

properties of penicillin is often cited. It is not so well known that if rain water had not remained in an open container for several days, bacterial growth would not have occurred for Leeuwenhoek to discover the microbes with his microscope. Similarly, Crawford Long by chance remembered one morning that he felt no pain while having a good time at an 'ether party' even though he had severely bruised his limbs.

A thought-provoking aspect brought to our attention is that none of those involved in the great medical discoveries can equal the genius of Beethoven, Mozart, da Vinci, Michelangelo, Newton and Max Planck. The medical celebrities had however intense curiosity, abundant talent and a flair for painstaking research. Roentgen would not have discovered X-rays if he had not been inquisitive about the greenish-yellow emissions in a barium platinocyanide coated screen, a little away from his Crookes tube. Vesalius had to fight against hungry wild dogs in cemeteries to collect from human corpses, bones for his study. Interestingly it was not money but yearning for fame and recognition that motivated almost all the discoverers.

There are many anecdotes that enrich the narration. There are enlightening and quotable notes as well. Why did Fleming view penicillin only as an external germicide and not as a possible chemotherapeutic drug? The authors answer: 'It was not the first time nor would it be the last, that recognition of a revolutionary medical discovery was delayed for many years because medical thinking was constrained by an obsolete paradigm of reasoning'.

Those who scan for trivia will not be disappointed. Here are some noteworthy examples. Humphrey Davy, the surgeon chemist not only invented the Davy lamp, but was also a poet whom Wordsworth and Coleridge admired. Wordsworth even asked Davy to edit the famous second edition of *Lyrical Ballads*. Can you imagine that only ten persons other than his second wife attended the funeral of Robert Koch? Among the ten there was only one scientist. How many know that Pasteur Institute was constructed with a grant of 100,000 francs sent to Pasteur by the Russian Czar in appreciation of saving sixteen Russian peasants bitten by a rabid wolf? When the Institute was founded, Joe Meister whom Pasteur had treated for a bite of a rabid dog, became

the custodian. Another surprising fact is that the Royal College of Surgeons of London demanded that Jenner pass a test in Greek and Latin before being considered for their fellowship. This was after Jenner had attained fame for his discoveries and Oxford University had conferred an honorary degree. In contrast, Leeuwenhoek, an unlearned shopkeeper and a draper who knew no language except his native Dutch was invited by the Royal Society to become its fellow.

In their concluding chapter, the authors select the greatest medical achievement of all times. Their favourite is William Harvey's elucidation of the circulation of blood in the human body. Harvey introduced for the first time, experimentation in medicine. The authors mention: 'His discoveries made medicine begin to move as a science'.

Friedman and Friedland have also selected from the ten top discoverers, the most amiable companion for a vacation. Their pick is Edward Jenner. To them, Vesalius is too conceited, Harvey is not congenial, Roentgen is not sociable, Harrison and Fleming are boring, Wilkins is too withdrawn and Anichkov looked grim. What they have to say about Jenner merits recital. 'If he vacationed with us and observed that we had no desire to hear about his marvelous experiments with cowpox, he would tell us about his discovery of coronary artery disease or describe the lovable and not so lovable eccentricities of his beloved mentor, John Hunter. If we were tired of these matters, he would tell us about the seasonal migration of English songbirds, as well as give further details about his beloved cuckoo. Seeing that we had heard enough of these trenchant observations, Jenner then might recite his own verses and get ready at a minute's notice, to charm us with the lovely music he would create with his violin and flute. He would be happy to have us see, from the carriage drawn by two of his fine horses, his beloved Berkeley countryside. He would invite us to see Berkeley from the air, riding in one of the hydrogen balloons that he had invented. After these rides, he would warm us up with his claret. Oh yes, we would enjoy such a time with Edward Jenner'. Who would not? The book has also an antislavery song penned by Jenner.

This is certainly a splendid book enthralling from beginning to the end. One

can read it over a weekend or during a long train journey. Important references for each chapter are there at the end of the book. The index is adequate. The minor flaws in the Indian edition are that the print is of small font and that the pages are likely to come off the spine with frequent use. These are offset by the affordable price. The book is definitely, worth possessing. At your leisure you may contemplate on your own preferred discovery or hero.

