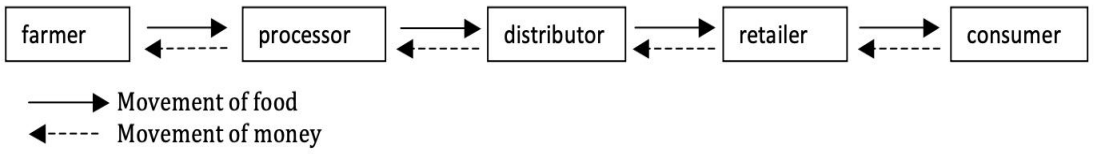


Figure: Movements of food and money in a simple food supply chain

At different stages of the supply chain, food safety hazards may arise and affect the whole food chain which will eventually result in serious food safety related issues.

a. Domino causality and two-way causality

Domino causality is defined as cause and effect relationships where the effects become causes and there is a sequential unfolding of effects over time. Two-way causality is a term used to describe certain economic relationships. Two-way causality relationships exist when a predictive variable is dependent on the variable of prediction.[25]

The two causality can both be used to explain the food supply chain. In the food chain, the "push" and supply of the processors, producers and the pull and demand of the consumers have facilitated the domino causality. Similarly, producers and processors pull money and consumers push money to facilitate the movement of money from consumers to producers. Thus, if consumers' pull for food or push for money is weak or absent, the producers' push for food or

[25] Two-Way Causality Between Insurance and Liability, Joan T. Schmit, Katherine L. Phelps, from Marquette Law Review Volume 69 Issue 1 Fall 1985

pull for money would have to be strong in order to keep the food supply chain moving.

In this case, while considering the food safety issues such as food borne diseases on the consumers' side, the delegates are encouraged to consider how can one change in one part of the food chain affect the whole value chain. Therefore, considering the existence of such causalities, strengthened standards or codex activities, preventative approaches, stronger partnership, the development of food control system, traceability and the use of scientific technologies or assessment is needed to improve the value chain.

b. Possible solutions

The cases illustrated below will show the past actions towards strengthening food safety systems in the region for trade facilitation.

i. Standards and Codex

The Codex Alimentarius[26], or "Food Code", is a collection of standards, guidelines and codes of practice that governments may opt to use to ensure food safety, quality and fair trade. When the standards are followed, consumers can trust the safety and quality of the products they buy and importers can trust that the food they ordered will meet their specifications.

After the implement of the FAO's Program in the Caribbean, there is attention at the highest levels being focused on food safety and quality. There is a desire to address a range of public health issues. Countries are working to facilitate access of small-scale food businesses to the tourist market so that the tourist dollar can have wider social impact. They are building a robust base for regional harmonization in order to support expansion of intra-regional trade. By enabling local producers to better compete on the domestic market countries can

[26] Codex 2019: The year of food safety, http://www.fao.org/fao-who-codexalimentarius/publications/pt/

reduce staggering food import bills as well as secure niche export markets where opportunities exist.

ii. Preventive approaches

Preventive approaches based on risks that may appear are more effective than reactive approaches that focus in end product testing. These approaches mainly focus on government sector programs which includes GAP, HACCP, FSMS, market driven private sector certification, geographical indications etc.

We will take the Good Agricultural Practices(GAP) as an example. GAP refers to “practices that need to be applied on farms to ensure food safety and quality during pre-production, production, harvest and post-harvest” stages. ASEANGAP was developed in 2006 with the purpose of enhancing harmonization of national GAP programs within the ASEAN region, enhancing the safety and quality of fruit and vegetables for consumers, ensuring the sustainability of natural resources, and facilitating the trade of fruit and vegetables regionally and internationally. This training manual is designed to support countries in establishing a certification scheme for ASEANGAP in line with accreditation requirements.

