

There are several interesting studies of waste land and *usar* (salt affected) land reclamation and development in Uttar Pradesh, Madhya Pradesh, Mizoram, Tamil Nadu and Rajasthan. Studies are mostly regional, never descending to the village level and involving farmers. The benefit of these studies, therefore, has limited application. Land reclamation practices have to be demonstrated at field level, and cost benefit ratio analysed. It is only the visual presence of model farms which function as so many oases in the desert, will open the eyes of the farmer and only then he can be expected to adopt these practices. A beginning has to be made. Instead of engaging in theoretical discussions by the elite in lofty halls, they have to go to the field and involve the farmers.

Government agencies have no doubt done appreciable work, as detailed in some of the papers in this collection, in bringing under cultivation waste land but in their very bureaucratic organisation they can seldom achieve substantial results. The future seems to depend on voluntary cooperative agencies, and societies at village level. A people's movement for afforestation and providing a green cover over the land has to be launched. A new type of leadership, born and bred to science should concentrate its attention on the improvement of the countryside. This is the urgent need of the hour.

The book under review is a good introduction to the problem of utilization of waste lands and should be read by all those who are concerned with the future well-being of our country.

B. P. RADHAKRISHNA

A HUNDRED YEARS OF OIL! A NARRATIVE ACCOUNT OF THE SEARCH FOR OIL IN INDIA. By S. N. Visvanath, Vikas Publishing House, 1990. Delhi, 141 pp., Rs. 195.

This is a book brought out by Oil India Ltd on the occasion of the centenary of the spudding in of India's first exploratory oil well at Digboi in Upper Assam in 1889, within some thirty years of the drilling of the world's first oil by Drake in Pennsylvania. Oil industry has made rapid progress since then and especially during the last thirty years. It was high time a historical account of the progress of the industry was made available to the public. The author of the book S. N. Visvanath with 30 years experience in the oil industry is eminently qualified to undertake this task. In the one hundred and forty odd pages of this well got up volume, he has traced the history of the oil industry from the very beginning. The history is intensely absorbing and the narrative has a certain literary merit.

We gather that it was Medlicott, who in 1865, noticed oil seepages at Makam and recommended trial boring in the area. It took another 25 years to drill the first successful well. The credit goes to W. L. Lake of the Assam Railways and Trading Co. The first well completed in November 1890 was drilled to a depth of 662 feet and produced 200 gallons per day. The promotion of the Assam Oil Company in 1899, the building up of a refinery, the first production of kerosene in 1901, the taking over by the Burmah Oil Company (BOC), the induction of Indian graduates from the School of Mines at Dhanbad in 1930 and their distinguished service, vicissitudes of the war years (1939-1945), the destruction of the oil fields of Burma to prevent them from falling into Japanese hands, the dawn of Independence,

the partition of India and its ill effects on the industry, the earthquake of 15th August, 1950, the deep exploration of the Nahorkatiya structure, the success story of this field, the incorporation of a new company 'Oil India Ltd' in February, 1959—are all told in an easy conversational style, making the history of events all absorbing. The success story of Nahorkatiya ultimately ushered in the Oil and Natural Gas Commission in 1959. Other events in the neighbouring States are narrated giving only the highlights and the events in the period 1959-1989 are appropriately dealt in a separate chapter styled 'Breaking of a New Dawn'. We wish some one takes on hand the recounting of the history of oil exploration and the important role played by K. D. Malaviya and the team of geologists and geophysicists with vision, who working with rare team spirit and devotion, ushered in the Nationalised Oil Industry of India.

The important lesson to be drawn from this eminently readable book under review is that success in any endeavour can come only after a series of failures and no one need, therefore, get discouraged at initial failures. The book 'A Hundred Years of Oil' is delightful to read. Whether in oil, or in gold or other mineral exploration, the pioneering spirit that animated the first discovery is important: 'the blend of an optimism that cannot contemplate failures, of a perseverance that is fanatic in its intensity and of a dedication amounting to obsessive concern'. The book makes a clarion call to keep alive this pioneering spirit. It is this spirit which is badly needed at present and should, therefore, deserves to be read by all those young men seeking a new and adventurous career.

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**PROCEEDINGS OF THE NATIONAL SEMINAR OF TERTIARY OROGENY
IN INDIAN SUBCONTINENT, 1987.** By V. K. Gairola, Department of Geology,
Banaras Hindu University, Varanasi, 221 005, pp. 377, Price Rs. 400.

The Tertiary orogeny is a well documented event in the Himalaya, Indo-Burman ranges, Andaman-Nicobar islands and the mountain chain of Baluchistan and NWF Province of Pakistan forming on outer frame of the Indian subcontinent. There are other, however, non-orogenic events like the Deccan trap activity and coastal marine transgressions which occurred during the period when orogeny affected the northern part of the subcontinent. The selection of this theme for a National Seminar by the Department of Geology, Banaras Hindu University, Varanasi is, therefore, commendable.

The proceedings contain 22 papers of which 14 relate to the Himalaya, 2 to Deccan activity, 2 to Nagaland and one each to Meghalaya, Tripura, Eastern Ghat and South India. The volume is broadly divided into structure and tectonics, magmatism and metamorphism, metallogeny and mineral resources and, sedimentology and biostratigraphy.

The structural study in the Almora crystalline zone of Kumaun suggests that the low values of viscosity contrast could be a factor for development of lesser number of folds within South Almora Thrust zone (Agarwal and Bhattacharya). The reinterpretation of the stratigraphy and structure of rocks of the Rampur window of H.P. explains remobilisation of the basement Bandel Granite after the