CHAPTER:II

CONFLICT OVER RIVER WATERS:
HISTORICAL BACKGROUND
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Since time immemorial, the Jordan River has been a symbol of life and peaceful co-existence in West Asia. As water comes down the southern slopes of Jabel-el Shaikh, it stops for a time in Lake Huleh and the Sea of Galilee and then it meanders southward through the Jordan Valley into the Dead Sea. All through history people have lived and worked together on the land of River Jordan and along its banks, without any tension. However, with the passage of time, the situation began to change. The emergence of Zionism demanding exclusive control over historic Palestine sowed the first seed of discord in the region.¹

1. BACKGROUND TO THE CREATION OF ISRAEL

In 1897, Theodor Herzl proposed a Jewish State in which Jews could live, free from oppression. The Jewish problem was not religious or social; "The Jews were" according to Herzl, "a nation without a land"². On 27 August 1897, Herzl convened the First Zionist Congress at Basle. The congress endorsed the call for a Jewish home in a resolution, which came to be known as the Basle Programme. It stated that "the aim of Zionism is to create a home for the Jewish people in Palestine secured by public law."³

The main objectives of this programme were: The promotion of the colonisation of Palestine on suitable lines by Jewish agricultural and industrial workers; the mobilization of Jewish people scattered all over the world by means of an appropriate situation

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local and international; the strengthening and fostering of Jewish national sentiments and consciousness, preparatory steps towards obtaining government consent, where necessary to the attainment of the aims of Zionism".4

The Zionist Programme required an imperial power to act as an instrument of 'Public Law' for its implementation. Herzl began offering Jewish services in return for the realisation of this goal. For instance Herzl offered help to the sultan of Turkey, Abdul Hamid, in reorganising his financial affairs in return for assistance to Jewish settlement in Palestine. To the German Kaiser, Wilhelm II, 'The Zionist leader offered help to their interests in the Near East. Similar offers were made to the Russian Czar, The King of England and the Holy See.'

The British Foreign Secretary, Joseph Chamberlain, welcomed the suggestion and offered a place in East Africa. The majority of the Zionists rejected this proposal on the ground that the place was not appropriate for their sentiments. Therefore, the idea was opposed by the Fifth Zionist Congress.

Herzl died on 3 July 1904 without fulfilling his life's dream. Under the leadership of Chaim Weizmann, who succeeded Herzl, the Jews intensified their campaign.6 Between 1904, the year of death of Herzl, and the beginning of First World War nothing significant occurred. As the First World War broke out, Britain entered into negotiations with the Sharif Hussain of Mecca to secure assistance in the war against Turkey in a long exchange of letters known as the, McMohan correspondence. The Arabs agreed to side with Britain, in the war on the condition that the British would openly recognize Arab aspirations. Sir Henry McMohan pledged England's support to independence of Arabs. In his correspondence, Sharif Hussain unequivocally demanded the independence of the Arab countries, specifying the boundaries of the territories which clearly included Palestine. The Arabs argued that they had been promised Palestine by the British, in return of Arab help against the Turks. Unfortunately the correspondence was not perfectly clear as to the area of Arab independence. In the meantime, Britain made two other agreements which were incompatible with their

5 Khalid El Sheikh, Palestine Human Tragedy (New Delhi: Vani Publication, Published by Arab States), pp.10-11.
pledge to the Arabs. One of them was Sykes-Picot agreement named after the British negotiator, Sir Mark Sykes and his French counterpart Charles Picot signed in May 1916. It constituted a breach of promises made to the Arabs. This treaty was an Anglo-French-Russian understanding which promised the internationalization of Palestine under the combined authority of three members of the treaty. Sharif Hussain wanted an explanation but the reply given was vague. The other was the Balfour Declaration of 2 November 1917 which was in favour of a Jewish homeland in Palestine and constituted a betrayal to the Arab aspiration. It was addressed by Arthur Balfour, the British Foreign Secretary to Edmund de-Rothschild in 1917, who was a prominent British Zionists leader. It say;

"His Majesty's Government favours the establishment of a National Home for the Jewish people in Palestine and will use their best endeavours to facilitate the achievement of this objective it being clearly understood that, nothing shall be done which may prejudice the civil and religious rights of existing non-Jewish communities in Palestine or the rights and political status enjoyed by Jews in any other country".

This declaration, Britain sowed seeds of prolonged conflict and unending problems and suffering for the people of Palestine. Lord Grey, the former Liberal Foreign Secretary exposed the inherent contradictions in the Balfour Declaration and pointed out in the House of Lords in March 1923. "A Zionist home my Lords, undoubtedly means or implies a Zionist Government over the district in which the home is placed, and it's population is 93 per cent Arab. I don't see how can you establish a Zionist Government without prejudice to their civil rights".

By 1918, when the rest of Palestine was captured from the Turks, a national conference representing several Jewish settlements elected Weizmann and his Russain

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Zionist friend Nahum Sokolow, to represent them at the Paris Peace Conference. At the Paris Peace Conference in 1919, negotiations were held regarding the boundaries of Syria and Palestine and the assignment of the Syrian Mandate to France and the Palestinian Mandate to Great Britain. The latter opposed a mandate for Palestine, that did not retain Jordan within its borders. In this conference, the British Prime Minister, David Lloyd George, emphasized, that Great Britain would not approve a mandate for a Palestine that would merely include the barren rocks of Judea, which might at any moment be rendered a desert through the cutting off of waters of the same. Furthermore he stated that the waters of Palestine were essential to its existence. Without these waters, Palestine can be a wilderness. On the other hand, those water were not suitable for use to any one holding Syria. Britain was less interested with regard to the northern boundaries of Palestine (See Fig-5). The issue that Palestine's northern limit should be on the Litani River or further north near Sidon or any of a half a dozen more places as outlined in various Zionist plans was of little importance to the British, once they had succeeded in placing strategic depth between the Suez Canal and the French forces in the Levant. It was of course, a matter of tremendous importance to the Zionists leaders, who had hoped to retain Litani waters within Palestinian boundaries.

The Sen Remo Conference, was held in April 1920, was appointed to finalize a settlement with Turkey and to allocate mandatory responsibility in Levant. It endorsed the idea of Jewish homeland and instructed the British administration in Palestine to create a home for Jews in Palestine. Under this agreement Turkey expressly renounced its rights over the Arab territories and introduced mandatory government for Palestine, Syria and Iraq which had been decided upon by the Allied Powers. The new Turkish nationalist Government ratified the treaty of Severes and a new peace treaty was substituted which was signed at Lausanne in Switzerland on 24 July, 1923. In 1928 the establishment of a Jewish Agency to manage Jewish interests in Palestine caused

On 2 November 1917 the British Government promised to allow the Jews to set up a Jewish National Home in Palestine. This promise, embodied in the Balfour Declaration, stimulated the Zionists to put forward practical proposals. In February 1919, the Zionist Organization submitted its first territorial plan to the Paris Peace Conference. The plan was rejected.
grave concern among the Palestine Arabs. The following year there was a friction between Jews and Arabs concerning the farmer's rights to pray at the Western Wall of the old Jewish Temple in Jerusalem. On 23 August 1929, Arabs attacked Jerusalem and its neighbourhood. A commission appointed by Sir Walter Shaw in its report recommended that restrictions be placed on Jewish immigration and the purchase of land from Arabs.

In April 1936 an Arab Higher Committee (AHC) was formed to unite the Palestine Arabs in opposition to the Jews. The AHC gave a call for mass strikes and demonstrations against the continued presence of British troops and Jewish settlements. After six months of continued total strikes, which paralysed the life in Palestine in November 1936, a commission, under Robert Lord Peel arrived to study the situation.

