

# INDIA BEYOND 2020 CHALLENGES & OPPORTUNITIES

DIGITAL CONFERENCE



**PROF. DR. A. RAJENDRAN**

Managing Director LIFE Care  
Phyto Labs Pvt Ltd., UNIDO

## INDIAN INDUSTRIES DEVELOPMENT

**Dr. Rajendran** who is specialized in phytomedicine, has developed nearly about 14 industries which provided employment to more than 1.5 lakh of people in the country. Inspired by Dr. Kalam, Prof. Rajendran started a Research Laboratory that starts from cultivation to finished products. He gave a presentation to have a better understanding about the field of phytomedicine which is as follows :

### Natural Products

Most important sources of anti-cancer and anti-infective drugs.

A comprehensive program for the identification, cultivation, evaluation, standardization and utilization of herbal medicines can be developed.

The primary health care of about 70-80% of the world's

1

✉ [contact@houseofkalam.org](mailto:contact@houseofkalam.org)

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populations based on the use of medicinal plants derived from traditional systems of medicines and local health for both human & veterinary practices and to safeguard the environment by using eco friendly bio degradable agro inputs.

### Need for Phytotechnology

Increased life expectancy, globally, has led to an increase in the incidence of lifestyle (age related) diseases such as diabetes, high blood pressure and cholesterol, obesity etc. As a result, there has been a significant increase in the deaths due to lifestyle diseases worldwide.

Consumers worldwide are looking to follow healthy lifestyles to obtain optimum nutrition to keep these diseases at bay, leading to an increase in Phytomedicine & Nutraceuticals consumption by health conscious consumers.

### Phyto technology - Phyto medicine

Phytomedicine obtained from herbal sources are in great demand in the developed world as they are able to cure many infectious diseases.

Plant based drugs provide outstanding contribution to modern therapeutics.

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## INDIAN INDUSTRIES DEVELOPMENT

The natural medicine are attracting renewed attention from both practical and scientific view points, but the mode of action of folk herbal medicines and related products from nature is even more complex than mechanistic clarification of a single bioactive factor.

The integration of phytomedicine into the health system should be developed in such a way to bring harmony between the traditional and modern system of health care with minimum threat to each other

### Objectives

To foster the advancement of the phytotechnology industry

To provide excellent atmosphere for commercialization of ideas

To innovate new range of complete herbal applications

To help the socio economic development of poor people by establishing a viable low cost technologies as per their need and budget.

Strategies aimed desired growth at revitalizing the rural communities in the main.

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Standardization of quality control and processing will improve the export market potential

Indigenous technology Strategy aimed at cultivation and operational value addition to the National Vision.

### Agricultural Biotechnology

It is a collection of scientific techniques used to improve plants, animals and microorganisms. Based on an understanding of DNA, scientists have developed solutions to increase agricultural productivity. Starting from the ability to identify genes that may confer advantages on certain crops, and the ability to work with such characteristics very precisely, biotechnology enhances breeders' ability to make improvements in crops and livestock.

Biotechnology enables improvements that are not possible with traditional crossing of related species alone.

- Genetic engineering
- Molecular markers
- Molecular diagnostics
- Vaccines
- Tissue culture

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### To Enhance-Agricultural Biotechnology

A safe and sufficient food supply, grown in an environmentally responsible way, is essential.

Promote eco-friendly agri technology

Empathise gradual elimination of use of pesticides in agriculture by promoting eco-friendly natural pesticides  
Encourage organic farming practices

Proper use of agro waste is another concern as burning them burdens the already critical pollution level. So, development of technology for proper utilization of agro waste is another agenda

### Value Addition of Agro products and utilization of Under-utilized Resources

Encourage and support innovative ideas on value addition of agro products and utilization of under-utilized resources

Encourage R&D and production of new agro based products

Set up state of the art production unit for development of agro products

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Train agrofarmers on value addition of their agricultural produce

Promote development of phyto based health products, Phytomedicine, Dietary supplements, Nutraceuticals etc

### **Bio-pesticides & Bio-fertilizers**

Serves as an eco-friendly substitute to toxic chemicals and form an important component of integrated nutrient management system.

Efficiency of both bio-pesticides and bio-fertilizers can be increased by molecular approaches.

The use of inorganic fertilizers and pesticides has detrimental effect on the health of humans. So, use of bio-pesticides and bio/organic fertilizers is advocated

Though market is flooded with a lot of such products, the field still needs innovation and better products

Seaweeds contain good amount of nutrients and hence, seaweed based fertilizers will be developed

Establish a state of the art R & D Lab, training and production unit to foster the development of such products

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### **Sustainable Marine Resource Utilization**

Gulf of Mannar Marine Biosphere Reserve

Marine resources are being exploited unmindfully

To Support measures to identify specific resources and innovative methods to conserve them

To work with Forest Department for conservation of Gulf of Mannar Biosphere Reserve

### **Seaweed**

“Seaweed” is the common name for countless species of marine plants and algae that grow in the ocean as well as in rivers, lakes, and other water bodies.

### **Seaweed Resource Utilization**

Seaweeds are available in plenty in Rameswaram area

At present, seaweeds are used for agar, algin and carrageenan industries

Woman self-help groups will be encouraged in value addition of seaweeds as a cottage industry

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## INDIAN INDUSTRIES DEVELOPMENT

Measures will be taken to encourage consumption of seaweeds as it contains vital nutrients and biomedical value

Efforts will be taken to culture economically important seaweeds as a measure of economic empowerment

The species of Hypnea and Sargassum could be exploited for the manufacture of phytochemicals

### **Socio-economic empowerment**

The status of coastal community are almost in poor condition.

The national welfare programmes are mostly not reaching to the grass root level

Strive to bring such welfare programmes to the nuke and comer of the coastal community

The alternative income generating ventures will be introduced to the community for economic empowerment

To take steps to disseminate new technologies to the coastal people



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### Conclusion

Considering these three

- Phyto technology
- Agribiotechnology
- Marine bio resources

areas as a challenge we shall move forward to innovate the opportunities by using indigenous strategies to the national vision.

