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**Title of Ph.D thesis : Regulation of GMO's in  
Agriculture- An Analysis**

## **ABSTRACT**

The reason behind the legal framework on IPRs is that it is the signal to the society that creative and inventive ideas will be rewarded. It includes products from every field including agriculture.

The objective behind the research is to establish linkages between global developments and Indian laws with regard to regulation of genetically modified organisms in agriculture. Further, to analyze the regulatory framework provided under the Rules for the manufacture, use, import, export and storage of Hazardous micro-organisms, genetically modified organisms or cells, 1989 under the Environment Protection Act, 1986. Moreover, to substantiate the study with empirical and non-empirical research.

The study has been conducted to prove/disprove the following hypothesis- People are not aware of the GMOs in agriculture. Further, people are not aware of the regulation of genetically modified organisms in agriculture in India. Also, GMOs are not safe for the environment. Furthermore, the regulatory framework of GMOs in agriculture in India is not in adherence to the International regulatory framework (for which India is a signatory).

The study is presented in seven chapters. Chapter one deals with the framework of the study comprised of backdrop, literature review and rationale, objectives of the study, hypothesis, research methodology and limitations of the study. The following chapter describes the international scenario with regard to the legislative measures pertaining to regulatory framework of GMOs in agriculture in the EU countries, USA & UK, etc.

Then, the third chapter explains the Indian position w.r.t regulation of genetically modified organisms in agriculture. It includes the Constitutional provisions, regulatory framework provided under the Rules of the manufacture, use, import, export and storage of Hazardous micro-organisms, genetically modified organisms or cells, 1989 under the Environment Protection Act, 1986, Biotechnology Regulatory Authority of India Rules, 2013. Further, fourth chapter deals with the judicial pronouncements relating to regulation of genetically modified organisms in agriculture at international as well as national front. Fifth chapter talks about environmental issues and regulation of genetically modified organisms. Specifically this chapter deals with the meaning and application of 'precautionary principle' w.r.t regulation of genetically modified organisms in agriculture.

Furthermore, sixth chapter deals with collection of data through empirical study w.r.t to the regulation of genetically modified organisms in agriculture. Finally, seventh chapter provide the conclusion, suggestions and scope for further research.

On the basis of the research, the hypothesis that 'people are not aware of the GMOs in agriculture' is disproved for the reason that majority people have heard about GMOs in agriculture.

Further, the hypothesis that 'people are not aware of the GMOs in agriculture in India' is disproved since major percentage of the respondents are aware about the same.

Also, the hypothesis that 'GMOs are not safe for the environment' is proved as majority people think that it is moderately safe.

Furthermore, on the basis of the study, the hypothesis that 'Regulatory framework of GMOs in agriculture in India is not in adherence to the International regulatory framework (for which India is a signatory)' is proved as there is no clarity and application of precautionary principle w.r.t the regulatory framework of GMOs in agriculture in the country.

To conclude, the present research endeavoured to explore the regulatory mechanism pertaining to GMOs in agriculture. There is a need to recognize the necessity of transparency and participation of all stakeholders (including agricultural scientists, academicians, farmers, students, Advocates, NGOs, Environmentalists, general public) in the whole process.

Therefore, it is important that there should be clarity, transparency and involvement of every stakeholder in the whole process of regulation of GMOs in agriculture.