

## **Nutrition and Food Health: Good for Human Development but More Education is Required for Healthy Living**

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Good nutrition is one of the keys to a healthy life. That is a fact because one needs good food for a healthy development. It is said that one can improve his/her health by keeping a balanced diet. But keeping a balance diet is not easy as technically food portions that make a meal cannot be said to be balance in terms of the essential elements that the body needs for its physiological and biological functions. The vision of nutritionists and dieticians are that people should eat foods that contain vitamins and minerals. This includes fruits, vegetables, whole grains, dairy, and the foods containing proteins. These foods mentioned have the source as the earth (Figure 1 and 2).



**Figure 1:** The soil an aggregate of minerals containing toxic and essential elements.



**Figure 2:** *Vegetables directly from the soils and Daily products from animals but depend on plants for their wellbeing.*

Balancing meals with the right proportions of the nutritionist recommendations will impact healthily on the development of the consumers when pollution was minimal and nonexistence in our world. Precinct agricultural lands are difficult to find. Farmers are more interested in the profits that they will make so will buy into any agricultural innovation that brings bumper harvest. This has resulted in conventional agriculture where fertilizers and many agrochemicals are used. The impact of the climate change has resulted in many farmers resorting in the use of contaminated water to water vegetables. There are reports that Global warming and higher carbon dioxide levels could rid staple foods of vital nutrients. Arhin and Kazapoe (2017) assessment of some elements in staple food at Talensi District of northern Ghana showed varied abundances of some elements in same type of food crop in different geographic areas. They attributed the variations in elements contents in the food crops to be due to changes in the underlying geological settings and activities in the environment. This confirms the statement that the health of the soil determines the health of the people whose life depends on the produce from the soils. The assertion by nutritionist about balance diet is a good advice for healthy living but its effectiveness in providing healthy living seems to be downplayed by the changing climate and pollution introduced by human activities. Nutrition and food health assessment is feasible if concentration levels of the required essential element concentrations are known.

There is a saying that ‘what goes around comes around’. The natural and man-made processes and activities affect the lithosphere, the hydrosphere, the biosphere and the atmosphere. The changes in these earth’s domains could render staple crops such as wheat, rice and soya as well as the vegetables less nutritious for millions of people particularly in developing countries. Higher levels of atmospheric CO<sub>2</sub> could reduce significantly zinc and iron levels in crops. This is according to a study led by the Harvard School of Public Health (HSPH). However, Iron is an essential element for blood production while zinc is necessary for the body’s immune system to function properly.

An estimated two billion people already suffer from zinc and iron deficiencies. It is possible that these people practice balance diet. What happens if polluted water is used to irrigate food crops? The crops will be contaminated, because what goes around comes around. Similarly plants take up the natural and human-induced elements introduced into the soils. These elements are transferred geochemically (Figure 3) into the food crops, which are consumed by man and animals Nutrition and food health do not rely only on balance diet but has to make sure dose-response scenario is correct.

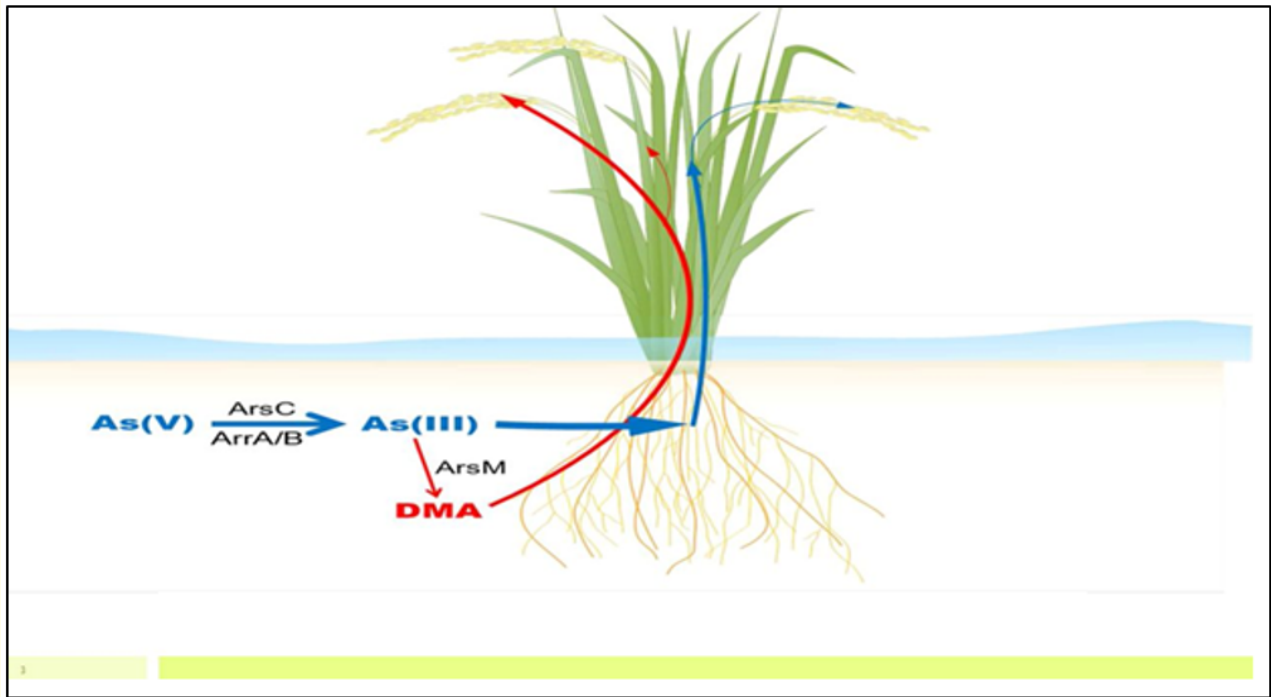


Figure 3: Movement of toxic element (As) from soil to the plant to be consumed by man.

Innovations in agriculture to boost harvest are good but this should not be done at the detriment of the environment and our health. A complete diet balancing for healthy growth require not only following the nutritionist advice but an idea where the food products are coming from. Brief environmental information about the farm area will provide some information on possible elements and concentrations. Remember, what goes around comes around. Nutrition and food health a must for healthy living but consultations with geoscientist particularly environmental geochemist and medical geologist is also important.

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