

International Monetary Fund and the World Bank as original members. By the end of 1945 a substantially large number of countries had ratified the agreement permitting the IMF and World Bank to come into existence. The present membership of both these institutions is 182 countries.

In this chapter we propose to discuss the following issues:

- Objectives and working of the IMF with special reference to the types of assistance granted by IMF.
- Functions and activities of World Bank.
- Overlapping roles of IMF and World Bank in recent years.
- Conditionalities imposed by international institutions for granting assistance.
- A critical review of the role played by IMF and World Bank.

■■■■ THE INTERNATIONAL MONETARY FUND ■■■■

The International Monetary Fund is controlled by a Board of Governors who meet once in a year to take major policy decisions. Among their tasks is to appoint the Executive Board, members of which (the Directors) are responsible for detailed policy decisions. The Chairman of the Executive Board is the Managing Director, who is the head of the Fund. IMF is jointly owned by its 182 member governments, and the voting power of each country depends on its annual contribution, which is in turn proportional to the size of its economy.

Objectives of the Fund

Objectives of the IMF are stated in Article 1 of the Fund agreement as follows:

1. To promote international monetary cooperation through a permanent institution which provides the machinery for consultation and collaboration on international monetary problems.
2. To facilitate the expansion and balanced growth of international trade and to contribute thereby to the promotion and maintenance of high level of employment and real income and to the development of productive resources of all members as primary objectives of economic policy.
3. To promote exchange stability, to maintain orderly exchange arrangements among members, and to avoid competitive exchange depreciation.
4. To assist in the establishment of a multilateral system of payments in respect of current transactions between members and in the elimination of foreign exchange restrictions which hamper the growth of world trade.
5. To give confidence to members by making the Fund's resources available to them under adequate safeguards, thus providing them with opportunity to correct maladjustments in their balance of payments without resorting to measures destructive of national or international prosperity.
6. In accordance with the above, to shorten the duration and lessen the degree of disequilibrium in the international balance of payments of members.

These objectives of the Fund have been summed up by P.T. Ellsworth in the following three categories: (i) elimination of exchange controls; (ii) ensuring reasonable stability of exchange rates; and (iii) combining exchange rate stability with national independence in monetary and fiscal policy.¹

Elimination of Exchange Restrictions. Architects of the Fund were clear about the fact that member countries were not in a position to dismantle exchange control regimes immediately. Therefore, the Agreement made provision for a transition period during which the member countries could continue exchange controls in one form or the other. The transition period was, however, not defined properly, the member countries were only advised to consult the Fund if they considered it necessary to persist with their exchange control system after five years from the start of the Fund's operations. Over the years consultations about general economic policies have become a routine matter with all members and now they are no longer confined only to those members who find it difficult to decontrol their foreign exchange system.

Stability of Exchange Rate. The Fund did not impose exchange *rigidity* though it sought to promote exchange *stability*. It clearly stated its position in this regard in one of its annual reports, which says, "Stability and rigidity are different concepts. The Fund has never insisted on the maintenance of an exchange rate which was not suited to a country's economy. On the contrary, it has always recognised that an adjustment of exchange rates may be an essential element in the measures necessary to enable a country to pay for the goods and services it needs from abroad without undue pressure upon its international reserves. Stability implies that when exchange rate adjustments are necessary they should be made in an orderly manner and that competitive exchange depreciation should be avoided."²

Adjustment: A Compromise Situation. Combining exchange rate stability with national independence in monetary and fiscal policy is the most difficult task. It is an effort on the part of the Fund to “reconcile the irreconcilable”. This is due to the reason that while independence in monetary and fiscal policy is necessary for the member nations to pursue the generally accepted goal of full employment, such independence is inconsistent with any truly international currency system with stable exchange rate, which adjusts balance of payments disturbances by invoking deflation or inflation with accompanying variations in employment.³

To tackle the problem, the Fund distinguishes between short-run disturbances and ‘fundamental disequilibrium’. *To deal with short-run disturbance like a temporary current account balance of payment deficit, the IMF provides the members the right to draw on its (IMF) resources.* This arrangement has been made to enable member countries to overcome their balance of payments problems without recourse to exchange control, devaluation, or internal deflation. To “draw” on the Fund, in effect, amounts to a loan to a member and thus an interest is charged on it. *In the case of a ‘fundamental disequilibrium’, however, the member country facing disequilibrium is allowed to devalue its currency not in excess of 10 per cent.* For any change in the exchange rate more than 10 per cent away from the initial parity, however, the approval of the Fund is necessary.

■■■■ WORKING OF THE IMF ■■■■

Quotas and Par Values

Article IV of the Fund Agreement requires every member to establish a par value of its currency in terms of either gold or of U.S. dollar. Currencies were defined in terms of both gold and dollar, and exchange rates were determined in almost the same way as under the gold standard. For example, the parity of the British pound was set at £ 12.5 per ounce of gold. Since the gold price of the dollar was \$ 35 per ounce, this implied an official exchange rate between the dollar and the pound of $\$ 35/\pounds 12.5 = \$ 2.80$ per £1, which was thereby set as the official parity of the pound.

Each member of the Fund was under a statutory obligation to declare a par value in relation to the gold content of the U.S. dollar in 1944. Most countries fulfilled their obligation and even those who failed to declare par values maintained *de facto* parities until the beginning of the 1970s when the Bretton Woods system of pegged exchange rates broke down permanently and was replaced by a system of managed floating exchange rates.

Member countries can have transactions with the Fund only at the official par values. Even the private transactions in any member country should be based on these par values. The Articles of Agreement authorised its member countries to permit spot transactions in members’ currencies at exchange rates not more than 1 per cent above or below parity. Smithsonian Agreement of December 1971 widened this range to 2.25 per cent above or below the par value. For forward exchange transactions the Fund can prescribe bigger deviations from parity, but the members are not expected to exceed these limits. These arrangements laid down in the Articles of Agreement clearly indicated the intentions of the architects of the Fund that they were in favour of fixed exchange rates even in private transactions. Before the Bretton Woods system broke down, this par value of a currency was not be changed unless necessary to correct a ‘fundamental disequilibrium’.

The rights of the member countries to draw on the Fund, their contributions and voting power have been determined according to their quotas. Each member country’s quota has been negotiated with reference to its national income, gold and foreign exchange reserves, and international trade. This explains why quotas of the members are so different. As a rule, member countries except the ones with low international reserves were required to contribute 25 per cent of their respective quotas to the Fund in gold and/or U.S. dollars. The remaining 75 per cent they had to contribute in their respective currencies. The largest quota is that of the United States accounting for 17.5 per cent of the total quotas (37 billion SDRs out of 212 billion SDRs in 2003). The other leading members of the Fund are the U.K., West Germany, France and Japan. The quotas of member nations have been increased across the board several times, since 1947.

The IMF may supplement its quota resources by borrowing any country’s currency. This was institutionalised by the General Agreement to Borrow (GAB) in 1962. The New Arrangements to Borrow (NAB) was adopted on January 27, 1997. The Fund also borrows from the private capital market and makes bilateral deal with countries.

Since the voting power was linked with the contributions or ‘quotas’ of the members, the IMF (as well as the World Bank) have come under clear domination of the rich Western countries. As stated earlier, the

quotas for member countries have been revised several times since 1947. Each such revision has raised the share of the rich countries. According to Biplab Dasgupta, such revisions are not simply based on key national and international economic variables, but reflect the bargaining strength of various countries and groups of countries in the executive bodies of IMF and World Bank. At present, the G7 countries (USA, UK, France, Germany, Canada, Italy and Japan) account for roughly half the voting power and virtually control the IMF and the World Bank.⁴

Special Drawing Rights

In September 1967, the Board of Governors of the IMF at their Annual Meeting at Rio de Janeiro agreed on a proposal for establishing a new reserve facility to meet the possible increase in the demand for international liquidity, if the growth of more traditional reserve assets, viz., gold and foreign exchange should prove inadequate. The Rio Agreement provided a system for regularly creating Special Drawing Rights (SDRs) in the Fund. The members of the Fund were required to accept SDRs as reserves which they could use in international settlements. The value of SDRs as reserve asset essentially depends on the obligation of the participants to accept them in the exchange for a convertible currency. Although there are certain restrictions on the participants in respect of the use of SDRs, in general they can be automatically used for the settlement of international payments. As far as allocation is concerned, SDRs are allotted to all participants in proportion to their quota in the Fund.

The Valuation of Special Drawing Rights. Upto 1971 one SDR was valued at \$ 1. After the devaluation of the dollar in December 1971, one SDR was valued at \$ 1.0857. Dollar was devalued again in February 1973 and the value of one SDR was then fixed at \$ 1.2064. In 1974 the value of one SDR was made equal to the weighted average of a basket of 16 leading currencies. In 1981, the number of currencies included in the basket was reduced to the following 5 currencies (their relative weight in 2000 is given in brackets) — U.S. dollar (39 per cent), German deutsche mark (21 per cent), Japanese yen (18 per cent), French franc and British pound (11 per cent each). At the end of 1999, one SDR was valued at \$ 1.37.⁵

Assistance From IMF

IMF is basically a lending institution. It is a source of four main forms of financial assistance, or liquidity, to developing countries :

- Drawings from the ordinary facilities provided by the IMF.
- The periodic issue of SDRs.
- Drawings made under special facilities.
- Facilities for low income countries.⁶

Ordinary Drawing Rights. These consist of two elements: first the 'gold' or 'reserve tranche' which usually represents 25 per cent of a member's quota, which is equivalent to that part of its quota not paid with its own currency; and secondly, the 'credit tranche' which is officially equal to 100 per cent of a member's quota, but can go beyond. The credit tranche is split into four parts, and access to higher tranches becomes progressively more difficult and expensive. For instance, no conditionality is attached to reserve tranche drawings, except balance of payments need. In the case of credit tranche drawings, the conditions attached to the first tranche normally consist of devising a programme demonstrating a reasonable effort to overcome balance of payments difficulties. Requests for purchases of currency in the higher credit tranche require substantial justification. The purchases here are generally made under *stand-by arrangements* rather than directly, and certain performance criteria relating to government expenditure and money supply targets must be met before resources are released. Stand-by arrangements cover a 12-18 month period (although they can extend upto 3 years) and repayments are made within 3-5 years of each drawing.

In 1974, IMF established the *Extended Fund Facility* (EFF) to allow developing countries to borrow beyond quota over longer periods than are allowed under ordinary drawing rights. This is a medium-term programme aimed at overcoming structural balance of payments maladjustments. EFF represents an important shift in the stand of IMF as it acknowledges that, at times, rectifying the balance of payments problem could be a difficult job that cannot be accomplished in a short period. The programme generally lasts for three years with repayment provisions extending over a range of four to ten years. Drawings under EFF may be more than 100 per cent of a country's quota over a 3-year period, but the conditions are stringent.

The Use of Special Drawing Rights. A participant is entitled to use SDRs to finance its balance of payments deficit. For this purpose, it has to obtain the required currency by transferring SDRs to the country

willing to sell the foreign exchange in question. The users of SDRs do not get convertible currencies out of the resources held by the Fund. They have to deal with other participants and the role of the Fund is limited to just intermediation. Whether transfers are arranged directly by the concerned participants or indirectly through the Fund, the SDR holdings of the users decline and those of the recipients increase by a corresponding amount.

The participants are not allowed to use SDRs for changing the composition of their reserves. In other words, if a country has no balance of payments problem, and yet it wants to transfer its SDRs to another participant for some convertible currency, it would not be permitted to do so. But the purpose of particular transfers is "not subject to prior challenge". Thus the right to make transfer is unconditional within certain quantitative limits. However, if the Fund is convinced that a participant has used SDRs for some inappropriate purpose, it may advise "other participants to use the same amount of their SDRs for transfer to the misbehaving participant forcing him thereby to surrender the currency inappropriately acquired."

Special Facilities. A number of 'special facilities' are also provided by the IMF to deal with the development difficulties arising out of balance of payments problems. At present there are four main special facilities — the Compensatory Financing Facility (CFF); the Supplemental Reserve Facility (SRF); the Contingency Credit Line (CCL), and Emergency Assistance. Details on Special Facilities are provided in Box 20.1.

Facilities for Low-Income Countries. IMF set up the Structural Adjustment Facility (SAF) in 1987 and this was followed by the Enhanced Structural Adjustment Facility (ESAF) in 1994. The aim of ESAF was to provide resources on concessionary terms to low-income countries facing protracted balance of payments problems, in support of medium-term macroeconomic and structural adjustment programmes. Loans under ESAF carried strict conditionalities virtually encompassing the working of the entire economy and were subject to strict monitoring as tranches (instalments) were released.

In 1999, IMF replaced ESAF by the Poverty Reduction and Growth Facility (PRGF) to emphasise the new anti-poverty focus of the IMF and the World Bank. PRGF aims at providing longer-term assistance for deep-seated balance of payments difficulties of a structural nature. Under this facility 80 low-income countries are eligible for assistance and may borrow up to 140 per cent of quota under a 3-year arrangement with an interest rate of 0.5 per cent and repayments made between 5½ and 10 years after disbursement. In exceptional circumstances, the extent of borrowing can go upto 165 per cent of quota.⁷

Conditionalities and Economic Stabilization Programmes

A country making use of IMF's resources is required to carry out a programme of balance of payments adjustment as a condition of IMF's support. This requirement is known as conditionality and reflects the IMF's principle that financing and adjustment must go hand in hand. As stated earlier, each country has an automatic right to 'borrow' up to 25 per cent of its quota, but any borrowings above that requires that it agrees to abide by conditions set by the IMF (relating to its macroeconomic policies), with the conditions becoming more onerous as the level of borrowing increases. Generally speaking, IMF conditionalities prescribe the following:

- (1) Devaluation to bridge the gap between official and market exchange rates of the currency of the country concerned;
- (2) Demand management, mainly by way of reducing government expenditure, to reduce domestic effective demand and consequent inflationary pressure; and
- (3) Reduction of fiscal deficit, as a proportion of GDP, below 4 per cent, in phases.⁸

These conditionalities were developed in the 1950s and 1960s under pressure from the United States. Two developments in 1970s called for a review of the conditionalities. The first was the breakdown of the Bretton Woods system which was in operation since 1945. The breakdown occurred in 1971 when, following severe dollar crisis, the USA severed the link between dollar and gold. The second was the oil price shock first in 1973-74 and then in 1978-79. Accordingly, a new set of guidelines was issued in 1978-79. These guidelines encouraged members to come to the Fund early before payments problems become acute and they also recognised the need for longer period adjustment. During 1980s many developing countries were forced to seek increasing assistance from IMF as the deficits in their balance of payments assumed alarming proportions and terms of trade deteriorated. The IMF came forward with what is known as, the 'economic stabilization' programmes for these countries. These programmes have the following four basic components:⁹

BOX 20.1. Special Facilities Available under IMF Assistance

Supplemental Reserve Facility (1997)	Short-term assistance for balance-of-payments difficulties related to crises of market confidence	Available only in context of Stand-By or Extended Arrangements with associated programme and with strengthened policies to address loss of market confidence.	No access limits; access under the facility only when access under associated regular arrangement would otherwise exceed either annual or cumulative limit.
Contingent Credit-Line (1999)	Precautionary line of defence that would be made readily available against balance-of-payments difficulties arising from contagion.	Eligibility criteria: (1) absence of balance-of-payments need from the outset, (2) positive assessment of policies by the IMF, (3) constructive relations with private creditors and satisfactory progress in limiting external vulnerability, (4) satisfactory economic programme	No access limits, but commitments are expected to be in the range of 300-500% of quota.
Compensatory Financing Facility (1963)	Medium-term assistance for temporary export shortfalls or cereal import excesses.	Available only when the shortfall/excess is largely beyond the control of the authorities and a member has an arrangement with upper credit tranche conditionality, or when its balance-of-payments position excluding the shortfall/excess is satisfactory.	45% of quota each for export and cereal components; combined limit of 55% of quota for both components.
Emergency Assistance	Quick, medium-term assistance for balance-of-payments difficulties related to:		Generally limited to 25% of quota, though larger amounts can be made available in exceptional cases.
(1) Natural disasters (1962)	(1) Natural disasters	(1) Reasonable efforts to overcome balance-of-payments difficulties.	
(2) Post-conflict (1995)	(2) The aftermath of civil unrest, political turmoil, or international armed conflict.	(2) Focus on institutional and administrative capacity building to pave the way toward an upper credit tranche arrangement or PRGF.	

Source : A.P. Thirlwall, *Growth and Development : With Special Reference to Developing Economies* (Palgrave Macmillan, Eighth edition, 2007), Case Example 17.1, p. 602.

1. Abolition or liberalization of foreign exchange and import controls.

2. Devaluation of the official exchange rate.

3. A stringent domestic anti-inflation programme consisting of (a) control of bank credit to raise interest rates and reserve requirements; (b) control of the government deficit through curbs on spending, especially in the areas of social services for the poor and stable food subsidies, alongwith increases in taxes and in public enterprise prices; (c) control of wage increases, in particular ensuring that such increases are at rates less than the inflation rate (i.e., abolishing wage indexing); and (d) dismantling of various forms of price controls and promoting freer markets.

4. Greater hospitality to foreign investment and a general opening up of the economy to international commerce.

A large number of debtor countries with greatly depleted foreign reserves (like Mexico, Argentina, Brazil, Venezuela, Bangladesh and Ghana) had to seek additional foreign exchange from the IMF in the early 1980s. By 1992, 10 countries had arranged to borrow a total of \$ 37.2 billion in SDRs (equal to approximately \$ 27

billion) from the IMF. During the Asian crisis of 1997, the IMF had to intervene with substantially large sums of money in an effort to stabilize the shaky economies of Thailand (\$ 3.9 billion in IMF loans), Pakistan (\$ 1.6 billion), the Philippines (\$ 435 million), Indonesia (\$ 10 billion), and South Korea (\$ 21 billion).¹⁰ All these nations were required to adopt some or all of the stabilization policies mentioned above. The use of conditionalities and the direct 'surveillance' of the macroeconomic policies of the developing countries by the IMF has marked its increasing involvement in the development process. Many developing countries have highly resented this intrusion of the IMF into their economic domain.

■■■■ WORLD BANK ■■■■

As stated in the beginning of the chapter, in addition to IMF, the Bretton Woods conference also led to the creation of the International Bank for Reconstruction and Development (IBRD) to aid the task of reconstruction of the war-ravaged economies of Europe and the development of the underdeveloped countries. By the late 1950s, the task of reconstruction of the European economies was completed due to the stunning success of the Marshall Plan. It was then that the World Bank turned its primary focus toward investment in the poorer countries. For this purpose, the International Development Association (IDA) was set up in 1960. Whereas IBRD provides loans on commercial terms to borrowing governments or to private enterprises that have obtained government guarantee, IDA provides loans (called *credits*) on concessional terms to countries whose per capita incomes are below a critical level. These favourable terms involve repayment periods several times longer than those on IBRD loans and are interest free. Together, the IBRD and IDA comprise the World Bank. A close affiliate of the World Bank is the International Finance Corporation (IFC) set up in 1956. It shares the same staff but is a separate entity both legally and financially. The 182 member governments of IMF are member governments of World Bank.

Functions of World Bank

The principal functions of the World Bank set forth in Article 1 of the Agreement are as follows:

1. To assist in the reconstruction and development of the territories of its members by facilitating the investment of capital for productive purposes.
2. To promote foreign private investment by means of (a) guarantees of or through participation in loans and other investments made by private investors; and (b) where private capital is not available on reasonable terms, to make loans for productive purposes out of its own resources or out of the funds borrowed by it.
3. To promote the long range balanced growth of international trade and the maintenance of equilibrium in balance of payments by encouraging international investment thereby assisting in raising productivity, the standard of living and conditions of labour in the territories of the member countries.
4. To encourage loans made or guaranteed so that more useful and urgent projects, large and small alike, will be dealt with first.
5. To conduct its operations so as to bring about a smooth transition from a war-time economy to a peace-time economy.

World Bank Activities

Since the initial focus of the World Bank was on reviving the war ravaged economies of Europe, its activities were clearly expected to lead to macroeconomic growth (and the consequent expansion of international trade). However, the policies of the World Bank remained microeconomic in nature until the 1970s. For the first two decades following the War, a major part of World Bank financing was for the construction of infrastructure related to energy and transportation (like power generation and distribution, transportation and development of projects). This should not be surprising as much of Europe's infrastructure was destroyed during the War. Even when pressure to increase the flow of funds to the underdeveloped countries mounted, the World Bank followed a similar pattern of investment in their case as well. However, it soon became clear that infrastructural investment in the case of underdeveloped countries was not enough. On the one hand, due to lack of institutional framework and skilled labour, the returns on infrastructural investment in the underdeveloped countries were very low and on the other hand, there were many directly productive activities in the agricultural and industrial sectors that required a substantially more investment than what these countries were able to manage on their own. This led to diversification of Bank's financing activities and more resources were diverted to industrial and agricultural development. The Bank also recognised inadequacies in education and managerial

skills, and became increasingly aware that the development taking place was not trickling down to the vast mass of the population. Accordingly, in the late 1960s and all through the 1970s, the Bank played a more activist role in the field of agriculture and in helping both urban and rural poor. In the agricultural sector, the World Bank assistance expanded most rapidly for cash crops. The Bank's rationale for promoting cash crops was that this would enable the countries to increase the exports of these crops and hence earn more foreign exchange and would also help in increasing the incomes of the poor. The Bank also provided more resources for education, water supply and sewage, health care and small-scale enterprise. This radical change in the emphasis of World Bank lending policy was brought about by its then President, Robert McNamara. In his inaugural address to the Bank in Nairobi in 1973, he defined absolute poverty as 'a condition of life so degraded by disease, illiteracy, malnutrition and squalour as to deny its victims basic human necessities', and he pledged the Bank to make a concerted attack on rural poverty, to raise the productivity of the poor and to raise their income levels. Successive Presidents of the World Bank have reiterated the Bank's Commitment to helping the poor. However, as noted by Todaro and Smith, although these programmes have recently received ample attention, yet the funding by World Bank lags behind its vocalized support.¹¹

The range of other services provided by the World Bank has also expanded. These include technical support, research, public provision of information and statistics, and cooperative ventures with other non-profit institutions.

Structural Adjustment Lending and Conditionalities

In October 1979, the World Bank announced the programme of 'structural adjustment lending.' The purpose of this lending is to promote a fundamental restructuring of the economies of countries plagued by chronic balance of payments problems. The World Bank itself defines structural adjustment loans as 'non-project lending to support programmes of policy and institutional change to modify the structure of the economy so that it can maintain both its growth rate and the viability of its balance of payments in the medium term'.

The loans are geared to seven main areas¹² :

1. Supply-side reforms, for example improving the efficiency with which markets operate
2. Price reforms
3. Changing the price of tradeable goods relative to non-tradeables
4. Getting the 'correct' terms of trade between agricultural goods and industrial goods
5. Reducing the size of the public sector
6. Financial reforms
7. Tax reforms.

However, *assistance from the World Bank is subject to a number of conditionalities—less specific and as is clear from the above list, aimed principally at reorienting the incentive structure in tune with a market-centred economy.* The three main components of World Bank conditionalities are liberalisation, privatisation and globalisation (described by some as the LPG model).¹³

Liberalisation. The main objective is that economic management should be left to the market and the State should take a back seat in economic matters. It is said that the prices determined by the interaction of demand and supply forces in the commodity markets, factor markets and the foreign exchange market would result in the optimal and efficient allocation of all resources of the country. Any intervention by the State—in the form of controls, subsidies, protection etc. would distort prices and make the resulting allocation inefficient, hindering economic growth. Thus liberalisation is a plea to put an end to all controls and regulations by the State and allow the markets to operate freely.

