Published in India Quarterly, Special Number on India-Asia-Pacific Relations January-March, 2008*, Indian Council of World Affairs, New Delhi)*

THE NEW RACE: ENERGY AND CLIMATE CHANGE

by
NITIN DESAI

Asian countries differ greatly in the options available and the constraints that bind their energy prospects. West and North-West Asia are energy rich with huge reserves of oil and gas in the Gulf region and in the Central Asian "stans". The part of Asia which lies to the East and South of these areas, call it Monsoon Asia for convenience, is energy poor, particularly in petroleum resources. Hence to speak about 'Asian' imperatives when it comes to energy and climate change is misleading. In any case 'Asia' is only a geographical expression and, as an idea, has played only a minor role, if any, in shaping geo-political perceptions in the region. This contribution focuses mainly on Monsoon Asia.

Oil demand and supply is the key geo-political issue of energy policy. The World's oil resources are heavily skewed with large reserves found only in a few locations while demand is widespread. Moreover there is as yet no liquid fuel that can compete with petroleum in transportation. Hence crude oil and petroleum products are the most important traded commodities in the world. Fluctuations in oil prices and availability have a huge impact on even large economies and oil embargoes are a potent weapon in international politics. That is the strategic significance of oil and why oil diplomacy is central to the foreign policy agendas of all countries.

Five Middle Eastern states, Saudi Arabia, UAE, Kuwait, Iran and Iraq, account for over 40 per cent of the oil traded internationally. The global significance of the Middle East will increase as most projections of world petroleum demand and supply show a growing dependence on Gulf oil. About two-thirds of the world's oil reserves lie in West Asia and the US Government's Energy Information Administration estimates that the production of oil in the Gulf region will have to double by 2030 and much of this increase will be on account of burgeoning demand from Asia. The sources of additional production and the location of demand growth between 2003 and 2030 in the EIA's reference scenarios are expected to be as follows:

Projections of Oil Production and Consumption

Increase in production (million barrels per day) 2003 to 2030

Middle East 10.0, Caspian Sea Area 5.5, Africa 4.9, Unconventional new sources 9.7, All the other areas, 8.3, Total increase 38.4

Increase in consumption (million barrels per day) 2003 to 2030

China 9.4, India 2.2, Rest of Monsoon Asia 4.7, USA 7.5, Rest of the OECD 2.7, Rest of the World 12.0, Total increase 38.5

Note: The base level from which the increase is measured is 80 million barrels per day
Source: International Energy Outlook, Energy Information Administration, US Dept. of Energy, Washington, June 2006

The figures given in the box show how dependent the world and the countries in Monsoon Asia will be on supplies from the Middle East and new sources in the Caspian region, Africa and non-conventional sources like the tar sands in Canada. The countries in Monsoon Asia have only limited sources of energy. Their high levels of growth will mean that their energy consumption will rise from around 28 per cent of the world total at present to around 38 per cent by 2030. The key issue however is the dependence on imported oil. Monsoon Asia as a whole will absorb around 40 per cent of the world's petroleum. Where will this come from and how secure will be the supplies?

Take the projections presented above of where substantial production increases can be expected. The Caspian region is part of a resurgent Russia's sphere of influence and the supply links between Russia and Europe may draw in most the supplies from this area. Africa is where the US companies are establishing a strong foothold and Asian countries may have to be satisfied with the crumbs. Therefore China, India and the other countries of Monsoon Asia will have to depend heavily on supplies from the Gulf region which is close geographically but quite distant politically. By 2030 China alone will import about 800000 tonnes or two to three supertanker loads of Gulf oil per day.

The Gulf region has a huge US military, diplomatic and economic presence. Except for Iran all the other major suppliers in the region have strong links with the US. Hence China, India and the other countries of Monsoon Asia have made little headway in securing concessions in this region other than some limited developments in Iran.

China is making some progress in Central Asia where it has a major deal with Kazakhstan (which India competed for and lost), Sudan and several other smaller developments in Asia, Africa and Latin America. China is also building a long-term relationship with Russia in the development of oil and gas in Siberia, for which China is perhaps the only viable large consumer. India is a relative newcomer in this global game of oil concessions. The major overseas assets of ONGC are its 25 per cent share in the Sudanese company that owns and operates several concessions (the same one in which the China National Petroleum Company has a 40 percent share and the Malayasian company, Pertronas has a 30 percent share), and its 20 percent share in the Sakhalin field in Russia operated by Exxon-Mobil.

