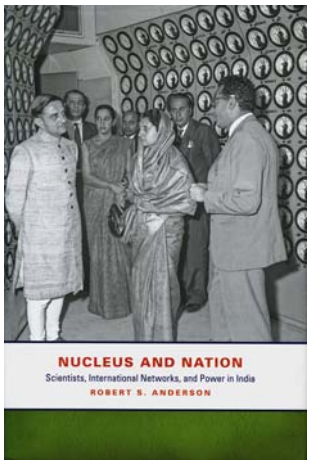

Nucleus and Nation: Scientists, International Networks, and Power in India. R. S. Anderson, University of Chicago Press, Chicago 60637, USA. 2010. xxvi + 683 pp. Price: US$ 60.00/ £39.00.

The author of this book R. S. Anderson has visited India often since the early 1960s. He has also kept in touch with the scientific community over a period of five decades. Even though he is not a physicist, Anderson seems to have remarkable insight into the development of research in physics in this country through his personal contacts. Its noteworthy that he has covered the early period of scientific development in India, particularly the contributions of S. S. Bhatnagar, Meghnad Saha and Homi Bhabha. Also, as the title of the book suggests, it concentrates on the development of nuclear science in India, and makes references to the political influence and support from early Prime Ministers, Jawaharlal Nehru and Indira Gandhi. However, Anderson focuses mainly on basic science, rather than the technological developments in nuclear science, which form an extremely important chapter in the history of nuclear India. Also, later events, especially Pokhran-II in 1998, and the Indo-US nuclear deal in more recent times, are not dealt with in detail. This may be because of his lack of access to privileged information in this sphere.

After the first Pokhran test, the world was surprised that India had worked its way up to become a nuclear power, without any great policy announcement by the Government. This has always surprised many in the world, and has prompted several authors to write about the development of nuclear technology in India, leading to our declaration as a nuclear weapons country. Particular reference should be made to exhaustive accounts by Chengappa, Perkovich, Bharat Karnad, K. Subramanyam and others. As an insider I have found many distortions in all the books, since there is no declared official record from the Department of Atomic Energy on this subject. To correct these distortions will take a long time, and is not worth doing considering Indian interests. The fact remains that the development of nuclear science and technology in independent India is a remarkable achievement, which was supported in an effective manner by the political parties in power at various times. That aspect of political support is not covered in detail in this book.

The contents of this book, in terms of chronology, are not uniform. Perhaps the author has kept a diary for himself, as he interacted with various people in India. He seems to have put everything together in this book, making it voluminous, and has made varied references to personalities who developed nuclear science in the country. He has not been very critical, and to this extent his presentation is pro-India – which has not been the case since the 1960s, with the advent of the Non-Proliferation Treaty, the Indian nuclear test in 1974 and the sanctions which the advanced nations have applied to India since then. It needs another book to elaborate on how hard the situation was for Indian scientists, and how they overcame these problems and kept innovations possible, attaining a high level of technological strength in all aspects of nuclear power. It would be useful to record these for posterity.

One may expect that as a foreigner, looking at our planning process and the decisions made by the Government on particular issues, the author would have been critical – as others have been. The author does not do so. This is a favourable account in that respect. However, as is common with foreign journalists, they add colour to facts, making it look like these decisions were part of a deliberate, well thought-out policy, whereas often these were influenced by the actions of foreign nations, especially in the international organizations related to policy issues in the field of atomic energy. Fortunately, Anderson does not discuss international networking which has benefited India sometimes, but most of the time has driven the country into deeper technological development and prevented it from participating in commercial ventures of nuclear power. Today nuclear power stations cost billions of dollars and are a major exportable industrial product covering involved technology which the developing countries will take a long time to assimilate. Just as with defence equipment, some of the advanced nations wish to preserve commercial interests in nuclear power for themselves. This has discouraged the developing nations from going in for nuclear power quickly, and has in turn had the disadvantage of their having to face a market in fossil fuels at high cost, and discouraging them from aggressively joining the green revolution, and moving away from climate-changing fossil fuels.

It should also be pointed out that, while nuclear science has proven that several reactor systems are possible for the production of electricity, it is only the enriched-uranium, light-water reactors that are popular commercially. Nuclear science does not demand enriched uranium for producing nuclear power. A nuclear power station need not carry the radioactive waste product in its core for a long time, making demands on the cooling system even after the reactor is shut down. The latest accident in Fukushima must serve as a warning bell for the advanced nations to think of new systems for nuclear energy for the future, avoiding the decay heat problem and the consequent safety problems, which would be unavoidable due to uncertainty in natural calamities like tsunamis and earthquakes. Interest is reviving in the utilization of thorium in molten-salt reactors, which continuously remove fission products from the core of the reactor, for the fuel is in liquid form allowing a continuous chemical process to remove the fission products. Even though this type of reactor was once researched upon by Oak Ridge, USA, it is only now that there is an attempt to commercialize this system (see, for example, http://www.motherboard.tv/2011/11/9/motherboard-tv-the-thorium-dream).

In conclusion, I would like to reiterate that this book is not a scholarly study of the development of nuclear science in India. The author has definitely introduced several people by name, who have played a role in this area, but the book contains statements based on rumours and hearsay, which are misleading, and

cannot give a proper understanding of these developments in India. The author being a non-scientist, and a journalist in his own right, in political science, the book is easy to read, in spite of its length (over 600 pages). In addition, he has listed several references which should be interesting to pursue for those who wish to write yet another book on this subject.

