CHAPTER VI

CONCLUSION
National Security is holistic concept and energy security is one of its important ingredients. Energy security essentially implies ensuring uninterrupted supplies of energy to support the economic and commercial activities necessary for the sustained growth of the economy. The critical relevance of this concept for India emanates from the growing imbalance between the demand for energy and its supply from indigenous sources implying thereby growing import dependence for essential requirements of the nation.

India launched the New Economic Policy in 1991 which led to the liberalisation of Indian economy. Due to this, rapid industrialization and urbanization took place. This resulted into increase of per capita income which in turn raised the use of energy intensive products and thus the demand for energy. Increase in economic activity and income brought about by economic growth can expand energy demand in various ways. In the industrial sector, increased level of production requires an increase in the use of energy as an input factor. In the household sector, income growths can bring about increased demand for energy dependent life-styles. In addition, income growth promotes shift in fuel use from traditional energy life, like fuel woods, charcoal and animal residue to commercial energy like oil and natural gas. Income growth brings about an increase in the number and the uses of vehicles. About 27.2 percent of India’s population was urbanized in 2005, which is estimated to grow to 45.8 percent by 2030. About 6 million new cars were running on roads in 2005. This is expected to be 200 million by 2030. As far as India’s primary commercial energy consumption is concerned it is expected to increase to 812 million tonnes of oil equivalent by 2030 from 376 million tonnes of oil equivalent in 2004-2005. In short, economic growth has rapidly increased India’s demand for energy consumption.

India is both a major energy producer and consumer. India currently ranks as the world’s eleventh largest energy producer, accounting for about 2.4 percent of world’s total energy production and as the world’s sixth biggest energy consumer accounting for 3.3 percent of the world’s total annual energy consumption. Despite its large annual energy production, India is a net importer, mostly due to the large imbalance between oil
production and consumption. The production of oil remains constant on about 32 million tonnes during 2001 to 2006 while, the consumption raised from 103 million tonnes in 2001 to 130 million tonnes in 2006. About 30 percent of India's energy needs are met by oil and more than 70 percent of that oil is imported. Oil is the main fuel of choice in the transport sector which accounts about 50 percent of total oil consumption in the country.

India has about 0.5 percent of world's natural gas. Natural gas has experienced the fastest rate of increase of any fuel in India’s primary energy supply. Its demand is growing at about 4.4 percent trillion cubic feet a year. This forced India to import gas for the first time in 2004, in the form of LNG. It shows the decline of the dominance of domestic gas with India becoming increasingly dependent on imported gas. In India natural gas is used mainly for power generation and in the manufacture of fertilizer. Other sectors include transportation, agriculture and house hold. Being environment friendly there is huge demand for vehicular compressed natural gas. In line with its predicted strong economic growth the country will need to add 150,000 MW of additional installed power generation capacity in 2025. Gas is predicted to account for about 20 percent of generation capacity in 2025, up from its current share of 10 percent.

India is world's third largest consumer of energy from coal, consuming 204.8 million tonnes of oil equivalent. Coal is mainly used for the thermal power generation and steel and cement industries. But coal is environment unfriendly because it emits green house gases. So, its dominance an energy source in India has slowly been decreasing. India is the eighth largest consumer of hydroelectricity in the world and it accounts only 5 percent of the country's total consumption of commercial energy. Currently, there is an installed capacity to produce only about 31,000 MW of energy. Though India has potential to generate 150,000 MW of energy through hydro sources there are certain constraints in achieving it like opposition on environmental and social grounds, as these projects can displace larger number of people. Due to this reason projects clearances take time. That is why the World Bank and other agencies are reluctant to fund hydroelectricity projects.
Nuclear energy accounts only one percent of India’s primary commercial energy consumption and 2.6 percent in power generation. India has limited quantities of uranium to produce only 10,000 MW. Though India has a large reserve of thorium however, nuclear energy from thorium is an expensive proposition. Nuclear energy involves a number of waste disposal and safety issues that have not been fully resolved. As far renewable energy sources are concerned they are “false gods”- attractive but powerless. They are capital and land intensive and solar is not yet remotely cost competitive because solar-generated electricity is still four times more expensive than nuclear energy. Thus the hydrocarbon energy especially oil and natural gas remains the main energy sources while other are supplementary energy sources. As there is imbalance between production and consumption of petroleum energy so, India is forced to look for energy security. In other words, the growing imbalance between energy demands and supplies compel India to seek effective energy security strategies.

Energy security options available to India are deregulation and liberalisation, strategic intervention, fuel substitution, oil diplomacy for equity and gas supplies. For deregulation and liberalisation, the government dismantled APM, issued NELP rounds and passed Petroleum and Gas Regulation Bill 2006. But in real sense still a complete deregulation and liberalisation of petroleum sector are a distance dream. The official influence can be seen in personal appointments and extensions as well as in price setting. Boards of the oil companies have both independent and government directors. Since, the government is the main promoter it can nominate two persons on the board and it also has a role in approving other directors. Independent directors also appointed by the Cabinet from the list forwarded by the companies. Generally, such appointments are politically motivated. The government has the dominant role in appointing the management of state owned companies.

