**1) How would you define and assess malnutrition?**

Imbalances between a person's intake of energy and/or nutrients and what is needed for appropriate bodily functioning. This can refer to either deficiencies (eg. hidden hunger or protein-energy malnutrition) or excess (i.e. obesity).

**2) Which micronutrients are most important globally? Are these the same for low and high-income countries?**

They are not the same. In low income countries deficiencies mostly occur in zinc,vitamin A, and iron. Vitamin D deficiency is mostly common in high-income countries whereas iodine deficiency can occur in both middle and low income countries depending on the status of fortification policies.

**3) How can the environment affect the development of malnutrition? And vice versa?**

Climate change can affect the emergence of infectious diseases, especially vector-borne infectious diseases, that affect the risk of malnutrition such as malaria. In addition, climate change can affect the nutrient content of crobs as well as the availability of crobs. For example, soil low in zinc contribute to zinc-deficiency. Also wild-life depletion leads to increased reliance on plant-based foods that sometimes have reduced bioavailability of iron, zinc or vitamin A (precursors) that subsequently contribute to deficiencies in these nutrients. Season well as air pollution affect human exposure to vitamin D from the sun that influence the risk of vitamin D deficiency. Also the actual location where food is grown affect nutrient content for example in the situation of iodine. Food grown near the coast has higher iodine content due to water and fog from the sea, whereas lower contents are found inlands.

The other way around: food consumption patterns, especially those related to the emergence of obesity (i.e. processed and animal-based foods) affect the environment by impacting the greenhouse gas emission, eutrophication, and land use.

**4) Describe the concept of the double burden of malnutrition and find another example of this in a country other than Guatemala.**

The double burden of malnutrition refers to the co-existence of forms of malnutrition relate to both deficiency and excess (either within nations or within families or households). For example, an obese mother with a stunted child or that both protein-energy malnutrition and obesity is common in a country. Examples of this double burden of malnutrition can be found in ‘countries in transition’ such India, South Africa, Colombia.

**5) In many Western countries, nutrition policies focus on the prevention of obesity. Do you agree with this approach?**

In most Western countries, obesity is one of the major health problems contributing to the development of non-communicable diseases such as diabetes, cardiovascular disease and cancer. From that perspective it makes sense to focus nutrition policies on the prevention of obesity. However, if we take the sugar-tax as an example, there have been discussions on whether current policies increase inequality in obesity prevalence. In Western countries there are clear socioeconomic gradients in obesity prevalence where obesity is more common among low socioeconomic status groups than in those with a high socioeconomic status. Although there is some evidence that taxing unhealthy foods leads to better dietary habits, the effectiveness varies across different socioeconomic groups where some argue that taxing unhealthy foods actually increases inequalities in obesity.