Due to various factors, the Royal Commission concluded that the Palestine Mandate was not workable. These factors were; the Jewish immigration, purchase of Arab lands by Jews complete absence of Political cooperation between the Arabs and Jews. The commission admitted that the Palestinian reaction was quite logical as they could not obviously accept the creation of a national home for the Jews in Palestine. Among the Arabs, Emir Abdullah, who was ruler of Transjordan, wanted a partition. The Royal Commission recommended partition as a solution for settlement. The commission stated that: "Partition seems to offer at least a chance of ultimate peace" which could not be seen in any other plan.

In July 1937 the recommendations of the Royal Commission were accepted by the British government. But the Palestinians rejected these recommendations and the revolt mounted, increasing the demand for full independence and the replacement of the mandate by a treaty between Britain and independent Palestine.

In 1938 the Woodhead commission was appointed by the British Government under Sir John Woodhead to consider the Partition Plan as suggested by the Peel

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Commission. This Commission rejected the Peel report as being impractical. In the London conference, that commenced on 7 February 1939, the Palestinian delegation condemned the British policies towards Palestine, called for Palestine's National independence and for scrapping the Balfour Declaration, termination of the mandate and halting the Jewish immigration. This conference could not reach an agreement because of differences between the Palestinian and Zionist delegations. Later in May 1939, Britain decided to present its unilateral policy which came to be known as the MacDonald White Paper. In this White Paper the British Government disclaimed any intention to establish a Jewish State, rejected independence of Palestine as an Arab State and envisaged the termination of the Mandate by 1949 after granting independence to Palestine in which both the Palestinians and the Jews would share the government.

When the War ended in 1945, Jewish attitude was seen to be anti-British in varying degrees. Prime Minister Churchill himself, once a strong friend of the Zionist cause, was deeply shocked when the Stern Gang in 1944 assassinated his friend, the British Minister of State for the Middle East, Walter Edward Guinness, the First Lord Moyne. England was unwilling to continue its mandate over Palestine and requested the United Nations to handle it.

The UN General Assembly appointed a special committee on Palestine. In August 1947 the majority of United Nations special Commission on Palestine (UNSCOP) recommended a plan Partition Palestine into Arab State and a Jewish State with economic union, and an international trusteeship for the city of Jerusalem. On 29 November 1947, General Assembly voted in favour of UN Resolution 181(II), which called for the creation of a Jewish State and Arab State within a Partitioned Palestine. The British mandate over the area was to end 15 May 1948 and the two states were to be established by 1 July 1948. Jerusalem and Bethlehem were to become corpus separatum under UN jurisdiction.

The passage of the UN Partition Plan immediately led to the first Arab Israeli War, thus transforming the Palestinian Jewish struggle in and over Palestine into an

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Arab-Israeli conflict. The Arab intervention was the result of genuine support for the Palestinian Arabs. This phase of the war lasted eight months, in the course of which a dramatic change occurred.\(^\text{21}\) (See Fig.6).

The Israeli army moved into Sinai, which it had to evacuate under international pressure. In the north, the Israeli Defense Force (IDF) pushed Lebanon's army back to its border and occupied South Lebanon which Israel evacuated as part of the 1949 armistice agreements. (See Fig.7) The First Arab-Israeli War was concluded by four Armistice Agreements signed between Israel and Egypt on 23rd February 1949, between Israel and Lebanon on 23rd March 1949, between Israel and Jordan on 23rd April 1949, and between Israel and Syria on 20th July, 1949. Although the Armistice Agreements did not lead to envisaged peace treaties, they established Israel's borders with its Arab neighbours for nearly twenty years, until the Third Arab-Israeli War of 1967.\(^\text{22}\)

(i) PROPOSED PLANS FOR THE DEVELOPMENT OF JORDAN RIVER

The potential of the Jordan river for irrigation purpose was realised as early as 1910 by the bureaucrats of the Ottoman Empire. In 1913 Gorge Franghia, Director of Jordan for irrigation and power generation. The main aim of this plan was the diversion of Yarmuk into Lake Tiberias. A canal with 100 MCM flow capacity to irrigate the Jordan Valley was to be constructed with two power plants to produce electricity for the development of Jordan Valley. Franaghia plan failed to take off due to the First World War. Severe problems cropped up in the aftermath of war as a large number of Jewish immigrants started to arrive in Palestine. The arrival of Jewish immigrants led to an increase in demand for water. In order to meet this growing demand various revised proposal for the utilization of Jordan river were putforth. In 1920 a survey was conducted for the utilization of Jordan's water and its main branch Yarmuk for irrigation and electricity purposes by the British colonial government.\(^\text{23}\) But due to increasing tension between the Arab and Jewish people no


\(^\text{22}\). Gainsborough, op cit., pp.50-51.
THE UNITED NATIONS
PARTITION PLAN, 1947

On 29 November 1947 the General
Assembly of the United Nations voted to
set up both a Jewish and an Arab
State, and fixed their borders. The Jewish
State was to be three segments, and was
to exclude Jaffa (to become an Arab
 enclave) and Jerusalem (to be an
International Zone). The Jews accepted
Statehood. The Arabs not only rejected
it, but at once attacked Jewish settle-
ments in every part of Palestine.

Figure: 6
Source: Martin Gilbert, The Arab-Israeli Conflict (its History in Maps) 1979
Between May 1948 and January 1949, the State of Israel fought to maintain its independence against the combined forces of six Arab armies. Following the initial Arab invasion, the Israelis reopened the road to Jerusalem, won control of the Coastal Plain, secured the upper Galilee, and drove the Egyptians from the Negev. But the Israelis were themselves driven from the Jewish quarter of the Old City of Jerusalem (whose synagogues were desecrated and whose Jewish houses were destroyed).

DURING ISRAEL'S STRUGGLE FOR INDEPENDENCE BETWEEN NOVEMBER 1947 AND JANUARY 1949, MORE THAN 4,000 JEWISH SOLDIERS AND 2,000 CIVILIANS WERE KILLED OUT OF A TOTAL JEWISH POPULATION OF ONLY 650,000. THE FIGURES FOR ARAB DEAD WERE NOT DISCLOSED BY THE ARAB STATES.

Figure - 7
Source: Martin Gilbert, The Arab-Israeli Conflict (its History in Maps) 1979
action could be taken by the mandatory Government.\textsuperscript{24}

Two years later in 1922 Movromatis proposed an elaborate scheme to irrigate the area of Huleh and drain the marshes. Two dams were visualized for generating electric power and the construction of a canal on both banks of the Jordan. However, like the earlier plan the Movromatis plan also could not be implemented. A subsequent plan known as the Henrique plan (1928) which proposed irrigating the Yarmuk Triangle was also not approved. As Jewish immigration to Palestine increased rapidly in 1930's, the issue became more complicated.\textsuperscript{25}

In 1939 MG. Ionides, Director of Development in the Transjordan government, submitted a report on the water resources of Transjordan and their development after a study of two years. The report recommended the construction of an irrigation canal on the eastern part of the Jordan Valley. It was to use the water of Yarmuk. In this way, 3,0364 hectare (30,000 dunams) on the East Bank could be irrigated. The same canal could also irrigate land on the West Bank. In the Jordan Valley Ionides plan was the first hydrographic survey. For the flood waters of Yarmuk the report proposed Lake Tiberias as a storage reservoir (See Fig.8).\textsuperscript{26}

