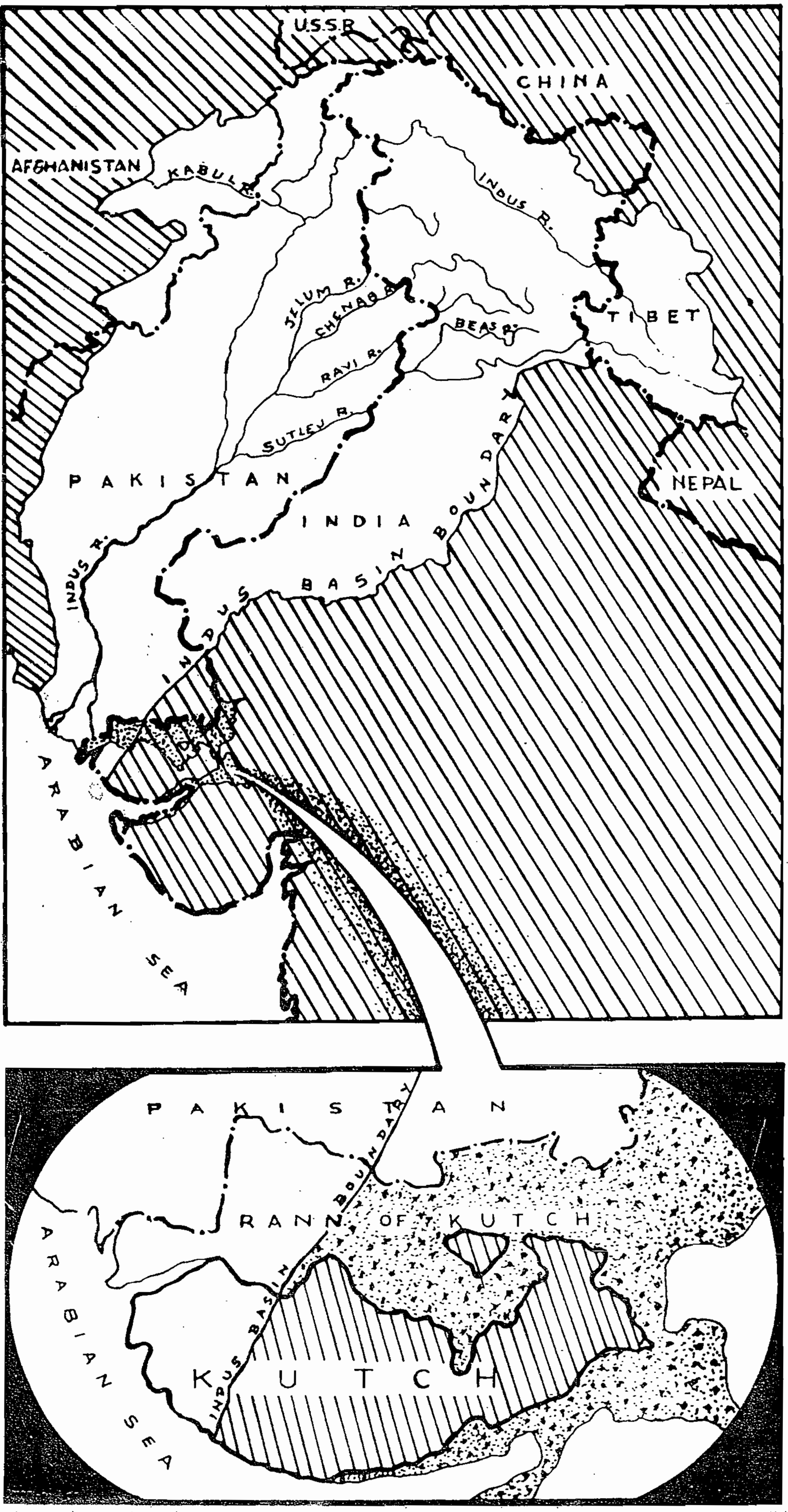
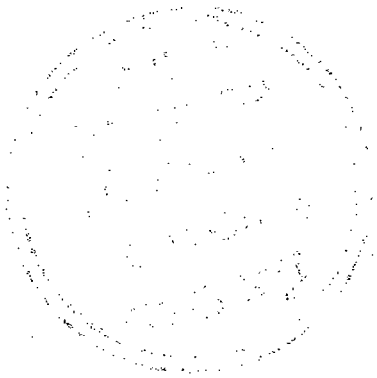
SINDHU WATERS AND KUTCH



Mahesh Thacker
EX. M.L.A. GUJARAT



Dedicated

With profound respects

to

Those stalwarts of

Kutch Public life

Late Shri Bhavanji A. Khimji

Late Shri Bhai Pratap Dialdas

Late Shri Gulabsanker A. Dholakia

Late Shri Kantiprasad C. Antani

Late Shri Lavjibhai L. Thacker

who have given their

energies in trying to

bring Sindhu waters to kutch

&

to Our Thirsty Kutch

and Kutchhees.

FOREWORD

By Shri Kundanlal J. Dholakia
Formar Speaker
Gujarat Legislative Assembly

The author and his creation are interwoven and intermixed For Maheshbhai Thacker, study of subjects viz., Planning, Railways, Roads or Ports of Kutch are parts of his life and the present book is a creation out of it. Sindhu Waters and Kutch is in a way a difficult subject to write and yet the authors have treated this subject with lucidity and felicity of expressions. While outlining the historical background he has given the statistical data on the subject with intense study. He has traced the history giving us the details about the attempts made into the past, to get Indus Waters at different political periods. He has also broached the incidental subjects like Rajasthan Canal. His references to Righveda or some noted books of Gujarat as well as a maps or articles in noted dailies deserve special note. His recommendation prove the depth of his study and intense yearning to get irrigational and drinking waters for this draught prone district Kutch. Surprizedly observing Maheshbhai is not an engineering graduate yet he has proved himself in the contents of this book a practical Engineer with insight.

I have one observation to make. The authors have in the earlier part of this book commented on the then political leadership of Kutch. I record my dissent I know that the authors must have the democratic freedom of expression of their honest views. I should also point out that authors have in the later part of this book acknowledged the efforts of Kutch Political leaders at some other context of time.

Shri Maheshbhai and his co-author Shri Shashikant Thacker deserve appreciation for their lucidity and clarity of expressions comparative grasp, brevity and precision, and last but not the least their approach not agitational but persuasive.

Maheshbhai was my colleague from Kutch in Gujarat Legislative

Assembly from 1975 to 1980. It was a pleasure [redacted] floors of the Assembly giving intelligent effective and invigorating contribution as a legislator on various subjects. To his credit are several books including his own account of his 5 years period work in legeslative assembly. At crucial times he has come out with thoughtful articles. I can say that he is recognized in Kutch and in Kutch circles outside as a public representative with a combination of administrative insight, energy and study.

Study in the book is an asset by itself. I compliment the authors for this book.

Bhuj 8th May 1988

Kundanlal J. Dholakia

INTRODUCTION

It is a great pleasure to me to be invited to write a preface on the "Sindhu waters and Kutch" written by messrs Mahesh Thacker and Shashikant Thacker.

