

## **Stem cell, Biology and regenerative medicines is the major industry for the development of health, basic need of daily life, create employment, generate income, stronger economy, reducing financial crises, global Poverty and hunger in the developing countries of the world particularly in south Asia- Muhammad Usman, Former Director General of Agricultural Research System, Pakistan**

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The aims of presentation consist of stem cell, biology, regenerative medicines, health, employment, income, crises, economy, life were studied and reported that stem cell, Biology and regenerative medicines is the major industry for the development of health, basic need of daily life, create employment, generate income, stronger economy, reducing financial crises, global Poverty and hunger in the developing countries of the world particularly in south Asia. The study reported that an undifferentiated cell of a multicellular organism which is capable of giving rise to indefinitely more cells of the same type, and from which certain other kinds of cell arise by differentiation. The role of stem cells is, under certain physiologic or experimental conditions, they can be induced to become tissue- or organ-specific cells with special functions. In some organs, such as the gut and bone marrow, stem cells regularly divide to repair and replace worn out or damaged tissues. The study further reported that the four different types of stem cells discussed in this article are 1. Totipotent (or Omnipotent) stem cells. 2 Pluripotent stem cells. 3 Multipotent stem cells. similarly there are 2 types of stem cells, embryonic and adult stem cells. Innercells-pluripotent can become almost all types of cells and are taken from an early embryo stage. Adult stem cells are typically called multipotent cells like bone marrow cells that can produce a wide range of different blood cells. Similarly, the study also reported that regenerative medicine is the branch of medicine that develops

methods to regrow, repair or replace damaged or diseased cells, organs or tissues. Regenerative medicine includes the generation and use of therapeutic stem cells, tissue engineering and the production of artificial organs. The study further reported that the uses of regenerative medicine involves delivering specific types of cells or cell products to diseased tissues or organs, where they will ultimately restore tissue and organ function. This can be done through cell based therapy or by using cell products, such as growth factors. Bone marrow transplants are an. Similarly, the importance of regenerative medicine is a new interdisciplinary field aiming to provide safe and reliable ways to repair, restore, or replace damaged tissues or organs. The two main components of Regenerative Medicine are stem cell therapy and Tissue Engineering. The study reported that the total countries available in the world are 225, consist of (Developed countries = 49, developing countries = 150, observer state = 4, state without partial recognition = 8, unrecognized state = 14). Similarly, South Asia comprises the countries of Pakistan, Bangladesh, India, Bhutan, Maldives, Nepal and Sri Lanka. In the light of above study, it is proposed that Nutritional Science and Food Chemistry should be commercialized for the development of health, basic need of daily life, create employment, generate income, stronger economy, reducing financial crises, global Poverty and hunger in the developing countries of the world particularly in south Asia.