



**Implementing measures to Increase the accessibility of Potable Water and Healthy Food in less Economically Developed Countries**

**ECOSOC**

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## Introduction

In MEDCs many of us take accessible potable water for granted; we go to convenience stores or open the tap to have safe, drinkable water. But, this is rarely the case in developing countries: in 2017 there were 884 million people with no access to potable water and accordingly, 1.2 million deaths were caused by unsafe water in that year. This data highlights how extreme the situation is and why it is important that nations work together to help the less fortunate. The map below shows that the problem of accessibility of potable water is concentrated in LEDCs and especially in countries where conditions are harsh; 6% of deaths in LEDCs were a result of drinking unsafe water compared to nearly 0% in MEDCs.

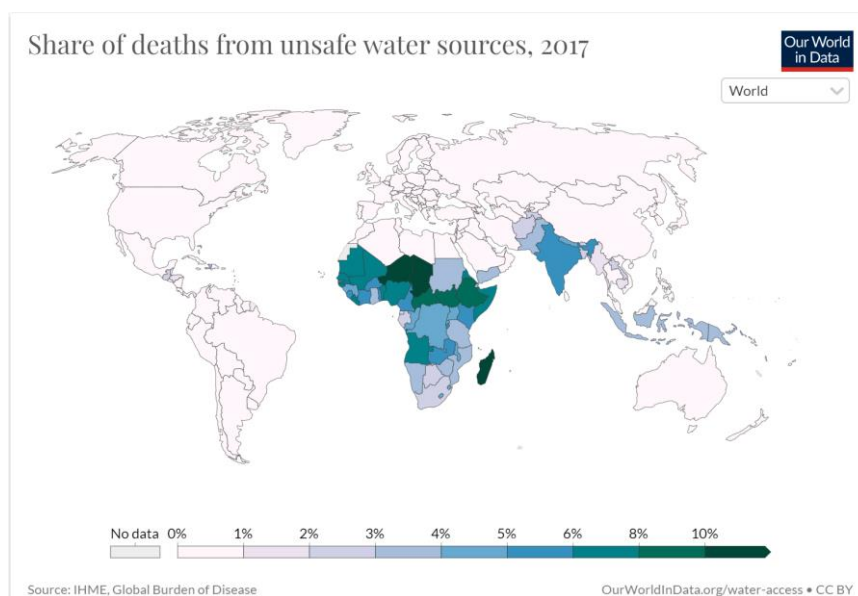


Figure 1: Map showing the share of deaths per country due to unsafe water in 2017

The issue of this committee however is not only on potable water but also on healthy food. The number of people in food insecurity across the world has been climbing at a rapid rate in recent years; around 2.37 billion people did not have access to adequate food in 2020 which is a 300 million increase in one year. These facts create a worrying image of the situation of the world today and this is only made worst when we know how impactful healthy food and potable water security are on many global issues such as poverty, education, well-being and economic growth. Access to healthy food and potable water is considered to be the underlying reasons for many of the issues that the world is facing today therefore, resolving this problem would put the whole human species on a much better trajectory on an economic,

social and environmental level. This is why the UN has been active on the matter in the form of its specialised agency, the FAO and the form of the UN sustainable development goals 2 and 6. This research report will give an overall comprehensive view on the matter along with some past attempts to resolve it and future solutions.



Figure 2: The United Nations Sustainable Development Goals

## Definition of Key Terms

**Potable Water:** Potable water is water that can be drunk safely by humans and it can be divided into two parts: bottle and tap water. Bottle water is naturally potable, untreated water which is sourced from phreatic zones, glaciers and mountain sources (more expensive than tap water because of where it is sourced). On the other hand, tap water is heavily treated as it comes from lakes, rivers and reused water and in those sources, the water contains viruses, bacteria's and microorganisms which can cause health issues to the drinker (tap water is cheaper as it is heavily subsidised by governments). Wastewater treatment plants are used to treat and filter tap water but they are costly (around 200 million USD). Potable water was been defined by the UN General Assembly as a human right in 2010.

**Healthy Food:** Healthy food can be defined as food that allows its consumer to be energetic throughout the day, maintain good health and their body's well-being. Healthy foods often contain nutrients such as carbohydrates, fats, proteins, vitamins and minerals. For the body to work properly, all these nutrients need to be provided in the right proportions and if one is in too high or too low supply, this can have detrimental effects on the person. In LEDCs, people mainly consume staple food such as rice and corn but have little eggs, milk, fruits and vegetables as they are



more expensive which highlights how important the cost of food and the financial condition of the country is in the accessibility of healthy food.