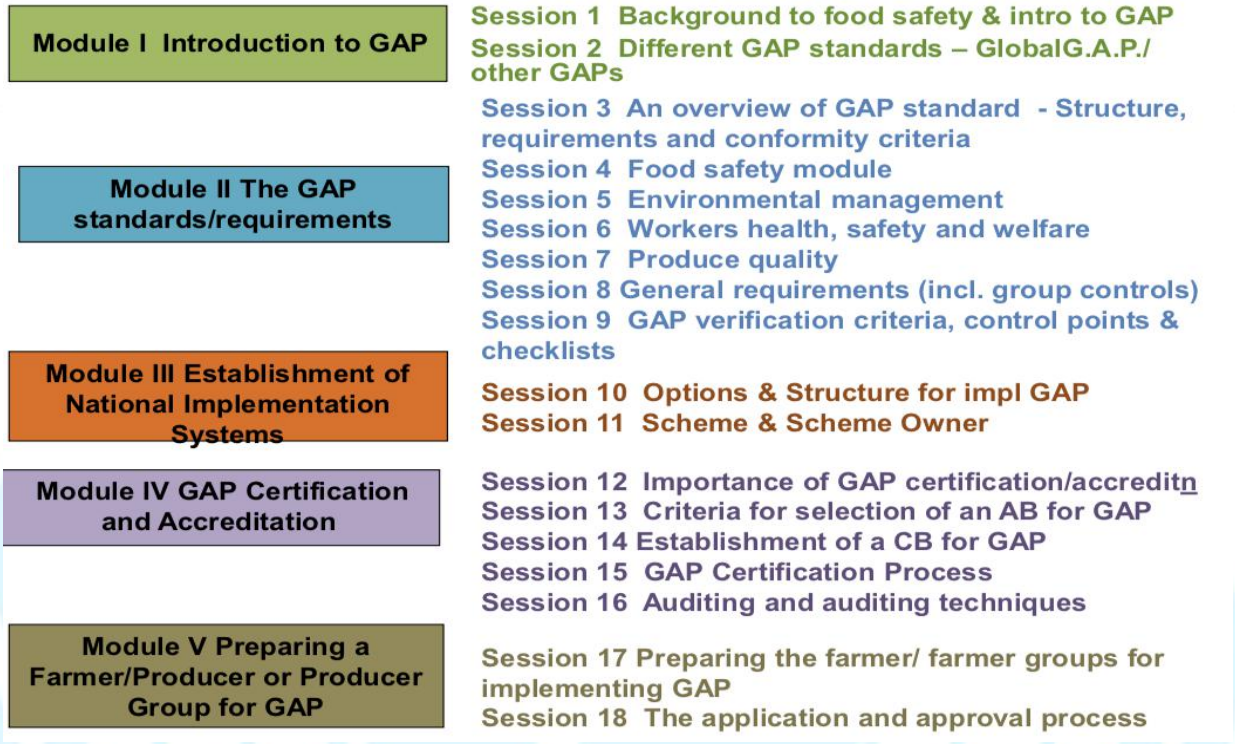


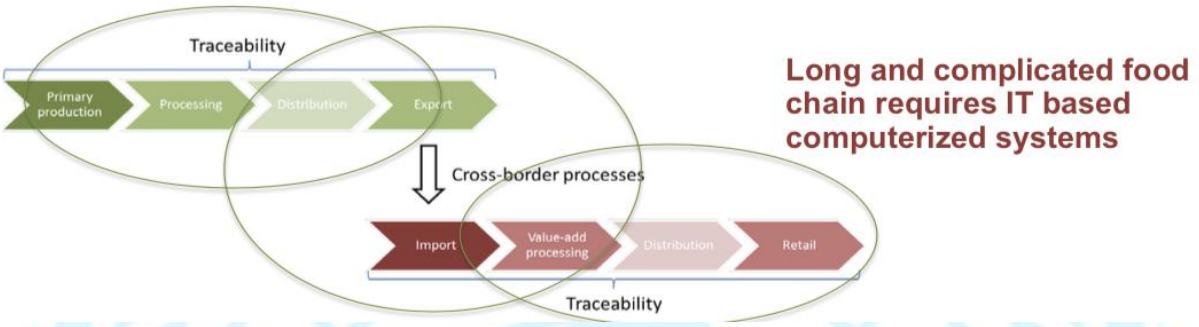
Figure 2: Content of Implementing ASEANGAP in the F&V sector, its Certification & Accreditation[27]

iii. The use of scientific technologies and assessment

One of most important use of scientific technologies is the traceability and the use of IT. Traceability required for targeted & accurate withdraw or recall and validation of claims such as "organic", GIs, halal, free from allergens...In order to facilitate the traceability, instant information of the whole food chain is needed and the information should be made accessible to all consumers. What the delegates should also understand is that the chain includes export and import. Therefore, international collaboration must be involved in the

[27] Implementing ASEANGAP in the F&V sector, its Certification & Accreditation, from http://www.fao.org/3/i3576e/i3576e00.htm

design.