It also suggested the use of Jordan waters in the Jordan's own drainage basin. In 1944, the Lowdermilk plan visualized the irrigation of the arid lands in the Jordan Valley and the utilization of the river channel for development of hydroelectric power. This could be accomplished through the diversion of the waters, of the Jordan and Yarmuk rivers. Lowdermilk calculated that it would be possible to irrigate 121,457ha (1200,00 dunams) of land, of which 62,753ha (600,000 dunams) were in the Jordan Valley. The surplus water would flow by gravity to provide irrigation in the plains of Esdraelon, Beisan and Valley of Galilee. The plan also envisioned the development of hundred million kilowatt hours of hydroelectric facilities annually. Additionally, the Jordan Valley Authority would give aid for the artesian water supplies and the construction of dams for storing rain water from the Hebron Dam to the Negev. As large parts of Israel was covered by the Negev desert.\textsuperscript{27}

\begin{flushleft}
\textsuperscript{23} Naff and Maston, \textit{op.cit.}, p.30.
\textsuperscript{25} Naff and Maston, \textit{op.cit.}
\textsuperscript{26} Stevens Georgina G., \textit{op.cit.}, pp.227-283.
\end{flushleft}
FIG. 8

Source: Samir N Saliba, The Jordan River Dispute, 1968
Negev was a critical factor as far as absorbing further Jewish immigrants were concerned. Israel, therefore, decided that a Jewish agrarian presence in the Negev would be an important symbol of the vitality of the Jewish State. The proposed dams would be used for irrigation, hydroelectric power and industrial works. The Jordan Valley is 25 miles from the Mediterranean at Haifa Bay. JVA plan provided for an open canal for 7 miles from near Haifa to Mount Carmel and a 20 miles tunnel through the plain of Erdraelon to the edge of the great gorge of the Jordan Valley. It was to have a capacity of 1,000CFS. The JVA would construct dams higher up in the hills to hold excess water. The JVA also includes the use of Litani River as part of the regional plan a suggestion which was to be re-emphasized in all plan of Israel. The details of the JVA were developed by James Hays, Chief Engineer of TVA. The Hays-Savage Plan was submitted in 1948 at the request of World Zionist Organisation. The plan recommended that half of the Yarmuk waters would then be diverted into Lake Tiberias to replace the water lost from the diversion of upper Jordan. The other half of the Yarmuk waters would be allocated to Transjordan but only at a subsequent stage in the plan. However, Hays says, the recovery of the remaining Jordan water must await the completion of the previous irrigation works and diversions for the river which will enable a more accurate determination of what is left in Jordan.

The Arab-Israeli War of 1948, however, served to fundamentally alter the prospects for such a co-operative undertaking. Meanwhile during the period of 1948-1949 more than 800,000 Arab refugees fled their homes in Palestine and went to neighbouring Arab countries. Most of these refugees went to Jordan, perhaps the

28. Ibid., pp.175, 180-185, 196-197.
29. Samir N. Saliba, *op.cit.*, pp.18-19
30. Ibid., p.83.
poorest of the Arab States.\textsuperscript{31}

The McDoand Report was submitted by the Jordanian Government with the help of British firm in 1951. It was prepared by Sir MaDonald. It aimed at providing perennial irrigation for the 19,048ha (188,200dunams) on the east of the Jordan from the Yarmuk to Wadi Zerka. The main aim of this plan was the construction of a diversion canal which would flow over the Jordan's plain in the eastern side. It would be approximately 70 km long. In 1951 the British engineers published their comprehensive scheme for the irrigation of both sides of the Jordan Valley between Lake Tiberias and the Dead Sea\textsuperscript{32}.

The McDonald plan has crystallized a basic issue in the conflict relating to use of the Jordan waters; whether or not these should be used within the water shed or outside of it. In addition, provision was made for water which would be utilized for development of perennial irrigation of approximately 1,052ha (104,000 dunams) on the west side of the Jordan around Beisan in the Jordan-Yarmuk Triangle.\textsuperscript{33} The McDonald report made apparent the conflicting positions on out-of-basin transfers held by Israel and the Jordan. In the McDonald plan, all water developed would remain in the Jordan Valley.\textsuperscript{34}

In 1952, the Bunger plan was submitted by United States engineer, Mills E. Bunger. He visualized a dam on the Yarmuk at Maqarin dam with storage capacity of 480 MCM, 65 MCM of which would be used to irrigate land in Syria and surplus of this would be used in Jordan.\textsuperscript{35} A new proposal was also included in which a canal to lead from the dam on the south bank of the Yarmuk to Adasiya, where a diversion dam would conduct water directly from the Yarmuk River and Maqarin southward into the East Ghor canal and almost to the Dead Sea.

A small dam across the Jordan River shortly below the Israel Jordan border to

\begin{thebibliography}{99}
\bibitem{Stevens} Stevens, \textit{op. cit.}, p.246.
\bibitem{Ibid.} Ibid., p.3.
\bibitem{Wishart} David M. Wishart, "\textit{The Breakdown of the Johnston Negotiations over the Jordan Waters}"\textit{, Middle Eastern Studies. Vol.26 (1990), p.537.}
\end{thebibliography}
facilitate the pumping of water from the river into a West Ghor canal leading to Jericho was also to be constructed. A power plant situated at Maqarin, as well as another at Adasiya with power output of 281 million kilowatts annually were also recommended. Jordan was to bear 95 per cent and Syria 5 per cent of the cost of construction and maintenance of the Maqarin dam. 36 Both the United States Technical Cooperation Administration in Jordan and UNRWA evinced great interest in the project. They joined forces with the Jordanian government and earmarked funds for the financing of the Yarmuk River scheme.

At this point however, political difficulties came into existence. Spokesmen for Israel in Washington and at United Nation point out that unilateral development of the Yarmuk would diminish the chances for any regional development of the Yarmuk River system. 37 They claimed that Israel as the lower riparian state on the Yarmuk, had a right to use these waters. As a result of these Israeli representations, work over the Yarmuk scheme was delayed.

On October 16, 1953 President Eisenhower appointed Eric Johnston as a special ambassador to mediate a comprehensive plan for regional development of the Jordan River system. The plan Known as the Unified Plan, based on the Marshall plan in Europe, sought to resolve the conflict by promoting cooperation and economic stability. 38

The technical features of the United Plan were as follows: (i) The construction of a dam on the Hasbani River in Lebanon was proposed in order to store and regulate the waters of that river. A hydroelectric power Plant would be constructed at Tel-Hai which would take the water from the Hasbani dam, use it to develop power and then return it to the main irrigation canal (ii) Canals would be constructed in order to carry the diverted waters of the Baniyas River, the Hasbani, and Tel-al-Qadi springs to irrigate areas in the Galilee hills section. Irrigation water for the Yavnell Valley would be supplied from well water system (iii) In addition, hydroelectric power facilities would be constructed on the Yarmuk River consisting of a dam at

Maqarin and a power canal running about 30 km to a power house near Adasiya.

Control works and canals were to be constructed for the use of perennial flows from the Wadis. It was calculated that the total area of land that could be irrigated under the plan would be 44,534ha (440,000 dunams) of which 42,105ha (416,000 dunams) was Israel, 49595ha (490,000 dunams) in Jordan, and 3,036ha (30,000 dunams) in Syria. The quantity of water available for the irrigation purpose of these areas was estimated at 1305 MCMY, of which 879MCM of water would based for irrigation in the Arab States, and 426MCM in Israel.

In January 1954, at the request of Eric Johnston and as a result of a series of meetings and technical studies, The Arab League Political Committee (ALPC) comprising of Egypt, Syria and Lebanon was set up, headed by Muhammad Salim, Secretary-General of Egypt's National Production Council. In March 1954 the ALPC submitted a plan for the development of Jordan river water resources under the Arab plan, it was earmarked that 49,393 ha (488,000 dunams) of Jordan territory be irrigated. The plan estimated that 975MCM of water should be made available for the purpose, 146MCM more than that proposed by the Unified Plan. The break up was as follows: 287MCM of water to irrigate 23,684ha (234,000 dunams) in Israel 132 MCM of water to irrigate 12,045ha (119,000 dunams) in Syria and 35MCM of water to irrigate 305,42ha (35,000 dunams) in Lebanon.