**World Health Organization(WHO):** The WHO is a United Nations organisation with a budget of 9.388 billion USD which is in charge of promoting good health across the globe. It is currently working in over 150 locations and its whole plan is based on cooperation: cooperation between governments, private companies, researchers and scientists. Moreover, the WHO looks at a variety of issues concerning health such as non-communicable and communicable diseases, mental health, emergencies, medical supplies, funding of facilities, and the training of health workers. Furthermore, one of the roles of the WHO is to identify health problems across the world and give diagnoses which would then allow governments to more efficiently act. In recent years, the World Health Organisation has been criticised by many people for not doing its role properly, especially during the COVID-19 pandemic (the WHO originally said that COVID-19 couldn't be transmitted between people. It said that potentially because of pressure from the Chinese government).

**Food and Agriculture Organization(FAO):** The FAO is a United Nations specialised organisation with a budget of 3.25 billion USD. It aims to improve food security and nutrition and reduce hunger across the world. It does this through various actions: it gathers, analyses, and publishes data and information on food security and hunger conditions in different regions; it advises governments and national institutions on how to act and tackle hunger in their country; it creates and approves regulations and policies concerning food; it acts as an international forum where NGOs, institutions, and governments can come together and discuss the issue of food availability and malnutrition. Additionally to all this, the FAO also focuses on developing productive and sustainable agricultural practices which are closely linked to hunger.

**Less Economically Developed Country(LEDIC):** LEDCs are developing countries that have social, economic, and structural challenges and which have low GDPs and a low HDI index. GDP stands for gross domestic product and is a measure of a country's wealth while HDI stands for human development index and is a measure of human development and the standard of living such as life expectancy and education. LEDCs are mostly found in Eastern Europe, South/Central Asia,



South America, and Africa, and most of the people living in hunger and undernourishment are found in LEDCs.

**More Economically Developed Country(MEDC):** MEDCs are almost the contrary of LEDCs, they often have high GDPs and high HDI indexes. In addition to this, they also have high life expectancies, a high standard of living, good education and healthcare systems. Moreover, most of the jobs in these countries are in the secondary (manufacturing), tertiary(service) and quaternary (research and science) sectors which is where the most money can be made. These countries have well-developed infrastructure and are mostly found in the Northern hemisphere, in Europe, North America, Oceania, and North Asia. There are little to no people dying of hunger in those countries.

**Prevalence of undernourishment:** The prevalence of undernourishment is an indicator produced by the FAO to measure what proportion of the population of a country doesn't eat enough to meet its dietary energy level. This is calculated by comparing the average food consumption by a person(in calories) with the minimum energy requirement per person. The minimum energy requirement depends on the geographical location of the country, its economic, social, and environmental situation, and the sex, age, and weight of the person. This indicator is given as a percentage and is useful to measure progress when it comes to hunger and malnourishment.\*

**Diarrhoea:** Diarrhoea is caused by the virus: 'viral gastroenteritis'. This virus infects the bowel(lower part of the digestive system) and causes bowel movement which results in frequent loose stools. In most cases, it is acute diarrhoea and only lasts for a couple of days even though sometimes it can last longer. In MEDCs diarrhoea is not regarded as dangerous as it doesn't have severe consequences which is not the case in LEDCs as diarrhoea can cause severe dehydration and it takes minerals away from the body which weakens the person who has it. This is a problem in LEDCs where potable water and healthy food are scarce and not very accessible. Around 500 000 children under 5 die each year from diarrhoea which emphasises how treacherous this virus can be when not in the right conditions.



**Desertification:** Desertification is when land is degraded into a desert-like state. This is caused by several factors. Firstly, the intensive use of agricultural land and fertilisers kills microorganisms and life in the land which reduces biodiversity and degrades land. Secondly, droughts and poor irrigation mean that there is reduced water in an area which also doesn't allow life to happen in the land which in turn leads to desertification. And thirdly, deforestation and overgrazing directly reduce biodiversity as trees normally hold the land together and protect it against wind erosion. Additionally, overgrazing reduces the land surface that is covered by plants and grass which makes it more prone to erosion by the wind and the rain which then eventually leads to desertification.

**Urbanisation:** Urbanisation is the movement of people from rural areas(countryside) to urban areas(cities) and the process of making an area urban. This process can release lots of pollution and chemicals into the environment. For this reason, urbanisation is an important factor in the availability of potable water: pollution produced by urban areas will infiltrate water sources, especially lakes and rivers, which means that there is less potable water available and that it costs more to drink water because it has to be treated. The process of urbanisation mainly happens in countries that are currently developing, therefore LEDCs often already have potable water issues. On the other hand, urbanisation also means the creation of an infrastructure that includes water distribution systems. In 2016, the UN found that 54% of the population lived in urban areas.