The government interferes in purchasing decisions and plays a role in determining prices and production targets. The production targets of all navaratna National oil companies are set through Memorandum of Understandings between the Ministry of
Petroleum and Natural Gas and the concerned companies. Some times the oil marketing companies are told by the government to sell their products below cost. For example during 2006, these companies posted a net loss because the government held the retail prices artificially low despite increasing global crude oil prices.

Six NELP rounds have been held so far, results are not satisfactory due to various shortcomings and prolonged delays. The lack of clarity on the tax structure and too much bureaucratic involvements and lack of coordination among the Ministry of Petroleum and Natural Gas, Ministry of Finance and Ministry of Environment and Forest further hampers progress. There is a need for massive private investment in the energy sectors but private investors are hesitant to enter the market because they consider it to be an unlevelled paying field due to preferential treatment for state owned companies. Lack of clarity in terms of market structure and lack of reform on pricing make it unprofitable for them to invest. The APM is yet to be fully dismantled and the shift to a market based pricing system is incomplete. The prices are based on the principle of import parity, but in reality the government continues to set retail prices. Though the government passed the petroleum regulatory bill in 2006 however it was not structured to have authority to regulate the upstream sector. The independence of the board is in question as every regulation it introduces would have to be put before in both the Houses of the parliament.

For fuel substitution, India is concentrating on coal bed methane, underground coal gasification, gas hydrates; ethanol blended petrol, bio diesel and hydrogen fuel cell. But their commercial development is in nascent stage. Their utilization at commercial level is comparatively costly and requires a rigorous research and development programme. Bio diesel and biomass projects divert much needed water and fertilizers. For the production of fertilizers natural gas is required in large amount. Thus the fuel substitution faces financial, technological or logistical problems.

Oil diplomacy and diversification of petroleum supplies are other options available to India to attain energy security. Oil diplomacy is intended to aid Indian
companies to obtain energy deals, ensuring secure supply, laying the groundwork for cooperation and attracting investment and technology in India’s downstream sector. Due to oil diplomacy Indian oil companies have acquired equity or stakes in Egypt, Sudan, Brazil, Canada, the US, Australia, Vietnam, Iran, Iraq, Syria, Russia, East Timor, Gabon, Libya, Oman, Qatar and Yemen. Recently the Venezuelan President Hugo Chavez offered Indian companies a 49 percent stake in the San Cristobel field of Venezuela.

Stakes in overseas exploration and production companies and equity in oil and gas blocks seems an answer to India’s susceptibility to volatile international oil prices because of its dependence on foreign oil. In fact equity oil abroad ensures cheaper and reliable oil supply. For example, OVL is getting equity oil at US $14 a barrel. However, only 25 percent of India’s oil needs could be met even if all its overseas assets were producing oil. Indian companies face setbacks in acquiring stakes and equity abroad. Overseas projects proposed by a state owned companies beyond a certain amount must be approved by the government. In 2004, OVL lost out to Chinese company in acquiring producing assets in Ecuador when the Indian government did not let it raise its bid of US $1.4 billion. In 2004 too, Indian company lost to that of Chinese in acquiring Block 18 in Angola. In 2006, OVL lost to Sinopec for the producing OAO Undmurtneft fields in Russia. India’s late start in the acquisitions game, lack of ability and willingness to offer more direct and indirect incentives are other reasons for the setbacks of Indian companies.

India imports about 65 percent of its oil requirements from the Persian Gulf. But this region is volatile so compelling India to diversify its oil and gas supplies. India can get oil and natural gas from the Caspian basin, South East Asia, Atlantic basin and Russia Far East. The Caspian region is not only best with political, legal and practical challenges but also its estimated 200 billion barrel proven reserves of oil have been scaled down to around 25-30 billion barrels. The oil and gas reserves of the Caspian region are land locked and the only possibility of evacuation of oil and gas is through pipelines which are more expensive. Where oil in Saudi Arabia can be produced for order
US $3 per barrel, the expensive transport costs of Caspian oil mean that oil companies need about US $13 a barrel to turn a profit from the Caspian oil export. Thus, it is costly to India.

As far as South east Asia is concerned the main oil exporters such as Malaysia and Indonesia have become net oil importers. Atlantic basin crude is priced lower than West Asian crude. However transportation costs to India are higher and they can therefore, provide only a safety net in terms of security as well as a bargaining chip in price negotiations with the West Asian countries. The large scale imports from Nigeria would not be feasible an account of extra freight vis-à-vis supplies from the Gulf.

The Russian Far East region is a potential energy asset to the Asia-Pacific region. However, the transportation of the gas requires the construction of a 3,700 Km long pipeline which is not commercially feasible due to high costs of a long distance pipeline and the terrain. India can get gas from Myanmar through Myanmar-Bangladesh–India pipeline. But it has met with resistance from Bangladesh which wants substantial trade concession from India. Bangladesh also faces domestic political opposition to this pipeline. If the pipeline circumvents Bangladesh then it has to cover five times longer distance than the original proposal resulting in higher cost.