I have been connected with Kutch, its vagaries of rainfall, right from 1930 up to date. I had the privilege of serving in kutch continuously from 1930 to 1961. I had started my service in 1930 in the Irrigation Department first started in kutch under one, Shri S. K. Gurtu, an eminent engineer of all India fame. Actually I was trained under him in the first five years of my carrier from 1930 to 1935. I remember with nostalgic pleasure of having constructed the first and the famous Shinay Dam in the Anjar taluka. Although for several years I was as the head of the Roads & Buildings department. I did hold charge of the irrigation department for some period. Therefore I was in touch with water, rainfall, dams, famines etc. I used to keep exact and systematic details of rainfall, maximum and minimum temperatures all the year round.

The rainfall in kutch has remained very erratic and therefore no reliance we could be kept upon the quantity of rainfall for a particular year. I have observed in kutch that every third year is a lean year and every fifth year is a famine year. The topography and the land of Kutch are such that if 12 inches of rainfall is received in four instalments it will be cent percent year. But this does not happen and we are faced with famines and semi famines.

The booklet contains various chapters as to how attemps were made to get the Indus water in the past to kutch. The writers of the book have taken a lot of pains in collecting useful materials for future guidance. The book contains various exhibits from writings of important persons like the Maharao of Kutch, the then Chief Engineer of Sind, the then Chief Commissioner of Kutch, the Secretary to the Government of India, Ministry of works, Mines and power, New Delhi etc. It was a fact that all the parties had a cooperative attitude but unfortunately no concrete result has been achieved. In 1957 when late Shri S. K. Patil was Minister of Irrigation and Power he had shown his willingness to help in the matter but so far Sindhu waters were merely a mirage.

According to my opinion the State Government with the cooperation of the Central Government should try to bring drinking water through a pipeline to Kutch from the Indus river according to the Indus water treaty. In the same way drinking water should be obtained through a pipleline from Rajshthan from the Indus water canal. It is logical to demand drinking water for Kutch-Saurashtra and North Gujarat as it is technically possible and lawfully proper.

In addition Narmada waters should be obtained through a canal as far as possible so that a large area of agricultural waste land of Kutch can be brought under irrigation. This will also create a large forest area which will improve the ecology of Kutch.

The Authers really desrve Congretulation for Bringing out a very useful and Instructive book "Sindhu Waters and Kutch".

Finally I am pleased that the authors have asked me to write a preface at the age of 82 with 60 years of experience of engineering connected with Kutch.

(P. K. Vora)
B.E. (Civil), F.I.E. (India)
F.I.V. (India)
Superintending Engineer
Government of Gujarat.

6th May'88
Nagar Chakla,
BHUJ-Kutch.

PREFACE :

The problem of potable water for drought prone Kutch is ever burning. The constant increase in such condition has bocame a question of anxiety and discomfort.

Due to paucity of rains we can not rely upon rainy waters or sub soil waters. The only reliable sources are underground water and water from perennial rivers outside Kutch.

Kutch has a limited area for underground water. Out of total 45612 Sq. K.ms. area geohydrolic belt is only about 3000 Sq. K.ms. and the mining of water from this limited area, is unlimited. Again Kutch is in the seismic zone of the world and it has experienced earthquakes of great magnitude affecting social and economical life of Kutch. We cannot over look this fact, so the perennial rivers outside Kutch can be the only source of much needed water.

The Indus River with which culture and civilization of Kutch is closely connected was flowing from Kutch only one and half century ago. The efforts to establish the rights and to bring the waters to Kutch started just before the dawn of Independance. The rights and technical feasibility was accepted but at this juncture the partition of the country took place and the matter stopped there. After, Independance the matter was started and persued and even in Bilingual Bombay State the efforts continued. The Sindhu waters dispute between Pakistan and India was settled in 1960, through the World Bank. In the said treaty, western rivers including Sindhu were outrightly given to Pakistan, with clear saving clause of legal and riperian rights of the basin states area. under the circumstances, I belive the only things to be done is to push up by the enlightened and constructive mass movement.

Thereafter it was decided to extend the Rajasthan Canal upto Kutch but However Rajasthan denied the waters. Alternatively, it was also planned to provide Machhu-2 Dam waters to Kandla Complex by pipe line. It was also denied at the point of Dam completion. To ascertain the maximum possible height of the Narmada Dam, dry Border Areas of Kutch were the Principal Planks of the arguments. And now when the construction of this dam is in the progress, all active and collective efforts are required

to be done to get waters at least as per the recommendation of the Technical Khosla Committee.

To those who believe, that Himalayan waters from Indus river through Pakistan and/or from Rajasthan Canal are out of question. My humble request to them is to recall the say of our late beloved Prime Minister **Pandit Jawaharlal Nehru** on the eve of the formation of the rcorginigation of the states that **"In politics nothing is final"**

The object of writing this booklet is to brush off the dejection and to continue the efforts to tackle the issue with the co-operation of the State and Central Government by way of negotiation and to raise the public opinion over the plight of thirsty Kutch and Kutchees.

For writing the Foreword and Introduction of the Book I am highly grateful to veteran Leader and Former Speaker of Gujarat Legislative Assembly, Shree Kundanlal J. Dholakia and Experienced Technocrat and Retired Superintending Engineer Shri Prabhulalbhai K. Vora who spared their valuable time.

The Aradhana Trust has fully financed by bearing all the expenses of the publication. I am also grateful to the Trust.

I extend my thanks to Miss Savita Shah and her colleagues of Suraj Printery Bhuj for Careful printing. I am thankful to Shri K. N. Vaidya for cartain translation and to Shri Sailendra Choksi for design on cover page of this book.

With sense of setisfaction for discharge of humble duties.

Bhuj dated 14th May 1988

Mahesh Thacker
Ex M.L.A.

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Exhibits :

1-A. Extracts from 'The Geography of Rgvedic India' by Manoharlal Bhargava

1-B. Extracts from Gujarati book 'KHAMBHAT NO AKHAT' by Ratnamanirao Bhimrao Jhote

2. Letter Dated 24-7-43 from C. C. Howes, C. E. Sind, to Maharao Shri Vijayrajji

2-A. Note on possibility of bringing Indus water to to Kutch State by Mr. Howes

3. Letter of April 1950 of the Chief Commissioner of Kutch to the Government of India.

3-A. Note on irrigation in Kutch from Indus.

4. Letter dated 15-12-57 of Bhai Pratap Dialdas to Mr. S. K. Patil

4-A. Detailed note in letter form to Shri S. K. Patil, Central Minister for Irrigation & Power, by Bhai Pratap

5. Note on irrigation in Kutch by G. G. Dhanek, S.E. C.D.O. Bombay

5-A. Note on marking of the alignment of Kandla Navigation cut, by Chief Engineer, Rajasthan canal Project.

5-B. Note 3 of August 1959 of S.E.C.D.O. Bombay.

6. Note dated 7-3-60 by Mr. C. G. Dhanek, S.E.C.D.O. Bombay on release of Surplus water from Gudu Barrage for Kutch.

7. Articals Regarding Indus Waters in Kutchmitra By MAHESH THACKER

REFRENCES

we are hightly obliged by

1 Late Shree Kantiprasadbhai Antani, who had given the copies of correspondence made from 1943 to 1960 for bringing Sindhu waters to Kutch. These are printed as Exhibits 2 to 6 in toto.

