There is a general saying that there is no livelihood without lives, which shows how important healthy living is to wealth generation as "health is wealth." According to the United Nations, the livelihood of developing countries like Nigeria usually characterized by their health status. Microbiology as a profession involves the study of microorganisms and their applications to humans and can help improve the lives and livelihoods of Nigerians through its applications in health, food safety, agriculture, and environmental management.

Nigeria holds one of the worse health statistics in Africa with an average life expectancy of 54 years. A 2018 report by the World Health Organization (WHO) stated that about 63% of death in Nigeria is associated with communicable diseases, maternal, perinatal, and nutritional conditions. Microorganisms have also been applied in the treatment of different diseases due to their ability to produce bioactive compounds. The marine and arid ecosystems in some parts of Nigeria hold great potentials for the detection of antibiotics and other bioactive compounds-producing microbes and phages that can be used in the treatment of communicable and non-communicable diseases. The isolation, identification, and application of bacteria and phages from these ecosystems will reduce mortality in Nigeria and provide more jobs through the industries involved. Also, better health status increases productivity, thus increasing income.

Fermented foods and beverages such as ogi, fura, kunnu, palmwine and burukutu, produced using microorganisms, contribute to about one-third of the total diet of the world and can serve as major means of income generation in low-income societies like Nigeria. They are also good sources of bioactive agents that have been found to prevent diseases such as cancer, food poisoning, and improve immune functions. Education and empowerment of people involved in the production and sales of locally fermented foods and beverages can serve as sustainable means of reducing poverty, increasing food production, and improving the health of Nigerians.

Nigeria is the largest population in Africa with a current population of about 200 million, its population has been projected to reach an estimated 401.31 billion by the year 2050 according to the United Nations. There is a need to device sustainable means for food security to feed this growing population without interfering with the ecosystem. Microorganisms such as plant growth-promoting rhizobacteria (PGPR) play essential roles in maintaining soil fertility and protect plants against pathogens. Hence they can serve as biofertilizers and biocontrol agents in agriculture to increase soil productivity and reduce the destruction of food crops by pests. Their application as biocontrol agents and biofertilizers will help increase food availability and reduce environmental pollution resulting from chemical fertilizers.

Lastly, the environmental pollution of farms and water in the Niger Delta part of Nigeria, whose people's major source of livelihood is farming and fishing, poses a great concern to all Nigerians. Asides affecting their source of livelihoods, this pollution have also caused lots of health problems such as food poisoning and respiratory conditions. Oil spills have also been associated with an increase in neonatal and infant mortality. Microbial remediation strategies can be applied to affected areas evidenced in the Exxon Valdez oil spill, one of the largest oil spills in the world. When used with other remediation techniques, microbial remediation strategies can help restore the environment to its initial state, restore livelihoods and improve health status in the affected areas as it yields environmentally friendly end products.

In conclusion, the field of microbiology has found its application in improving societal health and providing sustenance for the citizenry. Proper attention and funding of the profession will open up great potentials in health, food security, and environmental protection in Nigeria, thus, improving the lives and livelihoods of the citizens of this country.