Source: UNNExT Workshop on Promoting Cross-border Agricultural Trade for Sustainable Development

Speaking of scientific assessment, according to Kazuaki Miyahishima, the Director of Food Safety and Zoonoses, the scientific advice in risk assessment provided by WHO is heavily dependent on the financial and in-kind contribution from a handful of donor countries. However, the fund fails to cover the salaries of existing staffs providing the secretariat to the expert groups in food safety, not to mention the expanding staff capacity or covering the costs of activities. Lack of sufficient resources for scientific advice risks constraining the ambitious Codex agenda.

The cases presented below covers only a small range of the possible strategies that can be applied to the improvement of food safety chain. Other aspects that have been mentioned above should also be thoroughly considered by the delegates.

e. Malnutrition

Malnutrition is a condition that results from eating a diet in which one or more nutrients are either not enough or are too much such that the diet causes health problems[28]. It is an existing problem in both developing countries and developed countries, and effects children as well as adults.

Malnutrition of children under 5 years old mainly resulted in three symptoms: stunting, wasting and overweight, while malnutrition of adults mainly involves anaemia in women, exclusive breastfeeding and obesity.

i. Stunting

Childhood stunting is the physical manifestation of profound mental and developmental delays in growth. Technically, it is defined as the height for a child's age below the fifth percentile on a reference growth curve. It is usually acknowledged that stunting is closely related with malnutrition, such as a lack of calories, or vitamins and minerals that cause stunting, but in fact, causes of stunting can also be attributed to repeated cases of diarrhea, drinking unclean water, lack of proper early stimulation, inability to buy nutritious food, anaemia in mothers, early marriage leading to early pregnancies, decreased nutrient value of crops and a whole host of non-nutritional factors[29].

Despite the progress made on reducing child stunting, nearly 151 million children under five in the world – or 22 percent – were still stunted in 2017, down from 25 percent in 2012, due mainly to progress in Asia. It is estimated that some 39% of children in the developing world are stunted. 40% of children in sub-Saharan Africa are stunted and in East and South Asia, estimates climb as high as 50% of children. The numbers tally in at 209 million stunted children in the developing world[30].

[28] https://en.wikipedia.org/wiki/Malnutrition
[29] https://scalingupnutrition.org/news/childhood-stunting-joint-article-from-unicef-wfp-who-and-fao/
[30] https://borgenproject.org/what-is-childhood-stunting/

ii. Wasting

Child wasting is also a common issue of malnutrition, especially in less developed countries. Wasting, also known as wasting syndrome, refers to the process by which a debilitating disease causes muscle and fat tissue to "waste" away[31], and the reduced muscle mass increases the risk of death[32]. It is also defined as having a low weight-for-height ratio which reflects a reduction or loss of body weight and is considered a relevant indicator of acute malnutrition according to the WHO Child Growth Standards. The main underlying causes of wasting are poor household food security, inadequate feeding and care practices, and/or poor access to health, water, hygiene and sanitation services. Suboptimal breastfeeding, lack of knowledge about proper food storage and infection often lead to rapid weight loss, and poor access to appropriate and timely health care slows the recovery from such illnesses.

In 2017, 50.5 million children under five were affected by wasting, with two regions – Asia and Oceania – seeing almost one in ten affected. Most of the burden is concentrated in Asia, with seven out of ten wasted children in the world residing in that region. It should also be noted that wasting could exist within a country, and there might be some geographical and seasonal differences along with income discrepancy that arouse wasting problems[33].

It is reminded that the stunting and wasting are two different concept. Therefore, the strategies towards these two issues can be different. However, in some aspects, they are actually closely related. Children with severe wasting are often stunted, suggesting that wasting and stunting have a common cause or that one form of malnutrition can contribute to the development of the other. Wasting may be a cause of stunting because children started to grow only after

[31] https://en.wikipedia.org/wiki/Wasting

[32] Wasting and stunting—similarities and differences: Policy and programmatic implications, André Briend, Tanya Khara, and Carmel Dolan

[33] The state of food security and nutrition in the world, building climate resilience for food security and nutrition2018 (FAO, IFAD, UNICEF, WFP, WHO)

reaching a certain weight-for-height and growth in height takes place only when the body has a minimum of energy reserves[34].

iii. Overweight & obesity (children under 5)

Overweight and obesity, as another kind of malnutrition, are defined as abnormal or excessive fat accumulation that may impair health. For children under 5 years of age:

- overweight is weight-for-height greater than 2 standard deviations above WHO Child Growth Standards median; and
- obesity is weight-for-height greater than 3 standard deviations above the WHO Child Growth Standards median[35].