Privatisation. The direct implication of the policy of liberalisation is that the public sector activities should be trimmed down drastically or passed on to the private sector. It is argued that privatisation of public sector enterprises would improve their efficiency on the one hand, and on the other hand, bring in much needed resources for reducing fiscal deficit. Public sector activities, in this framework, are to be allowed only in cases of natural monopolies and strategic industries, for example, in defence and research establishments.

Globalisation. The third major objective is globalisation. This implies striking down all trade barriers and allowing free flow of goods, services and capital across the globe. In this view, all import substitution measures and other measures of protection (e.g., tariffs, controls and restrictions) raise the cost of domestic production, make the economy inward-looking and increasingly backward, and isolate it from worldwide technical and

other changes. They also reduce the competitiveness of the country in the global market and restrict the expansion of world trade (as noted by Biplab Dasgupta, the core idea here is that more trade is better for all the parties concerned—some may gain more than others, but all would gain).

According to Biplab Dasgupta, a corollary of globalisation is that an open door policy should be adopted towards the multinational corporations (MNCs). Such corporations should be treated on par with the domestic enterprises and should not be discriminated against. It is said that foreign competition would improve the efficiency of the indigenous producers and would drive them towards production of goods that are in-line with the country's comparative advantage. Moreover, "the vast experience, skill and new technologies of the MNCs would facilitate global integration of the national economy."

■■■■ OVERLAPPING ROLES OF IMF AND WORLD BANK ■■■■

As conceived originally, IMF and World Bank differed in the scope and time span of their programmes. While IMF was concerned with macro-economic management and operated on the demand side, World Bank's concern was micro, project-based lending. The distinct roles of these institutions in the world's economy are presented in Box 20.2.

BOX 20.2. Distinct Roles of the IMF and the World Bank

<i>International Monetary Fund</i>	<i>World Bank</i>
<ul style="list-style-type: none"> ● Oversees the international monetary system and promotes international monetary cooperation. ● Promotes exchange stability and orderly exchange relations among its members. ● Assists members in temporary balance of payments difficulties by providing short to medium-term financing, thus providing them with the opportunity to correct maladjustment in their balance of payments. ● Supplements the reserves of its members by allocating SDRs if there is a long-term global need. ● Draws its financial resources principally from the quota subscriptions of its members. 	<ul style="list-style-type: none"> ● Seeks to promote the economic development and structural reform in developing countries. ● Assists developing countries through long-term financing of development projects and programmes. ● Provides special financial assistance to the poorest developing countries through the International Development Association (IDA). ● Stimulates private enterprises in developing countries through its affiliate, the International Finance Corporation (IFC). ● Acquires most of its financial resources by borrowing on the international bond market.
<p>Source: A.P. Thirlwall, <i>Growth and Development : With Special Reference to Developing Economies</i> (Palgrave Macmillan, 2007), Box 15.4, p. 483.</p>	

However, over the years, IMF and World Bank have come closer in their mode of functioning. While IMF was initially supposed to be concerned with short-term solutions to the balance of payments difficulties, it started providing 10 year Extended Fund Facilities (EFF) since 1974 and Structural Adjustment Facility (SAF) in 1986. World Bank, which started with micro issues like project-based programmes has over the years turned its attention to policy based programmes like Structural Adjustment Lending (SAL). It is also taking a keen interest in the issues concerning macro-economic management, including balance of payments. As a result, the former distinctions between the roles of the IMF and World Bank—macro versus micro, demand versus supply, adjustment versus development, financial versus real, programmes versus project loans, short term versus long term etc.—have been severely eroded. For example, the IMF while sanctioning the economic stabilisation programme for a particular country insists that the country adopt policies to lower inflation, improve the efficiency of internal market and institutions, lower government spending, review public investments etc., in addition to reforming its exchange rate regime. Thus, in addition to its traditional insistence on demand-side policies of devaluation and monetary contraction, the IMF has now started insisting on supply-side policies as well, as a condition for assistance, which was previously the prerogative of the World Bank alone. Thus IMF has now extended its activities into areas that have traditionally been under the influence of the World Bank. In a similar way, the structural adjustment programmes of the World Bank have begun to include provisions for enhancing the international competitiveness of domestic products through reforms in the trade policy and exchange rates regimes. According to Todaro and Smith, the increasing convergence in the approaches of the

IMF and the World Bank that is now being witnessed is on account of the “growing recognition that the successful resolution of both external and internal problems requires the simultaneous coordination of macroeconomic and microeconomic policies.”¹⁴ Even the Policy Framework Paper (PEP) for different countries is prepared and implemented by the two institutions in close cooperation. Since the activities and conditionalities of the two institutions have now largely converged, and they work in close cooperation in relation to a given country, many economists have been arguing during the last few years that the two institutions should be merged.

■■■■■ CONDITIONALITIES AND WASHINGTON CONSENSUS ■■■■■

A study of conditionalities for economic stabilisation programmes laid down by the IMF and for structural adjustment programmes laid down by the World Bank discussed earlier in this chapter show clearly that they are governed by a particular rigid doctrinaire approach to economic policy that prefers capitalism to socialism, favours private investment to public investment, extols the virtues of free trade and the operation of the price mechanism, and encourages the free flow of private capital to and from developing countries. *This doctrinaire approach found expression in, what is known as, Washington Consensus reached at between the IMF and World Bank in early 1990s.* This consensus is essentially neoliberal and is based on the alleged superiority of the free market and free trade for the achievement of more rapid economic progress. In accordance with this consensus, the IMF and the World Bank have both advocated the same programme of reforms, consisting of:¹⁵

1. Fiscal discipline
2. Redirection of public expenditure toward education, health, and infrastructure investment
3. Tax reform — broadening the tax base and cutting marginal tax rates
4. Interest rates that are market determined and positive (both moderate) in real terms
5. Competitive exchange rates
6. Trade liberalisation — replacement of quantitative restrictions with low and uniform tariffs
7. Openness to foreign direct investment
8. Privatisation of State enterprises
9. Deregulation — abolishment of regulations that impede entry or restrict competition, except for those justified on safety, environmental, and consumer protection grounds, and prudential oversight of financial institutions
10. Legal security for property rights.

The wisdom of the Consensus is a matter of debate among economists. However, as noted by Thirlwall, its initial appeal did not last long because in the 1990s several developing countries that adopted the package of reforms, under the pressure from IMF and World Bank, suffered serious financial and economic crises which toppled governments, reduced living standards and left millions of people worse off. On account of these facts, many economists have questioned the pace and sequencing of deregulation and the liberalisation of markets, and call for stronger domestic institutions and policies to be put in place before countries open up to floods of imports and capital inflows. The need to mix institution-building with the freeing of markets is sometimes called the *Post-Washington Consensus*. However, the ideology, and practical policy making of IMF and World Bank have hardly changed.¹⁶

■■■■■ A CRITICAL EVALUATION OF IMF AND WORLD BANK ■■■■■

Fulfilment of ‘conditionalities’ laid down by the IMF for its stabilisation programmes and by World Bank for its structural adjustment loans, has been a cause of much debate and bitterness among the recipient developing countries. As is clear from a discussion of these conditionalities, *these go far beyond what is needed to ensure loan repayment and attempt to shape government policies in a particular direction.* Another important criticism is that conditionalities are ‘standardised packages’ which are imposed without taking into account the country specificities and country differences. Moreover, by telling the governments what to do and what not to do, conditionalities take away the freedom of policy formulation. Accordingly, conditionalities are regarded as an unwarranted interference in their economic policies by the developing countries. In addition, Biplab Dasgupta has pointed out that the package of conditionalities varies not only according to the quantum and type of loan sought but also according to the economic position of the recipient country and the character (political or otherwise) of its government. Economically weak countries and countries with a poor bargaining strength are subjected to more strict conditionalities. Similarly, conditionalities in the case of market friendly governments are less and lenient while in the case of governments that are not market friendly they are harsher.¹⁷

In his book *Globalization and its Discontents* published in 2002, Joseph Stiglitz severely criticised the IMF for serving the needs of global finance, rather than the needs of global stability, by encouraging premature internal and external financial liberalisation. According to him, "A half-century after its founding, it is clear that the IMF has failed in its mission. It has not done what it was supposed to do — provide funds for countries facing an economic downturn, to enable the country to restore itself to close to full employment. In spite of the fact that our understanding of economic process has increased enormously during the last fifty years, and in spite of IMF's efforts during the past quarter century, crises around the world have been more frequent and (with the exception of the Great Depression) deeper. By some reckoning, close to a hundred countries have faced crisis. Worse, many of the policies that the IMF pushed, in particular, premature capital liberalisation, have contributed to global instability. And once a country was in crisis, IMF funds and programmes not only failed to stabilize the situation but in many cases actually made matters worse, especially for the poor."¹⁸ *The IMF's approach is "one-size-fits-all" approach, i.e., it does not take into account the differences in the economic situation of different countries.* Neither is it interested in hearing the thought of its "client countries" on such topics as development strategy or fiscal austerity. As argued by Stiglitz, "All too often, the Fund's approach to developing countries has had the feel of a colonial ruler."¹⁹ Although the IMF claims that it never dictates but always negotiates the terms of any loan agreement with the borrowing country, the fact of the matter is that these are 'one-sided negotiations' in which all powers are in the hands of the IMF largely because many countries seeking IMF help are in desperate need of funds. The imbalance of power between the IMF and the "client" countries inevitably creates tensions between the two. By imposing its decisions on the recipient countries, the IMF stifled any discussions with the latter nor was it ready to admit the possibility of any alternative economic policies. 'Conditionalities' seemed little more than a simple exercise of power and, at times, went beyond economics into areas properly belonging in the realm of politics.²⁰

The neo-liberal neo-classical approach to economic thinking and policy making colours to a large extent the IMF's diagnosis of balance of payments problems and their appropriate solution. Deficits are invariably seen as related to, or caused by, price uncompetitiveness and excess monetary demand, to be 'cured' by devaluation and demand contraction.²¹ For example, the poor countries facing balance of payments problems are required to remove controls over foreign exchange and imports as a condition of assistance. To support this liberalisation programme, the country then has to depress aggregate demand sufficiently to accommodate devaluation in an attempt to achieve balance of payments equilibrium. However, this might lead to slow growth and a higher level of unemployment. The crux of the matter is that in a highly unequal trading world, the balance of payments problems of many developing countries may be structural and long-term in nature, with the result that short-term stabilisation policies may easily lead to long-run development crisis. Todaro and Smith note that between 1982 and 1988, the IMF strategy was tested in 28 of the 32 nations of Latin America and the Caribbean. It was clearly not working. During that period, Latin America financed \$ 145 billion in debt payments but at a cost of economic stagnation, rising unemployment, and a decline in per capita income of 7 per cent. These countries "adjusted" but did not grow. By 1988, only 2 were barely able to make their payments. Similar situation prevailed in much of Africa.²² The IMF was again caught on the wrong foot in 1997 when it could not foresee the East Asian financial crisis even though there was a massive build-up of current account deficits and capital had started to flow out of South-East Asia long before the crisis hit. After the 1997 Asian crisis, IMF policies exacerbated the crises in Indonesia and Thailand. The collapse in Argentina is one of the most recent of a series of failures over the past few years.

An overall appraisal of the performance of the IMF economic stabilisation programmes and World Bank structural adjustment programmes undertaken in various countries over the period of the last two decades shows that *while these programmes had only a modest success in some cases, in some other cases they actually caused disruptions in the growth processes of the developing countries and thus contributed to rising hardships amongst the poorest groups in developing countries.* "This is generally due to cuts in government services, rising unemployment, falling real wages, and the elimination of food subsidies. As a result, numerous countries, including some experiencing economic recovery, have witnessed rising infant mortality rates and malnutrition and declining school enrolment rates. Critics point out that the terms of conditionality associated with adjustment loans are antidevelopmental where they reverse or slow improvements in living conditions among the very poor."²³ For example, one major consequence of demand management under the IMF stabilisation programme has been a drastic curtailment of government expenditure in order to reduce fiscal deficits. Experience shows that when a government is forced to reduce its expenditure, the axe invariably falls on capital expenditure, for example, on irrigation, power and other major rural infrastructure, to the detriment of production. In many cases, social expenditure on education or health is also curtailed. As a result, misery of the poor increases.

Moreover, as correctly pointed out by Biplab Dasgupta, the exclusive obsession of stabilisation programmes is with the curtailment of government expenditure, for reducing fiscal deficits, while the other option for meeting the same objective, that is by augmenting revenue by taxing those who are able to pay, particularly the rural rich and the new industrialists are frowned upon by the IMF-World Bank as, according to these institutions, such taxes would be a disincentive to produce more. On the other hand, the literature of structural adjustment and NPE (New Policy Economy) is replete with policy prescriptions advocating restriction on wages even if it requires repression of labour.²⁴

According to Joseph Stiglitz, the most dramatic change in the IMF and World Bank occurred in the 1980s, the era when Ronald Reagan and Margaret Thatcher preached free market ideology in the United States and the United Kingdom. The IMF and the World Bank became the new 'missionary institutions' through which these ideas were pushed on the reluctant poor countries that often badly needed their loans and grants.²⁵ Not only the imposition of conditionalities by the IMF and the World Bank undermined the national sovereignty of poor countries, they ruled out discussion on alternative economic strategies—strategies that could have been more relevant in the context of these countries. As correctly emphasized by Stiglitz, "The two institutions could have provided countries with alternative perspectives on some of the challenges of development and transition, and in doing so they might have strengthened democratic processes. But they were both driven by the collective will of the G-7 (the governments of the seven most advanced industrial countries), and especially their finance ministers and treasury secretaries, and too often, the last thing they wanted was a lively democratic debate about alternative strategies."²⁶

Underlying the problems of the IMF and World Bank (and, in fact, all international economic institutions) is the problem of governance: who decides what they do. The institutions are dominated by the wealthiest industrial countries (and, in fact, the top commercial and financial interests operating in these countries). Thus, while almost all activities of the IMF and the World Bank today are in the developing world (certainly, all of their lending), they are led by representatives from the advanced industrialised nations. Thus, the institutions are not representatives of the nations they serve.²⁷

■■■■ NOTES ■■■■

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2. International Monetary Fund, *Annual Report*, 1948, p. 21.
3. P.T. Ellsworth and J. Clark Leith, *op. cit.*, pp. 478-9.
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5. Dominick Salvatore, *International Economics* (John Wiley & Sons, 2001), pp. 760-1.
6. A.P. Thirlwall, *Growth and Development: With Special Reference to Developing Economies* (Palgrave Macmillan, Eighth edition, 2007), p. 597.
7. *Ibid.*, p. 601 and Case Example 17.1, p. 602.
8. Biplab Dasgupta, *op. cit.*, p. 88.
9. Michael P. Todaro and Stephen C. Smith, *Economic Development* (Pearson Education Asia Eighth edition, 2003), p. 613.
10. *Ibid.*, p. 614.
11. *Ibid.*, p. 629.
12. A.P. Thirlwall, *op. cit.*, p. 482.
12. Discussion on LPG model here is based on Biplab Dasgupta, *op. cit.*, pp. 93-95.
14. Michael P. Todaro and Stephen C. Smith, *op. cit.*, p. 630.
15. A.P. Thirlwall, *op. cit.*, p. 596.
16. *Ibid.*, pp. 596-7.
17. Biplab Dasgupta, *op. cit.*, p.87.
18. Joseph Stiglitz, *Globalization and its Discontents* (Allen Lane-The Penguin Press, 2002), p. 16.
19. *Ibid.*, p. 40.
20. *Ibid.*, pp.43-60.
21. A.P. Thirlwall, *op. cit.*, p. 603.
22. Michael P. Todaro and Stephen C. Smith *op.cit.*, p. 615.
23. *Ibid.*, p.631.
24. Biplab Dasgupta, *op. cit.*, p. 112.
25. Joseph Stiglitz, *op. cit.*, p. 13.
26. *Ibid.*, pp. 14-15.
27. *Ibid.*, p. 19.

WTO AND INDIA

Functions and Organisation of WTO

WTO Agreements

India's Commitments to WTO

Benefits Proclaimed for India

A Critical Review of the Working of WTO

- Inequality Within the Structure of WTO • Trade Related Intellectual Property Rights • Trade Related Investment Measures
- Competition in Services • Trade and Non-Tariff Barriers by Developed Countries • Agreement on Agriculture • Labour Standards and Environment • Trespassing the Sovereignty of Nation States

Singapore Issues, Doha Declaration and Cancun Fiasco

- Singapore Issues • Doha Declaration • Cancun Fiasco

Hong-Kong Ministerial Conference

- Hong-Kong Ministerial Declaration • A Critical Appraisal

Developments Post Hong-Kong Ministerial

Appendix to Chapter 21: India's New Patent Regime

- Main Features of Patents (Amendment) Bill 2005

In international economic relations (particularly international trade relations) the greatest event to occur in recent times has been the setting up of WTO (World Trade Organisation) in 1995. WTO replaced GATT (General Agreement on Tariffs and Trade) formalised in 1947. In this chapter we propose to discuss :

- Functions and organisation of WTO
- WTO agreements, India's commitments to WTO and benefits proclaimed for India
- A critical review of the working of WTO from the point of view of developing countries in general and India in particular
- Singapore issues, Doha Development Agenda and Cancun fiasco
- Hong Kong ministerial conference and post-conference developments
- India's new patent regime.

■■■■ FUNCTIONS AND ORGANISATION OF WTO ■■■■

After the Second World War, many countries got down together to work on ways and means to promote international trade. The result was the signing of the General Agreement of Tariffs and Trade (GATT) by 23 countries in 1947. India was one of the founder members of GATT. Over the years the membership of GATT swelled and in 1994 touched 118 countries. *GATT was all along concerned with the promotion of international trade through tariff reduction, doing away with non-discriminatory practices among trading partners, and evolving rules to counter protectionism.*

GATT provided for reduction in tariffs and trade restrictions in a phased manner over a period of time. It laid down that this task would be accomplished in different 'rounds' of trade negotiations to be held from time to time. In all, *eight rounds* of multilateral trade negotiations were held under GATT. The Eighth and last round of negotiations was launched in Punta del Este, Uruguay, in 1986. Known as the 'Uruguay Round', this Round took more than eight years of complex negotiations. The Final Act was signed in April 1994 by the member nations of GATT and this paved the way for the setting up of WTO. The WTO Agreement was signed by 104 member nations of GATT and it came into force from January 1, 1995. Thus WTO was set up on January 1, 1995. The former GATT was not really an organisation: it was merely a legal arrangement. On the other hand, the WTO is a new international organisation set up as a permanent body and is designed to play *the role of a watchdog in the spheres of trade in goods, trade in services, foreign investment, intellectual property rights etc.* India is one of the founder members of WTO. The present membership of WTO is 151 countries. WTO has the following five functions as set out in Article III¹:

First, the WTO 'shall facilitate the implementation, administration and operation, and further the objectives, of this Agreement and of the Multilateral Trade Agreement, and shall also provide the framework for the implementation, administration and operation of the Plurilateral Trade Agreements.'

Second, the WTO 'shall provide the forum for negotiations among its members concerning their multilateral trade relations in matters dealt with under the agreements in the Annexes to this Agreement.'

Third, the WTO 'shall administer the Understanding on Rules and Procedures Governing the Settlement of Disputes'.

Fourth, the WTO 'shall administer the Trade Policy Review Mechanism'.

Fifth, 'with a view to achieving greater coherence in global economic policy-making, the World Trade Organisation shall cooperate, as appropriate, with the International Monetary Fund and with the International Bank for Reconstruction and Development and its affiliated agencies'.

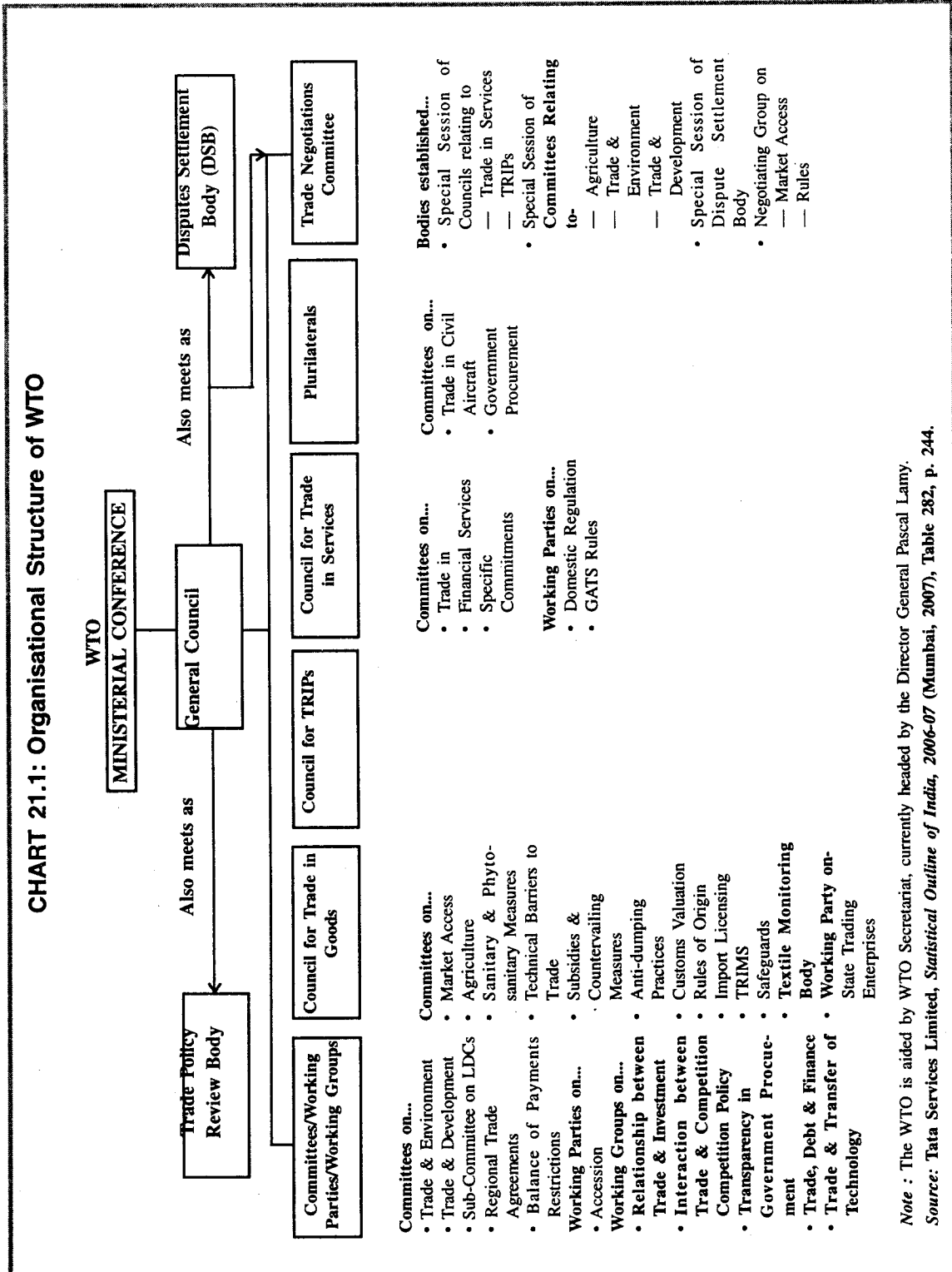
The organisational structure of WTO is presented in Chart 21.1. The highest decision-making body is the Ministerial Conference, which has to meet at least once every two years. The Ministerial Conference can take decisions on all matters under any of the multilateral trade agreements. Since the coming into being of the WTO in January 1995, six Ministerial Conferences have been held, namely Singapore (9-13 December 1996); Geneva (18-20 May, 1998); Seattle (30 November-3 December 1999); Doha (9-14 November 2001); Cancun (10-14 September 2003) and Hong Kong (13-18 December 2005). In addition to the Ministerial Conference, there is a General Council again consisting of representatives of all the members. It itself meets as the Dispute Settlement Body (DSB) and the Trade Policy Review Body (TPRB).