The Arab Plan reverted to the Bunerger Plan which visualized the construction of a high dam at Maqarin in the Yarmuk basin. This would store approximately 400MCM of the Yarmuk waters which would be used primarily to irrigate land in Syria and Jordan according to an agreement signed by them on June 4, 1953.

In 1955 the Baker-Harza Plan for the Irrigation of the Jordan river basin was submitted to the Jordanian Government by two private American Engineering firms Michael Baker, Jr. of Rochester, Pennsylvania, who prepared a land and soil analysis, and the Harza company of Chicago which made a study of the hydrological conditions during 1953 and 1954. The plan recommended utilization of the Yarmuk and Jordan rivers water to irrigate 15,323ha

(1,514,000 dunams) in the Jordan Ghor and to provide 167 million kw of power at total cost of $116,874,000. The main intention of the plan was increased agricultural production and futuristic betterment of the Valley. The plan gave 760MCM water for the development of Jordan, 605MCM of which was to come from the Yarmuk river and Wadis in Jordan. 155MCM water was to be diverted from the Lake Tiberias. The plan also proposed the irrigation features of the project could be carried out without the Yarmuk hydroelectric power. The irrigation construction would cost $216 per dunams or $864 per acre, and operation, maintenance as well as replacement would cost $1.86 per dunums annually. The irrigation scheme would increase net farm income in the Jordan Valley by an estimated average $674,000 per annum in the first 20 years. Thus, the ratio of annual increased income to annual costs showed that the project was justified economically.

The Cotton Plan was put forth by J.S. Cotton, an American engineer in 1954 and sponsored by Israel. The main point of the plan was the development and utilization of the water resources of the Jordan and the Litani river basin. It was beneficial for the full irrigation of all irrigable lands in the Kingdom of Jordan and southern Lebanon as well as Syrian lands in upper Yarmuk basin.

The Cotton plan included the following features: extra water of the Litani not required for irrigation in Lebanon estimated to be around 50 per cent flow of the river or approximately 400 MCM was to be diverted into two lakes at a point where the river flow changes from north-south to east-west, 5.5 km across Israel's border in Lebanon. From the lake a conduit would lead the water into Israel. In fact the water would be diverted through a tunnel at a point, 7 miles from the Israel border where the Litani makes a sharp westward turn towards the Mediterranean. Jordan would receive 575 MCM water per annum to irrigate 4305202ha (430,000 dunams) Israel, 1,290 MCM to irrigate 18,1174ha (1,790,000 dunums), Lebanon 450.7 MCM to irrigate 3,5425ha (350,000 dunams) and Syria would receive annually 30 MCM of water to irrigate 3,036ha (30,000 dunams). Approximately 1,412,400,000 Kwh per year of electric power would be generated implementing the Cotton Plan.

In 1955 the US once again sought to revive Eric Johnston's Unified Plan as neither the Cotton plan nor the Baker-Harza plan found acceptance by all the states party to settle the

dispute. In July 1955 the plan was discussed by the Israeli Cabinet. The plan was approved by the Arab experts committee in September 1955 and was handed over for final approval to the Arab League Council. In October 1955, the Arab League decided not to ratify the Plan because of its serious potential implications and sent it back to the technical committee for further consideration.\(^{44}\)

Jordan had the following major issues to resolve: the exact amount of water each basin was to receive; (ii) the degree and type of neutral supervision needed for the implementation and the overseeing of the operation of the river system; Johnston, however, was very confident that these issues could be resolved. He submitted a revised version of the Unified Plan which called for the construction of a dam on the Upper Yarmuk River. The 300 MCM of stored water would generate 150 million kwh of electric energy per year.

In October 1955, it was reported that the Arab technical experts had approved the Revised Plan as revised, which, in its final form very much resembled the Arab Plan. Under the revised plan, Lebanon was to receive 35MCM of water from Hasbani, Syria 132 MCM Jordan of water. As for Israel, except for the above withdrawals and deliveries, the water of the Jordan river would be available for Israel's unconditional use (See Fig. 9).\(^{45}\)

The Ten Year Plan of 1956 was sponsored by Israel. The main intention of this plan was to increase availability of water during a ten year period for its 3 million people. It was based on the Hays-Lowdermilk scheme. Israel's Ten Year Plan aimed at exploitation of 700MCM of waters of Jordan river by Israel through the diversion of Jordan river resources. It would give Israel 56 per cent of the river basin's discharge. The main features of this plan was the diversion of 500MCM of upper Jordan and Tiberias waters out of the watershed to Negev in the south. Initially, Israel had planned to carry out this diversion through a canal Banat Yaccub, near lake Huleh. This scheme, the Tiberias-Negev Project, Consists of a conduit 65 miles long with intermediate reservoir and pumping and booster stations.\(^{46}\)

In the early 1960's tension mounted when Israel started construction of its National water carrier to bring water from the Lake Kinneret in the south to the west of country.\(^{47}\)


\(^{45}\) Ibid.

\(^{46}\) Edward Rizk, *op.cit.*, p.28.

FIGURE 9
Source: Samir N Saliba, The Jordan River Dispute, 1968
This unilateral action alarmed the Arab States and they decided counter the Israeli attempts to divert the river waters.

In November 1960, the Technical Committee of the Arab League decided the following: (i) East Ghor canal would be completed and the Yarmuk water would also be stored in the river valley. (ii) Diversion of the Baniyas river by canal for irrigation lands of Syria lying to the west, south of the river as far as the Yarmuk.48

An Arab Summit meeting was held in Cairo in 1964 in order to coordinate a policy aimed at counteracting Israel's action of diverting the water of Jordan River for irrigation. The Jordan river's headwaters originate in Lebanon from the Wazzani and Hasbani rivers.49 Members of the Arab Summit, therefore, recommended that these waters be diverted to Jordan and Syria while a United Arab Command be established along the Lebanese-Israeli frontier for the purpose of guarding against any Israeli attack. In this Arab Summit, the Kings and Heads of State of the Arab States adopted measures designed to safeguard Arab rights threatened by the Israeli Project.50 (See Fig. 10)

After a second Summit Conference the Arab States finally decided to divert the sources of the Jordan River. This was to be done by the two storage dams on the main tributary of Jordan, the Yarmuk which originates in Syria. This would divert waters into Syria and Jordan, thus preventing Israel a lower riparian state, from receiving any of the Yarmuk waters.51 Work began on the Arab League's plan and Lebanon decided to proceed with its share of the scheme while at the same time declining to invite forces from other Arab countries to help defend Southern Lebanon from Israel attacks.

The June 1967 Arab-Israeli War, caused in large measure by tension arising from the water crisis, put a sudden and final end to the Arab League's diversion plan. In a period of six days the amount of territory controlled by the Jewish State tripled. The Golan Heights,

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50. Ibid
FIGURE - 10

Source : Samir N Saliba, The Jordan River Dispute, 1968
the balance of Mandatory Palestine and the Sinai Peninsula all the come under Israeli occupation. With the seizure of Baniyas stream by Israel in 1967 the water crises itself lost much of its urgency.

