1. INTRODUCTION

Child is the chief victim of interplay of nutrition, socio-economic and health factors that cause malnutrition. The steep rise in malnutrition in children during the first two years of life is indicative of poor infant feeding practices. The nutritional status of children under 5 years is the most sensitive indicator of development of a particular area. Protein energy malnutrition is a serious problem in developing countries where a growing population and lack of agricultural development results in a limited supply of high quality protein to the general populations. About 60% of all deaths among children less than 5 years of age are directly or indirectly attributed to malnutrition. About 2/3 of these deaths are associated with inappropriate feeding practices and occur during the first year of life. Poor feeding practices during infancy and early childhood, resulting in malnutrition, contribute to impairment of cognitive and social development, poor school performance and reduced productivity in later life (GOI, 2006).

The first year of the life is characterized by rapid growth and changes in body composition with most healthy infants doubling their birth weight by 6 months and tripling it by 1 year of age. To meet the demands for growth and development an adequate intake of energy and a wide variety of nutrients are required.

The word “wean” is derived from the Anglo-Saxon “wenian” meaning “to accustom” (as a child) to take food otherwise than by nursing. The main concern is making sure that there is no gap between nutrient requirements and what a child is able to consume, absorb and utilize. Nutritional status in children is most vulnerable during the weaning stages when both macro and micro nutrients may be insufficient to maintain growth and development. Protein energy malnutrition and micro under nutrition both occur together.

Traditionally weaning foods are liquids and semi-solids which are later replaced by foods eaten by older family members. In some cases these types of foods can be filling and yet not meet the child’s nutrient needs. The shifting from breast milk to solid food is
based on the infants’ nutrient requirements for growth, physiological maturation, developmental stages and cultural influences. Weaning practices are considerably different in various parts of the world and whether these diverse patterns confirm to what is optimal is unknown.

Most of the requirement of weaning foods is being met through commercially produced weaning foods prepared by various processes which are either complicated or too expensive as drum drying and extrusion cooking. Weaning foods, thus prepared are excellent and meet the maximum requirements of the infant. However, these marketed products are too expensive for the target groups who need such a product in developing countries. Therefore, it is need of the society to develop ways and means of developing less costly but nutritionally excellent products within the reach of wider population. The basic bulk raw materials should be locally available staple grains. The process or technology of production should not be sophisticated and it should be highly adaptable. The weaning food formulae should be nutritionally well-balanced in terms of proteins, fats, energy and essential vitamins and minerals. The fibre content should be low or within the permitted limits. It should be pre-cooked or instant so that it can be fed to babies as a soft product by simple stirring in hot or boiling water. It should be microbiologically safe and should have good storage stability.

Several traditional food processing and preparation methods can be used at the household or small scale level to enhance the bio-availability of micro nutrients in the agricultural produce based food products. These methods include thermal processing (roasting, parching), mechanical processing, soaking, fermentation and germination/malting. These methods improve the bio-availability of micro nutrients by enhancing the enzymatic activity and decrease or removal of anti-nutritional factors in the prepared formulations.

The locally available agricultural produce as wheat, rice, maize, Bengal gram dhal and green gram dhal are not costly, and the simple, traditional processing technique can be used to develop easily prepared/available, nutritious, tastier, safer and cost effective weaning foods.
Keeping in view, the requirement for formulation of well balanced, nutritive and instant weaning foods, the present investigation was done with the following objectives:

1. To develop weaning foods from locally available raw food materials and using traditional processing methods.

2. To study storage stability of the developed weaning foods.

3. To study the economics of the prepared weaning foods.