

Review



## BIOTECHNOLOGY FOR A BETTER WORLD

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Submitted on: 10.01.2014

Revised On: 28.01.2015

Accepted on: 12.02.2015

### ABSTRACT:

Biotechnology is a manipulation technology of living organisms and organic material to serve Human Needs. To make a better world some basic need (sufficient food, healthy life, eco-friendly/anti-polluted environment and employment) of the people should be fulfill. For that biotechnology can be used to struggle with these issues.

**KEY WORDS:** Basic need, Biotechnology, Better world.

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Indian Research Journal of Pharmacy and Science; 4(2015) 15-18;  
Journal home page: <https://www.irjps.in>

**INTRODUCTION:**

The world will be better if the peoples of the world are happy with their life. They will be happy if they have sufficient food, healthy life, eco-friendly/anti-polluted environment and having employment to maintain their life. For these the following problems can be minimized or solved by the application of biotechnology:

- World hunger.
- Health care problems.
- Pollutions.
- Unemployment.

**World hunger:**

Ronald Cantrell of the International Rice Research Institute in the Philippines says: "To still have hunger in our world of abundance is not only unacceptable, it

is unforgivable". Yet while biotechnology may not be the only solution, but it can be a valuable tool in the struggle to feed a hungry world. On one side, the developing countries celebrate the World Food Day to rejoice the tremendous prosperity and food abundance, on the other side not all people around the world enjoy the same safe, bountiful food supply that they do in the developed countries. While modern biotechnology able to offer this great opportunity to only fifteen developing countries (and ten developed countries) have commercially approved the planting of genetically-engineered (GE) crops. Six national science academies of U.S., Britain, Brazil, China, India, Mexico and the Third World Academy of Sciences, issued a joint statement about the need of biotechnologies to develop the world.

Problems describe by seven academies	Solutions of these problem by using Agricultural biotechnology
Near about 800 million people (18% of the population in the developing world) who do not have access to sufficient food to meet their needs.	<ul style="list-style-type: none"> <li>• Agricultural biotech can increase yields by 6%-30% on the same amount of land, helping to protect biodiversity and wildlife.</li> <li>• Biotech plants with a host of drought, cold, saline tolerance, and plants with enhanced nitrogen-use efficiency will provide high levels of productivity.</li> </ul>
<ul style="list-style-type: none"> <li>• "In addition to lack of food, deficiencies in micro-nutrients (especially vitamin A, iodine and iron) are widespread."</li> <li>• "Malnutrition plays a significant role in half of the nearly 12 million deaths each year of children under five in developing countries."</li> </ul>	<ul style="list-style-type: none"> <li>• Developed nutritious strains of staple crops is able to absorb trace metals and micronutrients from the soil, which contain more beta-carotene, other vitamins and minerals with improving starch quality and reducing the cost of inputs.</li> <li>• A strain of "golden rice" that packs iron and beta carotene (precursor of Vitamin A), will help more than 100 million children worldwide who suffer from blindness and 400 million women of childbearing age who are iron-deficient.</li> </ul>
"(Global climate change) and alterations in land use will exacerbate the problems of regional production and demands for food."	<ul style="list-style-type: none"> <li>• A tropical crops modified by a Mexican scientist Estrella LH, is able to tolerate aluminum and acid soils to significantly increase the productivity of corn, rice and papaya.</li> <li>• Agricultural biotech protects soil from erosion and compaction by enabling farmers to reduce the need to plough their fields and the need to travel up and down their fields to manage weeds or pests.</li> <li>• Bioaugmentation of biotech introduce a group of natural microbial strains or a GE variant to treat contaminated soil or water.</li> </ul>
"In developing countries about 650 million of the poorest people live in rural areas where the local production of food is the main economic activity. Without successful agriculture, these people will have neither employment nor the resources they need for a better life Farming the land are the engine of progress in less developed countries."	<ul style="list-style-type: none"> <li>• Biotechnology can help farmers produce more nutritious crops, while sustaining the land's ability to support continued farming.</li> <li>• Biotechnology inventions such as herbicide tolerant crops, insect resistant crops and disease resistant plants have revolutionized modern agriculture in addition of poverty reduction and food security. For example; sweet potatoes that produce their own protection against Sweet potato feathery mottle virus (SPFMV).</li> </ul>

**Health care problem:**

Biotech is helping to heal the world and make it a healthier place by developing new medicines that dramatically reduce rates of infectious disease, serious case, life-threatening conditions and save millions of children's lives. Some of the gifts and facility are given below:

- "Golden rice" a gift of modern biotechnology will help more than 100 million children worldwide who suffer from vitamin A deficiency and 400 million women of childbearing age who are iron-deficient.
- Research is already underway on fruits and vegetables that could one day deliver life-saving vaccines - such as a banana for the vaccine of Hepatitis B, and a potato that provides immunization against the Norwalk virus.
- Personalized medicinal treatment of the biotechnology will be more effective, accurate, safe and cheaper.
- Regenerative medicine of biotechnology will help to create new organs.
- Genome sequencing is another unbelievable gift to the mankind for advanced healthcare.

**Pollutions:**

Carbon dioxide and other carbon molecules are seen as a culprit in pollutions as well as global warming, and day-by-day it is increasing very fast. This problem can be minimizing by using biotechnology which are as follows:

- **Seawater bioprocesses to produce fuel:** For instance, new bioprocesses can turn some types of seaweed grown in the oceans into biofuels.
- Bacteria and microalgae that live and grow in seawater can be used to produce fuels.
- Agricultural biotech helps reduce fuel use and CO<sub>2</sub> emissions by requiring less tillage.
- Industrial biotech offers an alternative and safer form of global energy instead of diminishing and volatile fossil fuels.

**Unemployment:**

Although we do not always realize it, biotechnology is a huge part of our everyday lives; biotech must continue to play an invaluable role in meeting our needs. For giving this facility the wide range of manpower are required and it will decrease unemployment; some of the evidence are given below:

- Healthcare biotech comprises more than 1700 companies. It creates jobs.
- Industrial biotech provides approximately 22 million jobs in Europe alone across sectors as diverse as agriculture, forestry, fisheries, food, chemicals and biofuels.

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Conflict of Interest Reported: Nil; Source of Funding: None Reported