2. ISRAELI ATTEMPTS TO ACQUIRE THE LITANI WATERS

The largest river in Lebanon, the Litani (100 miles), originates from the ruins of a Baalbek close to Lebanese border with Syria and flows southward through the broad Bekaa Valley. Near the frontier with Israel, the water drops to enter a deep Canyon, turn west and cuts through the Southern coastal mountain range and then joining into the Mediterranean Sea near historic Tyre. 52

The Modern Lebanese State came into existence in 1920. Before 1920, the Lebanese State was geographically a much smaller entity comprising only the mountaineous region. Mountain Lebanon was traditionally the home of Maronite Christians. Besides the Maronites, Mount Lebanon was also the home of Druze, a religious sect of Islam. In the early sixteenth century the Ottomans captured Mount Lebanon and Syria from the Mamluks. With the defeat of the Ottoman Empire in First World War, Syria and Lebanon came under the control of France.53

Israel has shown interest in the Litani since the time of Theodor Herzl. His diaries reveal that in 1897 the German Chancellor Prince Hohenlohe had asked him whether the Zionists wanted the territory of their State to extend "as far north as Beirut or even beyond that.54

During the First World War, the Zionist Organisation began to draw up firm plans for the establishment of Jewish national home in Palestine. On 19th September 1918, the allies established the Occupied Enemy Territorial Administrations (OETA) in order to provide military Government to conquered Ottoman territories in the eastern Mediterranean coastal region.55

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In February 1919 the World Zionist Organisation (WZO) placed before the Supreme Council at the Paris peace talks, a proposal regarding the boundaries of Palestine. The proposed boundary sought to extend the northern frontiers of Palestine up to the foothills of Mt. Hermon. It started from the Mediterranean coast just south of Sidon, running in an easterly direction across the Litani river and included the whole of the Jordan catchment area up to its northern most source in Rashayya before turning south towards Golan Heights (See Fig.-1). The Zionist proposal was opposed by France which insisted upon the original Sykes-Picot line. The WZO then launched a vigorous campaign aimed at persuading the French to give up Litani but it did not succeed. In 1919, Great Britain put forth the Deauville proposal, which recommended a boundary following the Litani (Qasimiyya) River from the coast, that continues eastward and encompasses the village of Baniyas. According to British statesmen this was the ancient Dan. The Deauville proposal was rejected in February 1920 by the French and Litani remained inside Lebanon. In the same year, British Prime Minister met Secretary General of the French Foreign Ministry Berthelot, who said that "all Jews" were unanimously agreed that the sources of the Hermon and the headwaters of the Jordan played vital role in the existence of Palestine. Berthelot replied, Lloyd George recalled in his memories of the Peace Conference, that the snows of Hermon "dominated the town of Damascus" and could not be excluded from Syria nor could the waters of the Litani. In June 1920, an agreement was proposed by France, which recommended a line that would leave the coast at Ra'san Naqurah, a few miles north of the the Sykes Picot/OETA line, proceed eastward and then turned sharply north, so as to include within Palestine a vertical strip of territory containing the northmost Jewish settlement (Metulla) and the Hula Valley.

Weizmann, tried to convince General Gourud, the French High Commission in Beirut, of the importance of the waters of the Litani to Palestine but could not arouse any interest.

56. For the Text The Zionist Proposal to the Paris Peace Conference, See Bannet Litvinoff, ed; The Essential Chaim Weizmann: The Man, the Statesman, the Scientist (London: 1982), pp.77-78.
57. Leslie Farmer, op. cit., p.18.
THE "OFFICIAL ZIONIST BOUNDARY PROPOSAL

Figure: 11
Source: Frederic C. Hoff, Galilee Divided: The Israel Lebanon Frontier, 1985
Finally the agreement between Britain and France was reached in December 1920. From the Zionist perspective the implications of Palestine's northern frontiers were quite serious. In the north the country was deprived of almost all important water resources which the Zionist leaders considered vital for the power and irrigation plans they had in mind. More important, by failing to approximate natural geographic boundaries, the borders left the country all but indefensible militarily.  

The boundary agreement of 1920 cut sharply into the most optimistic Zionist estimates of the amount of water available to support extensive Jewish agricultural colonization in Palestine. Zionist planners wanted to divert part of the flow of Litani River eastward into the Hasbani River, where the Litani would flow into the Jordan Valley and eventually be piped overland to the Negev desert. In 1921, in the book of Jewish Foundation Fund, Karen Hayesod recorded, pessimistically, "it is, of course much to be regretted that we must abandon for the present all plans concerning the Litani".  

In 1923, the British and French agreed on the final boundary lines, to the great disappointment of the Zionist leaders. They had hoped to retain the Litani, the Upper Jordan, Mount Hermon and the Hauran in Syria. They attempted, nevertheless, to achieve changes in the boundaries by settling immigrants in Syria and Lebanon; a move violently opposed by the French. The Anglo-French boundary agreement of 1923 was approved by the League of Nations in 1934. And after that the Zionist leaders gradually lost hope of ever achieving a change in the frontier line.  

In 1943 the Zionist received a small measure of encouragement when some Maronite leaders appeared to be willing to share the water of the Litani for the agricultural development of the Jewish colony. The Lebanese engineering firm of Alfred Naccache and Jewish engineers of the Palestine Water Cooperative conducted a joint study which concluded that Lebanon could usefully exploit only one seventh of Litani's flow.  

The study approved, therefore, that most of the water be diverted from a point

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65. Ra'anan, *op. cit.,* p.139.
where the river takes a westward bend through a tunnel into Palestine. In exchange for water Lebanon would receive all or part of the power produced by the water drop from the mountains to the Jordan Valley. The study heartened the Zionists, whose dreams of Negev development could not be fully realized without the Litani waters.66

In 1944, the Jewish Agency utilized the services of Walter Clay Lowdermilk, who was the Assistant Chief of the United States Soil Conservation Service, and later the Head of the Department of Agricultural Engineering at Technion, the Israeli Institute of Technology. After three months of field studies in Palestine and Transjordan he proposed a Jordan Valley Authority (JVA) on the lines of the Tennessee Valley Authority (TVA). The details of JVA were developed by James Hays, Chief engineer of TVA. Lowdermilk noted the possibility of tapping the Litani and diverting some of the water to the Palestine coast and Negev.67

These schemes however, lost relevance because of establishment of the State of Israel in May 1948. The establishment of Israel immediately sparked off the first Arab-Israeli War Lebanon along with Egypt, Syria, Jordan and Iraq participated in this war. The Israeli Army occupied Southern Lebanon up to the point where the Litani takes a westward bend. When negotiation for a General Armistice Agreement (GAA) started, Israel tried to couple it withdrawal from Lebanese territory with guaranteed access to the waters of the Litani.68 The Lebanese Government, however, refused to give any concessions and several weeks of stalemate followed. It was only after Israel was finally made to withdraw completely in March 1949 that a GAA was signed between the two. Immediately, thereafter, the Lebanese Government begun preparing a proposal for the Litani Project which had triple objective (i) sending the potable Litani water to Beirut (ii) utilizing the water for irrigating the Biqa and South Lebanon (iii) utilizing the water flow for the generation of hydroelectric power.69

Irrigation the Negev was a venerable Zionist dream and although its failure to acquire the waters of the Litani had wrecked plans for large-scale desert irrigation, Israel decided that

66. Dana A. Schmidt, op. cit., p.4.
even a token Jewish agrarian presence in the Negev would be an important symbol of the vitality of the Jewish State. In July 1953 therefore, the Israeli Cabinet approved a plan to draw water from the Jordan river at the banat Yakub bridge for diversion to the Negev. Work on the canal began in September 1953 but as the diversion point was located in a demilitarized zone created by the 1949 Israeli-Syrian Armistice Agreement, Syria immediately protested. The Syrian position was upheld by both the UN and the US. American pressure ultimately forced Israel to suspend work on the project the following month. In October 1953 President Eisenhower despatched Eric Johnston to the region to undertake the joint development of the Jordan Valley. Johnston carried with him a Charles T. Main which called for a dam and reservoir to be built in Lebanon on the Hasbani river. The omission of the Litani angered Israelis, In response to the Main plan they came up with the cotton plan designed by an American engineer John S. Cotton. The Cotton Plan tied the Litani to a regional development scheme and estimated that the surplus water not needed for irrigation in Lebanon (amounted to nearly 50 per cent or 400 MCM of the Litani’s water) be diverted to Israel from a point near Marjuyun. This diversion was to take place through a tunnel at a point seven miles from the Israeli border where the Litani makes a sharp westward turn towards the Mediterranean Sea. The Cotton Plan gave sufficient water for all of irrigable land of Lebanon. Lebanon would receive per annum 450.7 MCM water to irrigate, 35,425 ha (350,000 dunams). However, a report prepared by a group of US Bureau of reclamation experts working for the Foreign Operation Administration was of the opinion that Lebanon did use about 80 percent of the Litani waters.