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Disinvesting in Health – The World Bank's Prescriptions for Health. Mohan Rao (ed.). SAGE Publications (India) Pvt Ltd, M-32, Greater Kailash, Part I, New Delhi 110 048. 1999. 238 pp. Price: Rs 225.

This timely publication raises several important issues concerning health care systems from an interdisciplinary perspective. The current crisis in the health sector has its bearing in the global policies, priorities of the nation state and health delivery system at the local level. All contributors of this book have directly or indirectly expressed their doubts about globalization, privatization and marketization of health industry coinciding with massive changes in the macro policies of our country. At the same time, none has glorified the interventionist approach of the state in the post-independence period. The discourse revolves around 'public sector versus private sector' polarization. While experiences of the voluntary sector show that the health sector has a segmented market in which a sizable chunk of product market manages without pharmaceutical industry, labour-market manages without trained nurses, doctors and super specialists and factor market depends solely on herbs, roots,

leaves, flowers, fruits and other food-items along with clay, stone, and bones for treatment of their illnesses.

In the Introduction, Mohan Rao gives a historical profile of evolution and consolidation of public health concerns in the United Kingdom and its implications in the colonial India. In the post-colonial period, as he says, 'India's commitment to health sector development was guided by two over-riding principles: first, the provision of health care services was the responsibility of the state and second, comprehensive health care should be available to the entire population irrespective of their ability to pay' (p. 18). Though his worries about neglect of public health need serious consideration, his criticism of medical technologies and methodological individualism cannot be accepted. Instead, the public-private mix model tried out by several municipal hospitals, trust-run hospitals and religious organizations and health insurance schemes promoted in the urban India during the 1990s has proved to be cost-effective and protected the interest of the economically weaker sections. At the same time, it has reduced the burden of the state and has made the civil society more responsible towards health problems.

Prabhat Patnaik's article, 'The Political Economy of Structural Adjustment: A Note', examines the history of increasing importance of metropolitan financial capital (MFC) in the post-II-World-War World market. His analysis of the World Development Report 1993: Investing in Health by the World Bank, is a logical extension of his critique of neo Keynesian liberalism, Reganomics and Thatcherism. But he forgets to acknowledge the fact that in this period only women's issues, democratic rights of the coloured population and human rights of the religious and ethnic minorities, civil liberties of physically handicapped, mentally challenged and terminally ill acquired legitimacy through parliamentary democracy and freedom of press and financial support of private foundations. As a result, we have reached a stage where the MFC has become multi-racial, multi-religious, multi-cultural and plural in the true sense of the term. To evolve safety nets in response to deflationary policies of the state, now we will have to turn to the civil society. He justifiably draws our attention to the danger signals of metropolitan industrial

interests which has allowed the North to corner major a chunk of the benefits and burdened the periphery with starvation to subsistence wages, occupational hazards and unsafe environment.

Niraja Gopal Jayal's paper, 'The Gentle Leviathan: Welfare and the Indian State', examines the ideological underpinnings of the colonial public health policies in which man-made famines were created by the super-exploitation of the self-sufficient village economies and super-imposition of cash nexus over pre-capitalist socio-economic formations and the neo-liberal critique of the welfare state in the west. She provides a brief and critical review of the mix-economy model of an independent India where two major concepts 'efficiency' and social justice have played a crucial role in determining the contents of development planning by the state.

Imrana Qadeer's contribution, 'The World Development Report (WDR) 1993: The Brave New World of Primary Health Care' examines the political economy of aid in the post-independence period. She has made valid criticism of various health programmes initiated by the Government of India and the international bodies. She has chosen to ignore the efforts of non-government organizations though there are several analytically rigorous studies available on the subject. We should admit that the WDR, 1993 has incorporated most of the issues raised by the health researchers in the developing countries though some highly controversial issues raised by the feminist activists, such as clitoridectomy – female genital mutilation and teenage pregnancy have been ignored.