## General Overview

### History of the accessibility of potable water

Almost every decision made by humans over the centuries took into account potable water. Potable water is at the centre of our current civilization as humans cannot survive without it. Around 10 000 years ago, humans went from hunter-gatherers to settlers and they stopped moving around. It is around this period that the first wells and rainwater channels were created(in Egypt and Mesopotamia). This was also when humans started using agriculture and started grouping into larger



communities. This increase in the number of people per area and increase in the use of agriculture meant that there was greater use of water in one specific area which was not the case previously when humans moved around. This was when humans were first introduced to the idea of water scarcity as larger groups put more stress on water sources and they polluted water more. This increased pollution and poor sanitation meant that diseases started going around which greatly reduced the accessibility of potable water (potable water before is not the same as potable water today) at the time.

The idea of water scarcity and accessibility continued through the centuries and defined how and where urbanisation would happen. The first urban area was Jericho, in 8 000 B.C, which was close to a water source. Larger and larger cities followed and they were all next to water sources such as rivers and lakes. This historical fact highlights how highly valued water accessibility has always been and how this greatly affected whether humans were able to develop or not. In 27 B.C, the Roman civilisation started which was purely centred around Rome. The Roman civilisation was one of the greatest and this was partly due to their strategic sourcing and use of potable water. Rome was located right next to the river Tiber which provided water to the whole city and Romans used water cleaning techniques such as settling tanks, sieves, filters, and boiling water. Boiling water was found to be the most effective way to treat water but it required lots of fuel and energy and so it was not feasible for the large scale of a city like Rome. Additionally to the lack of effective possible water cleaning techniques, mining in the mountains and poor sanitation (toilet water was mixed with drinking water) resulted in reduced accessibility of water and more spreading of diseases such as diarrhoea. From there on, the living conditions within Rome greatly decreased for the poor (the rich had their private water sources) and this eventually participated in the downfall of the Roman empire. This was an essential episode in the accessibility of potable water as it showed humans how strategic and important potable water is and so humans worked on this issue throughout the medieval age and in the 13<sup>th</sup> century, more universities and educational institutions were created. This allowed humans to understand how diseases were transmitted by water and how to treat water. At the beginning of the 20<sup>th</sup> century, humans in MEDCs started treating water with chlorine which was very effective but before that was the industrial revolution. This event had



the same effect as mining in Rome, it polluted the water with chemicals and so it reduced its accessibility. But as we saw, MEDCs would find ways to treat the water. However, LEDCs soon started copying MEDCs and industrialization also started in those countries but they didn't have water treating techniques as they were less developed which meant that the amount of polluted water increased throughout the decades and this decreased the accessibility of potable water. Moreover, the introduction of pesticides in the 1930s led to the contamination of many underwater sources as the pesticides infiltrated the ground. The invention of the first wastewater cleaning plant in 1804 in Scotland was fundamental for the growth of the economy on a large scale as it allowed us to treat large volumes of water quickly and, as we saw earlier, access to potable water is essential for the development.

Another development that helped improve the accessibility of potable water is bottled water which was first introduced in 1767 in the USA. In 1947 the first plastic water bottles were introduced onto the market. This made it easier to transport potable water from where it was sourced to other regions or other countries. This meant that people living in areas where there were no water sources could survive. It also enables MEDCs to help LEDCs with accessibility to potable water as they can send them bottled water with (at?) low costs (they wouldn't be able to do this with glass bottles).

All these experiences that humans went through shaped our world and this is how the situation we are faced with now came to exist: most people in MEDCs have abundant access to potable water through taps and bottles. But sadly in LEDCs, many people live in water insecurity as their water is either polluted or in small supply which means they have to go to extreme measures to survive, often with poor health.