Once considered a high-income country problem, overweight and obesity are now on the rise in low- and middle-income countries, particularly in urban settings. Nowadays, in some middle-income countries, there is a new phenomenon called dual double burden, which means underweight and overweight existing in the same country. The emergence of the dual burden household is a result of the nutrition transition underway in developing countries that are becoming more prosperous and urbanized. These countries are seeing a decrease in physical activity levels and a shift in diets to include more fats and sugars. With the globalization of food markets, poorer households have larger quantities of low-cost, high-calorie foods while wealthier households have more delicate but high-energy foods[36]. Food insecurity can also contribute to overweight and obesity.

Childhood obesity is associated with a higher chance of obesity, premature death and disability in adulthood. But in addition to increased future risks, obese children experience breathing difficulties, increased risk of fractures,

[34] Wasting and stunting—similarities and differences: Policy and programmatic implications, André Briend, Tanya Khara, and Carmel Dolan
[35] https://www.who.int/en/news-room/fact-sheets/detail/obesity-and-overweight
[36] https://www.prb.org/thedualburdenofoverweightandunderweightindevelopingcountries/

hypertension, early markers of cardiovascular disease, insulin resistance and psychological effects[37].

Since 2012, the global proportion of overweight children remains relatively stagnant, with 5.4 percent in 2012 and 5.6 percent (or 38.3 million) in 2017. Of these 38.3 million overweight children, 25 percent live in Africa and 46 percent live in Asia[38].

iv. Anaemia in women

Anemia is a condition that develops when your blood lacks enough healthy red blood cells or hemoglobin. Symptoms of anemia -- like fatigue -- occur because organs aren't getting what they need to function properly[39]. Classified according to pathogenesis and etiology, there are erythropoiesis anaemia, red blood cells destroy hyperpolyanemia and hemorrhagic anemia. One kind of red blood cells destroy hyperpolyanemia is caused by using obstacle or insufficient hemopoietic raw material, such as folic acid, Vitamin B12 and iron, which is closely related to malnutrition[40]. Women in the childbearing years are particularly susceptible to iron-deficiency anemia because of the blood loss from menstruation and the increased blood supply demands during pregnancy.

Anaemia among women of reproductive age is not improving. The prevalence of anaemia among women of reproductive age has risen incrementally from 30.3 percent in 2012 to 32.8 percent in 2016 with no region showing a decline. Shamefully, one in three women of reproductive age globally is still affected by anaemia, with significant health and development

[37] https://www.who.int/en/news-room/fact-sheets/detail/obesity-and-overweight
[38] http://www.fao.org/state-of-food-security-nutrition/en/
[39] https://www.webmd.com/a-to-z-guides/understanding-anemia-basics#1
[40] https://baike.baidu.com/item/贫血/1080?fr=aladdin

consequences for both women and their children[41]. Even worse, no region has shown a decline in anaemia among women of reproductive age[42].

v. Exclusive breastfeeding

Exclusive breastfeeding is when a baby receives only breast milk, without any additional food or drinks, including water, until 6 months of age. Breast milk is the ideal food for any baby, for the best growth and development mentally, emotionally and physically. It is not only crucial for a baby but has many benefits for the mother, namely: helping her lose the postpartum pounds easily after birth and it also helps prevent postpartum depression[43]. It also protects against child stunting and wasting as well as against obesity later in life.