Issues at Ministerial Conferences. The Singapore Ministerial Conference saw the interested Members of the WTO negotiating on Information Technology Agreement and the launch of work programme on the four so-called *Singapore Issues, namely (1) Relationship between Trade and Investment; (2) Interaction between Trade and Competition Policy; (3) Transparency in Government Procurement; and (4) Trade Facilitation.* The Geneva Ministerial Conference was timed to coincide with the celebrations of the 50 years of the GATT multilateral trading system. The Seattle Ministerial Conference collapsed without being able to reach a consensus on the Declaration to be adopted by the Ministers. The Doha Ministerial Conference adopted a comprehensive Work Programme called the *Doha Development Agenda*, launching negotiations on some issues and setting out additional parameters and timeframes for the negotiations on agriculture and services that had commenced on January 1, 2000 in accordance with the mandates in the respective WTO Agreements. The Doha Ministerial Conference also adopted a Declaration on TRIPs (Trade-Related Intellectual Property Rights), Agreement on Public Health and a Decision on Implementation-related Issues and Concerns (Doha Development Agenda is discussed in detail later). The Fifth Ministerial Conference at Cancun was meant mainly to be a forum to review the progress of negotiations under the Doha work programme mandated at Doha but ended in fiasco as serious differences emerged in the ambition levels of WTO members on the two most contentious issues, namely, Agriculture and Singapore Issues. The Sixth Ministerial Conference at Hong-Kong called for conclusion of negotiations (launched at Doha) in 2006 and established time frames and targets for specific areas.

■■■■ WTO AGREEMENTS ■■■■

The main WTO Agreements can be divided into the following categories:

1. Agreement on agriculture. This provides a framework for the long-term reform of agricultural trade and domestic policies over the years to come, with the objective of introducing increased market orientation



Note : The WTO is aided by WTO Secretariat, currently headed by the Director General Pascal Lamy.
 Source: Tata Services Limited, *Statistical Outline of India, 2006-07 (Mumbai, 2007)*, Table 282, p. 244.

in agricultural trade. It provides for commitments in the area of market access, domestic support and export competition. The members have to transform their non-tariff barriers like quotas into equivalent tariff measures. The tariffs resulting from this transformation, as well as other tariffs on agricultural products, are to be reduced on an average by 36 per cent in the case of developed countries and 24 per cent in the case of developing countries. The reductions were required to be undertaken over 6 years in the case of developed countries and 10 years in the case of developing countries. The least developed countries were not required to make any commitment for reduction.

2. Agreement on trade in textiles and clothing (Multi-Fibre Arrangement). This provides for phasing out the import quotas on textiles and clothing in force under the Multi-Fibre Arrangement since 1974, over a span of 10 years, *i.e.* by the end of the transition period on January 1, 2005. As a result of this agreement, quotas on textiles and clothing have now been abolished.

3. Agreement on market access. The member nations will cut tariffs on industrial and farm goods by an average of about 37 per cent. The USA and the European Union will cut tariff between them by one-half.

4. Agreement on TRIMs. The Agreement on Trade Related Investment Measures (TRIMs) calls for introducing national treatment of foreign investments and removal of quantitative restrictions. It identifies 5 investment measures which are inconsistent with the GATT provisions on according national treatment and on general elimination of qualitative restrictions.

5. Agreement on TRIPs. Trade Related Intellectual Property Rights (TRIPs) pertain to patents and copyrights. Whereas earlier on *process patents* were granted to food, medicines, drugs and chemical products, the TRIPs Agreement now provides for granting *product patents* also in all these areas. Protection will be available for 20 years for patents and 50 years for copyrights.

A transition period was allowed to all developing countries to give effect to the provisions of the TRIPs Agreement. The period expired on January 1, 2005. Thus, the regime of product patents has now been introduced.

6. Agreement on Services. For the first time, trade in services like banking, insurance, travel, maritime transportation, mobility of labour etc. was brought within the ambit of negotiations in the Uruguay Round. The GATS (General Agreement on Trade in Services) provides a multilateral framework of principles and services which should govern trade in services under conditions of transparency and progressive liberalization. It spells out certain obligations like grant of MFN status to the other member nations with regard to trade in services, maintenance of transparency and also a commitment for liberalization in general terms.

7. Disputes Settlement Body. Settlement of disputes under GATT was a never ending process. There was ample scope for procedural delays, objections could be raised at each stage of the dispute settlement process, and penal reports could be rejected by the offending party. The Disputes Settlement Body (DSB) set up under WTO seeks to plug these loopholes and thus provide security and predictability to the multilateral trading system. It has now been made mandatory to settle a dispute within 18 months. The findings of the disputes settlement panels will be final and binding on all parties concerned.

In addition to the above, the Uruguay Round also reached agreements on the understanding and implications of certain articles of GATT 1947, *viz.*, pre-shipment inspection, rules of origin, import licensing, anti-dumping measures and countervailing duties, safeguards, subsidies etc.

■■■■ INDIA'S COMMITMENTS TO WTO ■■■■

The Government of India has made a number of commitments to WTO. The main commitments are in the following fields:

1. Tariff Lines. As a member of the WTO, India bound about 67 per cent of its tariff lines whereas prior to the Uruguay Round only 6 per cent of the tariff lines were bound (a country 'binds' a tariff rate by committing that it will not raise tariff on that product beyond the 'bound' level). For non-agricultural goods, with a few exceptions, ceiling bindings of 40 per cent *ad valorem* on finished goods and 25 per cent on intermediate goods, machinery and equipment were undertaken. The phased reduction to these bound levels was required to be undertaken over the period March 1995 to the year 2005.

2. Quantitative Restrictions (QRs). QRs on imports maintained on balance of payments grounds were notified to WTO in 1997 for 2,714 tariff lines at the eight digit level. In view of the improvements in India's balance of payments, the Committee on Balance of Payments Restrictions had asked India for a phase out of the QRs. An agreement was reached between USA and India which envisaged the phasing out of all QRs by

India by April 1, 2001. In line with this agreement, India removed QRs on 714 items in the Exim Policy announced on March 31, 2000 and on the remaining 715 items in the Exim Policy announced on March 31, 2001.

3. TRIPs. The ruling of the two WTO Dispute Settlement Panels following the complaints made by the USA and the European Union that India had failed to meet its commitments under Article 70.8 (requiring the setting up of the Mail Box System) and Article 70.9 (granting of Exclusive Marketing Rights) made it obligatory for the Government of India to make appropriate amendments to the Patents Act, 1970 by April 19, 1999. The Patents (Amendment) Act, 1999 was passed by the Parliament in March 1999 to provide for Exclusive Marketing Rights. This was followed by the adoption of the Patents (Amendment) Act, 2002 in May 2002. In order to meet its commitment to the WTO to introduce product patents by January 1, 2005, the Government of India promulgated an Ordinance on December 23, 2004. This was followed by the adoption of Patents (Amendment) Act in March 2005. *The new patent regime provides for product patents in drugs and farm products.* In respect of plant varieties, a decision has been taken to put in place a *sui generis* system as it is perceived to be in our national interest. For this purpose, the Indian Parliament passed the Protection of Plant Varieties and Farmers' Rights Legislation in August 2001.

4. TRIMs. Under the TRIMs Agreement, developing countries had a transition period of 5 years up to December 31, 1999 during which they could continue to maintain measures inconsistent with the Agreement provided these were duly notified. The Government of India notified two TRIMs, *viz.*, that relating to local content requirements in the production of certain pharmaceutical products and dividend balancing requirement in the case of investment in 22 categories of consumer items.

5. GATS. Under the General Agreement on Trade in Services (GATS), India has made commitments in 33 activities. Foreign service providers will be allowed to enter these activities. According to the Government of India, the choice of the activities has been guided by considerations of national benefit (*viz.*, the impact on capital inflows, technology and employment).

6. Customs Valuation Rules. India's legislation on Customs Valuation Rules 1998, has been amended to bring it in conformity with the provisions of the WTO Agreement on implementation of Article VIII of GATT 1994 and the Customs Valuation Agreement.

■■■■ BENEFITS PROCLAIMED FOR INDIA ■■■■

According to the supporters of WTO, India is likely to derive a number of benefits from its membership of WTO. The expected main benefits are as follows:

1. Benefits from expansion in trade. World Bank, OECD (Organisation for Economic Cooperation and Development) and the GATT Secretariat have estimated that the income effects of the implementation of the Uruguay Round package will add between 213 and 274 billion U.S. dollars annually to world income. The GATT Secretariat's estimate of the overall trade impact is that the level of merchandise trade in goods will be higher by 745 billion U.S. dollars in the year 2005, than it would otherwise had been. The GATT Secretariat further projects that the largest increases will be in the areas of clothing (60 per cent), agriculture, forestry and fishery products (20 per cent) and processed food and beverages (19 per cent). According to the Government of India, since our country's existing and potential export competitiveness lies in these product groups, it is logical to believe that India will obtain large gains in these sectors. Assuming that India's market share in world exports improves from 0.5 per cent to 1 per cent, and that we are able to take advantage of the opportunities thus created, the government believes that the trade gains may conservatively be placed at 2.7 billion U.S. dollars extra exports per year. A more generous estimate will range from 3.5 to 7 billion U.S. dollars per year.²

However, Muchkund Dubey has argued that the above estimates suffer from several infirmities. *Firstly*, the GATT estimate of increase in world trade is itself of dubious value. *Secondly*, in the face of a trend till recently of a decline in India's share of the world exports, it is unrealistic to assume that this share will go up from 0.5 per cent to 1 per cent. *Thirdly*, increase in world trade depends not only on trade liberalization but a number of other factors like quality consciousness, proper infrastructure for export production, assured supply of export products, level of technology, etc. and India suffers from a relative disadvantage *vis-a-vis* the developed countries in most of these factors. Not only this, indulging in projection in a world full of economic and political uncertainties is a risky game, more so if the intention is "to mask reality and indulge in half truths."³

2. Benefits from phasing out of the MFA. It has been argued that the phasing out of the MFA (Multi-Fibre Arrangement) by 2005 will benefit India as the exports of textiles and clothings will increase. While the

developed countries had demanded a 15 year period, the developing countries (including India) had insisted on a 10 year period. Acceptance of the developing countries' demand in the Uruguay Round has been enthusiastically received in these countries. However, the catch here is that the phasing out schedule favoured the developed countries as a major proportion of quota regime to the extent of 49 per cent was required to be removed only during the tenth year, *i.e.* by 2005. Thus the *Uruguay Round did not provide an immediate market access for the Third World textile exports*. The 10 year phase out period was provided specifically to enable countries like Portugal, Greece and Spain in the European Community and Mexico in the NAFTA block to strengthen their textile industry in the phase-out period.

Many observers argue that in the new quota-free regime in textiles and clothings that is now in vogue (since January 1, 2005) India's exports of textiles and clothing will increase considerably and Indian exports of these products will 'flood' the US and European markets. However, the main benefits of liberalisation are likely to accrue to China because of its cost and quality advantages, and a much larger production capacity as compared with India.

3. Improved prospects for agricultural exports. The third benefit that India expects relates to the improved prospects for agricultural exports as a result of likely increase in the world prices of agricultural products due to reduction in domestic subsidies and barriers to trade. While on the one hand earnings from agricultural exports are likely to increase, on the other hand India has ensured that all major programmes for the development of agriculture will be exempted from the disciplines in the agricultural Agreement. Thus, the operation of the public distribution system will not be affected by the provisions of the Agreement; agricultural subsidies granted by developing countries need not be withdrawn till such time they remain within the prescribed limits specified in the Agreement; and protection necessary for developing the agricultural sector in the underdeveloped countries might be continued. In fact, India hopes that the reduction of subsidies in the USA and the European Community will enable it to increase its earnings from agricultural exports.

4. Benefits from multilateral rules and disciplines. The Uruguay Round Agreement has strengthened multilateral rules and disciplines. The most important of these relate to anti-dumping, subsidies and countervailing measures, safeguards and disputes settlement. This is likely to ensure greater security and predictability of the international trading system and thus create a more favourable environment for India in the new world economic order.

■■■■ A CRITICAL REVIEW OF THE WORKING OF WTO ■■■■

As India opens up its international trade and brings its patent legislation and other laws in line with the requirements of WTO, it is likely to face a number of disadvantages and challenges which can seriously undermine its interests. The 'inequality within the structure of WTO', and its bias towards the developed countries has tilted the balance in favour of these countries in all negotiations conducted so far and this bias is bound to remain in all future negotiations as well. Moreover, as correctly pointed out by S.P. Shukla, the WTO trespasses the sovereignty of nation-States and signals the virtual emergence of a World Parliament which has been granted powers to enact international laws on matters that were under national jurisdiction so far.⁴ The main disadvantages and challenges that India faces under the new international economic order that is taking shape under WTO are as follows:

Inequality Within the Structure of WTO

There is extreme 'inequality within the structure' of WTO and it is this inequality that drives the outcomes, rather than any abstract notions of free trade. As noted by Subir Gokarn, "the contents of agreements are determined by the leverage that developed countries can exert over the developing countries; bribing them to agree and threatening to penalise them in other ways if they don't. Thus, the basic agreements and subsequent amendments are stacked in favour of developed countries."⁵

Two other aspects of 'inequality' also need to be pointed out. First, *a single undertaking framework was adopted under the Uruguay Round of negotiations which required every country to accept all the Uruguay Round Agreements irrespective of its level of economic development*. Thus, the developing countries were not given additional adjustment period to bring their trade regimes in conformity with their obligations. This placed these countries at a disadvantage *vis-a-vis* the developed countries as the trade regimes of the latter were already very much in conformity with their obligations. Second, *the TRIPs Agreement requires all WTO members to adhere to the same IPR (Intellectual Property Rights) standards which have already been achieved in*

developed countries. Thus, the effective burden of adjustment falls virtually entirely on the developing countries. Michael Finger and Philip Schuler have estimated that the cost of legislation required to implement the TRIPs Agreement alone will be a hefty \$ 150 million per country. This is a substantial burden with no commensurate benefits.⁶

The most disturbing aspect of the functioning of WTO is that *the disputes settlement mechanism of WTO is by its very nature biased in favour of the rich and against the poor.* As argued by Harish Rao, the settlement mechanism is best suited for disputes between equally strong trading partners. This is due to the reason that in case of any dispute, the WTO can only recommend retaliation by the affected member and there is no provision for collective retaliation by all WTO members against the erring member. Nor is there any provision for providing compensation to the affected member for the losses suffered.⁷ In such a lopsided structure, a weak complainant may prefer to remain silent rather than retaliate against a powerful developed country.

Trade Related Intellectual Property Rights

Protection of intellectual property rights—patents, copyrights, trademarks etc.—has been made more stringent in the Uruguay Round. This has been done to protect the interest of multinational corporations and the developed countries as the Agreement on TRIPs is highly weighted in favour of patent holders. However, as correctly pointed out by Muchkund Dubey, *IPRs (intellectual property rights) protection is anti-competition and anti-liberalization and goes against the spirit of opening up the world economy and global integration. It amounts to 'legalising' the 'monopoly' of MNCs. Thus protection of IPRs is, itself, a barrier to trade.* Let us now see how the Agreement on TRIPs is likely to work against India :

1. The Patent Act of India, 1970 granted only process patents to drugs and medicines. This meant that an Indian company was only required to develop and patent its own process for producing a drug, it was not required to invent the drug itself. The company could then legally manufacture this drug, even if it was protected patent under a product patent abroad. Finally, Indian drug companies were allowed to obtain what are called 'licences of right' which allowed them to produce, regardless of the process used, inventions (again, usually pharmaceuticals) patented abroad.

The effects of these laws have been positive for India. Indian drug prices are considered to be among the lowest in the world, and this is not at the expense of quality. In addition, the indigenous pharmaceutical industry has grown rapidly after the passage of the 1970 Act. Not only this, the market share of Indian drug companies in the local drug market went up from 30 per cent in 1970 to 61 per cent in 1993. Today, India is, in fact, an exporter of drugs to other parts of Asia, Europe, and even USA.

Introduction of product patents from January 1, 2005 in order to meet the obligations under the TRIPs Agreement will now significantly alter the equations. Although the Government of India has taken a number of steps to protect the interest of the domestic pharmaceutical companies, the latter are bound to face heat as they will not be allowed to produce drugs patented by MNCs. Taking advantage of the situation, MNCs could well hike the prices of these drugs making some of them out of reach of the common people. Conditions of shortage and scarcity of some patented drugs of MNCs could also emerge particularly in small towns, villages etc. impacting the health of the masses.

2. The extension of intellectual property rights to agriculture (via the patenting of plant varieties) has serious consequences for India. In India, plant breeding and seed production are largely in the public domain (agricultural universities and units of Indian Council for Agriculture). This is due to the reason that India being a poor country where agriculture is the livelihood of the majority of the population, the government must bear the responsibility of ensuring the supply of adequate quantities of seeds at reasonable prices to the farmers. The aim is not to maximise profits as would be the case in the private sector, but to sustain the livelihood of the majority of the population on the one hand, and to achieve self sufficiency in foodgrains on the other hand. *Patenting of plant varieties will transfer all the gains to the multinational companies. Almost all new varieties will belong to MNCs simply by virtue of their massive financial resources.* Thus the MNCs will come to control the seed production by this country. Since control of seed production implies control over food supply, the entire Indian food security system will be at the mercy of the MNCs with all its dangerous implications.

3. Under TRIPs, patenting has been extended not only to plant varieties but to the large area of micro organisms as well. *Micro organisms refer to very small forms of life.* In this category are included such living creatures as bacteria, virus, fungus, algae (the green scum that grows near water), small plants and animals, and even genes. As argued by Suman Sahai, there are vital economic sectors that are linked to micro organisms,

the most important being agriculture, pharmaceuticals and industrial biotechnology. In the field of agriculture, efforts are on worldwide to develop bio-substitutes (which are based to a large extent on micro organisms) for chemical fertilisers and pesticides as the latter are not ecologically sustainable and will poison our land and water. In the field of pharmaceuticals, several kinds of drugs are derived from micro organisms. The patenting of life forms will strike at the very roots of indigenous manufacturing of such drugs. As far as industrial biotechnology is concerned, it is estimated that in the coming two to three decades, 60 to 70 per cent of the global economy would rest on biotechnology because this is perhaps the most versatile of all the technologies that we have seen so far.⁸ *Patents in all the three fields (agriculture, pharmaceuticals and industrial biotechnology) linked to micro organisms are either already with the multinational companies or are likely to be acquired at a much faster rate vis-a-vis the developing countries.* Thus multinational companies belonging to the developed countries are likely to dominate the 'global' economy that will emerge in the coming years.

Trade Related Investment Measures

According to Muchkund Dubey, the developed countries achieved almost everything they wanted from the TRIMs Agreement. In order to make the Agreement balanced from the point of view of the developing countries, it was necessary to formulate international rules for controlling restrictive business practices of foreign investors. However, the TRIMs Agreement is totally silent on this vital question and is concerned mainly with provisions for elimination of trade related investment measures which are designed to protect the interests of foreign investors (particularly MNCs) in the developing countries. Of course, the developing countries have been allowed to deviate from the provisions of TRIMs Agreement on balance of payments ground. However, once there is an improvement in the balance of payments, the host country is required to eliminate the identified measures even if there is justification to maintain them on broader macro-economic and strategic considerations. When applied to the developing countries, the provisions of the TRIMs Agreement will most likely have the effect of undermining any plan or strategy of self-reliant growth, based on the technology and other resources available locally. It could also prove a drain on the foreign exchange reserves of the developing countries, adversely affecting their balance of payments position. Moreover, as correctly pointed out by *Tenth Five Year Plan*, the multinational framework cannot guarantee an increase in FDI (Foreign Direct Investment) inflows, although it could impact the quality of the inflows.⁹

Competition in Services

There is a vast level of difference in the development of services like banking, insurance, telecommunications and shipping as between the developed countries and the developing countries. Therefore inclusion of trade in services is bound to benefit developed countries much more than the developing countries like India. In fact, the very inclusion of trade in services in Uruguay Round negotiations was on persistent insistence of the developed countries who have all along been arguing that opening up of trade in services is an important requirement for globalisation and development of world trade. The principal exporters of services are the USA, France, Japan and Netherlands in that order and together they account for about 60 per cent share of the world trade in services. It is these countries that will benefit most from the new agreement on services as arrived at in the Uruguay Round and the share of the developing countries will decline further.

As far as India is concerned, it has a large reservoir of highly skilled and experienced professionals like engineers, doctors, scientists, computer and software experts. Thus free movement of natural persons would be to its benefit. However, *movement of natural persons has been restricted by many of the developed countries.*¹⁰

Trade and Non-Tariff Barriers by Developed Countries

Trade and non-tariff barriers (NTBs) which have come up around the globe, following the formation of WTO, have hurt the exports from developing countries. As far as India is concerned, the report on NTBs prepared by the trade policy division of the Union Commerce ministry sometime ago identified 13 different non-tariff barriers put up by 16 countries against India. The report found that as far as textile exports are concerned, the MFA (multi-fibre arrangement) put up by the USA and European Union has been a major barrier (MFA stands dissolved from January, 1, 2005). As far as agricultural exports are concerned, NTBs in this category include import alert on shrimps by the USA, EU regulations on fish products, Saudi Arabian ban on frozen fish and products, ban on use of pesticides in mangoes, bananas, grapes and potatoes, sales tax discrimination by Australia, restrictions on tea by EU and Japan, on sesame, tobacco and cutflowers by Japan,

on milk products by EU and on meat by Saudi Arabia and EU. The other NTB hitting India is the use of human rights issues like child labour by US, Canada and EU, constant threat of Special 301 by the US against drugs and pharmaceuticals exports, use of standard specifications and export subsidies as NTBs and stalling movement of personnel from India.

A paper presented by the Federation of Indian Export Organisations (FIEO) "Implications of WTO on India's Trade" reveals that trade and non-trade barriers following the setting up of WTO have had a negative effect on Indian exports. The paper divides trade barriers into three categories — tariff barriers, anti-dumping and safeguards. Products that have been hit by these barriers during recent years include floriculture, textiles, pharmaceuticals, marine products and basmati exports to EU, carpet exports to Morocco, match exports to Egypt, mushroom exports to USA, sports goods and leather exports to the developed world and meat products to West Asia. Besides these, the EU has imposed several anti-dumping and safeguard duties which have seriously hurt the Indian industry. Under NTBs, the paper has pointed out, the developed countries have imposed barriers through the use of child labour clause, sanitary and phytosanitary measures and the insistence on eco-friendly labour for import of goods into their countries.