2 Shri Kundanlalbhai Dholakia, provided the Report of Narmada water Dispute Tribunal, Vol. I to IV from which the principles and authorities with respect to National and International problems of sharing of river waters as also some aspects of Narmada Dispute have become available.

3 Dr. N. D. Gulhati, in his book **'Indus Water Treaty'** has given a very valuable and extensive information of the stages and discussions leading to the Indus Waters Treaty with a very vivid analysis of the subsequent progress on both sides. This book has provided an authentic information and data on the issue and we have extensively used it in this publication.

4 Shri Kanchanprasad K. Chhaya, made available a book **'Geography of Rgvedic India'** by Mohanlal Bhargava from which we could gather authoritative information of the anicient flow of Sindhu and Sarswati.

5 Shri Bachubhai Antani, gave from Vijayrajji Library a book **'Khambhat no-Akhat'** by Shri Ratnamanirao Jhote which was useful for references on River Sindhu.

6 Shri Niranjan Parmar, Retired Dy. D. D. O. gave a cutting of 'Phulchhab' issue dated 7-10-1933, containing an article on Sindhu water in Saurashtra. This is printed as Exhibit I. He also provided an article 'The land of Kutch and its people A glimpse' by Shri Sarswati Swaminathan.

7 Shri B. B. Maheswari, whose note on 'Reclamation of Khar lands in Kutch' provided a very useful information in respect of Sindhu.

8 Shri K. E. Modhwadiya, made available a very useful article by Dr. Kanwar Sain, published in Journal of Indian water Resources Vol. V, October 1985 issue.

— MAHESH THACKER

— SHASHIKANT THACKER

CHAPTER 1

HISTORICAL FACTS

1 Kutch - Its identity :

1. 1 Kutch by name is a region that is widely known to the people of India (and even the world), for the land occupies a prominent place in the topography of the country. Yet, it is a land of mystery, owing to its geographical segragation-a land surrounded by the salt marshes of the Rann and the waters of the sea, a land whose geographical environs, historical antiquity and nomadic tribes that reside in small settlements are unknown to most of those who live far from the region of Kutch.

1. 2 Kutch has the unique distinction of being a princely state upto 1948, a Part 'C' State of the Independent India upto 1956, and the largest district (in area) within the State of Billingual Bombay upto 1960 and the State of Gujarat thereafter, in the political geography of India. It is a land that has an environment uniquely its own, that has created anethos of a special cultural pattern in the people of this region.

1. 3 Although Kutch is a sector within the State of Gujarat, owing to the geographical isolation imposed on this region, the history of Kutch & its people has not been merged with that of the other sectors of Gujarat.

1. 4 Kutch is bound on the south by the gulf of Kutch, on the West by the Arabian Sea and on the North and East is separated from the mainland by the Rann of Kutch, which may be described as a 'vast salt marsh' covering about 8000 sq. miles.

1. 5 The extreme length of this region is 180 miles and the breadth is 60 miles and with an area of 6500 sq. miles, Kutch intervenes as a narrow strip of land between the desert and the sea. The Rann floods during the monsoons, and Kutch is practically converted into an island.

1. 6 The area of Rann had been the bed and the route of the ancient rivers Sindhu and Sarswati in vedic period and afterwards a navigable lake during the time of Alexander the Great. Due to some natural calamities narrated later, the rivers changed their courses and ultimately the area has been closed off by centuries of silting into an extensive mud flat.

1. 7 The average rainfall in Kutch being 10 to 15 inches, it is singularly

an arid zone and not having any source of perrenial river within reach & suffering from frequent spells of draught, is often striken with famines so that the people residing in this teritory have every now and then, to afce great hardships and resort to migration to other areas i.e. to Sind Province before Independence and to Gujarat areas thereafter. Hardly a century ago, when a distributory of Indus flew through this territory, Kutch was a fertile land, rich in the cultivation of all kinds of crops, even the cultivation of rice for which its North-Western districts were well known.

1. 8 The terrain of mainland of Kutch is hilly. There are two ridges of hills running throughout its length. The word 'Kutch' is derived from a word meaning 'tortoise' because of similarity in their shape. Therefore the reasonal nallas starting from the ranges of its hills, flow either southward into the gulf of Kutch or towards the North into the Great Rann. The silt brought down into the Rann by these nalls throughout the ages have reclaimed along the northern edge of the mainland of Kutch, a large area known as 'Banni'. This tract covers an area of about 6 lakhs of acres and is very rich in its soil. It was a portion of this tract when fed by the fresh waters of the distributories of River Indus or Sindhu, produced even rice. To-day denied that water, it is lying barren and is used as good grazing ground during good monsoons for the rich cattle wealth of Kutch.

2 Connection with Sind.

2. 1 The history of Kutch can be traced to the Harappan (of the Indus Valley civilisation) period. The Harappans seem to have, chosen suitable ecological sites where adequate resources were available for agricultural and animal husbandry. Climatic conditions helped to grow grass to feed the cattle. Kutch had further advantage of being directly connected to Sind by land route. In Gujarat only Kutch and Saurashtra were occupied by the Harappans. Kutch being geographically closer to the nucleus Harappan region, had strong ties with Sind rather than Saurashtra. The main site of Harappan civilization is in the habitation of Surkotoda hear Adesar in Kutch. The other site is located near Guntali in Nakhatrana Taluka. Kotadi near Dholavira in Khadir & Kotaran near Juni Kuran are also the sites explored.

2. 2 Fortification around the citadel and the residential areas at Surkotada and some other sites, indicate the strategic position of Kutch as it was

the route of migrations and invasions from Sind. One of the inferences is that Harappans may have preferred the land route from Sind, and having entered at Kotarah reached Kotadi and then Surkotda and other sites in Kutch. In the subsequent centuries too, the greater portion of the inhabitants of Kutch seem to have come from Sind and Marwar.

2. 3 Thus Kutch is a land of immigrants and is peopled by most heterogeneous races. It is also a region within which a large number of Hindu as well as Muslim communities live in harmony, for often, they share a a common genealogy. For instance, several of immigrants from Sind haev become Muslims but still indicate their Rajput origin in their family names. Many of the inhabitants of Kutch have been the Rajputs of Samma tribe. The Jadejas also are decendants of Mod and Manai who flew from Sind to Kutch.

2. 4 The Lohanas of Kutch migrated from Sind to Kutch in the thirteenth Century. Bhats and the Charams also came to Kutch from Rajasthan.

2. 5 These and many others are the peole of Kutch. Their cultural traditions have been preserved down the centuries by each of the tribes as have been brought to Kutch from another region by the immigrant tribes. The people of Kutch have the wander lust in them as they have been nomadic races. Even in the present times, they travel in large numbers to distant lands, seeking wider horizons.

2. 6 Untill recently, i.e. before Independence, the people of Kutch and Sind migrated to and fro temporarily as and when the circumstances demanded. Most of the Sodha people of Sind had their social connections in Kutch and many of the Muslims had their relatives in Sind. In the years of scarcity and famine, people from border areas of Kutch migrated with their cattle to Sind and after the good rains returned to their land. This was a natural and regular phenomenon in those days.

2. 7 The colloquial language of Kutch, as it is known to-day, has much similarity with the language of Sind i.e. Sindhi, After Independence also most of Sindhi migrants have preferred to settle in Kutch where a special township of Gandhidham had been developed by the Government of India.