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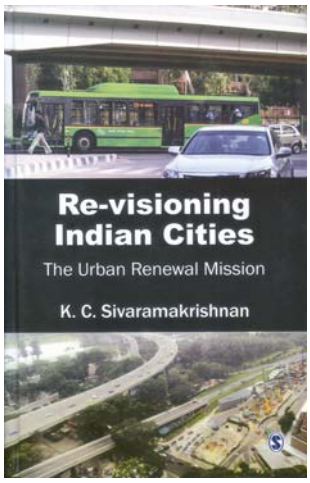

Re-visioning Indian Cities: The Urban Renewal Mission. K. C. Sivaramakrishnan. SAGE Publications India Pvt Ltd, B1/I-1 Mohan Cooperative Industrial Area, Mathura Road, New Delhi 110 044. 2011. xxvi + 278 pp. Price: Rs 695.

The chaos that is ubiquitous in Indian cities is accompanied by the inability of successive governments to come up with a comprehensive and effective urban policy. For decades after independence the city was seen as an unavoidable evil. The task of the government was believed to be to decongest cities and to provide housing for those who happened to remain in urban centres. The 1988 report of the National Commission of Urbanization marked an analytical break from this practice, making the case for seeing cities as engines of growth. But the efforts to transform this idea into a comprehensive urban policy have largely failed, to the point that a series of projects under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) is now being treated as the de facto urban policy.

There are few better placed than K. C. Sivaramakrishnan to tell us the story of this long-term failure. He has been an important part of India's urban policy making establishment for decades, from the time of the 74th Amendment to the Constitution in 1992 providing a greater role for urban local bodies, to being a member of the Technical Advisory Group of JNNURM. When he looks at JNNURM, Sivaramakrishnan can do so with the benefit of having seen the difficulties of urban policy making first-hand. It is only to be expected that this book provides a ring-side view of the working of JNNURM. This insider account is honest enough to point to the weaknesses that are already becoming evident in the Mission, but it stops short of recognizing that these limitations are inherent in the effort to use a series of large, expensive projects as a proxy for urban policy. In the process it does not bring us any closer to understanding the way forward in urban policy making.

The JNNURM was launched in December 2005 to provide a fresh thrust to urban policy making through what is sometimes called the mission mode. An investment of Rs 100,000 crores in 65 cities (the Central Government providing half of this amount) makes the programme a large one by any standards; a size that demands close scrutiny not just of the procedures being followed, but also their impact on the urban crisis.

The Mission seeks to use the incentives and instruments of control built into large government projects to bring about a fundamental transformation in the manner in which cities govern themselves. The exercise is designed to begin with cities coming up with their City Development Plans (CDPs). These plans are to be developed with the close involvement of the urban local bodies. It would then be possible to identify specific projects that would be supported by JNNURM. And this support would be conditional on the city bringing in reforms in its governance systems.

The prioritization of specific projects is built into the four components of JNNURM. First, the severe infrastructure bottlenecks in the major cities mean Urban Infrastructure and Governance had to be one of the primary goals of JNNURM. Second, the challenge of urban infrastructure was not confined to the large cities. This made a case for the Urban Infrastructure Development Scheme for Small and Medium Towns. This component subsumed two earlier schemes that were operating in this area. Third, the very significant degree of urban poverty formed the basis for the Basic Services for Urban Poor component. And fourth, the Integrated Housing and Slum Development Programme retained a focus on the fact that for all our urban planning, slums remain a major challenge.

For an insider's view of this process, Sivaramakrishnan provides a remarkably frank picture of a Mission that is far from being accomplished. He identifies three major disconnects that have become evident in the functioning of the Mission. The first is between CDPs and the Urban Local Bodies. As most cities did not have these plans, the task of preparing them was handed over to consultants. The consultants were 'familiar with the methodology and techniques of CDP, and, more particularly, their presentation. Almost every CDP, therefore, contains a one or two page reference to "stakeholder consultation" more as a formality' (p. 79). But there was very little meaningful involvement of the Urban Local Bodies in the process. They did have to endorse the plans. But with the large funds being promised to them under the JNNURM, they were presumably more than willing to sign on the dotted line.

The second disconnect was between CDPs and the Detailed Project Reports. It was expected that the Detailed Project Reports would flow from CDPs. But most cities already had projects that were waiting for funds. 'Once again the compulsion to quickly obtain funds became dominant … Here again consultants were used in preparing or updating or just polishing up previously prepared project reports' (pp. 79–80). Not surprisingly, it was found that in many cases the project reports did not relate to CDP.

The third disconnect is between the project and the Urban Local Body. The JNNURM was expected to break the tendency for State Government departments or parastatal bodies to bypass the elected municipal bodies. But this was not done. The usual arguments about the lack of competence of the municipality were used to hand over the implementation of the projects to parastatal bodies. Thus, despite the statements to the contrary, the 'disconnect between city governments and projects has been amplified and deepened in many cases as a consequence of JNNURM' (p. 81).

In addition to these fundamental inadequacies, the book also points to a