The flow of oil from these concessions is very modest in relation to the import demands of the two countries. In any case logistical and commercial concerns are such that the oil from these areas does not flow directly to China and India, but is sold on world markets.

But should this matter? Oil is a fungible commodity. If it comes on to the market you can buy it and if something prevents it from coming on to the market, ownership rights in the oil field will not make much difference. Such ownership rights do not reduce the risks of disruption from political disturbances at the supply source or on the transport routes.

Japan and South Korea are examples of countries that import huge qualities of oil without any substantial stake in the ownership or production of the crude. They have not made the securing of concessions a central part of their search for energy security. Diversification of supply sources, developing nuclear energy to reduce oil dependence, a strong presence in oil transport and a major role as suppliers of construction and other services to oil producers are some of the things that Japan and South Korea have done to reduce supply disruption risks and to create mutual dependencies which would require oil producers to take account of their concerns.

Why then are the Chinese, and to a less successful extent the Indians, in such hot pursuit of concessions? Perhaps what they are protecting themselves against possible discrimination by Western oil companies who may play favourites in a short supply situation. But the real powers of disruption do not rest with these companies; they rest with governments in the producer countries. Monsoon Asia is emerging as the major buyer and will absorb three-quarters of the increase in production in the Gulf region over the next three decades. As for natural gas in the Gulf region, Asia is perhaps the only viable client. It is possible that the producer country governments are the ones who are driving this process of engaging with China, India and others as part of a process of lessening dependence on the West.

China, India and the other countries of Monsoon Asia can secure predictable and reliable supplies of oil from the Middle East as long as the producer interests there are interested in making money. In fact the bargaining power of the buyers in Monsoon Asia will increase as they become an increasingly important part of the global oil market. There are no grounds for supposing that the Middle Eastern countries will want to use the "oil weapon" (in the form of an export embargo) against any Monsoon Asian country as they do not have any serious political differences with them. The uncertainties will come from supply disruptions that may arise if there is a serious conflict in the Gulf.

From a geo-political perspective a measure of control or influence along the routes through which oil passes in tankers or pipelines is much more important than the ownership of oil at the source. There are a set of marine choke points in the Malacca straits, at Hormuz in the mouth of the Gulf, Bab el Mandeb at the western end of the Red Sea and the Suez Canal that could threaten the flow to Monsoon Asia. These threats could come from pirates and terrorists or hostile powers. They may not even be deliberate but a by product of some other conflict.

The routes from the Gulf are the crucial issue. Two countries, USA and Saudi Arabia dominate one shore of the Gulf and Iran the other. Energy security for China or India or any other country in Monsoon Asia is not a goal that these countries necessarily share.

But the Gulf is also a volatile region and can one rule out moves by the powers of Monsoon Asia to project their military capacity if and when the region boils over? Monsoon Asia's strategic vision has to include the power equations in the Gulf region.

Within Monsoon Asia the Spratly Island dispute is one possible source of supply disruption at the eastern end. Six countries-China, Taiwan, Vietnam, the Philippines, Malaysia and Brunei-have competing claims to all or part of this archipelago and surrounding maritime space. Prospecting data indicate that abundant supplies of oil and natural gas, comparable to some large Middle East deposits, lie in the area of the Spratly and Paracel Islands. The tanker traffic through the area is huge as the supplies to China, Japan and Korea have to traverse this disputed area. There have been a few skirmishes already though a general recognition of the huge costs of supply disruption have prevented these from escalating beyond probes and pinpricks. In the longer term, resolving this dispute amicably may be essential to ensure energy security in East Asia.

