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**“Unpackaging the potential of Agricultural Biotechnology in
Developing Countries: Policy Lessons in Introducing Bt.
Cotton for Smallholder Farmers in Kenya”**

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ABSTRACT

Modern biotechnology is conspicuously placed among the scientific and technological advances that have generated unprecedented exuberance and skepticism in the twenty first century. Biotechnology also emerges as idiosyncratically as one of the most capital and knowledge intensive technologies of the present day and age. The increasing number of genetically modified crops developed to address various production constraints is evidenced by the rapid speed at which biotechnology is diffusing and pervading the field of agriculture.

Bt. cotton is among the range of genetically modified crops developed to reduce production costs and protect the environment through reduced chemical use. In Kenya, Bt. cotton has been introduced and put under research trials by the Kenya Agricultural Research Institute (KARI). In a country where farmers spend 57% of production costs on chemicals to control the bollworm and other secondary pests, it is hoped that commercialization of the technology after trials will increase cotton yields, household incomes and alleviate poverty in the cotton belts.

This paper will cast light on the extent and circumstances under which Bt. cotton can address production constraints facing smallholder farmers in Kenya. The paper is premised on the fact that the impact of any technology on the society is determined by the context in which it is introduced. While application of biotechnology in agriculture opens a wide span of potential benefits to smallholder farmers, but many of these benefits may not be realized if important policy and institutional issues (enabling environment) are not taken into consideration. These issues range from farm level support, marketing, access to information and technology delivery mechanisms. Based on lessons and evidence where Bt. cotton has been introduced and commercialized, the paper recommends a set of policy measures and institutional considerations required to make Bt. cotton a viable and profitable economic venture for smallholder farmers in Kenya.