

### A golden touch

**Gold: The Indian Scene.** B. P. Radhakrishna and L. C. Curtis. (Mineral Resources of India 3.) Geological Society of India. P. B. No. 1912, Bangalore 560 019. 1991. 163 pp. Rs 150.

The natural beauty and universal durability of gold transcends all barriers—national, physical and political. Reverence for the yellow metal, especially in rural India, has deeply penetrated the psyche of both individual and society. Gold has fascinated mankind for more than fifty centuries, and is still the backbone of world economy. Do our national policies take into account the fact that gold represents stability and constant intrinsic value? Are our exploration and exploitation strategies tuned to boost the production of gold? What is the history of gold mining in India, and what are the prospects in store for the future? The book under review is an excellent treatise on all these, plus information on the types of gold occurrences in India and their mining and metallurgical techniques.

The present-day sciences of chemistry and metallurgy stemmed from ancient research on the properties of gold and other metals, such as those of the mediaeval alchemists. Gold became a repository of wealth and a stable medium of exchange by 3400 BC. It still enjoys the status of a universally acceptable medium of exchange. The demand for gold in India is huge; the estimate for 1989 alone is about 260 tonnes! It is therefore in the national interest to maximize gold production, even at a premium over the world price. There is immense potential for the country to increase its share in the world jewellery market; export of jewellery is an effective means of securing foreign exchange.

The book gives an elegant account of

the principal modes of occurrences of gold, and evaluates the geologic, structural, geochemical and fluid-inclusion data base on the major gold occurrences in India. Our attention is drawn to gold in placers and weathering profiles. The potential of alluvial gold in major river channels traversing the auriferous tracts of India needs to be ascertained. One of the spectacular developments in ore geology in recent years is the find of high-purity gold in laterites. The physico-chemical conditions under which gold is dissolved and redeposited in the weathering front is a topic for detailed research. The future of gold mining in India warrants aggressive bold policies and intensive exploration strategies.

Man began the hunt for the yellow metal a long time ago. The book traces the history of gold mining in India, and provides detailed statistics of production from the Kolar and Hutti mines. Gold production in Kolar has declined by more than 86% during the past 32 years, with little hope for discovering any large tonnage of payable ore. The Gold Control policy clamped in 1963 reversed the trend of steady growth in Hutti, resulting in stagnation of the mine. Added to these are the problems linked with deep-mining operations.

It is high time that ore-processing and gold-recovery techniques are adapted to advances in technology. This will serve to reduce cost and to treat significantly lower grades of ore. Recent improvements in ore dressing, and the merits and demerits of each technique are considered in detail.

It is estimated that a total of nearly 3 billion troy ounces of gold has been mined worldwide throughout man's history. There has been a marked increase in the world output of gold in the past decade. In spite of the global escalation in demand, indigenous output shows 36% decline, and represents less than 0.1% of world production. Although the world price of gold has shown a variable trend in the past, global

inflationary conditions predict a continuously rising trend. In the country, steady depreciation in the value of the rupee results in higher premium, regardless of the short-term recessions.

Absence of a clear official policy for metalliferous mining, lack of efficient linkage between exploring and exploiting agencies, underutilization of plant capacity, and declining labour productivity are among the various reasons for India's declining importance in global gold production. To overcome the inertia and to cope with the demand, the authors propose an important alternative—permitting private parties to import gold. The availability of adequate quantities of gold for fabrication would increase export of jewellery, thereby earning more foreign exchange.

Prospects for the future are sufficiently favourable for achieving a significant increase in production. Reevaluation of promising areas of earlier workings and improvements in mining and ore-processing techniques are to be pursued. The book leaves the message that gold mining in India warrants liberal and substantial official and public support.

In nine chapters and a useful appendix that compiles details of gold prospects warranting further exploration, the authors provide valuable information on the gold scenario in India. Problems are not just listed; they are analysed and remedial measures suggested. The book a well-researched compilation of facts and figures, is both innovative and stimulative. Indeed, the long association of the authors with the geologic and mining sectors has imparted a 'Midas touch' to the book, and enhanced its scientific value. I recommend it not only to researchers, but to people in all walks of life.

M. SANTOSH

*Centre for Earth Science Studies  
Thiruvananthapuram 695 031  
India*