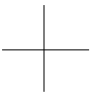
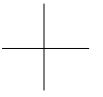


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PREFACE

Though we have come a long way from the pre-historic days of hunting and gathering of food, we do spend a great deal time and substantial portion of our income to get the foodstuffs that we need for our daily sustenance. Finding foodstuffs of the right quality isn't always easy – be it picking up fresh vegetables once a week from the neighbourhood grocery or shopping once a month at the best supermarket chain store in town. In the former case, we often rely upon our senses – visual, tactile and even organoleptic, and occasionally, the advice of the sales assistant at the counter – to make purchase decisions. But in the self-service environments of supermarkets, it is the package which helps us in making our decisions through a host of messages that it communicates – about what it contains, what the brand is, what the ingredients are, what its special features are, when it was packed and the best-before date. Besides, through its form, colours, graphics and styling, it connects us to the promotional campaigns that we would have seen on the TV or a newspaper and acts on our subconscious to provide the last mile motivating force to buy the particular product.

We hardly realize that we are face to face with a massed display of packages and not the actual products, when we step into a supermarket store. Commodities have metamorphosed into brands identified through the packages and brands give us the assurance that we need on the products. Packages have come to be identified with products. This is especially true with fast moving consumer goods like food products. The milk sachet, the juice carton, the jam bottle, the edible oil pouch, the baby-food tin and the ubiquitous PET bottle for mineral water are some of the outstanding examples. The role of packaging in preserving food products without spoilage and contamination and giving the desired shelf life to enable country-wide and even global distribution and marketing, cannot be underestimated. From the economic point of view, packaging plays a vital role by preventing food wastages.

Last quarter of the last century saw a proliferation of packaged foods in the country owing to the phenomenal growth of the food processing industries. It is true that this growth is a response to the changing market needs – especially the quest for convenience. But it became possible due to the availability of cheaper packaging alternatives based on plastics. Besides the cost factor, the advantages offered by plastics compared to other packaging materials like plant fibres, paper and paperboard, metal and glass, are numerous: their ability to be formed into unlimited range of forms and shapes and material combinations offering a much wider range of functional properties, their light weight, strength, toughness and durability. That the Indian food processing industry could reach a market size of Rs 4,60,000 crore in 2003-04, wouldn't have been possible but for the advent of plastics based packaging.

With food processing industry in India poised to grow at over 7.3 %, a growth rate that is much higher than that of the manufacturing sector in general and plastics based food packaging being a pillar of the modern food industry, it is but timely that the Indian Centre for Plastics in the Environment (ICPE) sought the assistance of Central Food Technological Research Institute (CFTRI), Mysore, to bring out the present monograph. As a review of the state-of-art of plastics based food packaging with special reference to the requirements of Indian food industry, this monograph is expected to fulfill the long felt need for such information made available from one single source. The authors, who were or are with CFTRI, the foremost resource centre on food technology and food packaging in India, have tried to present the material with a distinct orientation towards applications by combining their academic knowledge with the much valued insight gained over decades of helping food and packaging industries through sponsored research, consultancy projects and testing services. They have also drawn on many sources of published literature, which are cited under Bibliography at the end of each chapter to serve as material recommended for further reading. Though this monograph is not claimed to be comprehensive, it will hopefully give a broad perspective of the subject and help in appreciating the more or less indispensable role of plastics in food preservation and the development of food industry in India.

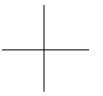
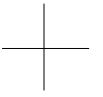
It is appropriate to acknowledge here, the contributions of several individuals, without which this monograph wouldn't have taken the present shape. Firstly, the authors wish to acknowledge the vital role played by Dr V Prakash, Director, CFTRI, who took keen interest in the

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