Rates of exclusive breastfeeding in Africa and Asia are 1.5 times those in Northern America where only 26.4 percent of infants under six months receive breastmilk exclusively. Some developed countries, such as the USA, are facing low exclusive breastfeeding rate, which may resort to lack of support in hospitals, aggressive marketing by infant formula companies, negative societal attitudes, short maternity leave and inconvenience at work[44]. The most common problem is that a mother has to return to work soon after delivery because her job offers little in the way of maternity protection, or because she does not receive adequate support by health workers, so that there might be inadequate breastfeeding[45].

vi. Overweight & obesity (adults)

[41] http://www.fao.org/state-of-food-security-nutrition/en/
[42] The state of food security and nutrition in the world, building climate resilience for food security and nutrition2018 (FAO, IFAD, UNICEF, WFP, WHO)
[43] https://www.breastfeeding-problems.com/exclusive-breast-feeding.html
[44] https://wehavekids.com/parenting/Barriers-to-Breastfeeding-Why-US-Breastfeeding-Rates-Are-So-Low
[45] https://www.who.int/nutrition/decade-of-action-improve-child-malnutrition/en/

Overweight and obesity of adults and children are quite alike. Body mass index (BMI) is an important indicator used to classify overweight and obesity in adults. It is defined as a person's weight in kilograms divided by the square of his height in meters (kg/m^2). Raised BMI is a major risk factor for non-communicable diseases such as:

- cardiovascular diseases (mainly heart disease and stroke), which were the leading cause of death in 2012;
- diabetes;
- musculoskeletal disorders (especially osteoarthritis – a highly disabling degenerative disease of the joints);
- some cancers (including endometrial, breast, ovarian, prostate, liver, gallbladder, kidney, and colon).

Adult obesity is highest in Northern America and the rate of increase in adult obesity is also the highest there. While Africa and Asia continue to have the lowest rates of obesity, there, too, they are increasing[46].

vii. Past action

1. The United Nations Decade of Action on Nutrition 2016–2025, also referred to as the "Nutrition Decade", was declared by the UN General Assembly in 2016 to provide all stakeholders with a unique, time-bound opportunity to strengthen joint efforts and achieve a healthier and more sustainable future. The first report on the implementation of the Nutrition Decade was presented by the UN Secretary General to the UN General Assembly during its seventy-second session. The Nutrition Decade encourages governments to set country-specific SMART (specific, measurable, achievable, realistic, and time-bound) commitments for urgent investment, action and collaboration at national level. The Nutrition Decade also provides a clearly defined, time-bound cohesive framework and is a

[46] https://www.who.int/en/news-room/fact-sheets/detail/obesity-and-overweight

space for aligned action on nutrition by all relevant actors. The Nutrition Decade provides countries with mechanisms such as Action Networks for sharing good practices, illustrating successes and challenges, promoting improved coordination and building political momentum to scale up global action[47].

2. In August 2016, the government of Guatemala took a stand for rural women and indigenous peoples when its Ministry of Agriculture, Livestock and Food (MAGA) ratified its first policy for gender equality in the areas of national food security, nutrition and rural development.

The new policy aims to abolish the discrimination that rural women and indigenous peoples in Guatemala face on a daily basis. Women can use the policy to hold the Ministry accountable to reduce inequalities in rural areas and to promote the empowerment of rural women in the political arena. In this way, the policy not only guarantees that women's voices are heard in rural development processes, but also grants them access to agricultural resources and technical assistance.

The policy was developed in consultation with women's groups and a range of diverse stakeholders. It is a milestone in implementing the UN Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), of which Guatemala is one of the 189 state parties[48].

3. A recent FAO study has found that more than 90 percent of street food vendors in Ghana are women. This finding is rooted in sociocultural norms, with low-income women and single mothers obliged to balance their traditional housekeeping duties with income-generating jobs. In Accra, Ghana's capital, street food not only provides both an economic opportunity

[47] The state of food security and nutrition in the world, building climate resilience for food security and nutrition2018 (FAO, IFAD, UNICEF, WFP, WHO)

[48] http://www.fao.org/in-action/gender-equality-guatemala/en/

for women but also a way of improving livelihoods and urban food systems – Accra's street food has been found to be both nutritious and safe, despite public perceptions. Now, building on local government support and training conducted over recent years, FAO is working to increase street food vendors' knowledge to further improve nutrition and food safety for city-dwellers, while continuing to provide income-generating opportunities for women.

Vendors there have shown a real improvement in knowledge of hygiene, safety standards, food handling, and storage in recent years. Factors contributing to the improvement include rising levels of education and increased collaboration between local authorities and FAO.