The article by Nata Duvvury, 'Gender Implications of New Economic Policies' examines WDR 1993 in the context of structural adjustment programme implemented in India during the nineties. Though hers is a gender-aware approach, it hardly touches health issues. Her criticism of export-oriented approach of the agrarian sector does not corroborate the evidences provided by state governments of Gujarat, Karnataka, Punjab, Haryana and Maharashtra. One, because it is not an export but it is an exchange. Western agro-products are as popular in India as the Indian agro-products are in the West. The same applies to the garments, pottery, glasswork, plastic-ware, chocolates and soft drinks. Moreover, this exchange has empowered the dalits, tribals, OBCs

and poverty groups among the religious minorities. She is the only writer who has mentioned two very important issues – international trafficking of domestic workers – child labour and sex-tourism. This is also related to trafficking of narcotic drugs, arms, and vital organs such as kidneys and eyes with the compliancy of the commercial sector of the health industry. Penal actions to curb the demand side need global efforts and to discipline the supply side, NGOs such as Domestic Workers Union, National Campaign Against Child Labour and Women's Initiatives against Sex-tourism need to be protected by the nation states.

Mohan Rao's exhaustive paper, 'The Structural Adjustment Programme and the World Development Report, 1993: Implications for Family Planning in India', gives blow by blow account of family welfare policy and birth control programmes with accent on barrier methods for contraception in the pre-emergency period, excesses in the name of population control during emergency at the behest of World Bank, IMF and USAID and targetting poor Indian women for invasive and terminal methods of birth control and hormone-based contraceptive trials. Negative implications of SAP in Brazil, Chile, Peru and Ghana in terms of drop in literacy, employment and health profile of the masses, cannot be repeated in India for three reasons: (1) Parliamentary democracy and multi-party system; (2) Freedom of press and multi-media channels; (3) Powerful NGO sector. His database on health indicators focuses on rural and urban population, while most of the horror-stories of ill health have been reported from tribal areas and segregated dalit ghettos.

A. K. Shivkumar's write up, 'The Formulation of India's Health Policy: A Note on Equity', shows the limitations of individual-oriented commercial sector in the health market with its tools as vaccination, health insurance, and Mediclaim. He balances admiration of Kerala for reduction of IMR (infant mortality rate) and fertility rates and infectious diseases with his comment about non-infectious diseases as common causes of illness. One-sided accent on literacy in Kerala has generated contempt for manual work among the educated sections of the population. Narcotic drug trafficking supported by the highly efficient private bus transport system ensures easy availability of narcotic

drugs in every nook and corner of Kerala. Even the voluntary organizations in Kerala have not taken up this issue.

Secta Prabhu's article, 'Structural Adjustment and the Health Sector in India', examines some macro-indicators of health-expenditure. During 1989-90 and 1994-95, with an exception of the year 1990-91, there has been a continuous increase (both in % terms and total amount) in revenue expenditure on public health with special focus on the National Tuberculosis Control Programme, the National AIDS Control Programme and the National Malaria Control Programme. But, here the problem is with the implementation. Overburdening the already overworked NGOs is not a solution. Formation of self-help groups of the patients with similar types of illnesses is a far more practical and long-lasting approach.

Rama Baru's article, 'The Structure and Utilization of Health Services: An Interstate Analysis' could have given data of the 1990s concerning growth of primary health centres, hospitals and beds for selected states in rural and urban India because in the 1990s, several NGOs and religious institutions took initiative in this directions. Foundation for Research in Community Health and CEHAT in Mumbai and Pune, Voluntary Health Association of India in 15 states of India (headquarters in Delhi) are providing health-related information. The Catholic Health Association of India (headquarters in Hyderabad), Satya Sai Foundation (head office in Dharmavaram), Aga Khan Foundation (head office in Mumbai) and Swaminarayan Trust (head office in Mumbai) have either rejuvenated their health institutions or have established new institutions and are at the forefront in providing health services on a secular and charitable basis. Forum for Medical Ethics (Mumbai) is attracting hundreds of practising doctors from all parts of India.

Amit Sengupta's article, 'Infrastructural Development in Health Care and the Pharmaceutical Industry: Implications of the World Development Report, 1993' attacks technological determinism and fragmentation of health into discreet components. To prove his point, he mentions statistical jugglery around DALY (Disability Adjusted Life Years). Such a piecemeal approach results in provision of efficient distribution of ORS (oral rehydration solutions) in the absence of provision of safe drinking water for con-

trolling diarrhoeal diseases. He expresses his doubts about sustainability of islands of excellence in general conditions of subsistence existence. But the developments in the nineties have shown that with the help of information technology, safe drinking water in sealed bottles marketed at a cost cheaper than country liquor, disposable gloves, syringes and needles cheaper than narcotic drugs, medical excellence is gaining popularity even among the common masses.