### **History of the accessibility of healthy food**

The diet of humans has greatly varied over the millennia: when humans were hunter-gatherers, their diet was rich in fruits and meat; once they became settlers they ate less meat but more crops and vegetables; after the industrial revolution we started eating cheap processed food which had excess fatty acids and carbohydrates and now, most people are still eating processed food but several people are turning to organic food. Although processed food has increased the





availability of food, it has decreased the availability of healthy food as processed food lacks the nutrients that make food healthy such as proteins and unsaturated fatty acids. The start of the use of pesticides and fertilisers in the mid-20<sup>th</sup> century has allowed farmers to produce more food and so increase the availability of healthy food (all the pesticides then need to be removed from the food before it is consumed or otherwise it won't be healthy food anymore). In the past, LEDCs have been prone to conflict; this is shown by the fact that since the 19<sup>th</sup> century there have been around 400 conflicts on the African continent. During these conflicts, the opposing groups often fought for the means of food production which, most of the time, resulted in their destruction. Conflict also destroyed lots of infrastructure such as roads and factories, which were important to provide food to the population. In addition to conflict, LEDCs have often been governed by foreign nations (colonialism) in the past which has often resulted in poverty for the local population as they were exploited. This poverty which was created decades ago never went away and it is now reducing the accessibility of people to healthy food as they cannot afford it. Moreover, the industrial revolution which started in MEDCs in the mid-18<sup>th</sup> century also was an important historical event when it came to the accessibility of healthy food: it was when humans started polluting heavily the environment and this would eventually lead to climate change. Climate change includes droughts and flooding which are two things that decrease food production in LEDCs as they kill subsistent farming. Another important date in the history of this issue is when urbanisation started in LEDCs in Africa: 1950. When urbanisation started, infrastructure was built and it started to be easier for people to access healthy food as there were roads, factories, and warehouses in the urban areas. This History section of the issue was mostly focused on LEDCs in Africa as historically, they have been the ones where food accessibility has been the largest issue. In conclusion, the conflictual, environmental, and economic events that happened in the past in LEDCs all had an important part to play in how the current situation came to happen.

### **The causes for the poor accessibility of potable water and healthy food**

#### **Healthy food**

There are several causes for the inaccessibility of healthy food in LEDCs. Firstly, droughts, desertification, and deforestation (all closely linked to climate change)



degrade the land and make it harder to grow crops on both a large and subsistent scale. This results in a smaller crop yield for the farmers and so there is less food in general and more specifically, less healthy food. This in turn drives the price of healthy food upwards and so makes it inaccessible to the majority of people in LEDCs. This brings us to the second cause: poverty. Most people and families in LEDCs are economically strained and live in poverty which greatly impacts what types of food people can afford and so most often, people only buy staple food such as potatoes and rice as they cannot afford more costly food. This leads to a homogeneous diet, composed of the same food and so same nutrients which leads to malnutrition. Furthermore, most jobs in LEDCs are in the first or secondary sectors and so labour intensive which means they demand lots of energy. This deepens the difference between the number of calories that people consume and the number of calories that people spend in their daily life. Poverty also leads to poor education which is closely linked to what people eat: if people are not aware of the effects of food on their body, they will be more prone to eat unhealthy food over healthier alternatives. If people naturally eat less healthy food, the market will adapt and provide less healthy food and more unhealthy food which will, in turn, decrease the accessibility of healthy food. The third cause is how the product is used. In recent years, there has been an increase in the use of biofuels, which requires crops to function and so therefore farmers have started to sell their crops to biofuel producers instead of actual consumers. In addition to this, MEDCs have been importing much more food as their industry has transferred away from the primary sector. Currently, African nations export 35-40 billion USD of food and agriculture products each year to other nations as by exporting it, they can make more money. This means that less food is kept for the people living in those countries and this, in turn, decreases the availability of healthy food in LEDCs.

### Potable water

As we have seen previously, potable water is a scarce resource and this means that when the population grows, there is an even higher demand for potable water but its supply stays the same or decreases. This is one of the main causes for the inaccessibility of potable water in LEDCs as these countries are experiencing very fast population growth. This is partly caused by a lack of education in the use of



contraceptive methods and by parents needing help with labour-intensive jobs such as farming. Besides this, LEDCs have been experiencing, in recent decades, mass urbanisation and industrialisation. This can be on the one hand positive as it means that more infrastructure is being built and this can allow people to have better access to potable water but on the other hand, it also means that there is more pollution, for example, sewage, and more pollution from industrial processes such as mining and this can pollute freshwater sources. Although LEDCs are gradually developing, they still have a relatively weak technological capacity compared to MEDCs and this disadvantages them when it comes to the supply of potable water; for example, wastewater treatment plants treat wastewater and convert it into potable water. This piece of infrastructure is very costly (around 200M USD), and so is not very present in LEDCs due to economic instability, and it requires a level of technical knowledge that LEDCs do not have access to. This means that when water is used in LEDCs, it can rarely be used again as clean water and so the volume of fresh and potable water runs out quickly.