In 2012-13, FAO teamed up with the Ghana Food and Drug Authority to conduct successful capacity building sessions on handling and storage for selected food vendors. These sessions dealt with challenges such as poor infrastructure and lack of fresh water. More recently, in 2016, FAO trained 14 research assistants from the School of Public Health of the University of Ghana in "Mobile-Based Data Collection for Monitoring Street Food Vending in Urban Areas". This training laid a great foundation in digital data collection techniques and methodology for Ghana's future national food inspectors.

Finally, on the back of awareness campaigns targeting the general public, Ghana's consumers have also become more knowledgeable and demanding, forcing vendors to adopt improved practices and higher hygiene standards to satisfy ever greater public scrutiny[49].

[49] http://www.fao.org/in-action/supporting-women-entrepreneurs-in-providing-nutrition-and-food-safety-in-ghana/en/

viii. Overall of malnutrition

GLOBAL NUTRITION TARGETS REVISED FOR 2030 (FROM A 2012 BASELINE)

	2025 Target	2030 Target
Stunting	40% reduction in the number of children under five who are stunted.	50% reduction in the number of children under five who are stunted.
Anaemia	50% reduction in anaemia in women of reproductive age.	50% reduction in anaemia in women of reproductive age.
Low birthweight	30% reduction in low birthweight.	30% reduction in low birthweight.
Childhood overweight	No increase in childhood overweight.	Reduce and maintain childhood overweight to less than 3%.
Breastfeeding	Increase the rate of exclusive breastfeeding in the first six months up to at least 50%.	Increase the rate of exclusive breastfeeding in the first six months up to at least 70%.
Wasting	Reduce and maintain childhood wasting to less than 5%.	Reduce and maintain childhood wasting to less than 3%.

SOURCE: WHO and UNICEF. 2018. *The extension of the 2025 Maternal, Infant and Young Child nutrition targets to 2030.* Discussion paper.

There is one thing we should always bear in mind, as Dr. Francesco Branca, WHO Director, Department of Nutrition for Health and Development once said:

> *'Poorer socio-economic groups have higher proportions of malnutrition, whether it's undernutrition, vitamin or mineral deficiency or obesity. But it's not just having a low income that's the problem. A person's entire environment — including their access to, say, good services, healthy food, clean water and sanitation — can be a factor.'*[50]

5. Questions to Consider

- After getting familiar with different programs under FAO: how these programs helped the catered group in eliminating hunger, malnutrition etc. Has it reached the goal given when it was set up? What benefit has these

[50] https://www.who.int/nutrition/decade-of-action-improve-child-malnutrition/en/

programs brought to the country you are representing? How can countries make the programs more efficient?

- FAO hasn't proposed any program since 2016, then: what is the status quo in terms of hunger in the world now? Compared to the situation decades ago, what can FAO do to adjust the plan for today's use?
- How can problems of stunting, wasting and overweight be solved/ alleviated when they exist within one country?
- Exclusive breastfeeding and anaemia are usually concerned about women of reproductive age, which means they may have to stop working temporarily. So how to guarantee their right at work and treatment at maternity leave?
- After reading the food safety part in the background guide, the delegates are encouraged to consider how different kinds of foodborne diseases affect the food chain and how the effects caused by these foodborne diseases eventually do harm to consumers?
- Delegates are encouraged to dig deeper into the circumstances of the horn of Africa and consider the underlying relationship between warfare and hunger. Elaborated consideration and elucidation are required

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7.Assignments:

All delegates are required to write a paper, in which answers to one of the questions in “Questions to consider”, containing no less

than 400 words. Additionally, the delegate should write the paper based on the position of any country.

The report is required to be sent to fanrongrong@hsefz.cn prior to 18th July 2019. The document name should be "FAO+Academic Assessment+Your name"

To be a remember, the quality of the paper will have influence on the seat allocation.

After the seat allocation was given, the delegates are required to write a Position Paper, with 1-2 pages, no less than 500 words. The requirements are read as follow:

- A brief introduction of the topic
- Past action towards the issues (internationally and domestically)
- Solutions towards the issues
- Reference

The delegates should refer to Academic Standard Handbook of Peking University National Model United Nations Conference for High School Students 2019 for the format of the Position Paper.

The Position paper is required to send to fanrongrong@hsefz.cn prior to 26th July 2019. The name of the document should be "FAO+Position Paper+Your name"