2. 8 Kutch and its people are thus interconnected with the Sind region

since ancient period to the present times and the Indus Valley civilisation had evidently, developed throughout these areas which had cultural and social ties of their own.

3 Flow of River Indus and Natural calamities.

3. 1 From the descriptions in the Rgveda and the evidence of Mahabharat and other literature as also the geography of old river beds etc., the research scholars have satisfactorily established that in the ancient period the Rann of Kutch was not directly connected with the sea, but only through the gulf of Kutch on the one hand and also the gulf of Cambay through Nal and the Rann of Cambay on the other. It is considered very likely that the area now occupied by the gulf and the Rann of Kutch was solid land about 2000 B.C. according to traditions.

3. 2 The ancient literature sufficiently establishes that there were two very big mighty rivers in the North West India, starting from Himalayas and passing through Punjab, Sind and Rajputana areas, namely Sindhu and Sarsvati. The lowest course of Sarsvati about 2000 B.C. is presumed to be along the Rann of Kutch and Cambay, Nal and the gulf of Cambay, the last being in reality the mouth of Sarsvati.

3. 3 The combind stream of Sindhu and other five rivers of Punjab and Sarsvati ran further south beyond Ramki Bazar after which Sarsvati turned eastwards along the present Rann of Kutch and then passing Southwards through the Rann of Nal and gulf of Cambay, joined the sea at Prabhasa.

3. 4 From the old records of travels of the Alexander the Great (325 B.C.) Al Beruni, Colonel Tod, Ptolemy (150 A.D.) Captain Raikes, Rajputana and Kutch gazetters and other records, it is investigated and there are sufficient evidences to show that the present Rann of Kutch was a navigable area with numbrous ports on its banks, and the ramnants of boats, oars and other things found in the lower horizons of the Rann are significant to show that the area has not come out of sea but was a river bed and a sweet water lake which was considered as Samudra i.e. whose banks were not visible by human eye.

3. 5 About the end of 7th Century A.D., the combined streams of the Indus and the Punjab rivers changed the course and began to flow further west, but Sarsvati Joined by Sutlej and aided by some waters of Indus continued to run as a large river in the Sindh Province.

3. 6 The Western border of Rann of Kutch subsided due to natural calamities in about 12th Century A.D. and thereafter the stream of river Indus gradually took a westrnly turn to empty its waters in the sea through its western mouth known as Kori creek which was original Kori river bringing the Indus waters from Sindh to the present Rann area.

3. 7 Probably in the 14th century A.D. the river courses made further changes and Sutlej began to unite with Bias and then the Punjab rivers. Sarswati disappeared altogether leaving only a dry bed there.

3. 8 Thus in the mediaeval period, there were two large rivers commonly known as Sindhu or Indus & Sarsvati which included and divided between them vast volume of waters of five rivers of Punjab and these waters came down towards the present Rann of Kutch and found their way to sea as described above. The voluminous waters were just like sea and therefore in vedic period it was commonly known as Saptasindhu. There was a very small area between the river Indus and Sarsvati. Factually the courses of river Indus and Bias etc., changed substantially and whole river Sarsvati disappeared which formed the whole area as Rann. This has proved that the whole area of Rann between Radhanpar, Saurashtra and Gujarat was a dried up river bed rather than the sea.

3. 9 An article printed at Exhibit 1 and Extracts printed at Exhibit 1 A and 1 B sufficiently give the details of the above facts.

3. 10 So far as the flow of River Indus just before the eighteenth century is concerned, Indus after joining of five rivers of Punjab was divided in three branches on flowing downwards(i) The eastern branch VAHAND was flowingthrough Bhawalpur State, Jaiselmer and Thar area (ii) The second one was Hakra flowing west of VAHAND. This is named as Eastern Nara, Dhoronaro and Dhorapuran in Sind. From it, one branch had bifurcated and joined to vahand near Umerkot. Hakra was also emptying in the Rann of Kutch (iii) The third one was Sindhu itself flowing near Mohanjodero, Moj city etc., The Indus waters were thus emptying in the basin area north of the present mainland of Kutch and there were few thriving ports and towns such as Vengangadh, Baliari, Vingoor etc., Due to some serious geological deformations, the rivers had changed their courses and the old cities have either burried down or destroyed by natural calamities. Much of the basin area had dried up and turned into the Rann.

3.11 Even though the main stream of the river seems to have turned towards the west, still as the middle of the eighteenth century, the Eastern or Kori branch continued to bring water enough to irrigate large area of rice land to the north of Lakhpat. Increasing demands of water by the people of Sind, led to feuds between Kutch and Sind. In about 1761 to 1764 A.D. at the historic battle of Jhara, Kutch was defeated by Gulam-shah Kalora, who soon after raised a bank about 8 feet high, across the Kori so that its stream was nearly stopped and Lakhpat rice fields were changed into grazing grounds The Ruler of Kutch did nothing thereafter for more than 50 years to re-establish the flow.

3. 12 Thereafter the 1819 Earthquake made a great change, The bed of Kori creek was raised, submerging Sindri Customs port of Kutch. There was a large depression in the plain through which the sweet waters of Kori river were flowing and discharging in the sea from Kori creek, while a corresponding uplifting of the intercepting ground had changed the course of the river. The Earthquake formed an elavated land between the Customs line and Rann proper which is known as "ALLAH BAND" The mouth of the river no longer fed from above by sweet water, became purely tidal and began to silt up, while the whole of the depressed land coming under the salt water influnce was rendered sterile and waste. The silting up of the river and the ground retrogression of the sea water is a very marked feature in this case. In the 19th Century there were series of Earthquake shocks, raising the bed of the river, which have caused the greatest upheaval in the surface of the Rann.

3. 13 Intermittently thereafter, the flood waters used to flow in the Rann area and formed the Sindri sweet water lake for some years thereafter. Some of the distributories of Indus, namely Hakro or Eastern Nara and Phuleli and Guni canal used to bring sweet waters in the Rann area untill the early part of the present century. Subsequently on one hand, due to intensive development of irrigation by canals and construction of barrages in Sind on the main bed of river Indus, the flow of the river into the territory of Kutch was considerably reduced; and on the other hand, due to the development of land by leaching and other processes the concentrated saline waters being pushed to the Rann area, sweet water lakes were dried up or turned into salty marshes and slowly and steadily

the march of saline waters have penetrated into Banni area south of Rann of Kutch, so as to force the evacuation of some of the border villages.

3. 14 It is thus clear that the Rann originally formed the bed of the river and its basin area and was subsequently elavated to its present level Formerly a considerable area of the River Indus traversing the delta found its way to the sea at the western extrimity of Kutch and its annual Innundation watered the low ground of good lands of Lakhpat, then called Sayra (Sahra) a fertile rice producing country.

4 Barrages across Indus.

4. 1 Before concluding this chapter, we may briefly understand details of barrages constructed across the river Indus.

4. 2 The first barrage was built at Sukkar in the middle of thirties (1923-1935)

4. 3 The second barrage was constructed in the Upper reaches at Kalabagh about 950 miles from the Indus delta. It irrigates the tract between rivers Jhelum and Indus. It was completed in 1942.