The classical approach of looking at energy security largely in terms of oil demand and supply is now being modified by the growing global concern about climate change. Global warming, the main human-induced dimension of climate change, is a function of the stock of carbon dioxide in the atmosphere. The bulk of the increase so far has come from the industrial countries and they are justifiably being asked to take on the greater part of the burden of adjustment both in terms of reducing emissions and bearing the costs of mitigation and adaptation that will have to be borne by developing countries. But Monsoon Asia will be the major source of future emissions as is clear from the estimates presented in the box below:

Increase in carbon dioxide emissions from energy use

Increase in billion tonnes of carbon dioxide emissions 2003-2030

North America 2.94, OECD Europe 0.86, Monsoon Asia 10.51, Rest of the World 4.39

Note: The base level from which the increase is measured is 25 billion tonnes of CO_2 emissions from energy use
Source: International Energy Outlook, Energy Information Administration, US Dept.of Energy, Washington, June 2006

Apart from the fact that they have no historical culpability for the problem, China, India and the other developing countries of Asia can justifiably point to their low per capita emissions-in 2003, 0.9 tonne of carbon dioxide from energy use per capita per year in India and 2.7 tonnes in China as against around 8 tonnes in Europe and nearly 20 tonnes in USA according to the data put out by the US Energy Information Administration. However they cannot aim at current OECD levels of energy use as then global emissions would reach levels at which unacceptably serious climate risks would arise. Asian countries have to recognize that they will bear much of the burden of climate change as is indicated in the assessment of the impact on Asia by the authoritative Intergovernmental

Panel on Climate Change which is presented in the box below. A global climate regime that contains emissions is in their interest and may even be an opportunity for them to enhance their energy security.

Impact of climate change in Asia

- Climate change is projected to impinge on sustainable development of most developing countries of Asia as it compounds the pressures on natural resources and the environment associated with rapid urbanisation, industrialisation, and economic development.
- Glacier melt in the Himalayas is projected to increase flooding, rock avalanches from destabilised slopes, and affect water resources within the next two to three decades. This will be followed by decreased river flows as the glaciers recede.
- Freshwater availability in Central, South, East and Southeast Asia particularly in large river basins is projected to decrease due to climate change which, along with population growth and increasing demand arising from higher standards of living, could adversely affect more than a billion people by the 2050s.
- Coastal areas, especially heavily-populated mega-delta regions in South, East and Southeast Asia, will be at greatest risk due to increased flooding from the sea and in some mega-deltas flooding from the rivers.
- It is projected that crop yields could increase up to 20% in East and Southeast Asia while it could decrease up to 30% in Central and South Asia by the mid-21st century. Taken together and considering the influence of rapid population growth and urbanization, the risk of hunger is projected to remain very high in several developing countries.
- Endemic morbidity and mortality due to diarrhoeal disease primarily associated with floods and droughts are expected to rise in East, South and Southeast Asia due to projected changes in hydrological cycle associated with global warming. Increases in coastal water temperature would exacerbate the abundance and/or toxicity of cholera in South Asia.
- *Source: IPCC WGII Fourth Assessment Report*

The developing countries of Asia will find it difficult to sustain the argument that the responsibility for addressing global climate change risks should only involve obligations on the developed countries for more than a decade or less. A global regime may distribute burdens on the basis of past emissions. But it cannot undo the past and can only constrain future emissions, the bulk of which will come from Monsoon Asia. The recently concluded Climate Conference in Bali came out with a negotiating agenda that calls for developing countries to implement "nationally appropriate mitigation strategies" but also calls for financial and technology transfer support to allow them to do this. A major factor is the reluctance of the largest emitter, USA to accept any obligation unless the big developing country players are brought into the framework.

The outcome of the negotiations launched at Bali will not be known for a couple of years. A great deal of posturing and pretence can be expected as countries seek to pass on as much of the costs and responsibility for adjustment to others. Europe has already signaled its willingness to reduce its emissions by 2050 to half of the present level. India, on its part, has indicated that it would keep its emissions below the average for the industrial countries. But regardless of the outcome, the China, India and the other

countries of energy deficient Monsoon Asia will have to recognise that we will live in a carbon constrained world and that this constraint is in their interest as the consequences of climate change will be quite severe for all of Asia.

Energy security will increasingly depend on access to carbon saving technologies – high cost items like carbon sequestration and nuclear energy and other lower cost options like energy efficiency and solar, wind and geothermal energy. In these areas the true measure of security is not any command over a natural resource but technological competence. Asian countries, with their large pool of technicians, engineers and scientists, can aim at catching up with the West which they cannot in their search for security of oil supplies. Hence the pressures coming from the global concerns about climate change may well be a blessing in disguise and allow the countries of Monsoon Asia to greater self reliance and security in the energy supplies of the twenty-first century. The energy race that Monsoon Asia must try and win is not so much for oil concessions but for access to and competence in carbon saving technologies.