In his article on 'The New Era of Growth: An Epitaph to the Environment', K. R. Nayar shows that in the structure of household consumption, the share of food is 52%. His worry about toxic terrorism and garbage imperialism found in Thailand, Benin, Guinea Bissau, Nigeria and Venezuela is similarly applicable to the Indian industrialists. Reports of the fact-finding committees of experts have exposed irresponsible dumping of pollutants and toxic wastes by industrialists of Indian and foreign varieties (Down to Earth, Delhi and Centre for Human Ecology, Mumbai). The article is totally gender blind. There is no discussion on the most acute survival struggle of large majority of rural, urban and tribal women, which revolves around collection of fuel, fodder and water.

Arati Sawhne's article, 'Women's Empowerment and Health Experiences from Rajasthan', raises fundamental questions about codes of conduct, accountability and limitations of the state run Women's Development Programmes which are controlled by powerful feudal patriarchal forces in the context of starvation. She says, 'The famine-struck people's desperation for employment and food was utilized by officials at all levels to complete the family planning sterilization targets assigned to them'. The cumulative anger of the community was directed against the village health workers in the form of sexual harassment, social boycott and gang rape of Bhanvaridevi. In the final analysis, women workers found Jesus Christ, the liberator in the American President, Bill Clinton.

N. H. Antia's short write up, 'A Prescription for Health Disaster', provides a Rip Van Winkle's view about recent changes in the health care system which (he thinks) serves the interest of the westernized elite. His tirade against encouragement to the private sector in the macro policies is one-sided. Westernized

elite have several options for health care; it is the Indian common men and women who are in need of high quality health services. The reason for reduction of IMR in China, in spite of lower budgetary allocation on health lies in strong state, which also very aggressively promotes 'One child norm' and punishes the defaulters. The end-result has been drastic increase in female infanticide and female foeticide.

In his article, 'Limits to Technical Intervention in Health Care: An Analysis of Historical Experiences in Health Improvement', K. V. Narayana gives history of health improvement in the 18th century Europe and 19th century England through food security and sanitary reform movement. In the developing countries, it happened in the middle of the 20th century as a result of growing scientific communication and international co-operation, which enabled developing countries to import scientific discoveries like insecticides, antibiotics and vaccines and improved agricultural methods, transport facilities and better standard of living. According to him, technological advances in the public health measures widen the scope of their programmes. Thus he differs from Ivan Illich who sees the technical change approach as positively harmful to the health of people. While describing development approach he says, 'A pioneering work in tracing the social origins of ill-health and disease was carried out by Engels'.

The last article, 'Access to Health and the Burden of Treatment in India: An Interstate Comparison', through bar-charts gives interstate comparisons on the number of hospital beds per lakh population, % distribution of in-patients, % distribution of patients getting free treatment and average total cost of in-patients and out-patient in rural and urban areas in both government and private sectors. With the help of bar charts on state-wise average burden of treatment, government and private medical expenditures as % of average per capita consumption expenditure of bottom 10% income class in rural and urban India, he proves that 'unequivocally, the relative burden of treatment is more for the bottom groups in the rural sector'. His fear that the private hospitals will refuse to be located in the rural areas does not have any bearing, as most of the new ventures of the private sectors in the 1990s have been in the rural areas. Even NGOs and religious trusts are investing

their resources for health care and food-security in the rural and tribal areas.

None of the articles in the book examines health implications of violence against women, problems faced by health-workers in the community and inhuman practices such as branding, human sacrifices, female infanticide, female feticide, witch-hunting, etc. As these practices are ignored as cultural issues, women and girl children end up getting brutalized.

This book's major strength is its canvass: contextualization of health care problems in the developing world in the global power relations, metropolitan commercial interests and racist population and environment policy. The book will provide useful material for class room teaching in the Preventive and Social Medicine (PSM) departments of medical colleges, public health departments of the local self-government bodies, health departments of state and central governments, educational programmes of the non government organizations and extension education departments of various universities.

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Teak. S. Chand Basha, C. Mohanan and S. Sankar (eds). Kerala Forest Department, Office of the Chief Conservator of Forests, Vazhuthacaud, Thiruvananthapuram 695 014, India and Kerala Forest Research Institute, Peechi, Thrissur 680 653, India. 1997. 274 pp. Price: Rs 200.