4. 4 The Ghulam Mahmad Barage at Kotri was the next barrage across the Indus. It is near Hyderabad (Sind) about 130 river miles from Arabian sea and is completed in about 1956. It is biggest project with a gross command of 3.40 million acres.

4. 5 The fourth barrage is constructed near Taunsa in 1958. It has gross command of 2.00 million acres.

4. 6 The last one is near village Kushmar. This is about 100 river miles upstream from Sukkar or 500 miles from Arabian sea. It has a command of 2.30 million acres.

4. 7 All these five barrages have been proved most useful for irrigating the land of Pakistan and making it fertile. The total canal discharges from these projects are 46600/10000/41250/24560/39950 cusecs respectively.

4. 8 Starting from North to South i. e. downstream of River Indus, the sequence of these barages is (i) Kalabagh (ii) Taunsa (iii) Gudu (near Kushmor) (iv) Sukkar (v) Kotri.

5. Enforcement of Right-Neglected in past.

5. 1 After the battle of Jhara about 1761 A.D. when Gulam Shah raised a bank across the flow of Indus waters coming towards Kutch, the then Rulers of Kutch neglected to tackle the issue for more than 50 years with the result that the sweet water supply was nearly stopped and the rice fields were changed into grazing grounds. At that time it would have required a very small effort to re-establish the flow.

5. 2 After 58 years, the 1819 earthquake made a great change as we have seen earlier in this Chapter Even thereafter, the matter as a riverrain right could have been taken up with the British Government and with a very little expenditure, the flow could have been re-established by the Kutch State. An article published in 'Fulchhab' dated 7-10-1933 printed as Exhibit 1 vividly gives the details as to how this could have been done.

5. 3 However, subsequently when the scheme of construction of 'Sukkar' barrage in Sind was being finalised (i.e. before 1936) the Mahararo of Kutch had put in a claim with the Government of India for the extension of the Eastern Nara canal into the main land of Kutch. Unfortunately at that time, due to strained relations of the Government of India with the Kutch Rulers, the matter was not given serious consideration by the former.

5. 4 Thereafter the scheme of construction of the lower Sind barrage near Kotri was initiated before Partition. The Maharao of Kutch again put in the claim for the share the Kutch State had in the supply of Indus waters. That claim was under consideration by the then Government of India and a body of experts was appointed to examine the issue. However, at this proper juncture the country was partitioned and Kutch ceased to be a Princely State. The claim of Kutch State then remained unattended.

5. 5 As we shall see later, some attempts were made even thereafter to reopen the issue one way or the other by the eastwhile Kutch Part 'C' State and the political leaders of those days till about 1962. Unfortunately thereafter, no political leader of Kutch has stressed this issue with its due depth with the result that an undisputed right of Kutch has buried in history by sheer neglect of enforcing the claim. Great loss caused to Kutch in the interest of Nation at the time of Indus water

Treaty, has been forgotten conveniently even by those States who have benefitted the most, by the Treaty and they do not even admit to spare some of these waters for Kutch even for drinking purpcse. Right is never given by silent molestification; it is required to be enforced and prevailed upon.

CHAPTER II

ATTEMPTS MADE TO GET THE INDUS WATER

1 In the Princely State

1. 1 Before a benevolent Ruler of Kutch, Maharao Shri Vijayrajji came to power, Kutch had seen a long rein of Khengarji who was considered to be a very conservative Ruler and was quite against any reform or change in the life of Kutch. Maharao Shri Vijayrajji, after coming to power, took many steps to develop the area. Early in 1943 he contacted the former Sind Govt. in a bid to bring water from the lower Sind Barrage contemplated to be built at Hajipur, across the Indus. (Subsequently this site was changed to Kotri) A tentative proposel to obtain 2650 cusecs of water from Indus through a feeder canal of 121.50 miles long at an estimated cost of nearly Rs. 2 crores was under consideration and a rough longitudinal section from Hajipur Barrage to Luna in Banni was also prepared. It was contemplated to irrigate about 85000 acres in the Great Rann and Banni.

1. 2 Letter Dated 24th July 1943 written by Brigadier C. G. Howes, the then Chief Engineer and Secretary to the P.W.D. in Sind to the Maharao of Kutch along with his note on the subject are printed on Exhibit 2 and 2 A.

2. OPINION OF CWINC.

2. 1 The matter was put up before the Central Water Power, Irrigation and Navigation Commission (Known as CWINC) in August 1946 and Director Indian Water ways Experiment station. The latter, Mr. K. K. Premji in his comments dated 14-2-47 sent to CWINC stated that the original projected lower Sind Barrage was decided to be sited then at near Kotri

23 miles above the original site at Hajipur and he recommended for a separate branch from the tail of the Fuleli canal to be used as a feeder for Kutch with or without lining as may be found better upon more detailed examination. Subsequently Mr. H. M. Antani the then Chief Engineer in Kufch had been sent to New Delhi in March 1947 with all relavant data and facts.

As a result of discussion, Mr. Mohasinali and Mr. Mittal from CWINC visited Kutch in May 1947 and they opined in their report dated 20-5-47 that it would be quite feasible to irrigate the cultivable land adjoining the Sind boundry on the North of the Rann, by canal taking off from the projected Lower Sind Barrage and advised the Government of Kutch to lose no time in pegging a claim for their rightful share in the Indus river waters. The CWINC therefore recommended that 'Kutch should be given its due share of Indus waters for the irrigation of its lands on the Northern shore of the Great Rann and lying in the Indus Basin.'

3. Part 'C' State.

3. 1 By this time, India was partitioned and Kutch became a Part 'C' State from June 1948. The Chief Commissioner was appointed by the Union Government to administer the area. There was no elected body but only an advisory Council was appointed from the public life, only to advise the Chief Commissiner in policy making.

3. 2 The then Chief Commissioner of Kutch, submitted the details of past history of the Indus Waters Claim of Kutch in April 1950 (Exhibit 3) to the Government of India, Ministry of Works Mines and Power, personally through Mr. H. M. Antani, State Irrigation Engineer Kutch, who gave his note dated 28-4-50 to Shri N. D. Gulhati, Deputy Secretary in the Ministry and copy to the Ministry of State. (Ex. 3 A)

4. Negotiation with Pakistan.

4. 1 At this time, negotiations for utilization of Indus Waters for the benefit of Indus basin were continuing between India and Pakistan through the World Bank. Dr. N. D. Gulhati was the Chief Technical Officer taking part in the discussion on behalf of the Government of India He has published a book "INDUS WATERS TREATY, An exercise in International

Mediation" in about 1973-74, wherein he has given all details and facts right from 1948 onwards.

4. 2 On page 26 of this book, he says "at one time, the Sutlej found an independent outlet into the Rann of Kutch. In the year 1000, it was a tributory of the Hakra and flowed in the Eastern Nara. By 1245 the river had taken a more northerly course, the Hakra had dried up and a great migration took place of the people of the desert as it thus became to the Indus valley. About 1593, the Sutlej changed its course once more Since 1796, there has been little further change."

4. 3 Dr. Gulhati, has given a survey of India map on P. 20 of his book, wherein North West portion of Great Rann and Lakhpat Taluka have been shown as part of the Indus Region.

