
BOOK REVIEWS

Chemical Analysis of Archaeological Deposits from India by R. V. Joshi and Bhaskar C. Deotare, Deccan College P. G. and Research Institute: Poona, 1983, pp. 103 + xxiv photographs. Price: Rs. 150/-

Archaeology is gradually becoming a science oriented subject. With the development of scientific aids and investigations the archaeologist is trying to make use of them for his own purpose in trying to understand the human activity in the remote past. The present report shows how a chemical analysis of soils and other deposits throw welcome light on the problems of man. The Deccan College is, perhaps, the only institution in India which is doing such investigations in the field of archaeology and the present report is first of its kind and hence archaeologists and historians welcome it.

The monograph is divided into six chapters. The first one is in the form of an introduction, whereas the methodology is discussed in the next chapter. Collection, preparation, particle-size, chemical analysis and statistical methods are briefly described here. The third chapter is devoted to a study of the present environment including geology, physiography, climate, natural vegetation and soils. The fourth chapter which is the subject matter of this monograph, is devoted to a study and analysis of 25 archaeological sites such as Ahar, Burzahom, Lothal, Rupar Narkund, Sanganakallu, Somanath and Virapuram. Most of these are well known archaeological sites with well defined evidence for multi-cultural occupation. The chemical analysis from each of these sites is discussed under the headings namely PH, Electrical conductivity, Organic carbon, Nitrogen, and Phosphorus. These details are also given in tables.

The fifth chapter contains a brief discussion involving the various problems of the absence or the presence of certain contents. For example Dangwada shows very low Phosphorus content in between Saka and Shunga periods. Archaeologically this level is sterile. From this it could be concluded that the low level of Phosphorus is due to the fact that the site was deserted and was reoccupied in the Saka period. Similarly the low phosphorus at Bhimbhetka is an indication of occasional or seasonal occupation of the site. However, the authors are also conscious of the fact that there is considerable variability of elementary concentration on passing from one layer to another. Thus the chemical composition can give clues to the

human occupation, the density of the population etc. From the discussion they have been able to come to some tentative conclusions which are otherwise not known to archaeologists by the traditional methods of archaeology. This really holds the key for the necessity and desirability of chemical analysis in Indian Archaeology. However, it has to be pointed out that scholars in chemistry have to examine the data more minutely and point out the deficiencies if any in the methodology and the analysis.

The book has a very useful bibliography, followed by twenty four good photographs. R. V. Joshi, the senior author of the monograph is a well known prehistoric archaeologist. He and Deotare deserve our thanks for this interesting monograph which opens new vistas in the field. The volume has an appreciative foreward from Robert C. Eidt. Director of the soils laboratory of the University of Wisconsin, Milwaukee, U.S.A. The printing and get up are excellent.

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Technical Handbook for the Paddy Rice Postharvest Industry in Developing Countries by James E. Wimberly, International Rice Research Institute, Los Banos, Laguna, Philippines, 1983, pp. 188. Price: Not known.

The purpose of the handbook, as stated by the author is to spell out for design engineers, manufacturer, construction personnel, and technicians the engineering principles to consider in design and operation of a paddy processing facility. It is therefore, neither a text book nor a general one on postharvest technology. However, it covers cleaning, drying, conveying, storage, parboiling and milling operations at the postharvest stages of rice. It has been pointed out that the postharvest losses are estimated at 2-7% for landing and transport, 1-5% for drying and cleaning,

2-6%, for storage and 2-8% for parboiling and milling, the total ranging from 7 to 26%. The annual monetary loss in India, at the present value of the produce, would work out to approximately Rs.1200 crores at 7% loss and Rs.4200 crores at 26% loss. This is a huge loss for a poor country and every possible step should be taken to minimise the loss.

The author's description of the various gadgets, tools and machines for the postharvest processes are meant for the use of such agencies like millers, commercial institutions, including cooperatives, etc. Only a limited number of individual farmers could afford to establish the industries described in this handbook. However, the processes of bulk storage, parboiling, milling etc under the public and private sectors could gainfully adapt the improved tech-

nologies illustrated in the handbook. For example, adoption of the modern rice mills would result in considerable saving of the loss of grain.

The handbook brings out, among others, the details of several machines used for milling operations, which are elaborated with text figures and drawings. The Chapters on 'Testing Equipments' and the 'Systems' approach in dealing with postharvest operations are very useful. The 'Glossary' and 'Appendices' give valuable information. The handbook will be very useful for everyone concerned with postharvest processing operations in the developing countries, producing not only rice, but also other cereals.

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