

The Sun Rises in the East!
India, Japan, and the Environment
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As the World Summit on Sustainable Development draws to a close at Johannesburg, it is interesting to see how the word “*environment*” means different things to different kinds of people. Thus the rich suburb of Sandton represents the kind of *environment* that world leaders need, so that they may discuss development issues. On the other hand, the 10,000 people who marched to the Summit from the miserable shacks of Alexandra live in and represent a completely opposite *environment*. Negotiations on climate change, market rules, and aid flows in one venue of conspicuous consumption are obviously so different from the bargaining on minimum wages, land, and inequality in the other venue of stark poverty. Such a contrast obviously raises disturbing questions about the role of such Summits and whether the “leaders” really represent the hopes of those whom they say they lead. It also poses a puzzle before us: “What is *environment*? Which one should be more important to us – the leaders meeting in shining conference halls, or the people marching on the dusty streets?” To try and understand the above questions it might be useful to explore what is happening in the relationship between the two Asian giants of India and Japan and how it affects the *environment*. India has the wheel of progress in the centre of its flag while Japan’s banner highlights the rising sun.

Delhi is the capital of India and it has long been infamous as the second (or third) most polluted city in the world. Both the air and the water have been in terrible condition and there are now some attempts to clean up both – with some help from Japan. For instance, it is well known that vehicles cause much of the air pollution. So, in the last two years, the Supreme Court of India has not only closed down many industries but also ordered that polluting three-wheelers and buses must change to more efficient fuels and engines. Apart from these activities, the Government has also set up the Delhi Metro Rail Corporation (DMRC), which is presently constructing 55.3 km of a Metro system. There are two main routes in the system. One runs 11 km from the University in the north to the Government Secretariat in the centre of the city. It is underground because it passes through some of the elite areas of the city. The other longer route runs from the industrial area of Shahdara in the east to the industrial area of Nangloi in the west, and is either elevated or at grade. Both the routes intersect at the main Bus Terminus of the city. The second route also has a branch going to Holambi Kalan in the northwest, which is near the new industrial township of Bawana. What is curious is that this second (mainly industrial) route and its branch already have a parallel railway line running through almost the same places.

When the Metro system was first planned ten years ago it was only 27.9 km long and was expected to cost Rs 18.54 billion (1 Yen = 41 Rupees). Now the route length has increased to almost twice, while the cost has gone up 2.6 times to Rs 48.6 billion. 56% of this amount has been given as a long-term loan by the Japanese OECF at a low interest rate of about 2.5%. This rate is somewhat misleading because Japan’s domestic rate for short-term lending is less than 1.5% and hence there will be no loss in profits to the

lender. Furthermore, the loan has to be repaid by India in Yen currency, which protects the Japanese investment fully. Given the Rupee's declining value in the international market, India will actually pay almost 15% in interest in the long-term. In addition, a large chunk of the Japanese loan is being used to pay Japanese consulting firms and manufacturers for design, engineering skills, fabrication, and equipment. Indian executives of DMRC are even required to take loans to buy Japanese cars. Thus, the Japanese economy is likely to benefit a great deal from the construction of the *environment*-friendly Delhi Metro. Will the Indian economy and *environment* benefit as much? The question is slightly difficult to answer because the Indian Government is very reluctant to make public the economics of the Metro. However, it is possible to make some guesses.

To recover the entire investment as well as pay the interest on the Japanese loan, the DMRC expects that the entire system of roughly 2½ routes will carry 3.2 million commuter trips per day. An earlier estimate was that there would be 2.7 million commuter trips. The Government has recently announced that the fares would range from a maximum of Rs 7 per trip to a minimum of Rs 4 to make the Metro "competitive" with the bus system (compared to the international rate of \$ 1 or Rs 45 per ticket). Thus, at full capacity and at the highest rates the maximum annual income from ticket sales would be about Rs 6.7 billion, while at 50% of capacity and the lower estimates, a more realistic income may be Rs 1.6 billion. Why is this a more realistic estimate? Simply because the bus system at its earlier peak used to daily carry 6 million commuters (about 40% of all transport modes – including cycling and walking) over more than 700 routes. This peak may have now come down because of the Supreme Court's orders that diesel buses have to be replaced by CNG (Compressed Natural Gas) buses, which are considered to be better for the *environment*. Since CNG buses are in short supply the total number of buses on the road may have come down to almost half. This claim, therefore, that the Metro would carry more than half of the passengers of the total city while operating on maybe 3% of the total bus routes seems to be quite absurd.