4. 4 During the negotiations with Pakistan the Government of India had accepted the principle that the waters of a river basin should be utilised for the benefit of all inhabitants of that basin irrespective of state or political boundaries. India therefore submitted a Plan known as Indian Draft Outline Plan which "showed the irrigation water requirements of all the areas in the Indus Plains in India (including a small area in Kutch) and in Pakistan" (P. 120) "The Indian Plan aimed at the most effective utilization of the basin's water resources... it was the first basin wide plan ever prepared for the Indus system of rivers. It ignored the new political boundary between India and Pakistan. Some Pakistan canals would receive their supplies through India and some Indian canals (The Kutch area was to be served by a canal from Kotri and the Merala-Firozpure link was to deliver some waters for use in India) through Pakistan" (P. 122)

4. 5 However the Indian Plan was not acceptable to Pakistan and Pakistan preliminery outline of Plan was not acceptable to India. Therefore the proposal known as Bank proposal (May 1954) was finally accepted as basis of subsequent agreement according to which the entire flow of the Western Rivers (Indus, Jhelum and Chenab) would be made available to the exclusive use and benefit of Pakistan and the entire flow of the Eastern Rivers (Ravi, Beas and Sutlej) would be made available for the exclusive use and benefit of India.

4. 6 As a result of the Bank proposal, Dr. Gulhati says on P. 140 of his book, among other things. ''No waters would be available to India for use in Kutch, as provided in the Indian Plan, from the Indus at Kotri''. This severe blow to Kutch was compensated among other things by straight benefit, to Punjab and Rajasthan as narrated by him on P.143 as thus;

"As an optimist, I could see the Bhakra Sirhind areas in Punjab (now Punjab and Hariyana) and Rajasthan soon getting much better supplies for irrigation than those the sirhind canal had ever enjoyed or had been hitherto planned for the Bhakra canal under construction. The proposed Rajasthan canal, which the Government of Rajasthan itself did not believe in not too long ago, would now be a reality and I could well envisage new irrigation colonies emerging in Rajasthan, in lieu of Lyallpur and Montgomery we had lost to Pakistan. The heavy losses of the migrants from Pakistan would hopefully be made up soon."

4. 7 The Bank proposal after negotiations was accepted in June 1955. Dr. Gulhati points out at P.148, that "In view of the position set out by the Bank in respect of the Eastern Rivers, we were anxious to give our support to the Bank proposal." Getting Chenab water from Merala and Indus water from Kotri, through canals in Pakistan were willingly forgiven in favour of getting complete waters of Eastern rivers for Punjab & Rajasthan plains. Thus Kutch became a scapegoat in the National interest for the benefit of Punjab, Hariyana and Rajasthan Kutch does not lament for this, but has a pride of sacrifice for the Nation. Needless to mention that the final treaty known as Indus Water Treaty 1960 concluded on 19-9-1960 and ratified on 28th December 1960, provides for the distribution of waters on fhe above basis agreed to as per the Bank Proposal of 1954.

5. Fresh attempt by local Leaders.

5. 1 The question of getting sweet waters for Kutch and particularly for Gandhidham and Kandla areas as a possible solution for the problem of water supply to the new major port of Kandla was again taken up by a deputation from Kutch, consisting of Shri Bhawanji A. Khimji, the then Member of Lok Sabha, Shri Lavji L. Thacker, the then member of Rajya

Sabha, and Shri Bhai Pratap Dialdas who met Mr. S. K. Patil, the then Minister of Irrigation and Power in the second week of December 1957. Accordingly Shri Bhai Pratap Dialdas sent a detailed note with relevant interesting maps connected with the issue to the Minister vide his letter dated 15-12-1957. (Exhibit 4 and 4 A)

5. 2 In their proposal, they had suggested the alignment of canal to be taken from the tail end of the Eastern Nara canal below the junction of the branch from Phuleli canal system into the main land of Kutch right upto the site of the Kandla Port. The total length of the canal was to be about 130 miles inclusive of 30 miles of crossing over the Rann of Kutch. From a place between Anjar and Bhachau the waters flowed down was to be pumped up through a pipe line, 20 to 25 miles long, to reach the township of Gandhidham and Kandla Port. They requested the Government of India to take up the matter with the Government of Pakistan to spare 1000 cusecs of water out of the total 35000 cusecs available on Eastern Nara and Fuleli canal system. It was presumed that it would not be difficult to persuade the Pakistan Government to spare such a small quantity of water, a portion of which might even otherwise be going waste into the Rann of Kutch.

5. 3 However as we have seen in the earlier paras, Since the development on the question of sharing the waters of Indus basin took a different turn, the proposal mentioned above for extension of Phuleli canal did not made any further headway.

6 Attempt for canal from Rajasthan :

6. 1 As a result of negotiations for Indus waters as shown above, in addition to the other projects connected with the supply from the Indus Basin, the Rajasthan canal taking off from the Harike Barrage had been proposed to bring under irrigation certain areas of East Punjab and Rajasthan canal.

6. 2 Based on the proven fact that Kutch lands were right fully a part of the Indus basin and should have a share in the Indus supplies, in 1959, it was proposed by Mr. G. G. Dhanak, the then S.E. C.D.O. Bombay that; "Now that the Rajasthan canal is going to bring waters almost to the border of Kutch it is but right, that adequate supplies should be given to Kutch from this source. The facility which was under

consideration of the Government of India, prior to partition and which was subsequently considered difficult to be implemented due to the division of the country should not be denied now when supply from the same basin can reach Kutch through an alternative arrangement of canal system lying entirely in India.'' (Exhibit-5)

It further quotes "An irrigation canal can easily be taken out from the Navigation canal, which will run as contour channel in the Banaskantha District to irrigate the occupied land and to reclaim and maintain under irrigation some of the land of the Rann of Kutch."

6. 3 A note of Chief Engineer Rajasthan canal Project in respect of 'marking of the alignment of Kandla Navigation cut' and Note 3 of August 1959 re; Rajasthan canal of Supdt. Engineer Central Design organization Bombay are printed as Exhibit 5 A and 5 B Para 13 of the note at Ex. 5 B requires special attention of the reader. I do not repeat the contents.

6. 4 The extension link was also envisaged to serve as a navigation canal connecting Kandla Port and places in Rajasthan and Punjab. Two alternative lines were studied from available maps; namely (i) irrigation cum Navigation canal and (ii) purely Navigation canal.

6. 5 The link canal from navigation consideration would have a total length of 360 miles, 210 miles upto the Rann of Kutch and 150 miles from there to Kandla Port. It would have 10 Locks of 50 ft. each for negotiating the falls. The still water channel would require about 1000 cusecs. The cost was estimated at Rs. 100 crores. As regards irrigation, it was estimated that about 10 lac acres of land can be served depending on the availabity of water and intially 3000 cusecs of water was proposed to be demanded.

6. 6 Ultimately in or about 1964, the Government of Rajasthan refused to meet the requirement of Gujarat as they had no surplus waters to spare because supplies available in Rajasthan canal were not ample even to meet the requirements of the areas of Rajasthan. We will see later on, how this refusal of Rajasthan was unjustified and incorrect.

The only remark that I would like to make here is that at this

proper time, there was no political representation of Kutch in the Ruling Party at the centre and the state. As a result, nobody, could do anything to induce the Gujarat state to tackle the issue as a Wafer Dispute between the two states by Refrence to the Central Government.