For the LEDCs close to the sea there is another issue that, must be said that is out of their hands: rising sea levels. As the sea level rises, salty water infiltrates fresh water sources such as underground water and phreatic areas and this results in the salination of large amounts of freshwater. This results in less accessibility of potable water in some LEDCs. Additionally to all these causes, poor sanitation and poverty also play their part. Poverty means that many people cannot afford bottled water and so they often source their water from wells and other untreated water sources. And poor sanitation means that wastewater is often mixed with potable water and that diseases are allowed to develop in potable water.

Finally, competition between countries also has an effect; in some places, many countries are traversed by the same river and they might all get their water from there. This puts extensive stress on the river and so countries that are located at the bottom of the river might get less water and this can potentially create conflict and lead to less access to water (this problem doesn't only happen in LEDCs, it is also common in MEDCs).

### **The current situation and why this issue is a major problem**

The current situation is extreme for many people in LEDCs. Some habitants have to walk several hours each day to reach a water source and bring water to their



village; the time they spend doing this is time they cannot spend working or earning money which means that the inaccessibility of potable water is a large reason for the poor economic development of LEDCs and this is why it is a major problem.

Furthermore, if people do not have access to potable water, they will drink water that is not safe to drink and this can lead to the spreading of diseases such as diarrhoea and cholera. This weakens people and so their working capacity is reduced which again links to their economic development and the countries in general. Moreover, diarrhoea has a detrimental effect on the health of people living with poor food supplies as it washes all the nutrients and minerals out of the body, leaving the person weakened and with the risk of severe dehydration and severe undernourishment which can both result in death.

Accessibility to healthy food is also linked to the economic performance of a country and this is why it is such an important problem: if the workers do not eat enough healthy food, they will not have enough energy and they will not be in good health and so won't be able to work at their full potential which will impact their financials but also decrease the productivity and efficiency of the country. Additionally, the inaccessibility of healthy food greatly impacts the performance of children at school and so impacts the country's economic situation for many years in the future.

Furthermore, if people eat unhealthy food because they can't find or afford healthy food they are at higher risk of obesity and heart problems which impacts their overall health.

The overall main reason why the accessibility of healthy food and potable water are such important problems is that they are at the heart of economic and social development and they are a basic human right to which everyone should have access.

## Major Parties Involved

### **Volvic(Danone)**

Volvic is a water bottle company that belongs to the French firm Danone. In 2019 it started a project where each litre of Volvic bought resulted in one litre of potable water given to people in need in LEDCs. In 2019 they donated 1.4B litres of water to 5 million people in the following countries: Cambodia, India, Haiti, Mexico, Bangladesh, Nigeria, Rwanda, Uganda, Kenya, Senegal. Moreover, the parent company of Volvic, Danone, created Danone Communities which is a Venture



Capital fund that helps people in need of potable water and food. In addition, Danone provides the help of its employees to local communities without any costs. Volvic didn't stop there: it also provides 0.003 euros for each bottle bought to children in Madagascar to improve their access to potable water (in partnership with UNICEF). There is no doubt that Volvic is one of the companies on the market which helps the most to improve the accessibility of potable water and Danone also works on improving the accessibility of healthy food.

### **Water.org**

Water.org is an NGO that works on improving access to potable water and improving sanitation, mostly in LEDCs. Up to now, it has helped over 40 million people get access to good sanitation in their homes and have access to clean, drinkable water without having to travel large distances to get to a source. And it has achieved this by providing small loans to people. The thinking behind this is that many people cannot access potable water because they live in poverty and giving them money in a way that they will be able to pay back, allows them to have drinkable water while still living in poverty. Its budget in 2018 was 28M USD and it is funded by donations from firms and individuals. One potential problem with this NGO is that it provides loans through a series of partners. This chain of partners is problematic as each partner takes a cut of the money to fund itself; this means that in the end, it is possible that only a proportion of the money given arrives to the people in need.

### **South Africa**

South Africa is a country of 59.31 million inhabitants (2019) located in the southern area of the African continent. As of today, 3 million people in South Africa don't have access to potable water and over 14 million people don't live in good sanitation. The South African government has taken this issue very seriously and it has been responsive: it is trying to conserve and protect wetlands, it is educating people on the importance of conserving water and it is restricting the amount of water that can be used daily in its capital (Cape Town) to 27 gallons. Moreover, the government is protecting and improving its water management infrastructure and services. In short, the majority of the plan of the government is based on preserving and conserving the potable water that is already available and preparing for droughts in



the future(due to climate change). This plan is necessary for the continuation of the growth of the country as more and more people are moving to urban cities(2/3) and this will put more stress on the water supply, sanitation, and water management infrastructure in the long term.