From the Gulf India can get petroleum at cheaper rate. For example, it costs some 40 Cents per MNBTU to ship LNG from Qatar to Gujarat and 35 Cents per MNBTU from Oman. At the same time it costs 95 Cents per MNBTU from Australia and 91 Cents per MNBTU from Indonesia and 68 Cents per MNBTU from Malaysia.

So, the possibilities for diversification of oil and gas supplies in the near future seem to be some what remote. India thus has to live with the fact that it will continue to be dependent mainly on Persian Gulf for meeting its energy requirements because more than two-thirds of the world’s oil reserves and 30 percent of the world’s gas reserves are located in this region and it fulfils 65 percent of India’s total oil needs.
Exporting country views of energy security are in several respects same like the importing country. While an importing country is concerned primarily with access to resources and supply security, an energy exporter is preoccupied with access to markets and security of demand. An exporter may seek to guarantee its access to foreign markets through measures such as long terms supply contracts, downstream investments and so forth. The important point is that once an energy exporter perceives that its particular security interests are served by pursuing inter-dependence, there will emerge a wide area of fruitful negotiations with importers which similarly perceive their security interests. Such common perception has emerged between India and the Persian Gulf relations. India is an emerging market for petroleum because of the high demand for petroleum due to rapid economic growth. India is also important for the Persian Gulf countries development programme as Indian technology is available at cheap rate in comparison to other countries. Strong trade relations between India-Persian Gulf countries regulate the principle of interdependence which is one of the important criteria for the stability of energy security. Hence, Indian energy security concern demands that it be engaged with the region on all the efforts towards this objective as the Persian Gulf remains the principal energy supplier for India.

However, there are certain hurdles between India- Persian Gulf relations as far as energy security is concerned. Energy security in essentially a geopolitical issue and is therefore, subject to the hazards of the international situation. Because, the Persian Gulf has the largest proven oil reserves, it is the main hub of oil production. The current surplus capacity concentrates in Saudi Arabia, Kuwait and the United Arab Emirates. The situation implies, that should oil supplies from these producers be disrupted seriously, no other oil producers in the world can offset the loss in the global oil supply.

Territorial disputes, stagnating peace process, growing disenchantment with the US policy towards the region, and political and economic difficulties facing the states of the region are some of factors liable to complicate the geopolitics of the region. There are many concurrent boundary and territorial disputes among the countries of the Persian
Gulf region over land and maritime areas. Some of these conflicts involve areas of considerable size, natural resources as such as oil gas, and water and strategic importance. The Palestinian problem is one of the main causes of instability of the Persian Gulf. It has witnessed four major wars and periodic tensions. The most serious challenges facing the Gulf States are the domestic one. The weak economy, rising unemployment, threat of political Islam and demands for greater political participation and the slow process of democratization are some of the major domestic challenges facing these counties.

Instability in the Persian Gulf region has led to oil crisis several times; the first oil crisis occurred in 1973 due to Arab-Israel war and second oil crisis occurred during the Islamic revolution of Iran in 1979. The 1981-82 oil crisis was due to Iran-Iraq war and the 1990 energy crisis was caused due to the Iraqi invasion of Kuwait in August 1990. Political stability is crucial ingredient in the oil production and price stability. However, since the US-led invasion war on Iraq there have been more than eighty attacks on Iraq oil facilities, leading to major surge in international oil price.

One of the salient features of India’s foreign relations with the West Asian countries is that they are influenced by the nature and extent of her relations with Pakistan. Pakistan is a constraint in the implementation of various Iran-India energy projects like Iran-Pakistan - India Gas pipeline.

China is also an important hurdle for India-Persian Energy Relations. China is trying hard to establish closer ties with the West Asia politically, strategically and economically Chinese oil companies are intensely competition with Indian oil companies to acquire petroleum acreage in different parts of the world including the Persian Gulf region.

The US interest in the Gulf is to control its massive petroleum resources. Washington is interested in having a say in the amount of oil production, its free trade and resulting world prices of oil. Certainly, this affects India-Persian Gulf relations.
Partly due to US opposition, for example, Iran-Pakistan-India gas pipeline is take to take shape.

Energy security is an important ingredient of the national security. Energy security is valid for energy importing as well as energy exporting countries. For importing country it involves uninterrupted supply of energy while for exporting country it is availability of huge market and continuous demand for energy. Oil and natural gas are important energy resources. While these resources are limited, the consumption of it is very high. The economy of a country is based on energy. Hence to keep sustained economic growth energy security is essential. Despite domestic substitute fuels and external alternatives, the Persian Gulf region will continue to be vital for India’s energy security. Because energy security is a mutually complementary, India would have to have seek a holistic approach not only in meeting its growing energy needs but also to seek and expand its cooperation with the countries of the Persian Gulf. Such cooperation would have to be political as well as economic. At least in the foreseeable future, India will continue to rely on the Persian Gulf countries to meet its ever growing energy needs.