

Developing Asia

The bicycle's role in eliminating widespread poverty

by ALAN PARKER

Today, developing Asian countries – China, India, Taiwan, Pakistan, Bangladesh, Malaysia, Thailand, Burma, Korea, Vietnam and Indonesia – hold 3 billion people and 700 million bicycles, two-thirds of the world bicycle fleet. Here I consider the growing role of the bicycle as a development aid in Asia, addressing constraints of poverty and over-population. Directing limited resources to bicycle transportation is a wise long term investment while decisions squeezing cyclists from the roads risk slowing down economic development and perpetuating rural poverty and urban slum conditions.



ABOVE: Bicycles and the Indian worker in Bombay. Photos by Alan Parker



ACCORDING to the United Nations World Health Organisation, extreme poverty is the biggest single cause of death, disease and suffering worldwide. Many of the world's poor live in developing Asia, suffering lack of access to safe drinking water, adequate nutrition, energy – and bicycles.

If poor Asian families could afford it, there would be another billion bicycles in use. Doubling, and in some poorer villages quadrupling, current levels of bicycle ownership would greatly improve quality of life. It is vital that the cheap, reliable bicycles manufactured in Asia reach the people who need them most. This has already happened in China, is underway in Malaysia, Thailand, Taiwan and South Korea, and starting to happen in Indonesia. In Indian sub-continent countries, the benefits of economic development are mostly being swallowed up by population growth. In some countries, cyclists are being driven off the roads.

Asian bicycle production

Building bicycle factories in the last 30 years is one of the best things ever done in develop-

ing Asia – relieving poverty by enhancing personal mobility and load carrying capacity, as well as generating employment and export income. The Shanghai Phoenix Group, world's largest bicycle manufacturer, makes over 6 million bicycles a year, Shanghai Forever over 4 million and Hero Cycles of India another 4 million. Asia also supports hundreds of small-scale bicycle businesses.

In 1995 Asia exported 15 million bicycles, generating foreign currency to buy plant and machinery. The graph shows growth of bicycle production for domestic use and export by major producing nations. In total, 72 million bicycles were manufactured in Asia. On present trends it's bicycle fleet should reach 1.5 billion by 2010 (Parker, 1996).

Unfortunately, simple projections give no idea of the long term potential for the productive use of bicycles in Asia. The limited resources available in early stages of development need to be directed to the most productive projects that benefit the most people. The resources used to make one car can produce 50 bicycles. For countries with limited petrol resources and limited export earnings to pay for petrol, this should simplify decisions on manufacturing passenger vehicles.



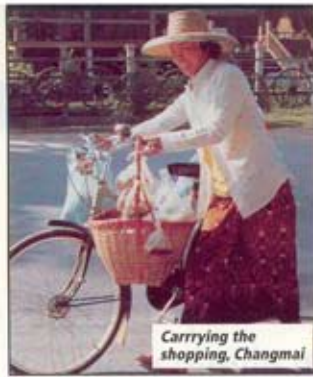
Visiting friends in
Changmai, Thailand

China, while off-limits to capitalist investment, produced millions of bicycles and now cars. Now with a fleet of 450 million bicycles, China is in a position to manufacture a

limited number of cars while continuing strongly as a bicycle manufacturer. Transport economics for poor countries is brutally simple, get the nation's collective bum on the bike or they will never drive. In poorer countries suffering overpopulation and poverty, there is a real need to get a billion or more bicycles to the people who need them most.

The Asian bicycle boom and economic development

Three reasons for the ongoing Asian bicycle boom are the bicycle's mechanical advantage over walking for moving passengers or loads, growing population generating growing demand and new relationships between people and machines produced by the industrial revolution. A bicycle travels 3.5 times the distance for the same energy as walking and gives access to 10 times the area. A cyclist can engage in far more activities for the same



Carrying the shopping, Changmai

effort. The ergonomic advantage of pedalling helps explain the use worldwide in 1988 of 3.3 million bicycle rickshaws (Replogle, 1992). The transport tricycle substitutes for taxis, vans and trucks in moving goods and people. Bicycles are well used in Asia today to make a living, as the photos show.

Today millions of cyclists travel between villages on dirt roads, even in the rainy season, when cars are immobilised and 4-wheel drive vehicles struggle.

By 2050 Asia will be home to 5.3 billion people, 2.3 billion more than today. Barring war or epidemic, Asia will have to live with its growing population (Karlen 1996). Since 1980, when 75% of Asians were village dwellers, there has been a massive exodus to urban areas. Asia will only be able to manage population growth and urbanisation through sound strategic planning, gaining the greatest benefit from limited resources by emphasising, for example, bicycle transport.