### **France**

France is arguably one of the MEDCs the most involved in providing potable water to people in LEDCs and it has done this mostly through the AFD, its agency for development. For example, it helped Senegal by giving it 6.25 million euros to fund the Water Sector Project and it built a pumping station in Dakar which will provide water to 360 000 people. Other than direct funding, the French government has been very active on the international scene, especially in the World Health Assembly where it has campaigned for the approval of several resolutions regarding potable water such as the “Drinking-water, sanitation and health” resolution(passed in May 2011). In 2011, France funded 600 million euros in the water sector and it has helped 500 000 gain access to good sanitation each year in addition to the 800 000 people who gain access to potable water each year thanks to their projects. A potential issue with the help France is giving to LEDCs is that it works with other governments which might keep some of the money to themselves(corruption) and the French government is likely to have less expertise than NGOs such as Water.org therefore its impacts might be limited.

### **FAO**

The Food and Agriculture Organisation is a specialised agency of the UN(see definition section for more detail) and it aims to improve food security, which involves the accessibility of healthy food. It has a number of projects going, all linked to food and agriculture, such as Action against Desertification, The Global network against food crises and Food and Nutrition Security Impact, Resilience, Sustainability, and transformation(FIRST). Most of these projects are taking place on the African continent as this is where the most action is needed. In terms of data and statistics, FAO has the following databases: firstly the FAOSTAT which provides free access to statistics on over 245 countries on agriculture and food. Secondly, the AMIS(Agricultural Market Information system) gives access to information on wheat, maize, rice, and soybeans and



it aims to improve the transparency of the food market. And lastly, the FAM(Food and Agriculture Microdata) catalogue gives general data on agriculture, food security, and nutrition which was collected through surveys completed by farms and households.

### **India**

India is an LEDC that produces 397B USD worth of agriculture products each year(2018) which puts it in second place(behind the USA). Despite this, there are 195M undernourished people and 43% of children who are severely undernourished in India, and this is mainly caused by social and economic inequality and a high rate of unemployment; many people in India work in the informal economy and they do not earn enough to provide healthy food to their family. Furthermore, because of the extensive use of fertilisers, the land in India has degraded which has slowed down the growth of the agriculture sector. The government has a large part to play in the inaccessibility of healthy food for many people as the government is not properly managing the agricultural resources it has and it doesn't seem very responsive to this problem.

### **Nigeria**

Nigeria is the 5<sup>th</sup> largest producer of agricultural products with an equivalent of 84B USD and it is the LEDC with the largest population in Africa. Its issue with access to healthy food is quite different from other LEDCs: in 2012-2016 the average consumption in calories was between 2936 and 3442 which is way more than the average number of calories needed daily. Even though people are consuming, on average, enough food to cover their caloric expenditures, the quality of the food they eat is relatively poor and doesn't provide the people with all the nutrients they need which means that people do not have access to healthy food. This is potentially due to a number of reasons; firstly, a healthy diet might be too expensive for the average person and secondly, there might be a problem with the education people receive on nutrition. The second reason is likely to be the most important one as Nigeria is greatly developing on an economic level and so incomes are rising and so the cost of healthy diets are likely not to have such a large impact.



## USA

The USA is one of the MEDCs the most powerful and rich in the world and this puts it in a prime position to help other less fortunate countries. The US department of agriculture (USDA) greatly helps LEDCs to achieve food security and provide healthy food to its people and it does this for two main reasons: help poorer people and expand the US market to other countries. Therefore, the USDA is helping LEDCs by increasing the exports from the USA to the LEDCs and through a series of programs: Feed the future, Borlaug Fellowship Program, Cochran Fellowship Program, Global Agriculture and Food security program (with other nations), and the McGovern-Dole International Food for Education and Child Nutrition program. Overall, the programs of the USDA have helped 34M people with a total value of 1.6B USD. The only issue with this foreign aid is that there could potentially be a conflict of interest as one of the aims of the USA when doing this is to expand their market share of the global agriculture market. Therefore, it could be possible that in some situations, the USA puts their interests above the interests of the people they're helping. But overall, their help is likely to be very positive to improve the accessibility of healthy food in LEDCs.