Agreement on Agriculture

Tenth Five Year Plan notes a number of issues of concern as far as Agreement on Agriculture (AoA) is concerned:¹¹ (1) *AoA has legitimised the various trade distorting practices of the developed countries in their favour*; (2) AoA provides that countries not using any subsidies during the period 1986-88 (which has been identified as the 'base period' for Agreement) are prohibited from introducing any new subsidies in the WTO regime. This automatically places a small number of rich countries, which have been using export subsidies, in an advantageous position as they have been provided the opportunities to use these subsidies (as noted by the Tenth Plan, while developed countries are allowed to retain 80 per cent of their subsidies, the developing countries can subsidise their farmers not more than 10 per cent of the total value of agricultural production); (3) *about 40 to 50 per cent of support to farmers in USA and EU is in the form of Green Box and Blue Box subsidies and are thus exempted from reduction commitments*.¹² India and other developing countries have objected to this and have argued that in the absence of specific discipline to ensure that farmers do not divert payments received for non-trade distorting objective to production boosting investments, all subsidies can distort trade; and (4) the peak tariff on agricultural commodities in developed countries is very high. For example, one-fifth of the peak tariff of the USA, a quarter of those of EU, about 30 per cent of those of Japan and about one seventh of those of Canada exceed 30 per cent. It has also been observed that the most important areas for developing countries face highest tariff rates and include the major agricultural staple foods, cereals, meat, sugar, milk, butter and cheese as well as tobacco and cotton. Moreover, tariff wedges will continue to be significantly high on account of tariff escalation, which is a major factor preventing developing countries from diversifying and increasing their share of processed agricultural exports.

An issue of specific concern to the developing countries is the issues of food security. The AoA does not address itself adequately to this question and there is a line of thinking that views trade as providing the means for food security in these countries. This assumes that the existence of global surpluses of foodgrains would enable the developing countries to meet their food needs. This is described as food security 'by way of trade view'. According to this view, it is not necessary for developing countries to target food self sufficiency as global surpluses would enable these countries to meet their food needs. However, as correctly pointed out by Biplab Dasgupta, this view is based on the following assumptions : (i) the global trade is so integrated that it is possible for any country to buy anything from any market, at a price ruling in that market; (ii) every country in the world makes production decisions on the basis of its 'comparative advantage'; and imports the other required commodities from the integrated world market; (iii) non-economic factors, such as the needs for diplomacy or war do not influence the production and export-import decisions of a country, and (iv) both the rich and the poor countries adhere to such rules of global trade. Each of these assumptions is erroneous. Moreover, food security by way of trade view is based on the belief that developing countries have sufficient foreign exchange at all times to meet their food import requirements. This, again, is not true. Accordingly, food self-sufficiency should remain the cornerstone of the food security system of the developing countries.¹³

Labour Standards and Environment

Two very sensitive issues from the point of view of the developing countries are the issues relating to labour standards and environment. The developed countries tried to force these issues in the Seattle meeting

held in Seattle, Washington, from November 29 to December 3, 1999. As far as the issue of labour is concerned, there are two points that have been highlighted by the developed countries. The first relates to core labour standards and the second to child labour. Developed country trade unions are in the forefront of the demand for linking trade with labour standards. What drives them, of course, is not international solidarity with the workers in the developing countries but the desire to protect their own jobs. They fear that globalisation of trade will lure investments away from the industrialised world to poor countries where wages are low. However, asking for the wage levels in developing countries to be raised to the levels that obtain in the developed countries is a highly obnoxious demand. By the same token, India and other developing countries can demand the raising of capital costs (interest rates) in developed countries to the levels that prevail in their economies. As far as the question of child labour is concerned, the demand that children should go to school rather than work is, in itself, a fair demand. But it ignores the realities of the poor countries. Children in these countries are sent to work because their families are too poor to send them to school. Barring children from work will not mean that they will start going to school from the next day. If anything, the loss of income will mean a further setback for their already poor families.

The fact of the matter is that child labour is prevalent in developed countries such as the USA, UK, Italy, Portugal and Spain as well. However, developing countries are not in a position to take trade measures against them.

As far as the question of linking trade with environment is concerned, this is again undesirable from the point of view of the developing countries. As argued sometimes back by Jagdish Bhagwati, when it came to environmental standards, poor countries where dysentery is a major killer, might want to spend money on improving the quality of drinking water rather than on cleaning up automobile pollution. Linking trade to the quality of ambient air might force poor nations to divert resources from water quality to air pollution, and might actually reduce global well-being.

Trespassing the Sovereignty of Nation-States

WTO has been granted powers to enact international laws on matters that were under national jurisdiction so far. The GATT agreement was concerned only with issues relating to international trade. No attempt was made to interfere in the sphere of autonomous decision making of its member States. The nation-States could have their own laws relating to the protection of patents, trademarks and copyright; conservation of exhaustible natural resources; restrictions on export of domestic materials; laws and regulations essential for the acquisition or distribution of products in short supply etc. The WTO Agreement, in contrast, 'annexes' vast spaces of national decision making into its domain. As noted earlier, the entire spectrum of intellectual property rights (IPRs) has been lifted out of the national domain and subjected to a rigorous international discipline. The trade in services has been defined in an open-ended manner so as to bring within the ambit of GATS (General Agreement on Trade in Services), any and every possible activity except the essential law making, policing and judicial functions of the State. The national investment regimes will similarly be subject to the international discipline as laid down under TRIMs. The developed countries are also trying to bring other issues like social clauses, labour services and issue of child labour, environmental protection etc. under the new international control regime.

There are some other issues of concern to developing countries like India. Article I of GATT had provided for its members the fundamental right of non-discriminatory treatment at the hands of other members of the system in regard to international trade in goods. Only a unanimous decision of all members could make any changes in this right. This meant that every member had an implicit veto on the question of amendment of Article I. WTO has destroyed this feature. *Now with a three-fourths majority, new obligations can be added and new disciplines enforced on the members. Thus the jurisdiction of WTO can be expanded by getting the acceptance of a three-fourths majority and all members will have to enforce the decision.* With their strong economic and political power, developed countries can easily pressurize and coerce a number of small developing countries and secure the necessary three-fourths majority to bring in new obligations and disciplines that suit their interest.

The above discussion shows that *the WTO trespasses the sovereignty of nation-States. Under the guise of 'rule based multilateral order', 'global integration' and 'development of free international trade', the developed nations have succeeded in building up a new international economic order that fully serves their interests and sacrifices the interests of the large, silent and deprived majorities of the developing countries. Even the economic sovereignty of nation-States (particularly of the developing countries) is at stake !*

■■■■ SINGAPORE ISSUES, DOHA DECLARATION AND CANCUN FIASCO ■■■■

Singapore Issues

Ever since the inception of WTO, the developed countries have been pressuring for expansion of negotiating agenda. This was clear at the first ever Ministerial Conference held in Singapore in 1996 itself where these countries demanded that the negotiating mandate of WTO be broadened to include trade and investment, trade and competition policy, government procurement, trade facilitation, labour standards and environmental standards. Having undertaken heavy commitments in the just concluded Uruguay Round, developing countries resisted these demands. They managed to put labour standards and environment off the WTO agenda for the time being. On the other four issues, viz., (i) *investment*, (ii) *competition policy*, (iii) *government procurement*, and (iv) *trade facilitation*, as a compromise measure, Working Groups were set up to conduct study processes without any negotiating mandate. As stated earlier, *these four issues have come to be known as 'Singapore Issues.'* On all these four issues there are considerable differences of opinion not only between developed and developing countries but even amongst the developed countries themselves. Debates at the Working Groups over the past eight years have failed to produce a consensus and establish conclusively the need for binding rules.

Developing countries like India have argued that all the four issues mentioned above have a strong development dimension which a focused organisation like the WTO is not competent to handle. In particular, these countries have opposed the Singapore issues on the following grounds: (1) there is no single accepted view on various elements of 'investment' including scope and definition, transparency, dispute settlement, performance requirement etc; (2) the need for a multilateral agreement on investment itself is not clear. Although it can neither promise additional investment flows nor reduce transaction costs for investors significantly, such agreement will certainly curtail the policy space of developing countries; (3) government intervention is necessary to ensure that foreign direct investment (FDI) is guided by the overall policy goals and has a positive developmental impact; (4) given the little experience that developing countries have in dealing with competition policy even at the national level, it is premature to consider a multilateral framework; (5) it is necessary to clearly define the various elements of 'competition' such as core principles, cooperation mechanisms, coverage and prohibition of hardcore cartels etc. before the developing countries can agree to any multilateral discipline in this regard because these countries have genuine development concerns in implementing competition policies; (6) multilateral rules, binding in nature, regarding transparency in government procurement are likely to take away valuable development policy space from governments; (7) just as in the case of transparency in government procurement, there is no rationale for binding rules in the case of trade facilitation either. Technical assistance and autonomous policy decisions should be preferred over binding rules which will put heavy burden of compliance on developing countries; and (8) any agreement on trade facilitation would benefit the developed countries more as it is these countries that export 80 per cent of the goods imported by the developing countries.

Because of considerations such as these, Singapore issues emerged as a bone of contention between the developed and the developing countries first at the Doha meeting in 2001 and then at Cancun meeting in 2003. *Because of their reluctance to reduce agricultural subsidies and provide more market access in their agriculture to developing countries, the developed countries are taking cover behind the Singapore issues resulting in a breakdown of all negotiations.*

Doha Declaration

As stated earlier, the Fourth Ministerial Conference held at Doha (Qatar) in November 2001 adopted a comprehensive Work Programme, known as *Doha Development Agenda*. The main features of this Agenda were as follows:

1. Launch of a New Round of Negotiations. Before the Ministerial meeting at Doha began, the Government of India had adopted the "implementation before expansion" position. Many other developing countries had also supported India's position as they felt that the trade regime had not delivered on its promises to them. However, under pressure from the developed countries, the Doha Declaration announced the launch of a new round of negotiations. This was termed the Doha Round.

2. TRIPs and Public Health. The major success claimed by the developing countries (particularly India) was in the field of TRIPs and public health. The separate declaration adopted on the issue stated that the "TRIPs Agreement does not and should not prevent members from taking measures to protect public health." For this, it says that "the Agreement can and should be interpreted and implemented in a manner supportive of WTO

members' right to protect public health and in particular, to promote access to medicines for all." In other words, the Declaration made it clear that *any member of the WTO has a right to knock off patents of pharmaceutical products on public health grounds*. As far as countries without manufacturing capacities are concerned, there was a statement that said that such countries could grant a compulsory licence to a company in some other developing country which possesses the necessary capacity.

3. Agricultural Subsidies. Although seven years had elapsed since the conclusion of the Uruguay Round, the developed countries had failed to meet their commitments with regard to the reduction in agricultural subsidies. In fact, the USA and the European Union (which are the two biggest agriculture exporters) sharply increased their agricultural subsidies instead of reducing them. As a result, prices of all the major agricultural commodities have suffered a secular decline since 1996. This has left low-cost producers like India in a quandary as the prevailing international prices in most of the commodities are well below the domestic prices.

In view of the above, the Doha Declaration specifically stated that the mandated negotiations would aim at "substantial improvements in market access; reduction of, with the aim of phasing out, all forms of export subsidies; and substantial reduction in trade-distorting domestic support." The Declaration also recognised the importance of non-trade concerns like food security and rural development for developing countries. Thus countries like India which have a strong public distribution system could continue to retain it and, in addition, could also provide greater domestic support to the rural economy.

4. Market Access for Industrial Products. The Declaration agreed to negotiations which was to aim, by modalities to be agreed, to reduce or as appropriate eliminate tariffs, including the reduction or elimination of tariff peaks, high tariffs, and tariff escalation, as well as non-tariff barriers, in particular on products of export interest to developing countries. Product coverage was to be comprehensive and without *a priori* exclusions.

5. Environment and Labour Issues. In order to get the benefits of reduction in export subsidies for agricultural goods in the developed countries, the developing countries had to make a trade off with environment. Thus, they agreed to negotiations on environmental issues. However, they succeeded in preventing negotiations on labour issues by arguing that these issues are best left with the International Labour Organisation (ILO).

6. Special and Differential Treatment (S & DT) Provisions. The Special and Differential Treatment (S & DT) provisions in GATT were incorporated following the recognition of inherent inequality between players in the multilateral trading system and the special needs and development concerns of the developing countries. However, the Uruguay Round considerably diluted the S & DT provisions. From enhanced market opportunities to developing countries, the Uruguay Round Agreements shifted thrust to transition periods and technical assistance. Even these new provisions were not legally binding and did not go beyond best endeavour clause. On a joint submission by 12 developing countries to the General Council of WTO in September 2001, the Doha Ministerial Conference reaffirmed that S & DT provisions are an intergral part of the WTO Agreements and agreed that all S & DT provisions 'shall be reviewed with a view to strengthening them and making them more precise, effective and operational.'

7. Singapore Issues. As stated earlier, in the first Ministerial Conference held in Singapore, it was agreed that the issues of investment, competition policy, government procurement, and trade facilitation would merely be 'studied' and there was no negotiating mandate. However, the matter came to a head at Doha when the Ministers were launching a new round of multilateral trade negotiations with developed countries (particularly countries of the European Union and Japan) insisting on their inclusion in negotiations. However, developing countries under the leadership of India were able to thwart their efforts. A compromise was struck under which it was recognised that while there is a need for negotiations in these areas they could begin only after there was 'explicit consenses' at the Fifth Ministerial Conference to be held at Cancun on the 'modalities of negotiations.'

The Doha Agenda negotiations had a tightly sequenced agenda. Thus, members had to finalise the results of the package of issues contained in S & DT provisions by the end of July 2002, the TRIPs and public health agreement by December 2002, agriculture negotiating modalities by March 2003 and industrial negotiating framework by end-May 2003, and so on. None of these deadlines could be met, in some cases even after the extension of deadlines. The first spanner in the Doha works came in July 2002 when the General Council failed to complete the work on S & DT issues, giving room for developing countries to point an accusing finger that the developed countries were not prepared to address issues of concern to developing countries. As far as TRIPs and public health issue is concerned, USA played the spoilsport when it single-handedly blocked the proposal of the other 145 members on December 20, 2002 for distributing patented medicines to less developed nations.

While representatives of 145 countries pressed the broader view that any 'public health problem' could justify overriding patents, USA stuck to its stand that patent exception could apply only to epidemics such as AIDS, tuberculosis and malaria. As far as the issue of market access in agriculture is concerned, most of it has been provided by the developing countries in the post-Uruguay phase. The developed countries have tended to either under-implement their commitments or to implement them in a manner that makes the fruits of liberalisation unavailable to the developing countries. Developed countries continue to provide significant domestic support to agricultural production alongwith substantial export subsidies. In fact, agricultural subsidies by OECD countries (known as producer support estimate or PSE) increased from \$ 241 billion during 1986-88 to \$ 257 billion in 2003 which is as much as 32 per cent of the value of their agricultural output.¹⁴ In fact, according to *Human Development Report 2005*, "The problem at the heart of the Doha Round negotiations can be summarised in three words : rich country subsidies."¹⁵

Cancun Fiasco

The Fifth WTO Ministerial Conference was held in Cancun, Mexico, from September 10 to 14, 2003. It was a mid-term review of the Doha Development Agenda but it ended in fiasco when the Conference chairman, Mexican foreign minister Luis Ernesto Debraz abruptly declared the conference closed citing the reason that ministerial negotiations were impossible due to basic differences among the member countries.

The debate at Cancun was focussed on two issues: (1) liberalisation of agriculture, and (2) developing new multilateral disciplines on the Singapore issues. A clear divide between the developing and the developed world surfaced at the meeting with the former rooting for a cut in agricultural subsidies by the developed countries and more market access for their farm products, and the latter rooting for a deal on Singapore issues. Both the groups stuck to their guns resulting in an impasse that led to a breakdown in negotiations.

Although the Cancun Ministerial Conference ended in a fiasco, one important development from the point of view of the developing countries has been their coming together to push their own agenda at the WTO negotiations. India has played a key, constructive role in building developing country unity and assertion at the WTO, whose concrete forms are *20 nation alliance on agriculture (known as G20) whose chief spokesman is Brazil and another G16, on the Singapore issues led by Malaysia*. Developing countries have come together in the past as well, but only to break up and forsake common goals in the face of rich country pressure and selective inducements. At Cancun, developing countries not only held together, but also became more professional in their approach to negotiations, offering alternative legal text to counter the official draft text presented by the WTO Secretariat. Such developing country sophistication has caused considerable discomfort among the developed countries.

After the failure of the Cancun Ministerial Conference, efforts continued to reach consensus on the various issues. The group of five commonly called Five Interested Parties (FIPs), comprising India and Brazil from the G-20 and Australia, the EU and the US from the developed countries held regular meetings to arrive at a consensus. The result was the adoption of a Framework Agreement in end-July 2004 (known as "the July Package"). *The Framework Agreement outlined the framework for establishing modalities in agriculture, market access for non-agricultural goods, trade in services and trade facilitation.*

■■■■ HONG KONG MINISTERIAL CONFERENCE ■■■■

Hong Kong Ministerial Declaration

The Sixth Ministerial Conference was held at Hong Kong from December 13 to 18, 2005. The Ministerial Declaration adopted at the end of the Conference called for conclusion of negotiations launched at Doha in 2006, and established time frames and targets in specific areas (see Box 21.1).

A Critical Appraisal

The outcome of the Hong Kong Ministerial Conference was, at best, modest. The initial hopes were that the Conference would mark the penultimate stage in the Doha round by facilitating a long-delayed agreement on modalities (the structure and tariff-reduction formulae) of trade liberalisation in agriculture and industry (non-agricultural market access or NAMA). But when it became clear that differences in the 'three core' areas (agriculture, industry and services) had not been narrowed, "expectations were lowered" so that the Ministerial would not end in open disagreement. Thus, the only important achievement was that the Ministerial did not flop. The members only committed themselves to breathe new life into the Doha round while the hard task of

thrashing out the modalities was postponed. If anything, the tilt in favour of the developed countries is very much in evidence as the following discussion amply brings out:

The Commitment in Agriculture. From the point of view of the developing countries, nothing of consequence has been achieved by the Hong Kong Ministerial Conference :

1. The most publicised benefit is that export subsidies will be eliminated by 2013. This is no achievement as 2013 is the *'furthest possible'* date by which agricultural export subsidies had to be eliminated. The EU did not accept the end date as 2010 which the developing countries had demanded.

2. The major part of agricultural support subsidies is the domestic support subsidies. A substantial proportion of these subsidies is in the form of Green Box subsidies which are outside the reduction commitments. *They will, accordingly, continue to be provided by the developed countries even beyond 2013.* Moreover, the developed countries will try to shift trade distorting subsidies to this Box to escape from reduction commitments.

3. If domestic support subsidies are not substantially reduced while substantial reductions in agricultural tariffs are carried out, the developing countries will be at a disadvantage. The subsidised products from the developed countries will flood the markets of the developing countries. Even if India is able to prevent this, Indian agricultural products will find it difficult to compete in the world market with subsidised products of the developed countries.

4. In the field of cotton, the declaration offers the elimination of export subsidies in 2006. This constitutes only a small portion of the nearly \$ 4 billion subsidies the US gives to cotton producers every year. There is no action agreed for trade distorting domestic subsidies which amount to about \$ 3.8 billion or 80-90 per cent of total US support for cotton.¹⁶ Domestic subsidies also make up almost all of the European cotton subsidies. This shows that cotton producing countries of Africa have gained nothing.

BOX 21.1. Key Outcomes and Timelines of Hong Kong Ministerial Declaration

- Resolve to complete the Doha Work Programme fully, and to conclude negotiations in 2006.
- To establish modalities in agriculture and non-agricultural market access (NAMA) by April 30, 2006 and prepare draft schedules by July 31, 2006.

Agriculture

- Agricultural export subsidies to be phased out by the developed countries by 2013.
- However, domestic support would continue implying that agricultural output of the developed countries would still be subsidised.
- On ground of food security, livelihood security and rural development needs, developing countries will be able to self-designate 'Special Products' which will attract more flexible tariff reduction treatment.
- Special Safeguard Mechanism for developing countries.
- For cotton, export subsidies will be eliminated by developed countries in 2006.

Non-Agricultural Market Access

- The Hong-Kong Declaration seeks to achieve the objective of reduction or elimination of tariffs, including tariff peaks, high tariffs and tariff escalation.
- It has been agreed that tariffs would be brought down according to the "Swiss Formula" (this formula proposed by Switzerland implies deeper cuts on higher tariffs and milder cuts on lower tariffs).

Less than Full Reciprocity

- Developing countries would sacrifice less than the developed countries. All cuts and concessions offered by developed nations will be reciprocated by developing countries in a lesser measure. This clause would also give the developing countries a larger phase-out time to integrate themselves into the multilateral trading system.

Services

- On the services front not much progress was made. However, the members were asked to submit a second round of revised services' offers by July 31, 2006 and submit final draft schedules by October 31, 2006.

TRIPs

- Amendment to TRIPs Agreement reaffirmed to address public health concerns of developing countries.

Development

- Least developed countries will be guaranteed duty-free, quota free access for 97 per cent of their exports from 2008, or from not later than the coming into effect of any final trade treaty.

NAMA. As far as industrial tariffs (or non-agricultural market access) is concerned, the Hong-Kong Ministerial Declaration adopted the Swiss formula. This formula reads

$$T_t = \frac{a \times t_0}{a + t_0}$$

where T_t is the final rate to be found in ad valorem terms, t_0 is the base rate, 'a' is a coefficient whose value determines how deep the tariff cuts will be.

This formula results in deeper cuts on higher tariffs and milder cuts on lower tariffs.

Since the developing countries have bound their non-agricultural tariffs at high levels after the removal of Quantitative Restrictions, the deployment of this formula will result in steep linear cuts on many of the developing countries' critical tariff lines. A study by FICCI (Federation of Indian Chamber of Commerce and Industry) has estimated that under the formula, at a coefficient 10, while the US and the EU will cut their tariffs by 24.22 per cent and 28.06 per cent respectively, India will cut its tariff by 77.43 per cent.

Possibly to mitigate the adverse effect of a single coefficient, the Hong Kong ministerial accepted the Swiss formula adopting different coefficients for different countries. This could result in lower tariff cuts for developing countries. However, the developing countries will now have to struggle to negotiate favourable coefficients.

Services. *India had a very high stake in services particularly in Mode 1 (cross border supply of services) and Mode 4 (movement of natural persons). However, it failed to gain anything on these issues primarily because of the reluctance of the developed countries to make legally binding commitments in them.* For example, under Mode 1, India has been unable to get any binding commitment; rather the Declaration merely talks of a "guidance" given to countries on the matter. Mode 4 is of particular interest to India as it has a large pool of well qualified professionals. Success under the mode would mean that Indian professionals will be able to move freely across countries chasing assignments and opportunities. The government has been successful in getting the EU to ease its Economic Needs Test, which made it mandatory for companies there to justify why a contract has been awarded to a non-EU service provider. Despite this, problems related to visa and immigration procedures, work permit norms and non-recognition of Indian qualifications remain unresolved. And the US has made no concessions on Mode 4.