Israel's attempts to bring the Litani into a regional water development scheme could not find favour with the Americans. As Brecher states, "while a strong case could be made on technical and geo-economic grounds, Israel's legal claim was non-existent; the Litani was a wholly national river of an enemy State." James Hudson points out that, since Israel has no real share of the Litani basin, it has no claim under international law to any Litani waters.

Israel stood better chance of eventually obtaining some Litani water if an acceptable

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arrangement was first made and executed with the Arab States for Jordan river. In any case
the water sharing negotiations initiated by the US in the 1950's itself failed amidst proposals
and counter proposals and in October the Arab League decided against signing an agreement
might deal the case of Litani later on.\textsuperscript{73}

Israel remained determined, with or without Arab co-operation, to divert a part of
the Jordan river water for irrigation. Consequently in 1956, a national Water carrier Project
for irrigating the Negev was approved and work begun in 1958.\textsuperscript{74} The construction of Litani
Project started in 1957. The major features of this Project were: (i) Hydroelectric production
and simultaneous irrigation of parts of the southern Bq'a, irrigation of some agricultural lands
in the upper Galilean region and some part of the Sidon-Beirut coastal region. On 30 January,
1961, a plan was adopted by the Political Committee of the Arab League which was designed
to defeat the Israeli National Water Carrier Project. Though Lebanon was a party to the
Arab League plan, Beirut's political leaders felt uncomfortable with the plan as it would
drawn Lebanon into direct confrontation with the Jewish State.\textsuperscript{75} (See Fig. 12)

In the 1960's a dam was built a lake Qaraoun with a 200 MCM capacity. A mountain
tunnel was built from the lake to carry the Litani waters, four miles south to a hydroelectric
power station at Markabi. Two other hydroelectric power stations Awali and Joun were
built from there westward before joining with Awali which flows into the Mediterranean Sea
just north of Sidon.\textsuperscript{76} Lebanon had proposed one more dam to be built at Maifadoun, where
the water could be stored and distributed for irrigation purposes. But this plan was never
carried out.\textsuperscript{77}

In January 1964 the Arab League adopted a plan designed to defeat the Israeli
intention of diverting the waters of the Jordan. The Arab Plan amounted to an attempt to
reroute the headwaters of the Jordan-Hasbani and Baniyas away from Israel. The Hasbani
was to be diverted partially into the Lower Litani with a smaller quantity going eastwards

\textsuperscript{73} Michael Brecher, \textit{Decisions in Israel’s Foreign Policy} (New Haven, C.T: Yale University Press,
\textsuperscript{74} Don Peretz, "Development of the Jordan Valley Water," \textit{Middle Eastern Journal}, op. cit.,
p.406 and see also Kahhaleh, \textit{op. cit.}, p.30.
\textsuperscript{75} James Hudson, \textit{op. cit.}, p.13.
\textsuperscript{76} Giles Trendle, \textit{op. cit.}, p.18.
\textsuperscript{77} Ibid., pp.18-19.
Figure 12

Source: James Hudson, The Litani River of Lebanon, Middle East Journal vol. 25, 1971
into Syria's Baniyas river. The Baniyas in turn was to be connected to the Yarmuk river, a tributary of the Jordan.\textsuperscript{78} Israel, quite expectedly was severely critical of the Arab league decision. Nothing that the Arab League had earmarked part of the flow of the Hasbani for irrigating Southern Lebanon Israel argued that:

"All irrigation plans for Southern Lebanon have turned in the first instance, on utilizing the river Litani with its annual flow of 850 MCM of which to this day, most runs to waste into the Mediterranean. Now a good deal of this flow of the Upper Hasbani is to be wasted as well. Lebanon has sufficient water for irrigation, arable land, not water has always been the factor limiting the development of Lebanese agriculture".\textsuperscript{79}

Work began on the Arab League's plan and Lebanon decided to proceed with its share of the scheme while at the same time declining to invite forces from other Arab countries to help defend Southern Lebanon from Israeli attacks. Feelings once again ran high in the Arab world as tension mounted between the frontline Arab States and Israel. The June 1967 Arab-Israeli War, put a sudden and final end to the Arab League's diversion plan.

The First Phase of the Litani project was completed before the beginning of June 1967 Arab-Israeli War. With its completion the assumption on which the Cotton Plan and previous Zionist plans for using the Litani had been based were dramatically changed. Although Israel wanted to get 400 MCM of water from the Litani river, after the construction of the Qirwan dam only 100 MCM water was left for the Lower Litani.

The history of Litani thus revolves around three issues: (i) Continuing Zionist interest towards South Lebanon's most significant water resource the Litani River; (ii) independent Lebanon has performed a role in Arab efforts to divert the headwaters of the Jordan River away from Israel's Hula Valley; (iii) the climax of water tension before and during the June 1967 Arab-Israeli War. After the 1967 War, Moshe Dayan, defence Minister proclaimed that: "Now Israeli borders are all geographically natural except the northern border with

\textsuperscript{78} Kahhaleh, \textit{op. cit.}, p. 31.

Lebanon" This theme was repeated again and again throughout the 1970's. On December 3, 1976, the Israeli daily Hatsoufeh pointed out, "The natural and historic border between the land of Israel and Lebanon is the Litani River, for the Jabeel mountains extend naturally with the three mountains to the Litani River." 80

In April 1972, the Lebanese Minister of Hydroelectric Resources asked a U.S. delegation to finance a Litani scheme to irrigate 23,000ha. (227,240 dunams) of southern Beqaa Valley and provide a new water network for Beirut. In October, 1974, the President of the Council of the Administration of National office of the Litani concluded an agreement in principle with the World Bank to provide 60 per cent of the $ 130 million cost of the ten year project. 81

3. HISTORY OF THE EUPHRATES - TIGRIS BASIN

The Euphrates and Tigris rivers have long been the focus of development and planning in the lands through which they flow. These are old multinational rivers and the Euphrates - Tigris basin is located in three countries- Turkey, Syria and Iraq. These have flourished since 4000 B.C. Several ancient civilizations of Mesopotamia developed and flourished in the basin formed by these two rivers. 82 Some of these are also mentioned in the Bible. It is believed that the land between these two rivers is one of the oldest, continuously inhabited regions of the world. The earliest recorded settlement goes back to 6000 B.C. This region is therefore, rightly known as Cradle of Civilization. 83 Mount Ararat in Turkey is the source of origin of these rivers. Both these gaint rivers originate in South-East Turkey, then flow through Syria and northern Iraq to the rich delta land, where they join to empty into the Persian Gulf. 84 These rivers were extensively used for irrigation during the ancient period, as a result of which the effect of over irrigation was apparent, during the medieval period.

As Egypt is considered to be the Gift of Nile so is Mesopotamia considered to be

84. Naff and Maston, op.cit., p.92.
the Gift of Tigris and Euphrates. Mesopotamia is a Greek words meaning "A Land Between two Rivers". Since the ancient times this part of the world has been referred to as the 'Fertile Crescent'. Since early times, the waters of these rivers have been used in the development of agriculture. A canal system existed which although simple, was highly effective for agricultural as well as domestic use. A number of canals were constructed on both sides of the river, southward from Tikrit. Five canals supplied water from the Euphrates to the Tigris in the region of Baghdad and Babylon.