## Timeline of Key Events

Date	Description of event
1804	First wastewater cleaning plant
1840s	Sir John Lawes pioneered industrial (synthetic) fertilisers
1900s	Sea levels started rising. Between 1900-2017 the sea level rose by 16-21 cm.
1910s	Processed food were first available on the market. For example: Oreo cookies, Crisco and Marshmallow fluff
1941	The AFD was founded by the French government; it is the oldest development institution
16 <sup>th</sup> of October 1945	The FAO was founded in Quebec, Canada





1948	Access to food became a human right
1965	Tokyo becomes the first city with 20 million inhabitants, making it the largest urban area at the time and indicating how mass urbanisation had started
2009	The NGO water.org was founded by Matt Damon and Gary White
28 <sup>th</sup> of July 2010	Access to potable water and sanitation becomes a human right
24 <sup>th</sup> of March 2021	The Kamal Khan dam was finished. It is located in Afghanistan, on the Helmand River. It is causing conflict with Iran as the Helmand River is a water source for Iran and the dam is going to decrease the access to potable water in Iran

## Previous attempts to resolve the issue

In the section "Major parties involved", we already mentioned the key players in this issue and what they are doing to solve this problem but here, we will explore the actions of other parties in addition to those previously mentioned. Firstly the UN: the creation of the SDGs 2 and 6 by the UN was a way to raise awareness and put pressure on countries to act. Furthermore, the UN held a Food Systems Summit which brought together large nations with the aim of finding solutions to combat undernourishment and malnutrition. In addition to this, the UN also created the Zero Hunger challenge which was created in 2012 and which is another way to put pressure on countries to act on the problem of access to nutritious food. The World Food Programme (part of the UN) responds to emergencies in 80 countries and is mainly focused on the short term and allowing people to survive their day to day life. In 2010 the UN general assembly passed a resolution on potable water (resolution 64/292) and the Human Rights Council passed another resolution on the topic (15/9) also in 2010. Previously, in 1981, the UN General Assembly passed the resolution A/RES/35/70 on food security and the main point of this resolution was the creation of an annual World Food Day. As we can see, the actions of the UN are mainly about



raising awareness and global cooperation and except for a few programs, the UN hasn't acted a lot on the issues of potable water and healthy food which is further highlighted by the small operational content of the resolutions it has passed. On the other hand, NGOs and private firms have acted more, for example, the Hellen Keller Foundation. This foundation focuses on malnourishment and blindness in Africa and it is trying to solve these issues by providing people in LEDCs with vitamin A through Vitamin A supplementation programs (VAS). In addition to this, HFK is helping LEDC governments and companies to improve their capacity to deliver staple food with enough micro-nutrients and it is training families in Africa and Asia to grow food that contains lots of nutrients (it also provides them with the required tools). Another way that is being used by other organisations to supply people with vitamin A is golden rice; this rice is genetically engineered and contains high amounts of vitamin A. In the private sector, PepsiCo is a big firm that is helping people in LEDCs have access to food and potable water and it is doing this through the PepsiCo Foundation. This foundation works on improving the sustainability of the food system so that generations to come in LEDCs have access to food. In addition, it is also working on providing "sustained nutrition" to people in need and promoting effective wastewater management, which is essential to increase access to potable water. Overall, private firms and NGOs seem to be much more involved and hands-on when it comes to access to potable water and healthy food compared to large international organisations such as the UN.

## Possible Solutions

There are several ways that the issue discussed could be solved. We will first be looking at potable water: one of the best ways to increase access to potable water is by implementing low-tech systems, for example, rainwater collection systems, which do not require lots of knowledge to operate and which are cheap. This will mean that even people living in poverty will be able to use and have these systems and it will be easier to provide them on a large scale with reduced costs.

Furthermore, accessible water sources such as wells should be built in more locations in LEDCs so that people do not have to spend a large portion of their time searching and getting water. In connection with this, better irrigation systems or pipes could be implemented in remote areas of LEDCs as this will allow people in small villages to