■■■■ DEVELOPMENTS POST HONG KONG MINISTERIAL ■■■■

At Hong-Kong Ministerial, WTO Ministers had agreed to establish modalities for agriculture and Non-Agricultural Market Access (NAMA) by April 30, 2006, submit the Draft Schedules by July 31, 2006 and conclude the negotiations across all areas of the Doha Round by the end of 2006. In respect of services, all Members were to file their revised offers by July 31, 2006 and submit the Draft Schedules by October 31, 2006. These deadlines were missed despite intensive negotiations over the period January 2006 to July 2006 wherein main focus was on the triangular issues of Domestic Support, Agricultural Market Access (AMA) and Non-Agricultural Market Access (NAMA). Hectic negotiations were held and efforts were first made to establish the modalities by June 30, 2006. An informal meeting of 31 Trade Ministers, including from India, was convened by the Director General, WTO, Pascal Lamy, in Geneva between 29 June and 1 July 2006 but without any success. Efforts were then made to establish the modalities by July 31, 2006. A meeting of the G-6 WTO Ministers (from Australia, Brazil, European Union, India, Japan and the United States) was held in Geneva on July 23 and 24, 2006 but there was no convergence on the core issues of substantial reduction of trade-distorting support and other development issues. Following detailed consultations, the DG, WTO convened an informal meeting of the WTO Trade Negotiations Committee (TNC) on July 24, 2006. The DG reported that "it remained clear that the gaps remain too wide", and recommended that the only course of action would be to suspend the negotiations across the Round as a whole to enable serious reflection by participants. In the light of the impasse particularly in agriculture and ruling out the possibility of finishing the Round by the end of 2006, Members agreed to suspend the negotiations across all areas of the Doha Work Programme, and to resume them when the negotiating environment was right.

The Present Status of Negotiations. A meeting of nearly 30 trade ministers was held at Davos (Switzerland) during the last week of January 2007. After hectic discussions and consultations, the DG announced the full resumption of negotiations on the Doha Work Programme. Talks were resumed in various negotiating groups on February 7, 2007. However, the first formal meeting of the Trade Ministers of G-6 countries was held on

April 11 and 12, 2007 at New Delhi. *The meeting has set a new deadline and proposes to conclude the six-year old Doha round of trade talks by end-December 2007.* The new deadline came after talks were stalled over the refusal of developed countries to cut farm sops and the developing countries' reluctance to further open up markets. The 'achievement' of this meeting of trade ministers is best summed up by the Trade Minister of Brazil in the following words, "We did not discuss the numbers, but *we are making progress on how to make progress*".

■■■■ APPENDIX TO CHAPTER 21 ■■■■ INDIA'S NEW PATENT REGIME

Patent policies in all countries involve finding a balance between protecting the rights of innovators and ensuring access to resources at reasonable prices. In India, the patent policy as formulated in the Patents Act of 1970, emphasised public interest over monopoly rights. As stated earlier, this policy was based on granting process patents rather than product patents. This helped in a massive expansion of the pharmaceutical industry on the one hand, and providing world class medicines at cheap prices to the people on the other hand. Thus it addressed the issues of public health adequately. However, this policy came in for vehement criticism from MNCs based in the developed countries who accused India of 'piracy'. Under pressure from these MNCs (particularly of MNCs belonging to USA), intellectual property rights (IPRs) were included in the Uruguay Round of negotiations. India initially resisted this inclusion but ultimately signed the agreement as the Draft was offered as a single treaty (*i.e.* no element of the treaty could be considered as agreed unless the total package was agreed).

With the signing of the treaty, India committed itself to 'reform' its patent law in accordance with the TRIPs Agreement of the WTO. This obligation required it to grant product patents by January 1, 2005 (thus a 10-year grace period was provided). Pending the introduction of such patent regime, the country was required to start the system of receiving applications for product patents and granting Exclusive Marketing Rights (EMRs). The first initiative as far as the evolution of India's patent regime in the post-1995 period is concerned, was the adoption of Patents (Amendment) Act, 1999 for the purpose of granting EMRs. *EMRs were meant to grant exclusivity to an international company to market a product in the field of pharmaceuticals and agricultural chemical products in the Indian market.* EMRs were granted for a period of five years. All applications for product patents were to be kept in Mail Box which would be opened in 2005 when the product patent regime is put in place. The second initiative was the passing of Patents (Amendment) Act, 2002 in May 2002. To meet the WTO deadline for introduction of product patents by January 1, 2005, the Government of India promulgated the Patent Ordinance on December 26, 2004. This was followed by the Patents (Amendment) Bill 2005 passed by the Parliament in March 2005. The Patents (Amendment) Bill 2005 is the *third* amendment of the Indian Patents Act of 1970 to bring it in line with the provisions of TRIPs.

Main Features of Patents (Amendment) Bill 2005

With the passing of the Patents (Amendment) Bill 2005 the country has now ushered in a product patent regime. The main features of the Amendment Bill 2005 are as follows:

1. Scope of Patentability. Common sense logic says that patent rights need to be granted only on inventions that unambiguously represent advances in technology. However, it has become common practice in the pharmaceutical sector to file patent applications for already known molecules by claiming trivial improvements. This enables the patent holders to extend their monopoly even after the expiry of the original patent. *This process is often referred to as evergreening.* Thus, instead of invention, pharma majors resort to just what are called as incremental modifications to their drugs which could include new formulations, new combinations of active ingredients, or new salts or esters of approved compounds etc. If patents are granted to incrementally modified drugs (IMDs) it would imply extension of the monopoly of the patent holder beyond the expiry of the original patent and would block the introduction of generic products which can be sold at very low prices. Therefore, it is necessary to guard against granting patents to IMDs. *Patent protection should be limited to new chemical entities only.* The importance of this argument would be clear from the fact that while almost 9,000 patent applications are pending in the Mail Box of Indian Patent Office, only 297 new chemical entities have received marketing approval from USFDA between 1995 and 2004.¹⁷ This shows that, in all probability, most of the patent applications in the Mail Box are intended to patent products with frivolous or marginal changes.

To guard against the above possibility, the Patents (Amendment) Bill 2005 says that a pharma patent will have to be a new entity involving one or more inventive steps. Discovery of a new form of a known substance does not constitute an invention and thus cannot be given a product patent. In this context, the 2005 Bill introduces three new definitions — viz., inventive step, new invention and pharmaceutical substance. The stated reasons for these definitions are to limit the scope of patentability in general and of pharmaceuticals and agrochemicals in particular. However, according to Gopakumar and Tahir Amin, these definitions are extremely vague and could, in fact, facilitate (rather than curb) 'evergreening.' To illustrate, consider the term "inventive step," one of the three basic criteria for patentability. According to the old definition, an invention satisfies the criterion of inventive step if it is not obvious to the person skilled in the art. The new definition tries to clarify the components of an inventive step. The bill defines an inventive step as "a feature of an invention that involves technical advance as compared to the existing knowledge or having economic significance or both that makes the invention not obvious to a person skilled in the art." The problems with this definition are basically three: (i) the extent of 'technical advance' that would be considered sufficient for the grant of patent would depend on the 'subjective judgement' of the patent examiner;¹⁸ (ii) the inclusion of 'economic significance' as a criterion for assessing the inventive step would require close monitoring as patent applicant would be tempted to make exaggerated claims in this regard; and (iii) the requirement of technical advancement is compromised and diluted by the fact that a patent can simply be granted on economic significance alone.

2. Protecting Rights of Generic Producers. One of the more contentious issues that the third amendment of the Patents Act had to address was the future of the generic producers in India who are engaged in the production of pharmaceuticals the product patent applications of which are in the 'mail box.' These producers would have to cease operations in India should patent rights be granted to such pharmaceutical products under the new dispensation (this is due to the reason that the patent rights can be used to prevent anyone from making, using, offering for sale, selling or importing the product covered by the patent). The interests of the generic producers in India are sought to be protected in Section 11 where it is provided that "the patent holder shall only be entitled to receive *reasonable royalty* from such enterprises which have made significant investment and were producing and marketing the concerned product before January 1, 2005, and "which continue to manufacture the product covered by the patent on the date of grant of the patent..." (emphasis added). In addition to this, it is provided that "no infringement proceedings shall be instituted against these enterprises." However, as correctly pointed out by Biswajit Dhar and C Niranjan Rao, disputes might arise in deciding the terms 'significant investment' and 'reasonable royalty' giving rise to a lot of litigation.¹⁹

3. Compulsory Licensing. Doha Declaration clearly enunciated the right of countries granting patents to use the compulsory licensing system when it stated that every WTO member has "the right to grant compulsory licences and the freedom to determine the grounds upon which such licences are granted." This provision was made for realising, in the main, public interest objectives like access to medicines for all (with a view to protecting public health).²⁰ The Amendment, accordingly, provides for the grant of compulsory licence in circumstances "of national emergency, extreme urgency, or public non-commercial use. In all other cases, compulsory licence is available only after three years from the date of grant of the patent.

However, Gopakumar and Tahir Amin point out that loopholes in the legislation will make the compulsory licensing system potentially an unworkable option in India. The legislation does not lay down any ceiling on the remuneration payable to the patent holder, which will inevitably lead to demand for excessive royalty and unnecessary litigation. Also, there is no strict timeframe for the issuance of a compulsory licence. This could result in extreme delays in the grant of a compulsory licence. One more issue that the legislation fails to address is: what will happen if a patentee refuses to issue a voluntary licence on reasonable commercial terms? Can a compulsory licence be issued even then?²¹

4. Exports to Poor Countries. The Patent Ordinance issued in December 2004 had required that if a poor country having no or insufficient manufacturing capacity required a generic drug from India, it should issue a compulsory licence. Many poor countries could have missed out on Indian drugs under this procedure. The Amendment Bill 2005, now allows exports even if the importing country merely notifies its requirement.

Moreover, Indian firms that are producing under compulsory licence for the domestic market can also export their product to poor nations. This provision will enable the Indian pharma sector to retain a key part of its business.

5. Pre-Grant Opposition. Another issue of considerable importance dealt with by the Amendment Bill 2005 is the issue of opposition to the grant of patents. While the Ordinance of 2004 had watered down the provisions relating to pre-grant opposition while introducing post-grant opposition, the amended legislation

restores the ground on which pre-grant opposition can be made. This is a good move as it enables challenging the frivolous patent applications before its grant. However, the effectiveness of the opposition process depends upon the access to information on the mail box applications (and access to documents in future on which the patent holder relies on the claim). No clear guidelines are available in this respect. This will greatly hamper opposition proceedings. Furthermore, no appeal lies against the decision of the controller of patents on the representation to oppose the patent.²²

■■■■ NOTES ■■■■

1. Bibek Debroy, *Beyond the Uruguay Round: The Indian Perspective on GATT* (New Delhi, 1996), p. 42.
2. Government of India, *Economic Survey, 1994-95* (Delhi, 1995), p. 99.
3. Muchkund Dubey, *An Unequal Treaty: World Trade Order After GATT* (New Delhi, 1996), pp. 14-5.
4. S.P. Shukla, "WTO and the Nation State: Of Annexes and Annexation," *The State of India's Economy, 1994-95*, published by PIRG (Delhi, 1995), pp. 26-8.
5. Subir Gokarn, "Guilty Until Proven Innocent", *Business Standard*, August 23, 1999, p. 11.
6. Arvind Panagariya, "Yes to IPRs, but not under the WTO", *The Economic Times*, January 26, 2000, p. 8.
7. Harish Rao, "At the WTO, Might is very often Right," *Business Standard*, September 20, 1999, p. 10.
8. Suman Sahai, "GATT and Patenting of Micro Organisms", *Economic and Political Weekly*, April 9, 1994, p. 841.
9. Government of India, Planning Commission, *Tenth Five Year Plan 2002-07* (New Delhi, 2003), pp. 127.
10. *Ibid.*, pp. 131-2.
11. *Ibid.*, pp. 122-3.
12. Non or minimally trade distorting subsidies are categorised as Green Box subsidies, less trade distorting subsidies are categorised as Blue Box subsidies, and trade distorting subsidies are categorised as Amber Box subsidies.
13. Biplab Dasgupta, *Globalisation : India's Adjustment Experience* (New Delhi, 2005), pp. 121-2. Dasgupta also quotes from a study of Hockman and Cremaox which states, "If Japan, one of the richest countries in the world, with a per capita income that is 100 times more than that of India, and which can buy anything from anywhere in the world at any price continues to provide more than 100 per cent cover to its domestic rice production, on the ground that the rice supply is too important to be left to the foreigners, then what ground could there be to abandon this target of food self-sufficiency in India now?"
14. Government of India, *Agricultural Statistics at a Glance, 2006-07* (New Delhi, 2007), Table 12.2.
15. UNDP, *Human Development Report 2005* (Delhi, 2005), p. 129.
16. Martin Khor, "WTO's Hong Kong Conference—Imbalanced Outcome", *Economic and Political Weekly*, December 24, 2005, p. 5449.
17. K.M. Gopakumar and Tahir Amin, "Patents (Amendment) Bill 2005: A Critique," *Economic and Political Weekly*, April 9, 2005, p.1503.
18. Biswajit Dhar and C. Niranjana Rao, "Third Amendment to Patents Act: Reflections on a TRIPs Compliant Law," *Economic and Political Weekly* April 9, 2005, p. 1501.
19. *Ibid.*, p. 1502.
20. Compulsory licence is an order that allows violation of patent rights and general production for public interest.
21. K.M. Gopakumar and Tahir Amin, *op. cit.*, p. 1505.
22. *Ibid.*, p. 1504.

INFRASTRUCTURE AND BUSINESS

Characteristics of Infrastructure

Production of Infrastructure Industries

- Electricity and Power Generation • Coal • Steel • Crude Petroleum and Refining • Cement

Transport

- Rail Transport • Road Transport • Water Transport • Air Transport

Communications

- Postal Services • Telecommunications

The importance of infrastructure for business is self-evident. Without a proper development of power, transport and communications, growth and expansion of business activities is not possible. In this chapter, we propose to discuss the development of infrastructure in India. We shall focus on:

- Characteristics of infrastructure
- Expansion of infrastructure industries—electricity and power generation, coal, steel, crude petroleum, petroleum refinery products and cement—during the planning period
- Development of transport—rail transport, road transport, water transport and air transport
- Development of postal services and telecommunications.

■■■■ CHARACTERISTICS OF INFRASTRUCTURE ■■■■

Infrastructure is often described as social overhead capital (SOC) in Economics to distinguish it from directly productive capital (DPC). According to Albert O. Hirschman, "SOC (infrastructure) is usually defined as comprising those basic services without which primary, secondary and tertiary productive activities cannot function. In its wider sense, it includes all public services from law and order through education and public health to transportation, communications, power and water supply, as well as such agricultural overhead capital as irrigation and drainage systems."¹ However, the hard core of the concept of infrastructure restricts it to *power and electricity generation (the energy sector), the petroleum sector, coal, steel, cement, transport and communications, port installations etc.* From the point of view of business it is this concept of infrastructure that is relevant. We shall, accordingly, restrict ourselves to this concept in the present chapter.

The common characteristics of infrastructure are as follows:

First, infrastructure is a source of external economies. Once a railway line or a road is constructed, all people located on its route benefit from it. Similarly, a power generation unit and a transmission system can be used to obtain power by all persons within the region the system is located.

Secondly, infrastructure falls in the category of public goods. In the theory of public expenditure, goods are classified either as 'private goods' or 'public goods.' Private goods are purchased by the individuals from their own income and are meant for their personal consumption. Public goods are provided by the State.

Infrastructure is a kind of public good and although private sector's participation in the development of infrastructure has been increasing over time, an overwhelming part of infrastructure (particularly electricity and power generation, rail transport, road transport etc.) continues to be provided by the State particularly in the developing countries.

Thirdly, infrastructural development involves heavy costs. Underlining this point Ragnar Nurkse has stated that infrastructure consists of 'large and costly installations' which are beyond the capacity of individuals or private organizations to establish.² The historical experience world over has been that normally individuals or corporate enterprises rarely had the required resources for the development of infrastructure. Sometimes even if they had the capacity to do so, they were reluctant to make investment in infrastructural development because the gestation period of most of these projects is pretty long and the expected return quite uncertain.

Fourthly, infrastructural development is a kind of investment which creates conditions for innovations and from this point of view there is all the more reason why it should be developed by the State. A.J. Youngson has argued with particular reference to education (it is equally relevant with respect to other forms of infrastructure) that "it is a matter of facilitating the evolution of new ideas, of new combinations of the factors of production. It is indeed a matter of promoting innovations, and it is the peculiar quality of innovation that it makes nonsense of average calculations of future benefits. It is at this point that the idea of external economies meets that of Schumpeterian innovation. *Overhead capital is facilitating investment which promotes innovation.*"³ The role of infrastructure in inducing innovation is of great importance for the development of underdeveloped countries. In these countries infrastructure creates conditions whereby it becomes possible for producers to adopt modern techniques.

Finally, infrastructure stimulates directly productive activities. Sometimes directly productive activities would not be possible at all without developing infrastructure. Hirschman argues, "Access to an area by sea, road, rail or air is indispensable before other economic activities unfold there."⁴

■■■■ PRODUCTION OF INFRASTRUCTURE INDUSTRIES ■■■■

The infrastructure industries are the following: (1) electricity, (2) coal, (3) saleable steel, (4) crude petroleum, (5) petroleum refinery products and (6) cement. These infrastructure industries, taken together, have a weight of 26.7 in index number of industrial production in India (base 1993-94 = 100). Trends in the production of infrastructure industries are given in Table 22.1.

TABLE 22.1. Trends in Production of Infrastructural Industries

Industry	1970-71	1980-81	1990-91	1996-97	2001-2002	2005-06	2006-2007
1. Electricity generated	55.8	110.8	264.2	394.5	515.0	618.0	663.0
2. Coal	76.3	119.0	226.0	286.0	323.0	402.0	426.0
3. Finished steel	4.6	6.8	13.5	22.7	31.1	44.6	49.4
4. Crude petroleum	6.8	10.5	33.0	32.9	32.0	32.0	34.0
5. Petroleum refinery products	17.1	24.1	48.1	58.5	99.8	120.8	135.6
6. Cement	14.3	18.6	48.8	73.3	106.5	140.5	154.7

Note: 1. Data for 'electricity generated' are in billion KWH. For all other industries, the data are in million tonnes.
2. Data on petroleum refinery products represents 93 per cent of the refinery throughout.

Source: (i) Government of India, *Economic Survey*, 2003-04, Delhi, 2004, Statement 1.31, pp. S-31 to S-33; and
(ii) Reserve Bank of India, *Handbook of Statistics on the Indian Economy*, 2006-07 (Mumbai, 2007), Table 32, p. 75.

Electricity and Power Generation

Electricity and power generation play a crucial role in economic development. As noted by the Draft Fifth Five Year Plan, "Electricity is the most versatile form of energy and provides an important infrastructure for economic development. It is a vital input for Industry and Agriculture, and is of particular importance to a developing rural sector which needs more power for its agricultural operations, for its small scale and agro industries. All sectors of the economy need electricity for their common needs of water supply, transport, communication and domestic lighting. Given the large scale dependence on lift irrigation for food production, food processing and preservation industries, the increase in the power-intensive industries such as aluminium, fertiliser, petrochemicals, etc., and the increasing dependence on electric traction for transport, there is hardly

any community or sector which is not affected by a power shortage today. The future development of the country, therefore, will depend upon the rate of growth of power generation capacity.”⁵

Expansion of Generation Capacity. There has been considerable expansion in generation capacity during the period of planning as would be clear from the fact that the total installed generating capacity in the country rose from only 2,300 MW in 1950 to as high as 1,43,800 MW as at the end of March 2006. As is clear from Table 22.1, electricity generated rose from 55.8 billion KWH in 1970-71 to as high as 394.5 billion KWH in 1996-97 and further to 663.0 billion KWH in 2006-07. *During the period from 1990-91 to 2005-06, generation capacity grew at the rate of 4.7 per cent per annum.* There was a corresponding expansion of the transmission and distribution networks also. In order to facilitate grid operation and transfer of power from surplus to deficit areas, construction of inter-State and inter-regional lines was undertaken. These developments though quite impressive in themselves, left a gap between the demand for and the supply of electricity. Consequently power shortages have become a normal phenomenon in almost every part of the country. According to the Planning Commission, this situation has arisen because of “the slippages in the capacity additions, unsatisfactory performance of the thermal stations and partly due to non-completion of transmission lines.”⁶

Keeping in view the adverse effects of power shortages on the productive activity in by-gone years, attempts have been made to accelerate the pace of power development. The Ninth Plan had contemplated an addition of 40,245 MW in the installed generating capacity. However, the actual achievement was only 19,015 MW. The total capacity addition in the Tenth Plan was targeted at 41,110 MW. The likely achievement is 23,250 MW. The failure to add capacity originally planned for during the Ninth and Tenth Plans is not surprising. The burden of power development in the past has been mostly borne by the State Governments. Most of the States now find that raising of resources required for highly capital intensive projects is beyond their capacity. To meet the projected power demand by 2012, an additional capacity of 75,000 MW is required during the Eleventh Five Year Plan which does not look realisable considering the failure during the Ninth and the Tenth Plans.

A Critical Evaluation. The data given above show that while there has been a marked expansion in power generation capacity, there have been substantial gaps between targets and achievements. There are many reasons for this of which the main reasons are as follows :

1. There has been an inordinate delay in installing and commissioning of projects. The causes of these delays are “pre-construction hold ups (e.g. land acquisition and inter-State water disputes); poor project management; late delivery of structural steel, cement and power equipment; labour disputes; funding constraints; and technological change as reflected in the progression of unit sizes of thermal plants.”⁷

2. The Plant Load Factor (PLF) which indicates the capacity of utilisation of thermal power plants and is thus an important indicator of their efficiency, has remained around 50 per cent for a number of years of planning. PLF in the thermal power plants of the State Electricity Boards (SEBs) has been particularly low. Moreover, there are wide inter-State variations.

3. In addition to low PLF of their thermal power plants, SEBs face a number of other problems like poor financial and commercial performance which has crippled their capacity to finance future programmes; inability to pay their full dues to the Central Power Utilities which has adversely affected the latter’s future investment plans; managerial inefficiencies; and heavy T&D (transmission and distribution) losses. The heavy T&D losses of SEBs are caused by a variety of problems, including energy sold at low voltage, sparsely distributed loads over large rural areas, inadequate investments in the distribution system, improper billing and theft.

4. Cost recovery in distribution is very poor. Data show that revenues from selling electricity in most States falls short of buying or producing it. Many State governments are providing electricity at very low rates to the agricultural sector (some States are even providing it free) with the result that the burden of subsidy is very high. In fact, gross subsidy involved on account of sale of electricity to agriculture rose from Rs. 5,938 crore in 1991-92 to as high as Rs. 24,472 crore in 2005-06.

5. On account of the above reasons and general inefficiency in operations, the commercial losses of SEBs have risen considerably over the years. From a level of Rs. 4,117 crore in 1991-92, the commercial losses of SEBs rose to the staggering level of Rs. 21,110 crore in 2005-06 and are expected to rise further to Rs. 26,150 crore in 2006-07. The rate of return of SEBs in 2006-07 was negative at -27.4 per cent.⁸

Electricity Act, 2003. The Electricity Act 2003 is an important measure for the power sector. *It was enacted with the main objectives of providing a liberal and progressive framework for growth of power sector by introducing competition in different segments of generation, trading and distribution of electricity.* It has

removed barriers to entry of private sector in these segments. This new legislation brings into effect many measures to ensure protection of interests of the consumers in terms of quality of service, price regulation, right to get service on demand and redressal of grievances. The Act also provides appropriate institutional mechanisms for achieving the goal of supply of electricity to all areas. It also lays down the framework for reorganisation of the SEBs in a time frame to be decided by the State government with consent of the Central government.