Palms of Kerala. C. Renuka. Kerala Forest Research Institute, Peechi, Thrissur 680 653, India. 1999. 72 pp. Price: Rs 300.

Teak (*Tectona grandis*) and Palms (Arecaceae) are amongst the most utilized plants of tropical origin. These flowering plants are in great demand worldwide as timber, ornamentals, avenue plants, food, oil seeds, furniture and baskets (especially cane/rattan) and as thatch. Due to such economic value teak and many palms have lost much of their natural populations and are currently found largely as cultivated plants outside their native habitats.

Kerala is a known centre of origin and trade of teak. Thus Indian teak came to be known as 'Malabar teak' in the timber trade. (The other teak of great value is Burma teak from Myanmar.) Similarly, Kerala also supports a remarkable diversity of native palms, many being endemic to south-west India. For instance, 15 species of cane/rattan (*Calamus* spp) are known from Kerala. Besides coconut, cane/rattan available in Kerala are amongst the most utilized palms in the world.

It is in this context that the two publications from Kerala are of great significance. The first, *Teak*, is a compilation of around 60 papers presented at the International Teak Symposium, held in Thiruvananthapuram, Kerala in December 1991. Participants at this symposium were from India and Indonesia, two of the largest teak-growing countries. The various papers in the edited volume cover aspects of origin and spread of teak, its commercial value and means of estimating this, plantation techniques, pest and disease management and most interestingly a critique of the modern claims that by owning 'teak real estates' one might turn rich overnight.

Some of the highlights of the compilation are the origin and early history of teak plantations in Asia. Whereas it is undisputed that teak is a native of India, Myanmar and a couple of other south-east Asian countries, there is debate on its occurrence in Indonesia. Some authorities maintain that teak is indeed native to Indonesia while others contend that it could have been introduced from India somewhere in the second century AD. Nevertheless, teak is widespread in Indonesia and since the early 1600s plantations of teak have been popular in this island country. India's first teak plantation was established in Nilambur, Kerala in 1840s.

Teak is a magnificent tree growing nearly 60 m tall and attaining a maximum girth of 9 m. Other species that are closely related to teak are *Tectona hamiltoniana* from Myanmar and *T. philippinensis* from Philippines. *T. grandis* however produces the best quality timber. It has been predicted that the demand for teak wood is never going to subside. This calls for more plantations and better techniques for sustainably managing the plantations. At least 50 species of trees in India are known to have timber quality comparable with teak. Attention has been drawn in the compilation to this interesting fact

suggesting that these alternatives be more seriously considered.

On the whole, the publication can be of great value to managers of teak. However, it says very little about teak's impact on local biodiversity. Despite occasional statements such as 'elephants are happier in teak plantations than they are in evergreen forests', there is hardly any mention of what happens to the local fauna and flora when extensive teak plantations are established in biodiversity-rich landscapes as the Western Ghats. Being deciduous, teak plantations in areas of high rainfall do lead to considerable soil erosion. The adverse impacts of teak in tropical ecosystems hardly find a place in this otherwise comprehensive compilation.

The second publication, a well-illustrated book on Palms by C. Renuka on the other hand, is more of a beginner's guide to the subject. It not only discusses the native species, but also describes the introduced species of ornamental and other economic values. The colour plates depicting all the species described, the many line drawings of the salient features that aid identification, the glossary and the generally simple text have together made the book very useful to even amateur and school students. In fact, the book can be useful to palm-lovers in India.

A few suggestions are nonetheless needed to help further improve the book. First, the contents are not well researched. While brief descriptions of habitats are provided for each species, key aspects have been missed. For instance, the endemic palm *Pinanga dicksoni* is very much associated with the swamp forests in the Western Ghats, including those in Kerala. This characteristic feature of the palm has not been mentioned. Second, at least a few distribution maps if included would have added to the quality of the book. Finally, if the publishers are planning to bring out an updated edition of the book, it may well be that a Malayalam version is thought of. The present style and language permit easy translation.

As a general remark, I wish to reiterate that the two publications are quite useful and timely. The publishers should make appropriate efforts to have these books widely distributed.

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