have potable water without wasting too much time and effort (this should then allow quicker economic development as people have more time to work). Another low-cost solution could be providing people with chlorine or iodine tablets as these kill bacteria's efficiently while still being cheap to produce. They are also easy to supply in remote areas in LEDCs where there is little to no infrastructure. A part of the solutions can also be focused on MEDCs; for example, more awareness campaigns on potable water and healthy food in LEDCs could enable NGOs to collect more donations and raise more money as people in MEDCs are more aware of the poor situations of certain people. Education in MEDCs on food waste can also be beneficial as if less food is wasted, less food will be imported from LEDCs and so a greater proportion of the food produced will be offered to people in LEDCs who need it. Furthermore, governments in MEDCs could encourage technological developments in wastewater management through financial funding. This would potentially result in a decrease in the cost of the technology and so it would make it more affordable to all the communities living in poverty. This however could have a negative effect which would be the complexification of the technology which would make it less accessible. Education in LEDCs can also affect the issue; people could be educated not to throw wastewater in the street or urinate in the street and people could be taught how to better preserve the potable water they have in their households. Foreign aid by MEDCs could also come in the form of consultants which could help farmers develop farming techniques that require and pollute less water. Furthermore, consultants and foreign aid could focus on the long term and more specifically on how to adapt communities to live through droughts and harsh climatic events. Moreover, MEDCs could provide their expertise in infrastructure to help cities build better sewage systems and sanitation systems (such as public toilets). Now let's look at possible solutions for access to healthy food. Firstly, more research could be done on genetically modified food as they could be very useful in providing all the nutrients necessary in cheap, affordable food. For improvement to happen on this issue, the coalition between governmental institutions is necessary as this issue concerns multiple sectors: the agriculture, health and education sectors. As we have seen in previous sections, poor access to healthy food is closely linked to poverty therefore focusing on the financial aspect of healthy food could have a positive impact; subsidizing healthy food could help decrease their price and so make it more affordable and it could make healthy food more popular than processed



food as if processed food with low nutritious value becomes more expensive, its consumption could decrease. Another way to achieve this is by increasing taxes on poor nutrition processed food even though this could have a negative effect in the long term. We mentioned above that an increasingly large proportion of the crops farmed were sold to produce biofuel and this, in turn, decreased the amount of food on the market. The government could change this by for example providing farmers who sell their crops for regular consumption with financial aid. Lastly, the people in LEDCs could be educated as to how to have a diverse, healthy diet. This could be done by telling people which foods contain which nutrients and what quantity of each food should be consumed. In conclusion, most of the possible solutions are financial solutions as poverty is closely linked to poor access to food and malnourishment. But, solutions should also focus on education and non-financial foreign aid; some technologies in MEDCs have taken a long time to develop and this can hardly be bought with money therefore, MEDCs should supply LEDCs with some of their technologies and experts knowledge.

## Appendix/Appendices

\*The following explanation was published by the UN in a public document to explain how the FAO calculates the prevalence of undernourishment:

Estimate the PoU as

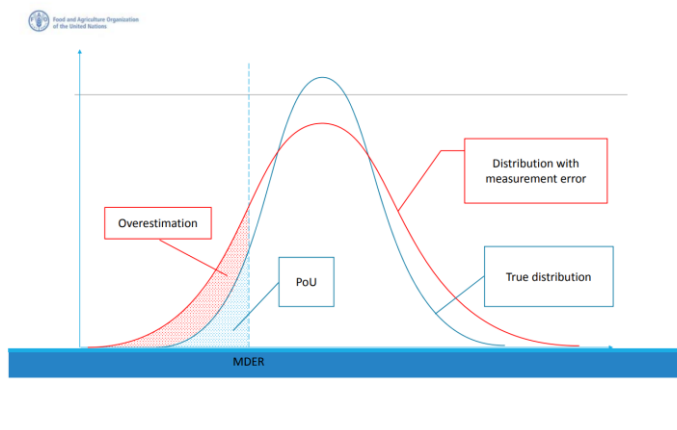
$$PoU = \int_{x < MDER} f(x) d(x)$$

CV of food consumption

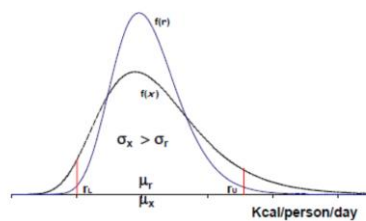
- .... And to correct for excess variability due to measurement error, FAO has developed a methodology to reduce the variability that exists in food consumption data, and the CV used to estimate PoU does not correspond to the empirical CV of the food consumption distribution but is indeed obtained as the sum of two CVs

$$CV_{tot} = \sqrt{CV_{inc}^2 + CV_{req}^2}$$

CV stands for Coefficient of variation



There are ranges of acceptable body masses values and physical activity level values that are perfectly compatible with normally active healthy life



Link to document: [https://www.unsiap.or.jp/e-learning/el\\_material/5\\_Agri/1706\\_Cost\\_KOR/Material/1\\_2\\_SDGThe%20FAO%20method%20to%20estimate\\_2.1.1%20POU.pdf](https://www.unsiap.or.jp/e-learning/el_material/5_Agri/1706_Cost_KOR/Material/1_2_SDGThe%20FAO%20method%20to%20estimate_2.1.1%20POU.pdf)

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