Indus Water Treaty -IWT 1960:

The waters of the Indus Basin Rivers had been used for irrigation purposes even before the development of the present canal system by British engineers in the early 19th century. There were numerous inundation canals in the Indus Valley, which diverted supplies directly from the rivers during the high flow periods, without any diversion works across the riverbed. The local community, tribes, or states managed these inundation canals. From the middle of the 19th century onwards, irrigation was gradually extended through the introduction of improved methods and the construction of diversion works across the rivers. A number of agreements for the sharing of river waters took place. The most significant of these have been the Indus Basin Treaty (1960) between India and Pakistan and the Water Apportionment Accord (1991) between the four provinces of Pakistan.

In August 1947, when South Asia was divided into two independent countries, there existed in the area, one of the most highly developed irrigation systems in the world. The system catered to approximately 37 million acres of land, supplying it with the waters of the Indus rivers. All available water supplies were allocated to various princely States and provinces, in conformity with the principle of equitable apportionment of waters. The Indus System of Rivers in the Indus Basin comprises of the Indus and its five main tributaries i.e. Jhelum, Chenab, Ravi, Beas and Sutlej. They all combine into one river near Mithan Kot in Pakistan and flow into the Arabian Sea, south of Karachi. The total area of the Indus Basin is roughly 365,000 miles2. Most of it lies in Pakistan and the remaining is part of occupied Jammu and Kashmir, India, China and Afghanistan. At the time of Independence, 31 out 37 million acres in Pakistan were irrigated. The boundary line between the two countries being partitioned was drawn without any regard to the existing irrigation works.

It was, however, affirmed by the Boundary Commission. Representatives of the affected zones expressly agreed before the Arbitral Tribunal that the authorized zones in the common water supply would continue to be respected. The water dispute between Pakistan and India began when on April 01, 1948, immediately after the winding up of the Arbitral Tribunal, India stopped irrigation waters in every irrigation canal which crossed the India-Pakistan boundary. This affected 1.6 million acres of irrigated land in Pakistan. The abrupt act stressed the urgent need for Pakistan to formulate an agreement between the two countries regarding the future use and

distribution of the combined waters. India demanded that Pakistan recognize that the proprietary rights on the waters of the rivers in Indian Punjab were wholly vested in the Indian government and that the Pakistani government could not claim any share of those waters as a right for areas of Punjab in Pakistan. Pakistan's claim was based upon the time honored formula that existing uses were sacrosanct and excess water, not previously committed, could be divided amongst the riparians according to area, population etc. This principle had the support of several treaties, nations or states and provisions in the same country. The Indian put forward a principle, which had been advanced for some time during international negotiations but had not been accepted anywhere. Under this principle, the upper riparian had absolute right to the water and the lower riparian could only get it under an agreement or treaty, if the same were entered between the riparian. India agreed to restore some of the supplies in May 1948, when a very pro- Indian temporary agreement was signed. It was, however, generally realized that Pakistan could not survive without a restoration of the full supplies and. on this question there could be no compromise. The controversy was serious enough to provoke an imminent war between the two countries. Direct negotiations between the two Parties failed to resolve the dispute. Negotiations under the offices of the World Bank commenced in May 1952. It was agreed to work out specific engineering measures by which the supplies effectively available to each country would be increased substantially. The working party set up under the offices of the World Bank however failed to agree on a comprehensive plan for the utilization of the waters of the Indus River System. After eight years of intense negotiation, agreement between the two parties was finally reached in the form of the Indus Water Treaty in 1960. **The Indus Water Treaty was signed at Karachi on September 19, 1960. It consists of 12 Articles and 8 Appendices, which are titled as given below.**

Article I Definitions
Article II Provisions regarding Eastern Rivers
Article III Provisions regarding Western Rivers
Article IV Provisions regarding Easter Rivers and Western Rivers
Article V Financial Provisions
Article VI Exchange of Data
Article VII Future Cooperation
Article VIII Permanent Indus Commission
Article IX Settlement of Differences and Disputes
Article X Emergency Provisions
Article XI General Provisions
Article XII Final Provisions.

Annexure A Exchange of Notes between Government of India and Government of Pakistan

Annexure B Agricultural Use by Pakistan from certain tributaries of the Ravi

Annexure C Agricultural Use by India from the Western Rivers

Annexure D Generation of Hydro-electric Power by India on the Western Rivers

Annexure E Storage of Waters by India on Western Rivers

Annexure F Neutral Expert

Annexure G Court of Arbitration

Annexure H Transitional Arrangements

Provisions regarding the Eastern Rivers:

(i) All the waters of the Eastern rivers shall be available for the unrestricted use of India.

(ii) Except for domestic and non-consumptive uses, Pakistan shall be under an obligation to let flow, and shall not permit any interference with, the waters of Sutlej Main and the Ravi Main in the reaches where these rivers flow in Pakistan and have not yet finally crossed into Pakistan.

(iii) All the waters, while flowing in Pakistan, of any tributary which, in its natural course joins the Sutlej Main or the Ravi Main after these rivers have finally crossed into Pakistan shall be available for the unrestricted use of Pakistan.

Provisions regarding the Western Rivers:

(i) Pakistan shall receive for unrestricted use all those waters of the western rivers.

(ii) India shall be under an obligation to let flow all the waters of the Western rivers, and shall not permit any interference with these waters.

Provisions regarding the Eastern and western Rivers:

(i) Pakistan shall use its best endeavors to construct and bring into operation a system of works that will accomplish the replacement from the Western rivers (and other sources of) the water supplies for irrigation canals in Pakistan, which on 15th August, 1947 were dependent on water supplies from the Eastern rivers.