Under the new statutory regime, generation of power is completely delicensed and captive power generation is freely allowed. It also opens access to transmission network under regulatory supervision. Any generating company is now free to seek distribution licence and vice versa. The present opaque cross subsidies will be slowly phased out, and replaced by a transparent and explicit subsidy to meet the social objectives prioritized by the State governments. For rural and inaccessible areas, stand alone systems involving generation and distribution are allowed without the requirement of licence, and decentralised system of local distribution would be allowed through Panchayats, user associations, cooperatives or franchises. In this liberalised framework, multiple players in generation, supply and trading will compete in marketplace under the overall sight of the regulator.

Coal

Coal in India is the main source of primary commercial energy not only for direct energy use in industry but also for indirect energy use through power generation. It has an important advantage over other fuels, as it can be converted into other forms of energy, such as electricity, gas and oil. Coal is the principal source of electricity in India, accounting for about 80 per cent of its output. And since electricity is one of the primary necessities for any industrial activity, coal plays a crucial role in industrial development. As far as reserves of coal are concerned they are sufficient in the light of the energy requirements of the country. In view of the advantage which this country enjoys in coal, the need for scientific development of coal industry was recognised from the early years of planning. Over the past four decades intensive exploratory efforts have increased our knowledge of coal reserves. Under successive plans various measures were introduced to improve mining techniques, promote conservation, optimise utilisation and stimulate research and development encompassing various facets of the coal industry. However, the progress (as a result of these measures) was rather disappointing. The coal industry being wholly under private ownership, its management was guided exclusively by profit considerations and conveniently overlooked the national interests. The establishment of the National Coal Development Corporation in 1956 did not improve the matters, and therefore coal mines were nationalised in the early 1970s. This radical move paved the way for the introduction of newer technologies, standardisation of equipment and creation of infrastructural facilities.

In contrast to rapid increase in demand for electricity and petroleum over the past four decades, the demand for coal has increased rather slowly. Consequently, the production of coal, until the oil crisis deepened on world scale, increased only at a modest rate. Coal production in this country was 78 million tonnes in 1973-74 as against 33 million tonnes in 1950-51. After a dramatic increase in the prices of petroleum products in 1973-74, an urgency to raise coal production was felt. The Fuel Policy Committee also stressed the need for developing coal industry on a priority basis. Thus a sudden change in the petroleum position brought about a significant change in the government policy pertaining to energy development. This was clearly reflected in larger allocations of funds to the coal sector in the Fifth Plan. Compared with the public sector outlay of Rs 110 crore in the Fourth Plan, the outlay for the coal sector in the Fifth Plan was Rs. 1,025 crore which meant an increase of more than eight hundred per cent. The drastic change in approach got reflected in the production of coal. In the first two years of the Fifth Plan period it increased by as much as 22 million tonnes. Thereafter coal production stagnated around 101 million tonnes a year while demand for it continued to rise. Failure of the industry to respond to growing demand for coal was mainly because of shortage of power, deficiencies in management, labour unrest and absenteeism.

Production of coal remained less than the target in Sixth, Seventh, Eighth and Ninth Plans. For instance, as against the target of 308 million tonnes for 1996-97 fixed by the Eighth Plan, the actual production of coal was only 286 million tonnes. While the Ninth Plan laid down the target for coal production at 370.6 million tonnes in 2001-02, the actual production in this year was only 323 million tonnes. The Tenth Five Year Plan has kept the coal production target in 2006-07 at 405 million tonnes while actual achievement was 426.0 million tonnes.

Coal mining was first started at Raniganj in West Bengal in the second half of the eighteenth century. At

present the most important coal fields are Raniganj in West Bengal and Jharia and East Bokaro in Bihar. Other States in which relatively smaller coal deposits exist are Orissa, Madhya Pradesh, Maharashtra, Andhra Pradesh and Assam. Coal industry in India is now about two hundred years old. At present it is facing a number of problems, more important being the deterioration in financial performance, rising capital costs and time overrunning and inability to meet the growing demand.

Steel

Steel has an important role in industrial development of the economy as many industries depend upon this industry for their input requirements. It is on account of this reason that the Second Plan which aimed at laying strong foundation of industrial development gave top priority to the development of the iron and steel industry. Three steel plants of one million tonnes ingot capacity each were set up in this plan in the public sector at Bhilai, Rourkela and Durgapur. In addition, expansion programmes to double the capacity of the two private sector plants, TISCO and IISCO to 2 million tonnes and 1 million tonnes respectively were also undertaken. The Third Plan placed emphasis on the expansion of the existing plants and the setting up of a new steel works at Bokaro. The Fourth Plan steel programme was based on the maximum utilisation of steel capacity and preparation of plans to set up three new steel plants as Salem in Tamil Nadu, Vijaynagar in Karnataka, and Vishakhapatnam in Andhra Pradesh. The Bokaro Steel Plant was commissioned on February 26, 1978. With this the total installed ingot capacity which stood at 8.9 million tonnes on March 31, 1974, increased to 11.6 million tonnes as on March 31, 1980. The government also took over the management of IISCO in 1972 and acquired its ownership in 1976 to improve its working.

Prior to 1973, of the four steel plants in the public sector, the plants in Bhilai, Rourkela and Durgapur were owned and managed by the Hindustan Steel Limited (HSL), and the Bokaro Steel Plant by Bokaro Steel Limited (BSL). In 1973, the government set up the Steel Authority of India Ltd. (SAIL). HSL and BSL became the wholly owned subsidiaries of SAIL. The management of IISCO is also under SAIL. Visvesvaraya Iron and Steel Ltd. was taken over by SAIL in August 1989. Thus SAIL is now the main integrated steel company. Vishakhapatnam Steel Plant of Rashtriya Ispat Nigam Ltd. (RINL) was commissioned in July 1992. In the private sector, Tata Iron and Steel Company (TISCO) is the first integrated steel plant. It is located at Jamshedpur. Other important players in the private sector are Essar, Mukand, Lloyds, Jindal, Nippon Denro Ispat Ltd., etc. India is now the *seventh largest* steel producing country in the world. This sector has investment of about Rs. 90,000 crore of capital and directly provides employment to over 5 lakh people.

Liberalisation of Steel Policy. Iron and steel industry was reserved for the public sector in the 1956 Industrial Policy Resolution which had stated that while existing units in the private sector would be allowed to continue and expand, new units will be set up in the public sector only. However, due to acute shortage of steel in the 1960s and 1970s and increase in the demand of steel by the re-rolling and engineering industries, the government liberalised the steel policy. The process of liberalisation initiated in 1982 has been progressively extended. In 1986 private sector was allowed to produce steel using EAF (Electric Arc Furnace) process. Under a set of guidelines issued on June 6, 1990, the government allowed the private sector to set up steel plants with a capacity of upto one million tonnes per annum. ***The most important liberalisation measure was announced in 1991 when the government removed the iron and steel industry from the list of industries reserved for the public sector and also exempted it from the provision of compulsory licensing.*** The government also abolished price and distribution controls on iron and steel items manufactured by integrated steel plants with effect from January 16, 1992. The Freight Equalisation Scheme was also withdrawn. ***The iron and steel sector is now almost entirely open with no sectoral reservations, with no licensing, pricing, distribution and import controls.*** This is a radical departure for an industry which has experienced near exclusive public sector monopoly, canalised imports, protective import tariffs and government regulated domestic prices.

Production, Consumption and Exports of Steel. The production of finished steel (including secondary producers) rose from 1.04 million tonnes in 1950-51 to 6.82 million tonnes in 1980-81 and 44.6 million tonnes in 2005-06. Of the total production of 44.6 million tonnes of finished steel in 2005-06, the share of main producers was 16.2 million tonnes whereas the share of secondary producers was 28.4 million tonnes. In recent years, the secondary producers have been able to increase the production of finished steel at a much faster rate as compared with the main producers. The production of pig iron in 2005-06 was 4.7 million tonnes of which the share of main producers and secondary producers was 1.0 million tonnes and 3.7 million tonnes respectively.

The consumption of finished steel in 2004-05 was 34.4 million tonnes which rose to 39.2 million tonnes in 2005-06. The total export of finished steel in 2004-05 and 2005-06 was 4.4 million tonnes and 4.5 million tonnes respectively.

Problems of Iron and Steel Industry. The development and expansion of the industrialization programmes of a country depends crucially on the development and expansion of the iron and steel industry. It is mainly due to the emphasis laid on the development of this industry in the post-Independence period and the progress registered by it that India's industrial base has now become strong enough to meet the requirements of rapidly expanding engineering goods industries, machine building industries, machine tools industries and a number of other capital goods, intermediate goods and consumer goods industries. Naturally, a set-back in the iron and steel industry due to any reasons whatsoever has to be viewed with concern since it has adverse repercussions on the numerous industries associated with it. Let us now consider some of the problems that the steel industry has had to face:

1. Rise in input costs. Raw materials such as iron ore and coal constitute on average 70 per cent of the total costs of steel companies. In 2005-06, prices of iron ore shot up by 71 per cent and coal by 50 per cent. As a result, a third of the large steel players' profits were wiped out. SAIL's profits crashed over 41 per cent from Rs. 6,817 crore in 2005 to Rs. 4,013 crore in 2006. A similar fate befell Mukand (profits fell 40 per cent), Uttam Galva (21.5 per cent), Essar Steel (10 per cent) and JSW Steel (1.5 per cent).⁹

2. Shortage of coal and power. The steel plants frequently face problems in obtaining adequate quantities of the desired quality of coking coal. This has often forced the steel plants to restrict the pushing of coke ovens. In addition, Indian coking coal has a high ash content mainly because of the sedimentary nature of their origin. In the 1950s, the steel plants were designed for using coal with 17 per cent ash content. Over the years, as mining proceeded deeper and to lower seams, the ash content increased to 25 per cent. Every one per cent increase in ash brings down the production of blast furnaces by 2-3 per cent. In addition, coke rate goes up and quality of the product goes down. To keep the ash content of the blend at around 15 per cent, the dependence on imported coal has to be increased which is obtained at a considerably higher cost as compared with domestic coal (while price of domestic coal is in the range of \$ 40-45 per tonne, that of imported coal is in the range of \$ 70 per tonne).¹⁰ Power shortages also affect the functioning of steel plants adversely. For instance, inadequate power availability from Damodar Valley Corporation (DVC) has adversely affected the performance of SAIL.

3. Technological obsolescence. Some public sector steel plants are today victims of technological obsolescence. In respect of blast furnace productivity, consumption of coke and tap-to-tap time in converters, most of the integrated steel plants are half as efficient as the steel plants in the rest of the world. Not only in material value productivity, even in terms of labour productivity, Indian steel industry lags considerably behind the developed countries. While labour productivity in Indian steel industry ranges between 80 tonnes per man year and 190 tonnes per man year, it ranges between 300 — 500 tonnes per man year in the steel industry of industrialised countries. It is also due to technological obsolescence that energy consumption in Indian steel mills still continues to be considerably higher than in steel mills of the developed countries. For instance, while energy constitutes about 20 per cent or *one-fifth* of the total cost of steel making in the latter, it is as high as 33 per cent (almost- *one-third*) of the total cost of steel making in India.

4. Inefficient management. The management and control of steel plants leaves much to be desired. The top management often comprises non-specialised, non-technical people who are often unequal to the task of providing the requisite managerial competence in the complex and capital intensive projects as the steel plants, in fact, are. The management also works under severe constraints like undue political interference, frequent labour disputes etc.

5. The demand constraint. The steel industry has faced rough time during a number of recent years due to a slump in demand following reduction in government's planned expenditure, lack of investment in the housing and infrastructure sectors, and additional capacity creation based on assumed growth in consumption which did not materialise. As a result, there was huge piling up of inventories resulting in downward pressure on prices and deep erosion in the profitability of the steel producers.

6. Menace of dumping. Already in distress over the failure of domestic demand to increase, the misery of the Indian steel industry was compounded by the alarming downtrend in international price during the late 1990s. In respect of certain steel products, the decline in prices was as much as 30 to 40 per cent. This led to unhealthy practices like dumping which pulled down domestic prices and eroded the bottomline of the local steel makers. The lower tariff regime in the current era of liberalisation and the unrestricted import of all iron and steel material under the new export-import policy made things worse for the domestic producers of steel. What is more worrying is the fact that seconds and defective grades of steel were dumped into the economy. These were no match to the quality products turned out by the Indian steel mills but spoiled the market of domestic steel makers.

National Steel Policy, 2005. The Government of India approved the National Steel Policy (NSP) 2005 in October 2005. *The long-term goal of NSP is to ensure that India has a modern and efficient steel industry, capable of standing upto international competition and catering to the growing domestic demand for steel.* The NSP envisages a threefold role for the State in the now deregulated Indian steel industry — (1) as a catalyst for “triggering” domestic demand, (2) as a facilitator to do away with supply side constraints, including the finance constraint, and (3) as a coordinator to “manage” the external environment effectively. However, as correctly pointed out by *Economic and Political Weekly*, success on all these fronts is suspect. For example, it is not clear how the government can boost the domestic demand for steel with the FRBM (Fiscal Responsibility and Budget Management) Act in place and neo-liberal ideology dictating fiscal conservatism. As far as doing away with supply side constraints is concerned, this would imply heavy financial assistance and commitments to private sector capitalists who decide to invest (particularly due to the capital intensive nature of the steel industry). This would put pressure on the resources of financial institutions and push up their non-performing assets (this is what happened in the first half of 1990s when initial deregulation of the steel industry had led to a surge of investments in the sector). As far as “managing” the external environment is concerned, the NSP has no strategy in place. It has nothing concrete to say about how India plans to deal with steel-industry related subsidies, dumping, and the filing of anti-dumping and countervailing duty cases. Overall, *the NSP simply lacks substance.*

Crude Petroleum and Refining

In spite of the fact that known oil reserves in this country are limited, over the years dependence on this source of energy has increased, so much so that at present about 45 per cent of the demand for commercial energy is met from this source. Some increase in consumption of petroleum was inevitable with the industrialisation and development of transport system and had to be met partly by raising the domestic output and partly by the import of crude oil. But there was no justification for creating petroleum use oriented industrial and transport system. Having developed such a system, the government felt the need of oil exploration on an extensive scale to establish adequate indigenous resources. The Oil and Natural Gas Corporation (ONGC) and the Oil India Limited (OIL) were established in 1955 and 1959 respectively to undertake this task. Over the years their efforts have borne encouraging results. By the end of the Third Plan India's total initial recoverable reserves were about 172 million tonnes. During the Fourth Plan the ONGC went for offshore drilling and this marked the beginning of a new chapter in the history of India's oil industry. By the end of 1977 about 452 million tonnes of initial recoverable reserves were established. During the last three decades, oil exploration work was accorded a high priority and the capabilities of the ONGC and the Oil India were fully exploited. As a result of all these efforts, total recoverable crude oil resources were estimated in April 2004 at 0.7 billion tonnes. At present our proved reserves of oil represent only 0.4 per cent of the world oil proved reserves. At current rates of production, existing oil reserves will last about 25-26 years.

Though presently the petroleum industry in India meets only less than 30 per cent of the demand, it has made considerable headway since Independence. Starting from a modest production level of around 0.25 million tonnes in 1950-51, the production of crude oil rose to 34.0 million tonnes in 2006-07. Upto 1975-76 the production of oil was exclusively from the on-land fields of Assam and Mumbai. Since the mid-1970s Bombay High offshore fields have made increasing contribution. In 2002-03, the production of the offshore fields reached 17.6 million tonnes. Domestic production had accounted for 70 per cent of total consumption in 1984-85. However, share of domestic production declined to 56 per cent in 1990-91 and further to 40 per cent in 1996-97 and thus the pressure of the imports of crude oil on balance of payments increased. The shortfall in crude oil production in recent years is not due to lack of reserves. The reserve base at a reserve/production ratio of 26:1 is comfortable. The immediate reasons for the decline in oil production are both technical and structural. The target for the production of crude oil in the terminal year of the Eighth Plan (i.e. 1996-97) was fixed at 50 million tonnes while actual achievement was only 32.9 million tonnes. The production of crude oil in 2006-07 (that is the terminal year of the Tenth Plan) stood at 34.0 million tonnes while the demand was projected at 134.6 million tonnes. Thus, there was a large gap between the demand for petroleum products and domestic production of oil and had to be met by imports. This extent of reliance on imports of oil and petroleum products makes India vulnerable to changes in international oil prices.

The other segment of the oil industry, that is refining, has also been developed considerably during the past five and a half decades. Today, there are 18 refineries in the country (17 in the public sector and one in the private sector) : Indian Oil Corporation Limited and its subsidiaries Chennai Petroleum Corporation Limited and Bongaigaon Refinery and Petrochemicals Ltd. (10), Bharat Petroleum Corporation Limited and its subsidiaries

Kochi Refineries Limited and Numaligarh Limited (3), Hindustan Petroleum Corporation Limited (2), Mangalore Refinery and Petrochemicals Limited (1), Oil and Natural Gas Corporation Limited (1) and Reliance Petroleum Limited (1).

The total refining capacity at the beginning of the First Plan was only 0.25 million tonnes per annum. As the indigenous production of crude oil increased and large imports had to be made for meeting the steadily rising consumption of petroleum products, refining capacity was expanded. The effective refining capacity at the end of 1980-81 was 31.8 million tonnes in terms of crude throughput. It rose to 45.6 million tonnes in 1984-85 and further to 69.1 million tonnes in March 1999. The Tenth Plan projections for refining capacity were in the range of 138 to 155 million tonnes per annum while actual achievement in 2006-07 was 135.6 million tonnes.

The first phase of dismantling the Administered Price Mechanism (APM) in the petroleum sector commenced in April 1998. Since the commencement of this programme, some major decisions have been implemented. These include abolition of the system of retention price for refineries, decontrol of petroleum products other than petrol, diesel, superior kerosene oil, liquidified petroleum gas and aviation turbine fuel (ATF); delicensing of refining sector; permission to private and joint venture refineries to import crude oil; decanalising of furnace oil; etc.

Cement

Manufacture of cement was first started in Chennai in 1904. A real beginning was, however, made in 1912-13 when three companies were formed. By the time the plans started, there were 21 factories with an annual capacity of 3.28 million tonnes. The government had a complete control on the production, distribution and price of cement and this dampened the growth of the cement industry. In 1977, the government announced that 12 per cent post-tax return on net worth was fair enough and retention price would be fixed to ensure it. This provided an initial momentum for investment in the industry. The real impetus was provided when partial decontrol was announced in 1982. Under this policy, all existing cement units were required to give up to 66.6 per cent of their installed capacity as levy at controlled price (for new units and sick units the requirement was kept at 50 per cent of installed capacity). The balance production was treated as 'non-levy cement' and was allowed to be sold in the market at the ruling prices. The most important objective of the new policy of partial decontrol was to eliminate black marketing and bring down the price in the free market. The government intended to fully dismantle the controls and, keeping this end in view, liquidated the levy system in a phased manner. The 1989 Budget announced total decontrol of cement. Thus from a phase of total controls, the cement industry passed through a phase of total decontrol in March 1989. *The cement industry was delicensed in 1991.* The industry responded favourably to the government initiatives and the production capacity increased from 29 million tonnes in 1982 to 113 million tonnes in 1999-2000—an expansion of 84 million tonnes in just 18 years. At present there are 130 large cement plants in the country with an installed capacity of 163.45 million tonnes. The production of cement was 21 million tonnes in 1981-82. This rose to 45.8 million tonnes in 1989-90 and 154.7 million tonnes in 2006-07 – a substantial expansion by all means. Now India is the second largest producer of cement in the world after China.

Mini cement plants. In order to exploit smaller deposits of limestones scattered all over the country and in remote and inaccessible areas, the government announced guidelines for the setting up of mini cement plants (having a capacity ranging between 50 tonnes and 200 tonnes per day). The major advantages of mini cement plants are increased employment opportunities in rural areas, dispersal of industrial activity and reducing strain on the transportation infrastructure. Presently there are about 332 mini cement plants in the country with an aggregate capacity of about 11.10 million tonnes. Most of the mini cement plants in India are located in Andhra Pradesh, Karnataka, Madhya Pradesh, Gujarat and Rajasthan.

Problems of Cement Industry. The above brief discussion shows that the cement scenario has undergone a sea change—from that of shortages and premiums just a few years ago to that of surplus production now. However, this surplus production has brought in its wake new problems like cut-throat competition, unremunerative prices and deepening financial crisis. The main problems of the cement industry are outlined below:

1. Burden of high tariffs. The cement industry is facing high tariffs — high excise duty, sales tax, royalty on limestone and coal etc. The excise duty on cement has been steadily rising. According to the development council for cement industry, the total levies on cement per tonne amount to as much as Rs. 66.8 per tonne. The effective burden on cement amounts to as much as Rs. 35 per cent of the retail price of cement and 47 per cent of the ex-factory price excluding excise, sales tax and freight. This is much higher as compared to the burden in other countries making the Indian cement industry internationally uncompetitive.

2. Poor quality of coal. Coal is an important input in the cement industry and accounts for 15 to 20 per cent of cash expenses in the manufacture of cement. On an average, 250 kg. of coal is required to produce one tonne of cement. Coal in India has to be moved over long distances of 1,000 to 1,200 km to some plants in North, South and West India. There is a severe shortage of coal for the cement industry. The quality of coal supplied to cement units is also highly unsatisfactory as only D, E and F grades of coal are supplied to these units. The ash content in Indian coal is very high and this restricts production. To meet the twin problems of (i) shortage of coal and (ii) poor quality of coal (due to high ash content), the emphasis on imports of coal is now increasing. However, this option, in addition to involving expenditure of foreign exchange resources, also places those cement plants at a disadvantage which are located far from ports as they have to incur extra costs for double handling and freight.

3. The power shortage. Power is another important requirement and alongwith coal forms 40 per cent of the total cost. Power cuts, unsteady and inadequate power supply from State Electricity Boards have created serious problems for cement units. This is all the more so as the production of cement is a continuous process requiring uninterrupted power supply to operate efficiently. To cope with the problem of power shortage, cement companies have been obliged to make heavy investments in captive power generation and also auxiliary generation in wind farms, particularly in plants located in coastal areas.

4. Transportation problem. Transportation costs make up around 20 per cent of the total cement price. The industry predominately depends on railways, but due to shortage of wagons, cement despatches by rail have declined over the years. The Indian Railways has introduced an 'Own Your Wagon (OYW) Scheme' wherein cement companies have been allowed to purchase wagons. This has led to some marginal improvement and has enabled the cement companies to tide over distribution bottlenecks. However, the increased distribution cost is forcing companies to pass the costs to the customers.

5. Demand constraints. Till the year 1990-91, the demand for cement was mainly dependent on government spending as the government with a 40 per cent offtake was the single largest consumer of cement. However, due to financial constraints, the government was forced to cut down on a wide range of developmental activities. This resulted in a demand constraint. In recent years, the policy of liberalisation and the opening up of the infrastructure sector to the private sector and the foreign sector, have given a push to the demand for cement. NHDP (National Highways Development Programme) alone has been estimated to generate demand for 10 million tonnes of cement. The growth of the housing sector, which has been assisted by lower interest rates, and a favourable tax treatment of home loans, has also helped assist cement demand. As a consequence, massive investments in the setting up of new units and expansion of existing units in the cement industry have taken place in recent years pushing up the production capacity and actual production level of cement considerably.

6. Underutilisation of capacity. Underutilisation of capacity is a recurrent feature of cement industry. Under-utilisation is particularly marked in the cement plants located in the Eastern region. One of the main factors accounting for low capacity utilisation in this region has been the demand constraint. Because of underutilisation of capacity, the cement plants are not able to reap the benefits of economies of scale. Thus they are not able to minimise costs of production at their prevailing levels of production. They also waste scarce resources like power, skills, and so on which hurt the bottomline in the long run.