No figures have been made public of what it will cost to run the Metro system. But, of the gross income, it is likely that a sum of Rs 2.2 billion would be spent on the power requirement of 130 MW alone. For the present bus system in the city it is known that the energy-to-labour cost ratio is about 1:5. A Metro system requires fewer workers to operate the system but more to maintain it. Hence, even if we take a lower ratio of 1:3, the total cost of running the Metro may be in the range of Rs 8.8 billion. In other words, even at peak performance (with a gross ticket sale of Rs 6.7 billion) there is no way that the Metro can make a profit. In reality, it may make very large losses and will have to be heavily subsidised. Or else there will have to be some other source of income. A clue to this lies in the fact that the DMRC is planning to put the Metro land to more intensive use. 14 out of the 45 stations would have commercial areas with a total floor area of over 640,000 m². At current prices of Rs 30,000 per m² this would fetch the DMRC roughly Rs 19.2 billion. This may have been enough to pay for the earlier investment estimated at Rs 18.54 billion, but it is not even 40% of the current estimate of Rs 48.6 billion. All this means that the Indian people will be paying a heavy price for a long time to come for a supposedly *environment*-friendly technology being provided by the Japanese.

Why “supposedly” *environment-friendly*? Is there any doubt that the Metro will not improve the *environment*? Consider what will happen when power supply fails – as it frequently does in Delhi, which suffers from a chronic shortage of power. DMRC has provided for a 70 KVA diesel generating set at each station for emergency supply and these will generate more localised pollution at the stations. In addition, every station will have to be connected to bus feeder systems that will carry passengers to and from the stations. For instance, at the intersecting Bus Terminus it is estimated that there will be 10,000 passengers every hour who will need some other transport to get to their final destinations. It has also recently been disclosed that the Government is planning to permit high-rise commercial development all along both sides of the Metro route to generate more income. This will create even more pressure on land and services in corridors where the density of movement is significantly high. And as employment opportunities increase in these corridors, more and more people will be travelling from the outskirts of the city to reach their workplaces – and not all of them will be able to travel by Metro. Even DMRC has built its own residential colony in the extreme south, 15 km away from the nearest Metro station! This kind of congestion is not likely to improve the *environment*.

Is the Metro then the only *environmental* alternative? Can commuters not be transported in any other manner? DMRC makes the somewhat unbelievable claim that the Metro will displace 3500 buses. Those 3500 buses would have cost Rs 4.2 billion – or only 9% of what the Metro will cost – while carrying the same number of passengers with less pollution. The railways had offered to upgrade their existing Ring Railway (which circles the city and connects all the major routes) at a marginal cost of Rs 9 billion, to carry more passengers than the Metro. And independent transport planners had proposed a High Capacity Bus System equivalent to the Metro but costing only Rs 2 billion. But neither have these proposals been accepted by the “authorities”, nor has any effort been made to compare their environmental-cost benefits. Probably because the larger the investment, the bigger will be the profits for the financiers and contractors. What we are, therefore, clearly seeing is the *commercialisation* of the *environment*. It has little to do either with decrease in pollution and degradation, or with benefits to the citizens. What is at the core is the huge investment of capital, the making of profits by a few, and the payment of the costs by the many. Is this the new model of sustainable development that world leaders have been discussing at Johannesburg? Is this what has brought the people marching out on the streets? Is this the progress that the eastern sun is rising on?

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