In brief, the extensive irrigation system is largely responsible for the prosperity of the famous Mesopotamian Civilization. The ancient Babylonian Civilization gained its wealth from the fertile lands and invested this in constructing vast irrigation works, which further enhanced productivity giving it the title of the 'Granary of World'.

The major invasions of Mangols in the thirteenth and fourteenth centuries as well as Turkish vanquishments in 1638, destroyed the irrigation works and with its prosperity of the country. During the Ottman empire attempts were made by the Sultan’s representative in Baghdad to revive the ancient irrigation network. However, these efforts could not succeed, because of the lack of resources, as well as a strong administration. Sir William Willocks, advisor to the Ottoman Ministry of Public works, submitted a scheme for the irrigation of 3.5 million acres at a total capital cost of 26 million pounds in 1909.

The riparian states-Turkey, Syria and Iraq have all formulated plans and implemented projects beginning in the early decades of this century to achieve flood control on the Euphrates and to use its water for hydro-electric power generation and large scale irrigation (See Fig. 13).

In 1911, the first part of the scheme, the Hindiyia barrage, was taken up by the British firm of Sir John Jaikson Ltd. In 1913 a barrage was formally constructed at Hindiyia on the Euphrates. The major aims of this barrage were: the diversion of water from the Euphrates into a canal as well as increment in the general water level of the Euphrates and the provision of irrigation in the Karbla region. It was a diversion barrage which affected five

85. Bahiya Lovejoy, op.cit.
86. Ibid.
FIGURE - 13

Euphrates - Tigris Basin with Major Water Projects

Source: Middle East Research Institute
canals and provided water to the upstream riparian states.\textsuperscript{89}

In the 1950's a second barrage was built at ar-Ramadi. The main aim of this barrage was the diversion of Euphrates flood waters into Lake Habbaniyah and the Abu Dibbis depressions to avert the danger of flood in the Euphrates. These natural depressions are located on the right side of the river. These depression have proved to be very functional. They are used for storage of water purposes. Simultaneously canals were dug to return water from the reservoir back to the river during the low flood seasons. The second reservoir is connected with the Habbaniyah reservoir by a channel and is for flood control only. The total capacity of Habbaniyah is about 3,000 MCM, of which 2,500 MCM is left for storage. Evaporation is the only source to release water from Abu Dibbis as it has no outlet. It holds as much as 24,000 MCM, when it is full.\textsuperscript{90}

This barrage was constructed in 1955-56, since then, whenever the water level is very high it has been possible to divert 88,300 MCMY of water in the direction of Lake Habbaniyah along a canal on the right side of Euphrates, 3 kilometres from Ramadi town at the Warrar Stream. The length of this canal is 8.5 kilometres and it is 210 metres wide. In addition, another canal leads to the Abu-Dibbis reservoir, a depression west of Karbla town. This depression is used only to receive surplus water from Habbaniyah during the flood season.\textsuperscript{91}

In this way, the importance of the Tigris in relation to the Euphrates cannot be overlooked. In Baghdad, both the rivers flow in distinct and well defined valleys. At Baghdad they come closest, flowing at a distance of 40 kilometres, only from each other. They get separated again below Baghdad, though the Valley Walls disappear. Because of greater volume, the largest flood control scheme of Iraq is located on the Tigris.

Tharthar barrage, similar to the Ramadi, was completed in 1955-56 at Samara on the Tigris. It was capable of diverting 28,382 MCMY of water in the direction of the depression of Wadi. Tharthar is also a natural depression and it has storage capacity of 72,840 MCM. For the first time in its history, Iraq was protected from the catastrophe of regular floods by


\textsuperscript{90} Naff and Maston, \textit{op. cit.}, p.89 and see also S. Malik Al Ali, \textit{op. cit.}, p.125-139.

\textsuperscript{91} Ibid.
the completion of these two projects. It had been hoped that stored water from these two
projects might be used for irrigation during the summer months. But it was discovered that
very large evaporation losses, coupled together with the dissolution of salts from the soils of
the depression, seriously diminished water quality and rendered it unsuitable for irrigation
purposes. In conjunction with the barrage on the main stream themselves, two major dams
were constructed on the tributaries of Tigris. The Dukhan dam was completed in 1959 on
the Lesser Zab river. The total capacity of the reservoir is 6,300 MCMY while further south,
the Darbandi Khan dam was opened in 1961 on the Diyala river with the storage capacity of
3,250 MCM.

In 1957 Damascus signed an agreement with the Soviet Union to carry out survey
and research work on the river. The Soviet Union submitted its reported at the end of 1960,
proposing to build a 75m. dam on the Euphrates at Tabqa with an electricity generating
capacity of 800,000 kw and the potential to irrigate upto 850,000ha (8,398,000 dunams) of
farm land.92

During the 1960's Turkey, Syria and l::n started discussing plans for the development of
the Euphrates and the diversion of its waters.93 The Syrian government accorded high priority
to the development projects on the Euphrates river setup various organization to work in this
direction. During the same period, a Five year plan was drawn up which gave special emphasis
on the development of water resources. This plan was put forth by Syria for the expansion of
irrigated areas on Khabur, Sajur and Balikh rivers, in the Hassaka region. Syria has been
using the Asi river from 1961 for irrigation in Ghab Valley. The Rustam (250MCM) and
Hilfaya Mehardeh (65MCM) dams provide water to generate electricity for the cities of
Homs and Hama.94

In 1961 First General Organization of the Euphrates dam was setup in Syria. This
was followed by the establishment of Higher Authority for the Euphrates projects directly
under the Prime Minister. In 1968 the General Administration was established for the development
of Euphrates basin.95

The Ziezoun and Kastoun dams having a total storage capacity of 98MCMY, regulate the erratic flow of the Asi. This reduces the flow into Turkey to 25MCMY. The Asi river originates in Lebanon and it flows though Syria into the Hatay province of Turkey.

Under the 1972 Syrian-Labanese agreement, Lebanon was allotted 80MCM of Asia waters. The Asi river is used to irrigate approximately 230,000 ha (2,272,400 dunams) and Yarmuk is used to irrigate around 27,000ha (266,760 dunams) in Syria and Lebanon have been discussing the feasibility of joint development projects on the Asi. During the early 1970's differences arose over sharing the Euphrates water among the riparian states. As both Syria and Iraq were close allies of the Soviet Union, Moscow Intervened to work out a solution for the equitable distribution of Euphrates waters. It assisted both Syria and Iraq with funds as well as technical expertise to carry out development projects on the river. Ten years after it had first harnessed the waters of the Euphrates, the Damascus government began contemplating building a second dam on the river. This dam, known as the Euphrates dam is the second largest dam in this region to be built with Soviet assistance. The dam was completed in 1973. The basic structure of dam is as follows : It is 4.5 kilometers long and 60 meters high. The base is 512 meters wide. Also the Tabqa dam built by Syria in 1973 for multipurpose use became operational in 1974. The total capacity of the reservoir is about 1,250 MCM and the live storage is about 750MCM. Estimates available prior to completion of the dam suggested that Syria extracted 3,000 MCMY from the Euphrates for local irrigation and domestic use whereas the irrigated land in the basin varied from 200,000 ha (1,976,000 dunams) to 500,000ha (4,940,000 dunams). Syrian officials estimated that the dam would increase the irrigated area to 600,00-650,000ha (5,928,000 dunams - 6,422,000 dunams).