7. Cement technology. For a long period of time, many cement plants have used the uneconomical wet process technology. Due to the high labour and maintenance costs and smaller size, these plants had a high cost of production. Their obsolete technology also resulted in a lot of wastage of coal and electricity. In recent years, there has been a gradual shift from wet to modern, fuel efficient dry process plants. Most of the new plants have adopted state-of-the-art technology and have been implementing modernisation programmes to improve the performance of existing plants. This has resulted in better capacity utilization, higher productivity, reduced energy consumption and better quality of cement (comparable to the best in the world).

The present scenario for the cement industry is quite favourable. Demand growth has been around 10 per cent, capacity utilization has been at its highest in five years, and prices are buoyant. However, as pointed out by Manas Chakravarty and Piya Singh, there could be a 'threat' to the current rosy scenario due to large expansions in capacity being planned at present. From a current capacity of 170.90 million tonnes, the industry will be adding another 43.61 million tonnes by the first half of financial year 2009¹¹.

■■■■ TRANSPORT ■■■■

In modern world, transport alongwith energy is the basic infrastructural requirement for industrialisation

and, accordingly, the developing countries have accorded it an important place in their programmes of economic development. Development of transport makes it possible for different communities to specialise in certain selected goods which they are better endowed to produce and obtain their other requirements from other communities. Since specialisation enables mass production of goods, development of transport facilities enables mass production which, in turn, promotes industrial development. Moreover, specialisation and exchange are complementary. When different regions of a country start specialising in certain selected products, the need for exchange automatically arises. Exchange of products or sending products to other places involves transportation. Unless transportation facilities are available to a sufficient extent, exchange is not possible. Transport, in fact, provides a vital link between production centres, distribution areas and the ultimate customers. It also exercises a unifying and integrating influence on the economy. Important means of transport are railways, roads, water transport (both inland and overseas) and air transport.

Rail Transport

The development and expansion of railways has revolutionised the transport system the world over. It is a convenient mode of transport for long distances and is most suitable for carrying heavy and bulky goods like iron ore, iron and steel, heavy machinery, etc. Railways carry raw materials from the mines and quarries and other interior areas of the country to the industrial centres. They link up the various regions of the economy and increase the occupational mobility of people. In short, they play a crucial role in economic development.

Indian railways began their operations in April 1853 when the first railway train steamed off from Bombay to Thane, a stretch of 34 km. Over the years the Indian railway system has grown to be the largest in Asia and fourth largest in the world. The Indian Railways consists of an extensive network spread over 63,221 km comprising Broad Gauge (46,807 km), Metre Gauge (13,290 km) and Narrow Gauge (3,124 km). Roughly 26 per cent of this network is electrified.

During 2005-06, railways carried 5,725 million passengers and 666.51 million tonnes of freight traffic. The share of different commodities in freight traffic during 2005-06 was as follows—coal 294.3 million tonnes, raw materials for steel plants (excluding coal) 51.4 million tonnes, cement 61.2 million tonnes, petroleum oil and lubricants 33.5 million tonnes, iron ore for export 41.2 million tonnes, pig iron & finished steel from steel plants 17.7 million tonnes and other goods 92.9 million tonnes.

Railways and the Plans. Since 1930 the railways were under severe strain and, therefore, the First Plan was devoted mainly to the rehabilitation and modernisation of rolling stock and of fixed assets. On account of the heavy replacement demands, the need for expansion could not be fully met in the First Plan. The Second Plan also had to make a substantial provision for rehabilitation of aged assets. The emphasis in this plan, however, shifted to the programmes required to augment line capacity on different sections of the railways and to the procurement of additional rolling stock to meet the growing demand for railway transport arising from the increased production in the agricultural and industrial sectors of the economy. The Third Plan envisaged a rapid expansion of railways due to their importance for industrial programmes (particularly, the carrying of heavy goods like coal, iron ore and other materials for the steel plants, etc.). It was also recognised that in view of the difficulties of coping with anticipated increase in traffic with steam traction in the regions where the coal-fields and the new steel plants are situated, electrification and diesellisation had become an operational necessity. Provision was accordingly made for the electrification of a number of sections on the Eastern, South-Eastern, Central and Southern Railways.

The basic objective of the Fourth Plan for the railways was to provide in full for the increase in traffic expected, to modernise the railway equipment and practices within the limits of the funds available and to convert 1,676 km of Metre Gauge to Broad Gauge in areas of rapid economic development and high traffic potential. The Fifth Plan recognised the important role that railways had to perform in developing the transportation systems in the economy and provided for an outlay of Rs. 2,350 crore of which around 68 per cent was to be for rolling stock, track renewals and the line capacity works. The Sixth Plan kept an outlay of Rs. 5,100 crore for railways of which Rs. 2,100 crore was to be for rolling stock and Rs. 500 crore for track renewals. The actual expenditure in the Sixth Plan was around Rs. 6,573 crore. As far as the performance of railways during the Sixth Plan period is concerned, railways' earnings from goods traffic more than doubled from Rs. 1,618 crores in 1980-81 to Rs. 3,602 crore in 1984-85. The railways recorded an excellent performance during the Seventh Plan in terms of additional transport effort, rehabilitation of the system, financial performance, better productivity, technological upgradation, modernisation and industrial relations. The main thrust in the Eighth Plan for railways was on capacity generation. Some other aspects which received special attention during the Eighth Plan were rehabilitation, modernisation, energy conservation, manpower planning, financial viability, safety and customer satisfaction through better quality of services.

During the planning period covered by the first eight years plans (the period from 1950-51 to 1996-97) the passenger output measured in terms of non-suburban passenger kilometres increased by 5.4 times and the freight transport measured in terms of net income kilometre increased by 6.3 times. However, in this period the network had grown by only 1.17 times in terms of route kilometres and 1.36 times in terms of track kilometres. Other inputs, such as wagons, coaches and locomotives had grown by 2.0 to 2.6 times only. The increase in transport output has thus been brought about by more intensive utilisation of the available assets, technological upgradation and improvement in productivity.

However, the share of railways in total traffic steadily declined over the years. It came down from 89 per cent in 1951 to 40 per cent in 1995 in respect of freight traffic and from 68 per cent to 20 per cent in respect of passenger traffic.

The main thrust of the Ninth Plan was on strengthening the capacity of the Indian railways as the prime carrier of long distance bulk freight and passenger traffic. To this end, the railways are concentrating on electrification of dense corridors, improvement in operations, optimal assets utilisation, increasing container facility and raising manpower productivity. The railways had set a target of 525 million tonnes of freight traffic to be achieved in the last year of the Ninth Plan (i.e. 2001-02) while achievement was 492.5 million tonnes.

There was a strategic shift in the objectives of railways under the Tenth Plan so that it could regain some of the business it has lost to other modes of transport over the past few decades. With this end in view, it was planned to make Indian Railways more user-friendly and market-savvy organisation. During the Tenth Plan the thrust was on modernisation and technological upgradation of the railway system. "Upgrading technology in all spheres of activities needs greater attention so as to improve reliability, reduce maintenance cost and increase consumer satisfaction. Technological improvements are, therefore, envisaged in tracks, wagons, coaches, Electric Multiple Units (EMUs) and locomotives."¹² Application of information technology (IT) to various activities of railways also received special attention.

Road Transport

As compared to railways, road transport has the following advantages: (1) A large number of places (particularly far fetched villages, interior countryside and hilly areas) are not connected by railways. (2) Road transport is complementary to railways. It provides *feeder services* as goods arriving at railway stations are despatched to their destination through trucks or other means of road transport. (3) Road transport provides door to door service within cities (especially in metropolitan cities where places are separated by long distances). It is more flexible as compared to other means of transport since it can change routes according to the requirements and convenience of the users. This option is not available to other means of transport like railways, air and sea transport. (4) It is a better means of transport as compared to railways for carrying perishable and less bulky goods. For example, vegetables and fruits reach *mandis* the very next day when they are despatched by trucks. (5) The chances of delay, damage or loss are less in the case of road transport as compared to railways. This is due to the reason that in case of road transport frequent loading and unloading is not required as a single vehicle can transport the goods from the producer's place to the wholesaler's warehouse (or to the other parties). This also cuts down labour costs. (6) Road transport does not require heavy capital expenditure unlike railways in which case huge amount has to be spent on laying tracks, manufacturing wagons and technical equipment, etc. The charges for maintaining roads are also very much less as compared to the charges for maintaining railways tracks. (7) From the point of view of the defence of the country, roads are very important. Since railway tracks cannot reach all nooks and corners of the country, it is the roads that enable the defence forces to move to areas inaccessible by railways in times of need. This is particularly so in the case of border areas and hilly tracts.

Road Development in India. India has one of the largest road networks in the world, aggregating to about 3.34 million kilometers at present. However, this network is not adequate for speedy and efficient transportation. Half of this is made up of unsurfaced roads. The National Highways which are arterial roads have currently a network of 66,590 km. Although they carry nearly 40 per cent of the goods and passenger traffic, the national highway network constitutes less than 2 per cent of the total road network. Presently 70 per cent of the freight movement and 85 per cent of the passenger movement depends on roads.

Three important initiatives in the road sector were begun in recent years: The National Highway Development project (NHDP), Pradhan Mantri Bharat Jodo Pariyojana (PMBJP) and Pradhan Mantri Gram Sadak Yojana (PMGSY). NHDP deals with building high quality highways. The PMBJP deals with linking up major cities to the NHDP highways. The PMGSY addresses rural roads.

The NHDP is the largest highway project ever undertaken by the country and is being implemented by the National Highway Authority of India (NHAI). It consists of the following components :

- NHDP Phase I and II envisage 4/6 laning of about 14,279 km. of National Highways, at a total estimated cost of Rs. 65,000 crore (at 2004 prices). These two phases comprise of Golden Quadrilateral (GQ), North-South and East-West Corridors, Port Connectivity and other projects. The Golden Quadrilateral (GQ –5,846 km) corrects the four major cities of Delhi, Mumbai, Chennai and Kolkata. The North-South and East-West Corridors (NS-EW–7,300 km) connect Srinagar in the North to Kanyakumari in the South, including spur from Salem to Kochi and Silchar in the East to Porbandar in the West.
- Government has approved upgradation of 4,035 km under NHDP Phase III-A at an estimated cost of Rs. 22,207 crore.
- Government on October 5, 2006 has approved six laning of 6,500 km of national highways comprising 5,700 km of GQ and balance 800 km of other sections under NHDP Phase-V at a cost of Rs. 41,210 crore.
- Government on November 2, 2006 has approved construction of 1,000 km of expressways with full access control on new alignments at a cost of Rs. 16,680 crore under NHDP-Phase VI.

By November 30, 2006, 6,776 km of national highways pertaining to NHDP had been completed, the bulk of which (5,475 km) lie on the GQ. According to *Economic Survey 2006-07*, “constraints faced in the timely completion of NHDP include delays in land acquisition, removal of structures and shifting of utilities, law and order problem in some States, and poor performance of some contractors.”¹³ Nearly 93 per cent work on GQ had been completed by November 2006, and the NS and EW corridors are expected to be completed by December 2009.

To encourage private partnership in the development of highways, the Department of Road Transport and Highways has laid down comprehensive policy guidelines. It has been decided that all the sub-projects in NHDP Phase-III to Phase-VII would be taken up on the basis of PPP (public private partnership) on Build Operate and Transfer (BOT) mode.

Water Transport

Water transport can be broadly divided into two groups—inland water transport and shipping. Shipping, in turn, can again be divided into two categories—coastal shipping and overseas shipping.

Inland Water Transport. Inland water transport includes natural modes such as navigable rivers and artificial modes such as canals. The inland waterways have played an important role in the Indian transport system since ancient times. However, in recent times the importance of this mode of transport has declined considerably with the expansion of road and rail transport. In addition, diversion of river water for irrigation has also reduced the importance of inland water transport. The decline is also due to deforestation of hill ranges leading to erosion, accumulation of silt in rivers and failure to modernise the fleet to suit local conditions. The transportation of goods in an organised form is confined to West Bengal, Assam, parts of North Eastern region and Goa.

Development of inland water transport commenced from the Second Five Year Plan and upto the end of Fifth Plan the total expenditure on this sector was Rs. 34 crore. It was only in the Sixth Plan that this sector was given priority and specific schemes of inter-State and national importance for development of inland water transport were taken up. The Seventh Plan was an important landmark in the development of inland water transport. The expenditure on this sector in the Plan (at Rs. 131.85 crores) was more than the expenditure incurred right up to the end of the Sixth Plan. Three objectives were laid down in the Eighth Plan for the development of inland water transport: (i) development of inland water transport in the regions where it enjoys natural advantage; (ii) improvement in the productivity of assets through modernisation of vessels and country crafts to suit local conditions; and (iii) building up of trained and skilled manpower for inland water transport operations. In the Ninth Plan efforts were made to make inland water transport as an acceptable mode of transportation by reduction in cost and time of transportation and enhancement of safety and reliability of the cargo. *The Inland Water Transport Policy approved by the government in January 2001 aims at giving a boost to the development of this mode of transport.* The policy includes a number of incentives to encourage private sector participation in inland water transport.

Coastal Shipping. India has a long coastline of 7,516 kms, a number of ports (12 major and 187 operable minor and intermediate working ports) and a vast hinterland. Therefore, coastal shipping holds a great promise

more so because it is the most energy efficient and cheapest mode of transport for carriage of bulky goods like iron and steel, iron ore, coal, timber, etc. over long distances. However, despite this fact (and despite the fact that coastal shipping was reserved exclusively for Indian ships after Independence), there was a sharp decline in coastal shipping operations during the 1960s and 1970s. The number of ships fell from 97 in 1961 to only 56 in 1980, while Gross Registered Tonnage (GRT) fell from 0.31 million to 0.25 million over the same period. However, there was some improvement in the coastal shipping as coastal tonnage rose to 0.81 million GRT as on April 1, 2005. The main factors affecting the growth of coastal shipping adversely have been "high transportation costs especially for movement other than those between a pair of water front locations, port delays, poor turnaround time of coastal ships on account of overaged vessels, lack of mechanical handling facilities etc." The coastal fleet is ageing fast; about 52 per cent of the tonnage is already overdue for replacement. Also, there is imbalance in coastal traffic movement as traffic is not equally available in both directions. This makes it necessary for coastal ships to sail in ballast, at times, on return journey. Moreover, slow handling of the cargo at port and undue port delays inflict heavy losses on shipping companies.

Overseas Shipping. Because of the importance of overseas shipping in international trade, considerable attention has been paid to increase the shipping tonnage in the planning period. As a result, the share of Indian shipping in the transportation of India's overseas trade has slowly and consistently increased in the planning period. The country has the largest merchant and shipping fleet among developing countries and ranks 19th in the world in shipping tonnage. As compared to 1.92 million GRT (Gross Registered Tonnage) at the time of Independence, shipping tonnage increased to 8.29 million GT as on April 1, 2006 (of this 0.83 million GT was the shipping tonnage of coastal vessels and 7.46 millions GT was the shipping tonnage of overseas vessels). The shipping fleet strength as on December 31, 2005 was 237 vessels.

In the First Plan, Rs. 18.7 crore were spent on shipping while the expenditure in Second Plan stood at Rs. 52.7 crore. An important step taken during the Second Plan was the establishment of a non-lapsing shipping development fund for grant of loans to shipping companies for the acquisition of tonnage. The Third Plan made a provision of Rs. 55 crore for shipping which rose to Rs. 135 crore in the Fourth Plan. The Sixth Plan envisaged the augmentation of shipping tonnage for meeting increased requirements of India's foreign trade and also to replace the overaged tonnage especially the coastal vehicles. The outlay in this Plan was kept at Rs. 720 crore while actual expenditure was only Rs. 432.94 crore. The resource constraint forced the Seventh Plan to keep the outlay at Rs. 693.42 crore while the actual expenditure was Rs. 670.05 crore. The broad objectives for development of shipping in this plan were kept as follows: (i) modernisation of fleet on the basis of improved ship designs and fuel-efficient engines; (ii) replacement of overaged fleet on a selective basis; (iii) acquisition of cellular container ships and specialised product carriers, and (iv) addition to fleet on a selective basis, keeping in view the long-term objective of achieving self-sufficiency in tanker fleet.

The Eighth Plan had as its main objective acquisition of a modern, diversified fleet capable of helping in the realisation of the objectives of export promotion and improved balance of payments of the country. From this point of view about 1.5 million GRT were to be replaced during the Eighth Plan period and about 1.0 million GRT were to be added to the tonnage increasing the Eighth Plan tonnage to 7.0 million GRT. Recognising the role of shipping sector in the context of overall growth strategy in general and the promotion of exports in particular, modernisation and diversification of Indian fleet was accorded top priority during the Ninth Plan.

Ports. Because of their importance for coastal and overseas shipping, special efforts were made in the plans for the development and modernisation of existing ports and establishment of new ports. The National Harbour Board was set up in 1950 to advise the Central and State governments on the management and development of ports, particularly minor ports. In March 1976, the government set up the Dredging Corporation of India to undertake capital and maintenance dredging at the ports in an integrated manner.

The Sixth Plan made an allocation of Rs. 521 crore for the development of major ports (excluding Nhava Sheva). The emphasis in the Plan was on modernisation of existing port facilities and providing additional capacities to meet the expanding needs to the country. A major port project of Nhava Sheva was sanctioned in June 1982 at an estimated cost of Rs. 592 crore. The port at Nhava Sheva (named Jawahar Lal Nehru port) came into operation in May 1989.

Major ports are the direct responsibility of the Central Government while minor ports are managed and administered by the respective State governments. While an outlay of Rs. 3,216 crore was provided in the Eighth Plan for the development of ports in the Central Plan, in the State Plans for the development of ports, Rs. 319 crore was earmarked. In the Eighth Plan, modernisation of ports and cargo handling facilities received priority. The Ninth Plan envisaged an outlay of Rs. 9,428 crore. As against this, a sum of Rs. 4,839 crore was

spent on the port sector. The Tenth Plan aims at improving productivity at the major ports as port capacity is no longer a constraint. The capacity of the Indian ports increased from 20 million tonnes of cargo handling to 397.5 million tonnes during 2004-05. The target for the Tenth Plan (i.e. for the year 2006-07) is 470 million tonnes.

Air Transport

Air transport is the most modern, the quickest and the latest addition to the modes of transport. Because of speed with which aeroplanes can fly, travel by air is becoming increasingly popular. As far as the world trade is concerned, it is still dominated by sea transport because air transport is very expensive and is also unsuitable for carrying heavy, bulky goods. However, transportation of high value light goods and perishable goods is increasingly being done by air transport.

During the first two plans, Rs. 24 was spent on civil aviation. The programmes in the First Plan aimed mainly at making good the deficiencies in aerodromes, communication facilities, equipment etc. The Second Plan provided for the development of facilities to meet the growing needs for domestic and international traffic. The Third Plan kept an outlay of Rs. 25.50 crore for civil aviation. The Fourth Plan made a provision of Rs. 202 crore while the actual expenditure amounted to only Rs. 186 crore. A significant step was the setting up of the International Airports Authority of India (IAAI) in 1972, for the management and development of the four international airports in Mumbai, Kolkata, Delhi and Chennai. The Fifth Plan kept an outlay of Rs. 391.50 crore for the development of air transport which was raised to Rs. 931 crore in the Sixth Plan. It was in January 1981 that the third airline Vayudoot was set up to connect inaccessible areas of the country which are not covered by Indian Airlines and those areas of the country which are important centres of trade, commerce and are important from the point of view of tourism. Vayudoot was later merged with Indian Airlines. Due to resource constraints, the Seventh Plan provided Rs. 1,923.3 crore for civil aviation to meet the expenditure on ongoing schemes and a few new starts. In October 1985 the government set up the Pawan Hans Ltd. to provide helicopter-based air transport services to meet the requirement of the petroleum sector, to operate services in inaccessible areas and hilly terrains, to operate tourist charters and to provide intra-city transport service. Against an outlay of Rs. 3,998 crore, a sum of Rs. 7,096.58 crore was spent on civil aviation in the Eighth Plan. The main thrust of the plan was on making civil aviation sector financially self-sustaining. Under the Ninth Plan, it was proposed to provide adequate capacity in air transport operations.

The civil aviation sector has recently been opened up to private sector. The monopoly of Indian Airlines and Air India on the scheduled operations has been ended by repealing the Air Corporation Act, 1953. There are at present ten scheduled airlines operating on the domestic network. Apart from this, at present 46 companies are holding non-scheduled operations permit. The Central government is pursuing disinvestment of its shareholding in both Air India and Indian Airlines. The international airports in Delhi and Mumbai are being modernised through private sector participation. Construction work at greenfield airports of international standards has commenced at Hyderabad and Bangalore. These airports are likely to become operational by the middle of 2008.

■■■■ COMMUNICATIONS ■■■■

Communications means the imparting or transmission of information. The difference between transport and communication is that while the former implies the conveyance of goods, the latter implies the conveyance of information. The conveyance of information is very necessary for the development of industries, commerce and trade in the country. There is a close interlink between communication and transport since all tangible communications have to be sent by transport (only intangible communications can be sent by wireless). Improvements in communications help to speed up transport while improvements in transport help to speed communications. The most important means of communications are the postal services, telephone services, teleprinters, radio and television, E-mail, Internet etc.

Postal Services

Modern postal system in India dates back to 1837 when postal services were thrown open to the public. However, it was with the attainment of Independence that the postal services came to be recognised as an essential infrastructure of development. Due to expansion of postal network in successive Five Year Plans, the number of post offices increased from only about 22,000 at the time of Independence to 1.56 lakh as of end-March 2004. Nearly 90 per cent of post offices are located in rural areas. On an average, a post office serves an area of 21.11 sq. km. and a population of approximately 6,600.

The Indian postal system currently provides 38 services which can be broadly divided into four categories: Communication services (letters and postcards), Transportation services (parcel), Financial services (Saving Bank, Money Order, Postal life Insurance) and Premium value added services (like Speed Post and Business Post). The Post Office Savings Bank is the largest bank in India in terms of network, accounts and annual deposits.

A Business Development Directorate was set up on February 1, 1996, with the objective of marketing and promoting premium services for meeting the needs of specific customer segments. It was reorganised into Business Development and Marketing Directorate w.e.f. April 1, 2005, to provide a sharper focus on marketing of the whole continuum of postal products. Some of the premium services offered by the department are: (1) *Speed Post*: The Speed Post Service was introduced on August 1, 1986. Under this service, mail is delivered within a given time frame, failing which full refund of postage is made. The Speed Post network connects 163 national, 953 State Speed Post Centres and 97 foreign countries; (2) *Express Parcel Post*: The Express Parcel Post was relaunched with improved features on March 1, 1999 to provide a reliable and time-bound parcel service through surface transport. The Express Parcel Post caters to corporate users and business establishments. Express Parcel can be booked in 163 stations of the country where National Speed Post Centres are available; (3) *Business Post*: The Department launched Business Post with effect from January 1, 1997 to meet the specific need of big mailers. It provides mailing solutions for customers by offering pre-mailing services including collection, insertion, sealing and franking, etc.; (4) *Media Post*: The Department offers opportunity to the corporations and government organisations to advertise their products on post cards, inland letter etc. (5) *Retail Post*: With a vast network of post offices, India Post offers Retail Post for collection of electricity bills, telephone bills, water bills, examination fees and other services on commission basis; (6) *Speed Net*: This internet based track and track service was launched on January 3, 2002. Apart from providing trading facility to the customer, it also provides information to the management about quality of service, business performance, marketing, customer service, etc. It is now operational from all 163 national Speed Post Centres; (7) *Speed Post Passport Service*: Under this scheme, the Department of Posts and the Ministry of External Affairs have entered into a unique partnership for providing greater access to passport application forms throughout the country through designated Speed Post Offices; and (8) *e-Post*: Launched on January 30, 2004, e-post service utilises the last mile advantage provided by the Department to enable people to send and receive message or scanned images through e-mail in all post offices in the country. To make it useful for business, a corporate version of e-post was also launched on October 18, 2005, which allows simultaneous sending of e-post to a maximum of 9999 addresses.