Yet, with the exception of China, transport planners have mostly ignored cycling and, in some cases, tried to ban bicycles on urban roads. In 1995 Hanoi's young administrators told foreign visitors they wanted to pull down historic areas of the city, encourage motor traffic and discourage cyclists.

Mass use of bicycles as low-cost transport is a necessary aid in economic development. Bicycle use contributes to reducing transport costs and the hidden social costs of transport. In most developed countries bicycles played an important role as cheap transport for both farm and industrial workers up to 1950.

China, India and Indonesia are now rapidly industrialising and producing around 60 million bicycles a year to help them develop. China is following the same path as the developed nations between 1905 and 1955, only faster. Bicycle ownership in China has increased 20-fold from around 20 per 1000 population in 1965 to 400 in 1996. China's 450 million strong bicycle fleet, the world's largest, is increasing by 36 million a year as China modernises and moves towards a stable human population of 1.6 billion in 2030. Bicycle ownership will probably increase to 75% by 2010. With its 8% p.a. growth rate, China is building 25,000 km of high-speed roads and expanding its rail system with 4,800 km of new track for fast trains. However, without mass bicycle use over the last 20 years, China would have experienced slower economic development and lacked the power

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to buy foreign technology for other transport infrastructure. There were very few cars in China in 1994, no more than 8 per 1000 population, and its high speed roads will mostly carry freight and commercial traffic.

Industrialisation, birth control and bicycles

The history of the first industrial revolution shows it was supported by population controls of war and high emigration rates. The bicycle, far from being a symbol of backwardness, signifies a society able to meet its passenger transport needs in the most cost effective and sustainable way, enabling scarce economic resources to be invested elsewhere (Hooke, 1994). China is successful in this but not so India, Bangladesh or Pakistan. Even so, the Asian boom in bicycle ownership has expanded the world fleet to over a billion. Growth will be concentrated in developing Asia where 75% of people live rurally, have limited resources and low car ownership.

With development being retarded by increasing human population it is madness for governments to increase the private car population as well; car use is too resource-intensive. Apart from increased population growth and uncontrolled drift of the rural poor to cities, there is also uncertainty about future resource availability, particularly of oil after 2007. Global warming is predicted to reduce Asian production of wheat, rice maize and corn by up to 10% (Houghton 1994). Planning for the sensible and safe use of bicycles is a good risk management strategy for conserving resources, reducing emissions and ensuring social equity for future generations.

A model for city managers is Curitiba, a Brazilian city of 2.2 million, which has also experienced massive inflow of rural poor. It demonstrates the value of bicycle-friendly urban areas and a bicycle/public transit dual-mode system. Japan also offers important lessons in bicycle transport (Parker 1993).

Whether or not bicycle transport flourishes in Asia depends on developing nations learning to green their industrial revolutions, restraining population growth and car use. Many cities have already proven that bicycles are not a problem, but part of the solution.



References

- Age, 1995, *Population rising more slowly than predicted*. Data published from new report by the US research body Population Reference Bureau.
- Carter, E. F., 1962, *Cycles and Motor Cycles*, Burke Books, London.
- C. E. O. W., 1991, *Record 9. Cycling in the city, pedalling in the polder*. Centre for Research and Contract Standardisation in Civil and Traffic Engineering, The Netherlands.
- Cycle Press 1996, *Bicycle production data for Asian countries* published Tokyo, Japan.
- Hook, W., 1994, *The evolution of Japanese urban transportation and non-motorised transport* Paper No. 940954, Transport Research Board 73rd Annual Meeting, Jan 9-13 1994 Washington D.C.
- Houghton, John, 1994, *Global Warming: The Complete Briefing*, Lion Books, Oxford England.
- Karlen, A. 1996, *Plague's Progress: A Social History of Man and Disease*, Victor Gollancz, London.
- McGonagle, S., 1968, *The Bicycle in Life, Love, War and Literature*, Felham Books UK.
- Parker, A. A., 1993, *50 years of transport cycling in Japan, 1950 to 2000*. *Australian Cyclist*, Bicycle Federation of Australia, Volume 17, No 1, Feb-March 1993.
- Parker, A. A., 1996, *One Hundred Years of Bicycle Mass Production: One billion bicycles*, pp. 19-22, *Cycle Press*, No 109 Dec-Jan 1996, Tokyo, Japan.
- Rabinovitch and Letman, *Urban Planning in Curitiba*. *Scientific American*, pp 28-33, Volume 274, No 3, March 1996.
- Replogle, M., 1992, *Non-Motorised Vehicles in Asian Cities*, World Bank technical paper number 162, Asia Technical Department Series, Washington, D.C.



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