7. Attempt in Bombay State.

7.1 In January 1960, again the proposal to obtain the surplus supplies from the Gudu Barrage on the river Indus, from the Government of Pakistan, for use in India, was revived and the Ministry of Irrigation and Power, wrote to the erstwhile Government of Bombay for examining the technical feasibility of utilizing Indus water in the Rann of Kutch and for indicating its views. Mr. G. G Dhanak, S.E. C.D.O. Bombay gave a detailed note dated 7-3-60 (Exhibit 6) with a plan and based on this, the Bombay Government sent the proposal by letter dated 16-4-60, under which the technical feasibility was confirmed. An alternative arrangement to divert water from Kotri barrage via Phuleli canal was also suggested by the Government of Bombay. A demand for 6600 cusees (4.75 MAFT) to reclaim and irrigate 20 lakh acres of Rann and 2 lakh acres of Rann and 2 lakh acres of Banni was put forth. It was highlighted therein that the Rann and the Banni are situated in Indus Basin and that these lands which once yielding bumper rice crops with Indus waters are now rendered barren precisely because these areas are deprived of these precious waters. It was emphasised that there are no other sources to reclaim and irrigate these regions and this supply is indespensible to restore the age old fertility which they once enjoyed with the Indus waters and to prevent the frequent occurance of famines in these areas.

7.2 After some correspondence Government of India subsequently in 1962 said that bringing supplies from Gudu barrage would have involved a 400 mile long lined canal through difficult sandy terrain; still however they agreed to the feasibility of getting supplies from Kotri for the Rann but due to certain other considerations, decided not to make an alternative suggestion to Pakistan to make such supplies available from Kotri and therefore finally indicated that the matter might be considered as closed.

CHAPTER III

INDUS BASIN AND ALLOCATION OF INDUS WATERS

1. International Principles for allocation of Inter State River Waters.

Briefly speaking, in its historical perspective four theories have so far been developed in matters relating to regulation of rights of different riparian owners for diverting water of international river for their use. The theories are :

(i) Territorial integrity;
(ii) Absolute territorial sovereignty;
(iii) Community of co-riparian States in the waters of an international river; and
(iv) Limited territorial sovereignty.

1. 2 Under the first theory, river is considered as a part of the territory of a State and consequently every riparian owner is entitled to the natural flow of the river unhampered by the upper riparian owners, otherwise it would result in violation of its territorial integrity. It is fairly established now that this theory is obsolete.

1. 3 The second theory goes to another extreme as it advocates that riparian states have exclusive or soverign rights over the waters flowing through their territory. This theory has been rejected as a rule of international law in the gradual process of time.

1. 4 Under the third theory, the basin is regarded as an economic unit irrespective of State boundaries and the waters are either vested in the community or divided among the co-riparian States by agreements. But the theory depended upon the agreement of the concerned States and may not necessarily result in the development of community basin or may turn out to be economically wasteful and hence it can hardly be regarded as a rule of international law. waters of an international drainage basin. They are known as 'Helsinki Rules' Relevant rules are;

Article II.

An international drainage basin is a geographical area extending over two or more States determined by the watershed limits of the system

of waters, including surface and underground waters, flowing into a common terminus.

Article III.

A 'basin State' is a State the territory of which includes a portion of an international drainage basin.

Article IV.

Each basin State is entitled, within its territory to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin.

Article V.

(1) What is a reasonable and equitable share within the meaning of of Article IV is to be determined in the light of all the relevant factors in each particular case.

(2) Relevant factors which are to be considered include, but are not limited to:

(a) the geography of the basin, including in particular the extent of the drainage area in the the territory of each basin State;

(b) the hydrology of the basin, including in particular the contribution of water by each Basin State;

(c) the climate affecting the basin;

(d) the past utilisation of the waters of the basin, including in particular existing utilisation;

(e) the economic and social needs of each basin State;

(f) the population dependent on the waters of the basin in each basin State;

(g) the comparative costs of alternative means of satisfying the economic and social needs of each basin State;

(h) the availability of other resources;

(i) the avoidance of unnecessary waste in the utilisation of waters of the basin;

(j) the practicability of compensation to one or more of the co-basin States as a means of adjusting conflicts among uses; and

(k) the degree to which the needs of a basin State may be satisfied, without causing substantial injury to a co-basin State;

(3) The weight to be given to each factor is to be determined by its importance in comparasion with that of other relevant factors. In determining what is a reasonable and equitable share, all relevant factors are to be considered together and a conclusion reached on the basis of the whole.

This Article provides flexible guidelines essential to insuring the protection of the 'equal right' of all basin States to share the inter-State waters.

1. 9 The Indus Commission has discussed the law and legal principles in details and it summarised the law in following principles:

(1) The most satisfactory settlement of disputes of this kind is by agreement, the parties adopting the same technical solution of each problem, as if they were a single community unvidided by political or administrative frontiers (Madrid Rules of 1911 and Geneva Convention 1923, Article 4 and 5)

(2) If once there is such an agreement, that in itself furnishes the 'law' governing the rights of the several parties until a new agreement is concluded. (Judgment of the Permanent Court of International Justice 1937, in the meuse Dispute between Holland and Belgium).

(3) If there is no such agreement, the rights of the several Provinces and States must be determined by applying the rule of 'equitable apportionment' each unit getting a fair share of the common river (American decisions).

(4) In the general interests of the entire community inhabiting dry, arid territories, priority may usually have to be given to an earlier irrigation project over a later one; 'priority of appropriation gives superiority of rights' (Wyoming V. Colorado, 259 U.S. 419, 459, 470).

The Commission decided that "the rights of the several units concerned in this dispute must be determined by applying neither the doctrine of sovereignty, nor the doctrine of riparian rights, but the rule of 'equitable apportionment' each unit being entitled to a fair share of the water of

the Indus and its tributaries". It further stated that "no State could use the water of an inter State river so as to prejudicially affect another State or of its inhabitants and the latter State was prejudicially affected as a matter of law when it was deprived of its equitable share of waters of the inter State river on the application of 'the doctrine of equitable appertionment."

The Indus Commission has further observed that;

"A third principle that has been advocated is that of "equitable apportionment" that is to say, that every riparian State is entitled to a fair share of the waters of an inter State river. What is a fair share must depend on the circumstances of each case; but the river is for the common benefit of the whole community through whose territories it flows, even though those territories may be divided by political frontiers."

1.10 New York Resolution of the International law Association (1958) states :-

2. Agreed Principles of International law;

a. A system of rivers and lakes in a drainage basin should be treated as an intergrated whole (and not piecemeal).

b. Except as otherwise provided by treaty or other instruments or customs binding upon the parties, each co-riparian State is entitled to a reasonable and equitable share in the beneficial uses of the waters of the drainage basin. What amounts to a reasonable and equitable share is question to be determined in the light of all the relevant factors in each particular case."

1.11 In case of Narmada waters dispute, the Khosla Committee had adopted the following guide lines ;-

Guidelines adopted by the Khosla Committee.