Telecommunications

Though rapid progress of the postal services over the last few decades has led to a considerable increase in communications, the most important factor according for increased communication has been the development of telecommunications. *India has the tenth largest telecom network in the world measured in terms of number of phones.* The total number of telephones (basic and mobile) rose from 22.8 million in 1999 (when the New Telecom Policy was announced) to more than 125 million at the end of December 2005. In recent years, while teledensity has risen sharply, India continues to lag behind countries like Brazil and China where the teledensity is more than 40. In India, tele-density was 16.8 in December 2006. Fully automatic International Subscriber Dialling (ISD) service is available to almost all the countries. The total number of stations connected to National Subscriber Dialling (NSD) is over 31,686. In the field of International Communication, tremendous progress has been made by the use of Satellite Communication and Submarine links. The voice and non-voice telecom services, which include data transmission, facsimile, mobile radio, radio paging and leased line services, cater to a variety of needs of both residential and business customers. Integrated Service Digital Network (ISDN) facility is available in a number of cities.

A regulatory authority in the telecom sector known as Telecom Regulatory Authority of India (TRAI) was set up on February 20, 1997. It has been set up with a view to discharge regulatory functions, thereby providing a level playing field in the telecom sector. In 1999, the government announced a New Telecom Policy (NTP, 1999). In terms of this policy, the government has opened the National Long Distance Service to private operators without any restriction on the number of operators with effect from August 13, 2000. With a view to supplementing the efforts of public sector service providers, i.e., BSNL (Bharat Sanchar Nigam Limited) and MTNL (Mahanagar Telephone Nigam Limited) and to ensure greater competition in providing the basic telephone services, companies registered in India are being licensed to plan, instal, operate and maintain the basic services.

The share of public sector undertakings (PSUs) BSNL and MTNL in fixed telephony declined from 98.65 per cent in 2001-02 to 85.7 per cent in 2005-06 (December). At the same time, the PSUs gained market share in mobile telephony, yet it was merely 21.1 per cent of the total market share in 2005-06 (December) rising from 3.98 per cent in 2001-02. As a result of these opposite trends witnessed in fixed and mobile telephony, the share of PSUs was 45.6 per cent in 2005-06 (December) as against 90 per cent in 2001-02. Thus private enterprises have rapidly displaced PSUs in a period of just 2-3 years and their market share has risen from 10 per cent in 2001-02 to 54.4 per cent in 2004-05 (December).

A revolution of sorts has taken place in the field of cellular mobile telephone services. From a mere 0.3 million subscribers on March 31, 1997 the number increased to 6.54 million subscribers as on March 31, 2002 and increased further to 149.60 million in December 2006. In fact, the cellular customer base is growing at the rate of about one million per month. Internet services have also expanded rapidly after they were opened up to the private sector in November 1998. Any Indian Registered Company is eligible for getting the licence and no prior experience is required. In accordance with the New Telecom Policy 1999, the government opened the International Long Distance (ILD) service to the private sector from April 1, 2002. On October 14, 2004, the government announced the Broadband Policy. This policy defines broadband as an "always-on" data connected supporting interactive services including Internet access with minimum download speed of 256 Kbps per subscriber. The number of broadband subscribers rose to 1.32 million in 2005-06. For a knowledge based society broadband connectivity is extremely necessary.

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AGRICULTURE AND BUSINESS

Role of Agriculture in Economic Development
Trends in Agricultural Production and Productivity
Businesses Directly Dependent on Agriculture
The Agro-Based Industries

• Jute Industry • Textile Industry • Food Processing Industry • Sugar Industry • Vegetable Oil Industry • Tea and Coffee • Rubber • Paper and Newsprint Industry

Dependence of New Agricultural Strategy on Business

• Fertilizer Industry • Pesticides • Agricultural Machinery

Indian Agricultural Policy: An Overview

Linking Agriculture with Business: Corporate India's Initiatives

• ITC: The E-Choupal Initiative • Tata: Tata Kisan Sansar • CFCL: Uttam Bandhan • Mahindra and Mahindra: Shubh Labh • Godrej: Adhar & Manthan • Pepsi: Pepsi Foods • EID Parry: Indigriline • Reliance: Relicare • Bharti: Field Fresh Foods • DSCL: Haryali Kisan Bazar

A large number of people in heavily populated countries like India, China, Pakistan, Bangladesh, Indonesia etc. depend on agriculture for their livelihood. Agriculture also contributes a substantial part of the national income in these countries. Till some time back, many economists tended to regard the problem of development as essentially a problem of industrialization and argued that industrialization is the main hope for most of the poor countries trying to improve the economic well-being of their people. Today, things are different. *The experience of many countries has shown that industrialization without agricultural development cannot deliver the goods in large over-populated countries.*

In this chapter we propose to discuss the following issues:

- The role of agriculture in economic development
- Trends in agricultural production and productivity
- Development of agro-based industries
- Dependence of new agricultural strategy on business
- Evolution of Indian agricultural policy over the period of planning
- Initiatives taken by corporate India in recent years to foster links with agriculture.

■■■■ ROLE OF AGRICULTURE IN ECONOMIC DEVELOPMENT ■■■■

The role and importance of agriculture for economic development and expansion of business activities would be clear from the following discussion:

1. Share in national income. At the time of the First World War, agriculture contributed two-thirds of national income in India. This was on account of the practical non-existence of industrial development and infrastructure. However, after the initiation of planning in India, the share of agriculture has persistently declined on account of the development of the secondary and tertiary sectors of the economy. From 55.1 per

cent in 1950-51, the share of agriculture¹ in Gross Domestic Product at factor cost declined steadily to 18.5 per cent in 2006-07 (at 1999-2000 prices). However, the share of agriculture in country's GDP continues to be considerable even now.

2. Largest employment providing sector. In 1951, 69.5 per cent of the working population was engaged in agriculture. This percentage fell to 66.9 per cent in 1991 and to 56.7 per cent in 2001. However, with rapid increase in population the absolute number of people engaged in agriculture has become exceedingly large. Development of the other sectors of the economy has not been sufficient to provide employment to the increasing additions to working population who are, therefore, forced to fall back upon agriculture even if their marginal productivity on land is zero or nearly so. This gives rise to the familiar problem of underemployment and disguised unemployment. Most of the underdeveloped countries exhibit this heavy dependence of working population on agriculture. For example, 57 per cent of the economically active population in Bangladesh was engaged in agriculture in 1999. This percentage was 68 in China and 48 in Pakistan in the same year. As against this, the percentage of economically active population engaged in agriculture is very much less in developed countries. For example, in Japan and France 4 per cent, and in USA and UK only 2 per cent of the economically active population was engaged in agriculture in 1999.

3. Provision of food surplus to the expanding population. Because of the heavy pressure of population in labour-surplus economies like India and its rapid increase, the demand for food increases at a fast rate. The existing levels of food consumption in these countries are very low and with a little increase in per capita income, the demand for food rises steeply (in other words, it can be stated that the income elasticity of demand for food is very high in developing countries). In fact, the annual rate of increase in demand for food can be expressed as $D = p + mg$ where p and g are growth rates of population and per capita income and m is the elasticity of demand for agricultural products.² Both p and m are larger in developing countries as compared to developed countries. For instance, p lies between 1.5 per cent and 3 per cent in most of the developing countries. This shows that the demand for food is likely to expand significantly on account of this factor alone. High rate of population growth in developing countries is the result of steeply declining death rates (as a result of the availability of new drugs, advances in the medical field, improvements in public health field, etc.) and stubbornly stagnant (or slowly declining) birth rates. The income elasticity of demand for food in developing countries is 0.6 or even higher (meaning thereby that 60 per cent or more of the increase in per capita income goes to buy food alone) while in developed countries it is 0.2 to 0.3. This shows that unless agriculture is able to continuously increase its marketed surplus of foodgrains, a crisis is likely to emerge. Many developing countries are passing through this phase and, in a bid to meet the increasing food requirements, have been compelled to import large quantities of foodgrains. Such imports have created balance of payments difficulties causing a serious problem of foreign exchange. On account of this problem, these countries have at times been compelled to cut down heavily the imports of capital goods and machinery adversely affecting the process of industrial development.

4. Contribution to capital formation. There is general agreement on the importance of capital formation in economic development. Unless the rate of capital formation increases to a sufficiently high degree, economic development cannot be achieved. Since agriculture happens to be the largest industry in many developing countries including India, it can (and must) play an important role in pushing up the rate of capital formation. If it fails to do so, the process of economic development will suffer a setback. It was on account of this reason that the Communist countries like the former Soviet Union and China made agriculture a prime target in squeezing a maximum amount of surplus for investment. However, the type of coercion they indulged in, is not possible in democratic developing countries of the present day. Their task is, therefore, more difficult. To extract surplus from agriculture, the policies advocated in their context are: (i) transfer of labour and capital from farm to non-farm activities; (ii) taxation of agriculture in such a way that the burden on agriculture is greater than the government services provided to agriculture; and (iii) turning the terms of trade against agriculture by imposing price controls on agricultural products, taxation or the use of multiple exchange rates that discriminate against agriculture. The implementation of these policy measures is, however, a difficult task. Therefore, *generation of surplus from agriculture will ultimately depend on increasing the agricultural productivity considerably.*

5. Providing raw materials to industries. Agriculture provides raw materials to various industries of national importance—sugar industry, jute industry, cotton textile industry, vanaspati industry are examples of some such industries which depend on agriculture for their development. The entire range of food processing industries is similarly dependent on agriculture. Therefore, unless agriculture develops, these industries will also remain backward. More discussion on this relationship between agriculture and business is carried out later in this chapter.

6. Market for industrial products. Since more than two-thirds of the population of developing countries lives in rural areas, increased rural purchasing power is a valuable stimulus to industrial development. This point was emphatically brought home by Ragnar Nurkse when he stated, "The trouble is this: there is not a sufficient market for manufactured goods in a country where peasants, farm labourers and their families, comprising typically two-thirds to four-fifths of the population, are too poor to buy any factory products, anything in addition to the little they already buy. There is a lack of real purchasing power, reflecting the low productivity in agriculture."³ Therefore, if steps are taken to expand agricultural output and productivity, the income of rural sector will increase causing, in turn, an increased demand for industrial products and the process of industrial development will also receive a boost-up.

In India, with the spread of Green Revolution to more and more areas in recent years (particularly during the last three decades), incomes of large farmers have increased considerably whereas their tax liabilities are negligible. This has increased their purchasing power substantially with the result that the demand for industrial goods in the rural markets is witnessing a marked increase. The corporate sector is very well aware of this rising demand and is reorienting its marketing strategy and production patterns to tap this large market (for a discussion on some marketing initiatives of the corporate sector please refer to the section 'Linking Agriculture with Business: Corporate India's Initiatives' of the present chapter). Manufacturers of household items (particularly items of daily use like tea, soaps, detergents, clothes, cycles, scooters, radios and transistors, televisions etc.) are vying with each other to get as large a chunk of this market as possible.

7. Importance in international trade. For a number of years the three agriculture-based exports of India—cotton textiles, jute and tea—accounted for more than 50 per cent of export earnings of the country. If we add the export of other agriculture commodities like cashew kernels, tobacco, coffee, vanaspati oil, sugar etc., the share of agriculture in total exports rose to around 70 to 75 per cent. Such heavy dependence on agricultural commodities for export earnings reflected the underdeveloped nature of the economy. With economic progress and consequent diversification of production base, the share of agricultural goods in total exports has consistently fallen. For instance, the share of agricultural exports in total exports was 41.6 per cent in 1965-66. This fell consistently to 17.6 per cent in 1992-93. However, the Export-Import Policy 1993 placed special emphasis on increasing agricultural exports as the government is now realising that there is a vast potential of increasing exports of horticulture, floriculture and agro-products. Agri-exports stood at \$ 8,809 million in 2004-05 (which was 10.5 per cent of total exports) and \$ 10,549 million in 2005-06 (which was 10.2 per cent of total exports).

8. Importance of agricultural products in the consumption basket. The per capita income in India is very low. Consequently, a large part of this income is spent of fulfilling the basic consumption requirements of the people. It has been estimated that in India approximately 60 per cent of household consumption and 85 per cent of household commodity consumption is of agricultural products (or products based on agriculture). According to National Sample Survey, income elasticity of demand for foodgrains is 0.8 in India. Keeping this income elasticity and the possibilities of increase in population and per capita consumer expenditure in view, the Planning Commission has estimated that demand for agricultural commodities is likely to increase at the rate of 4.7 per cent per annum. Accordingly, the nation can remain self-reliant in agriculture only if its agricultural output rises at least at the rate of 5 per cent per annum.

The above discussion brings out clearly the role and importance of agriculture in the Indian economy. In fact, development of agriculture is a virtual precondition of sectoral diversification and hence of development itself. *A growing surplus of agricultural produce is needed in the country to (i) increase supplies of food and agricultural raw materials at non-inflationary prices; (ii) widen the domestic market for industrial goods through increased purchasing power within the rural sector; (iii) facilitate inter-sectoral transfers of capital needed for industrial development (including infrastructure); and (iv) increase foreign exchange earnings through agricultural exports.*⁴

■■■■■ TRENDS IN AGRICULTURAL PRODUCTION AND PRODUCTIVITY ■■■■■

Agricultural production has two components—foodgrains and non-foodgrains. The former contributes approximately two-thirds of total agricultural production. In the Index Number of Agricultural Production (triennium ending 1981-82 = 100) the weights assigned to foodgrains and non-foodgrains are 62.9 and 37.1 respectively. The most important component in the foodgrains category is rice (weight 29.7) followed by wheat (weight 14.5). In the non-foodgrains category, oilseeds constitute the most important group (weight 12.6). Sugarcane carries a weight of 8.1 while cotton carries a weight of 4.4.

For examining trends in agricultural production and productivity, the entire period of planning can be divided into two parts: (i) period up to the end of the Third Plan, and (ii) period after the Third Plan. The latter is often referred to as the period of Green Revolution as it is marked by substantial increases in agricultural production and productivity. *Green Revolution has been the result of the High Yielding Varieties Programme (HYVP) which was put into practice for the first time in India in the kharif season of 1966.* This programme was introduced in the form of a package programme since it depended crucially on regular and adequate irrigation, fertilizers, high-yielding varieties of seeds, pesticides and insecticides. Initially it was implemented in a total area of 1.89 million hectares. On the eve of the Fourth Plan, the coverage was estimated to be 9.2 million hectares. In 1998-99 the area under HYVP was 78.4 million hectares which was about 62 per cent of the total area under foodgrains (data for later years are not available). As a result of HYVP (also known as New Agricultural Strategy), foodgrains output increased substantially from 81.0 million tonnes in the Third Plan (annual average) to 187.0 million tonnes in the Eighth Plan (annual average) and further to 202.9 million tonnes in the Ninth Plan (annual average). Foodgrains production in the Tenth Plan (annual average) stood at 202.2 million tonnes — the last year of the Plan 2006-07 registering a record production of 216.1 million tonnes. As far as productivity is concerned, the yield per hectare of all foodgrains rose from 710 kgs in 1960-61 to 1,707 kgs in 2006-07.

HYVP was restricted to only five crops—wheat, rice, jowar, bajra and maize. Therefore, non-foodgrains were excluded from the ambit of the new strategy. As far as foodgrains are concerned, wheat seems to have made rapid strides with its production increasing from 11.1 million tonnes in the Third Plan (annual average) to 29.8 million tonnes in the Fifth Plan (annual average), 62.9 million tonnes in the Eighth Plan (annual average) and further to 70.2 million tonnes in the Tenth Plan (annual average). The production of wheat touched the record level of 76.4 million tonnes in 1999-2000 but fell to 69.7 million tonnes in 2000-01. It rose to 74.9 million tonnes in 2006-07. The productivity of wheat rose from 851 kgs per hectare in 1960-61 to 2,617 kgs per hectare in 2006-07. In fact, wheat has been the mainstay of the Green Revolution over the years.

The production of rice which had increased slowly in the early period of the Green Revolution has started picking up of late. The average annual production of rice rose from 35.1 million tonnes in the Third Plan (annual average) to 54.5 million tonnes in the Sixth Plan (annual average), 78.7 million tonnes in the Eighth Plan (annual average) and further to 85.6 million tonnes in the Tenth Plan (annual average). It stood at 92.8 million tonnes in 2006-07. The production of coarse cereals—jowar, bajra and maize—continues to remain static or has moved very slowly upwards. What is more, the production of these crops is subject to wide yearly fluctuations. For instance, the production of jowar was 10.8 million tonnes in the Fifth Plan (annual average), 10.9 million tonnes in the Seventh Plan (annual average), 10.7 million tonnes in the Eighth Plan (annual average) and 7.2 million tonnes in the Tenth Plan (annual average). The production of bajra rose from 5.2 million tonnes (annual average) in the Seventh Plan to 7.2 million tonnes in 1994-95 but fell to 5.4 million tonnes in 1995-96. However, in 2001-02, it rose to 8.3 million tonnes but fell steeply to only 4.7 million tonnes in 2002-03. In 2003-04, it again rose to 12.1 million tonnes. In 2006-07, it was only 8.6 million tonnes. As far as pulses are concerned, their production is more or less static. For instance, it was 11.7 million tonnes in Second Plan (annual average), 12.5 million tonnes in Seventh Plan (annual average) and 13.3 million tonnes in the Tenth Plan (annual average). Production of pulses was 14.2 million tonnes in 2006-07. But this still continues to be less than the requirement of pulses in India estimated at about 17 million tonnes. In fact, the per capita net availability of pulses declined from 69 grams per day in 1961 to 31.5 grams per day in 2005. This fall in per capita net availability of pulses is a cause for concern as pulses provide the most valuable ingredient of protein in diet and are 2-3 times richer in protein than most of the cereals.

Let us now consider oilseeds. The bulk of the vegetable oil production in India is derived from nine cultivated oilseeds, namely, groundnut, rapeseed/mustard, sesamum, safflower, nigerseed, soyabean, sunflower—forming the edible group—and linseed and castorseed forming the inedible group. The total production of oilseeds averaged 8.3 million tonnes in the Fourth Plan (annual average) and 11.4 million tonnes in the Sixth Plan (annual average). To achieve self-sufficiency in edible oils, the government launched a series of measures towards the end of the Sixth Plan and the Seventh Plan. These included National Oilseeds Development Project (NODP) started in 1985-86, Technology Mission on Oilseeds (TMO) started in May 1986 and Oilseeds Production Thrust Project (OPTP) launched in 1987-88 to accelerate the production of four major oilseeds, namely groundnut, rapeseed/mustard, soyabean and sunflower. In 1989-90, the government announced its 'price band' policy for fixing wholesale price band for oil. This policy sought to fix the procurement prices of groundnut and rapeseed at least 40 per cent above the levels recommended by the Commission for Agricultural Costs and Prices (CACP). As a result of these policies, area under oilseeds expanded considerably leading to a substantial

increase in oilseeds production from 12.7 million tonnes in 1987-88 to 18 million tonnes in 1988-89. In fact, the average annual production of oilseeds rose from 11.4 million tonnes in the Sixth Plan to 13.9 million tonnes in the Seventh Plan and further to 21.9 million tonnes in the Eighth Plan. In 1998-99, the production of oilseeds rose further to 24.7 million tonnes. However, it fell to only 15.1 million tonnes in 2002-03 but again rose considerably to 25.1 million tonnes in 2003-04. The production of oilseeds stood at 23.9 million tonnes in 2006-07 — the last year of the Tenth Plan.

Although Green Revolution led to considerable increases in agricultural production and productivity it had some undesirable consequences as well particularly in the initial period. Since early successes were limited to wheat, the wheat growing areas (Punjab, Haryana and Western Uttar Pradesh) marched much ahead of other regions leading to substantial increases in regional inequalities. However, during the last decade and a half, impressive gains have been recorded by rice and non-foodgrains (particularly oilseeds). As a result, the eastern and the southern regions of the country have made up the lost ground considerably. In addition to increase in regional inequalities, the initial period of Green Revolution was also marked by increases in inter-personal inequalities as large farmers benefited much more from new technology than the small and marginal farmers. This was not unexpected as the new technology called for substantial investments which were generally beyond the means of a majority of this country's small and marginal farmers. Only relatively rich farmers who were in a position to 'afford' the new strategy which is a package programme involving the use of high-yielding varieties of seeds in combination with other inputs like irrigation, fertilizers, pesticides etc. adopted it. This shifted the advantage of productivity per acre in favour of big farmers. This advantage, in turn, got reflected in the distribution of benefits from new technology in the region that adopted it. However, with the passage of time, the supply of institutional credit to small farmers increased enabling them to adopt the new technology. Thus Green Revolution started benefiting small farmers as well.

■■■■ BUSINESSSES DIRECTLY DEPENDENT ON AGRICULTURE: THE AGRO-BASED INDUSTRIES ■■■■

Industrialization in India started with the setting up of factories for processing of agricultural commodities or manufacturing industries whose raw materials were produced on farms. Because of the significant diversification witnessed in the agricultural sector in recent decades (particularly after the adoption of the New Agricultural Strategy), the agro-based industries have increased in number and expanded their production. Among these industries, the important ones are: manufacture of jute goods, cotton ginning and pressing and manufacture of cotton textiles and yarn; sugar; edible oil industry; food processing industry; tea; coffee; rubber etc. Floriculture has also recently emerged as a good business opening.

Jute Industry

The jute industry is one of the oldest in the country. Most of the development of this industry has taken place in Bengal because of the availability of raw material in that State. Area under jute was 1.4 million acres in 1950-51 and the output of raw jute in that year stood at 3.3 million bales. Production of mesta was also encouraged to be used in mixture with jute. The total area under jute and mesta stood at 0.9 million hectares in 2005-06 and their production stood at 10.7 million bales. The production of jute textiles increased from 1,074 thousand tonnes in 1981-82 and further to 1,305 thousand tonnes in 2001-2002 (data for later years are not available). *Globally, India is the largest producer and second largest exporter of jute goods* and this sector provides employment to 40 lakh farm families, as well as direct and indirect employment to 4 lakh workers. There are 78 jute mills in the country of which 61 are in West Bengal.

There is ample scope for diversification and production of value added products as a large area for non-traditional jute items, jute decorative and other jute specialities (like tea bags, jute reinforced plastic, geotextiles, decorative including furnishing, soft luggage, shopping bags, carpets and matting, apparels, blankets and non-wovens) remains to be explored. This can open up tremendous possibilities for expansion of demand for jute goods in future. However, increased production of diversified products requires equal emphasis on the quality of jute. For this purpose, the government and industry should pay special attention to encourage farmers to produce the right type of jute. Appropriate steps will also have to be taken to step up the per hectare productivity of the jute crop and ensure remunerative prices to jute growers.

Textile Industry

Textile industry is the largest industry of modern India. Currently, it adds about 14 per cent to the