DEPARTMENT OF ECONOMICS
MANIPUR UNIVERSITY
CANCHIPUR: IMPHAL

M. Islamuddin
Professor of Economics, Dean of Students' Welfare

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TO WHOM IT MAY CONCERN

It is a pleasure to certify that the thesis entitled "Agricultural Development and Environmental Degradation in Manipur since 1985" is a result of an investigation conducted and carried out by Yumnam Sushini Devi under my guidance and supervision for the degree of Doctor of Philosophy of this University and that to the best of my knowledge and belief neither the thesis nor any part of it forms the basis of any research degree either in this University or anywhere else.

Certified further that Yumnam Sushini Devi has fulfilled all the conditions and requirements set in the Ph.D. Regulations of Manipur University for the submission of the present thesis. The thesis may now be placed before the examiners for assessment and evaluation.

(Prof. M. Islamuddin)
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(Yumnam Sushini Devi)
PREFACE

It is an accepted fact that a healthy environment is a pre-requisite for the growth of agricultural production. An unhealthy and degraded environment has an economic externality as it gives a negative impact on agricultural production. It is proved by the changes observed in agricultural production and surrounding environment during the past three or four decades.

Factors which are related to agriculture under Green Revolution have been causing environmental degradation. Uses of chemical fertilisers, pesticides, insecticides and weedicides, etc. have had an adverse impact on the immediate environment. Besides, excessive and indiscriminate deforestation which are practiced to clear patches of land for agricultural activities, also act as important factors causing environmental degradation.

The purpose of using this improved technology in agriculture that is using of above mentioned chemicals under the package of Green Revolution is to increase agricultural production to meet the increasing demand for food. The ever-increasing population necessitates more production of food. The unfortunate part is that it affects the environment
negatively. The Environment must be saved as well as food production must be increased. The concern of the present-day researchers is to increase agricultural production and at the same time keep the environment healthy.

The concept of sustainable development means development which is eco-friendly. Any kind of development should be a sustainable one but the present trend of technology based farming is not sustainable. This is an unhealthy trend keeping in view, the needs of future generations.

In the present day world, agricultural unsustainability has become a burning issue due to the above reasons. It concerns the future of the upcoming generations. India is also experiencing this unhealthy trend and hence the issue is a burning one. In the context of Manipur also, it remains a burning and important issue because the State have had a severe negative impact on its environment due to the increased production in agriculture under the packages of the Green Revolution.

Manipur is physiographically divided into hills and valley. In the valley permanent cultivation is practiced and shifting or Jhum cultivation is common in the hills. The popular perception is that use of chemicals and fertilisers are not widely prevalent in the hill areas. So, the negative
impact on the environment due to technology farming is minimal. It was true till the recent past but the present study finds that it is not entirely so. Deforestation is the main cause for environmental degradation in the hill areas but the present trends show that chemical fertilisers are also taking its role. In the valley, technology farming is widely practiced. Most of the farmers are using the chemical fertilisers and pesticides above the recommended doses without testing the soil. The main cause for environmental degradation in the valley is use of technology farming.

In view of the present trend in Manipur, the present research work is undertaken to promote sustainable agricultural development in Manipur.