Results to date, however have been disappointing. In this light, the Syrian government was also concerned with controlling the amount of water used for domestic consumption. Since the Euphrates dam of Syria was nearing completion, Turkey started construction of a series of three multipurpose dams, downstream from Keban. In 1974, the Keban was completed on the Euphrates river. The main purpose of this dam was power production, with reservoir

96. Natasha Beschornor, op. cit.
capacity of 1,650 MCM of which 360 MCM is left for storage.\textsuperscript{99}

In the late 1970's Turkey followed Syria's lead in trying to exploit the Euphrates for irrigation and hydroelectricity. Turkey is also building three additional dams below the Keban. The dam at Karbaba, renamed the Ataturk dam, is intended to supply irrigation water for 300,000ha (2,964,000 dunams) in Urfa, Hassan and Lower Mardin plains and to an additional 400,000ha (3,952,000 dunams) in the Severek-Hilian, Upper Martin and Nusaybin Cizre areas. The total storage capacity of Ataturk dam is 48,700 MCM, an installed electricity generating capacity of 2,400 million KWh and target of 27,000 million KWh per year. The other, the Karakaya and the Golkay are designed to generate hydropower for the region.\textsuperscript{100}

The water project of Turkey are motivated by a quest for cheaper, domestically produced energy. Turkey imports 50 per cent of its annual energy requirements and 25 per cent of electricity production depends on imported fuel. The most important Turkish project, South East Anatolia Project (GAP) plans to harness the waters of Tigris and the Euphrates rivers for HEP generation and irrigation purposes. The hydropolitical implication of GAP appear to pose a threat to regional stability. The building of the Ataturk dam was widely portrayed as a belligerent act in the Arab media but the GAP puts the economic and technical aspect in perspectives. It proposes to develop agriculture and agro-industrial production for export and to raise the standard of living of the Kurdish people in the region. The first stage of GAP consists of 13 projects of which seven on the Euphrates and six on the Tigris.\textsuperscript{101}

The Haditha dam was completed in 1985 on the Euphrates with a total storage capacity 6400 MCM to irrigate 1 million ha. The water of Tigris are used to irrigate 2.2 m. ha. mainly using the Mosul dam (10,700 MCM). The Tishreen dam was completed in 1991, with a total storage capacity of 1900 MCMY an installed hydroelectric power generation capacity of 63 MW in a year.\textsuperscript{102}

CONCLUSION

Conflict over water resources in the arid parts of West Asia came into existence in the

\textsuperscript{99} Naff and Maston, \textit{op. cit.}, pp.90-91.
\textsuperscript{100} Natasha Beschomer, \textit{op.cit.}, pp.30-31.
\textsuperscript{101} Ibid.
\textsuperscript{102} Ibid., pp.35-35
early decades of this century. The Jordan river was one of the source of the first rivers in this region which witnessed sharp disagreements over the sharing if its waters. The influx of Jews into Palestine and the move towards creation of Jewish State was the principal reason for this bitter controversy. As large part of the proposed Jewish State was covered by the Negev desert, the development of the Negev was a critical factor as far as assembling further Jewish immigrants were concerned. The Jewish leadership was therefore keen to acquire as much water resources as possible. Several plans for the development of the Jordan river were put forward by the Jewish Agency from 1913 to 1948 which aimed at obtaining the water of the Jewish. Some of the important plans of this persons were Franghia plan (1913), Mavromaties (1922), Ionides Survey (1939), Lowdermilk (1944) Hays-Savage plan (1948). However, none of this plans could be implemented due to tremendous opposition from the Arabs.

The creation of Israel in 1948 immediately led to the First Arab-Israeli War. In the wars aftermath, there was absolutely no possibility of due of the Jordan basin on a cooperative basis. Hence the Isarels started is implementing unilateral measures aimed at controlling as much water of the Jordan as possible. Predicably Israel’s policy has generated a lot of tension as the riparians states have opposed Israel’s attempts to control the water of the Jordan river. The water of the Litani a wholly national river in Lebanon too have been a sources of attraction for the Jewish State.

In February 1919 the World Zionist Organisation (WZO) placed before the Supreme Council at the Paris Peace talks, a proposal concerning the boundaries of Palestine. It started from the Mediterranean coast just south of Sidon, running in easterly direction across the Litani river and included whole of the catchment area upto it northern most source in Rashayya before turning south towards Golan Heights. The Zionist proposal was opposed by France and the boundary between Israel and Lebanon was demarcated in a way that the Litani remained with in Lebanon. The joint study approved in 1943 therefore, that most of the water be diverted from a point where the river takes a westward bent through a tunnel into Palestine. In exchange for water Lebanon would receive all or part of
the power produced by the water drop from the mountains to the Jordan Valley. The study heartened the Zionist, whose dream of Negev development could not be fully realized without the Litani waters. In 1944, W.C. Lowdermilk proposed a Jordan Valley Authority (JVA) on the lines of the Tennessee Valley Authority (TVA). The details of JVA were developed by James Hays, Chief engineer of TVA. Lowdermilk noted the possibility of tapping the Litani and diverting some of the water to the Palestine coast and Negev. Soon, these scheme however, lost relevance because of establishment of the state of Israel in May 1948. The establishment of Israel immediately sparked off the First Arab Israeli War. The Israeli army occupied southern Lebanon up to the point where the Litani takes a West ward bent, when negotiation for a General Armistice started, Israel tried to link its withdrawal form Lebanese territory with guaranteed access to the waters of the Litani.

It was only in the late 1970's that Israel could manage to obtain a foothold on the Litani when it occupied a portion of Southern Lebanon. With the second Israeli invasion of Lebanon in the early 1980’s, this occupation was further, expanded and consolidated. Israel carried out extensive hydrological and technical studies, aimed at diverting part of the Litani’s water into northern Israel.

The Euphrates and Tigris are the major rivers in the Euphrates-Tigris basin. The Euphrates flows through Turkey, Syria and Iraq. The Euphrates and Tigris rivers have been a source of livelihood since 4000 B.C. In this basin various old civilization have developed and thrived. The region is called as the “cradle of civilization”. The Mesopotamian and Babylonian civilizations have flourished in the region. From the beginning of this century, the sharing states of Euphrates-Tigris drainage basin have all formulated plans and implemented projects to regulate the flood waters of Euphrates as well as utilize its water for multipurpose projects. In 1913 a Hindiyia barrage was constructed on the Euphrates to divert water of Euphrates into a canal, and increment in the general water level of the Euphrates. In the 1950’s a second barrage was made at ar-Ramadi. Its main purpose was the diversion of Euphrates flood water into Lake Habbaniyah and the Abu Dibbis natural reservoirs to avert the danger of flood. The Euphrates dam was completed in 1973 with the Soviet help and cooperation. Turkey started work on a series of multipurpose dams. The Kebeban dam was constructed in 1974 on the Euphrates river with a total capacity of 1,650 MCM, of which 360 MCM is left for storage. The dam at Karababa, renamed the Ataturk dam, is intended
to supply irrigation water for 3000,000 ha (2,964,000 dunams) in the Severck-Hilian Upper Martin and Nusaybin Cizre areas. The total capacity of Ataturk dam is 48,700 MCM.

Several dams and barrages have also been constructed on the Tigris river. In Baghdad, both rivers flow in distinct and well defined valleys at a distance of 40km from each other. Tharthar barrage, similar to the Ramadi, was built in 1955-56 at Sammara on the Tigris. It has capacity of diverting 28,382 MCMY of water in the direction of the depression of wadi and its storage capacity is 72,840 MCMY. The Dukhan dam was constructed in 1959 on the Lesser Zab river and has total capacity of 6,300 MCMY. Further south, the Darbandi Khan dam was built with in 1961 on the Diyala River with total storage capacity 3,250 MCMY.

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