(ii) The use of the natural channels of the rivers for the discharge of flood or other access waters shall be free and not subject to limitation by either party, or neither party shall have any claim

against the other in respect of any damage caused by such use.

(iii) Each party declares its intention to prevent, as far as practicable, undue pollution of the waters and agrees to ensure that, before any sewage or industrial waste is allowed to flow into the rivers, it will be treated where necessary, in such manners as not materially to affect those use. From Pakistan's point of view, the settlement plan, as envisaged under the Indus Waters Treaty 1960, had some advantages as well as certain defects.

Advantages of the Settlement Plan:

(i) After the completion of the Indus Basin Replacement Plan works each country became independent of the other in the operation of its supplies.

(ii) Each country is responsible for planning, constructing and administering its own facilities in its own interests and free to allocate its supplies within its own territories as it deems fit.

(iii) This provides strong incentives to each country to make the most effective use of water, since any efficiency accomplished by works undertaken by either country for storage, transfer, reduction of losses and the like, accrues directly to the benefit of that country. The same is true of efficiency achieved in operations.

(iv) The independence afforded by the program also brought a benefit of a different kind. The location of works serving each country or territories under its control, and the assurances against interference by either country with the supplies on which the other depends has reduced the chances of disputes and tension.

(v) Before the completion of Indus Basin Project works, after the signing of the Treaty, the entire irrigation system in the Indus Basin was based on run-of-the-river supplies. The hydrology of the rivers is such that about 80% of the total water was produced during the monsoon period July to September – storage projects due to the treaty also increased the canal water diversions.

(vi) The winter supplies became very critical in drought periods. With supplies made available and the storage of water in the Reservoirs, water availability in winter has been assured and so the country is insignificantly affected in drought conditions. Besides total withdrawals and canal heads in Pakistan has increased from about 67 MAF to 104.5 MAF

Defects of the Settlement Plan:

(i) The traditional *sailab* (flood) irrigation, the most ancient way of using river waters, on the Sutlej, Beas and Ravi would disappear, because when these rivers are fully developed by India, the traditional floods would decrease or disappear and the *sailab* areas would not get seasonal water, which permitted cultivation. This area is considerable in extent. Due to loss of regular flow in the Eastern Rivers, the channels have become silt up and floods in the channels causes' great havoc in Pakistan, in addition to other environmental effects. The up-keep of the new link canals and storages mean a very heavy additional burden on the cost of maintaining irrigation. Besides, storages are no substitute to the perpetual flow of water as the storages have limited life.

Under the provisions of Article VIII(1) of the Indus Waters Treaty 1960, both India and Pakistan have appointed a Commissioner for Indus Waters. Unless either Government decides to take up any particular question directly with the other Government, each Commissioner is the representative of his Government for all matters arising out of the Treaty and serves as the regular channel of communication on all matters relating to the implementation of the Treaty. The two Commissioners together form the PERMANENT INDUS COMMISSION whose purpose and functions are (i) to establish and maintain cooperative arrangements for the implementation of the Treaty, (ii) to promote cooperation between the Parties in the development of the waters of the 'Rivers', (iii) to make every effort to settle promptly any question arising between the Parties and (iv) to undertake tours of inspection of the Rivers to ascertain facts.

Under the Treaty, restrictions have been placed on the design and operation of Hydroelectric Plants, Storage Works and other river works to be constructed by India on the Western Rivers. India is required to supply Pakistan with certain specified information relating to these works at least 6 months in advance of undertaking the river works, to enable Pakistan to satisfy itself that the design conforms to the criteria set out in the Treaty. Within a specified period ranging from two to three months of the receipt, Pakistan has the right to communicate its objections in writing to India, if any. Under the Treaty, Pakistan was required to construct and bring into operation a system of works, which could accomplish the replacement of supplies for irrigation canals from the Western Rivers in Pakistan. These included those canals that were dependent on water supplies from the Eastern Rivers on 15th August 1947. These replacement works, comprising two

storage dams, six new barrages, remodeling of two existing barrages, seven new inter-rivers link canals and remodeling of two existing link canals, have since been completed.

REPLACEMENT PLAN WORKS:

CONSTRUCTED AS A RESULT OF INDUS WATERTREATY 1960.

Storage Reservoir

Storage River Gross Storage Capacity: (MAF)

Mangla Jhelum 5.89

Chashma Indus 0.70

Tarbela Indus 11.0

Barrages

Barrage River Flood of

Record (cusecs)

Design Flood (cusecs)

Length of Barrage (feet)

Sidhnai Ravi 167,000 167,000 712

Siphon Sutlej 427,000 429,000 1,601

Qadirabad Chenab 912,000 900,000 3,373

Rasul Jhelum 876,000 850,000 3,209

Chashma Indus 1,176,000 950,000 3,556

Marala Chenab 1,023,000 1,100,000 4,472

Link Canals Link Canals

Capacity (cusecs)

Length (miles)

Excavation (million yds3)

Trimmu - Sidhnai 11,000 44 21.0

Sidhnai – Mailsi 10,100 62 31.3

Mailsi – Bahawal 3,900 10 2.4

Rasul – Qadirabad 19,000 30 38.3

Qadirabad – Balloki 18,600 80 80.3

L.C.C. Feeder 4,100 20 8.0

Balloki – Suleimanki II 6,500 39 20.5

Chashma - Jhelum 21,700 63 118.9

Taunsa – Panjnad 12,000 38 22.5