1. National interest should have over-riding priority. The plan should therefore provide for maximum benefits in respect of irrigation, power generation, flood control navigation etc., irrespective of State boundaries;

2. Rights and interests of State concerned should be fully safeguarded subject to (1) above;

3. Requirements of irrigation should have priority over those of power;

Subject to the provision that suitable apportionment of water between irrigation and power may have to be considered, should it be found that with full development of irrigation, power production is unduly affected;

4. Irrigation should be extended to the maximum area within physical limits of command, irrespective, of State boundaries, subject to availability of water; and in particular, to the arid areas along the international border with Pakistan both in Gujarat and/Rajasthan to encourage sturdy peasants to settle in these border areas (later events have confirmed the imperative need for this); and

5. All available water should be utilised to the maximum extent possible for irrigation and power generation and, when no irrigation is possible, for power generation. The quantity going waste to the sea without doing irrigation or generating power should be kept to the unavoidable minimum.'

1.12 Directives of the Planning Commission for development of Irrigation and Power in the First Five Year Plan states "all the major rivers of India which run through more than one State should be utilized to the best possible advantage in the tracts commanded irrespective of provincial or State boundaries." The policy declared by the Union Minister before Parliament on 23-3-63 stated that the "main guiding principle has been the interest of the region keeping in view generally the requirements of the scarcity areas and backward areas and a balanced and integrated development of the region as a whole in the overall Interests of the country".

2 The Indus Waters Treaty :

2.1 The Indus Waters Treasury 1960 was signed at Karachi on 19-9-1960 by Shri Jawaharlal Nehru, Prime Minister of India and Field Marshal Ayub Khan, President of Pakistan. It was ratified by Pakistan on 27-12-60 and by India on 28-12-60.

2.2 Article I relates to the definitions. Article II makes provisions regarding Eastern Rivers. Clause [1] there of states,

"(1) All the waters of the Eastern Rivers shall be available for the unrestricted use of India, except as otherwise expressly provided in this Article."

2. 3 Article III makes provisions regarding Western Rivers Clauses [1] and [2] thereof states,

"[1] Pakistan shall receive for unrestricted use all those waters of the Western Rivers which India is under obligation to let flow under the provisions of paragraph [2]."

"[2] India shall be under obligation to let flow all the waters of the Western Rivers, and shall not permit any inferference with these waters except the following uses, restricted (except as provided in item (c) (ii) of Paragraph 5 of Annexture C) in the case of each of the rivers, the Indus, the Jhelum and the Chenab, to the drainage basin thereof;

a) Domestic use
b) Non consumptive use
c) Agricultural use, as set out in Annexture C: and
d) generation of hydro electric power, as set out in Annexture D."

This Article specifically allows India to utilise the waters for the respective drainage basin of river for domestic use and specified Agricultural use.

Clause (10) of Article I defines the Domestic use meaning use of water for drinking, washing, bathing, recreating, sanitation, household and municipal purposes and industrial purposes.

Clause 5 of Annexture C of the Treaty authories India to make withdrawals from the Western Rivers to the extent India may consider necessary to meet the irrigation needs of the areas specified therein. An area of 70000 acres has been specified against the Indus in its drainage basin.

Dr. Gulhati also states in his book on P. 356,

"...India is entitled to develop in her territory in terms of Annexture C to the Treaty, an 'irrigated cropped area' of about 700,000 acres over and that developed as on 1st April 1960"

2. 4 Article IV provides for common provision, regarding all Rivers which provides to avoid any material damage to the other party in executing any schemes and provides against undue pollution of waters so as to affect or damage the other party,

2. 5 Article V relates to Financial Provisions.

Article VI is for exchange of Data. Art. VII provides for "Future Co-operation" and art. VIII for 'Permanent Indus Commission' art. IX provides for settlement of differences and disputes and Article X for 'Emergency Provision' Article XI 'General Provisions' provides particularly for saving clause under which a recognition or waiver of any right or claims whatsoever of either parties other than those which are expressly recognized or waived under the Treaty have been saved.

2. 6 It is seen from the above, that there are specific provisions under the Treaty which can solve the problem of water for Kutch by tackling the issue through negotiations with Pakistan.

3. Kingpin behind Indus Waters Treaty.

3. 1 Dr. Kanwate Sain, who prepared Rajasthan Canal report in 1948 and who was Chairman of the Central Water and Power Commission from 1953 to 1958 in his Article Captioned "Sharing of Ravi Beas Waters" published in Journal of Indian Water Resources Society (Vol. 5 Oct. 1985) commenting upon the circumstances that led to Indus Water Treaty, says, :-
"It may also be pointed out that the case for India was fought by the Government of India and the Rajasthan canal played an important part in the deliberations before the World Bank".

"It was on the basis of this project that India succeeded in getting the entire waters of the three eastern rivers."

3. 2 Again, discussing the objections against the 1981 agreement on sharing of waters between Punjab, Hariyana and Rajasthan, he says,

"...They went even further and said that Rajasthan being a Non-riparian State is not entitled to the waters of the Beas and Ravi Rivers. This contention was based on the decision of the Narmada Tribunal that Rajansthan being a non-riparian State is not entitled as a matter of law to any share in the waters of the inter-State river Narmada'. However in so far as Rajasthan's claim to Ravi and Beas water is concerned, the

entire case of India before the World Bank was based on the demand of water for Rajasthan canal, as will be clear from Prime Minister, Jawaharlal Nehru's letter of 11th July 1960 of the World Bank emphasizing that 'Rahasthan Canal is of vital importance to us and our planning is based on it. Any great delay in providing adequate supplies of water to this canal would create very difficult, political, social and economic problems for us' If Rajasthan canal was taken out of picture there would be no treaty between India and Pakistan and India would not have the right to all the waters of the Ravi and Bias rivers."

4. National Intersst- A fortune for Rajasthan.

Thus it will be amply clear from the above that it was in the national interest, to get all the waters of Eastern Rivers for India in the water dispute with Pakistan and at that time the only course to achieve that goal was to emphasize the requirement of Rajasthan Canal Project which was already prepared prior to Partition. Thus an unimaginable fortune was bestowed on the Rajasthan State. However we will see that Rajasthan did not reflected the progress as was expected and did not take active interest in the project as it should.

5. Apathy of Rajasthan Government.

5. 1 Commeting upon the inactive and non-coperative attitude and apathy of Rajasthan Government towards the preparation, survey and feasibility report etc., of the Rajasthan Canal Project, Dr. Kanwar Sain, says.

"The Government of Rajasthan did not take any active interest in promoting the Rajasthan Canal Project. The Rajasthan Canal Project was submitted by the Bikaner State to the Government of India in October 1951: Rajasthan could not shell out even Rs. Ten thousand..."

"...Consequently the Central Government requested the Rajasthan State, to carry out surveys and prepare a feasibility project report. Rajasthan State, however, could not give any attention to the request of the Government of India. This led to the preparation of a feasibility report by CW & PC in 1953. It was this project report that was placed before the World Bank."

5. 2 He further says,"Even when, under pressure from the Government of

India,Rajasthan State prepared a project estimate for Rajasthan canal in 1957, it provided lining only for 110 miles of the feeder in Punjab..." After Dr. Kanwar Sain himself became Chairman of Rajasthan Canal Board in 1959, he says he was able to persuade Government of Rajasthan to line all the channels.

5. 3 He gives the progress of the project, in following words :-

"Even after the Rajasthan canal Project was sanctioned by the Government of India, Rajasthan Government took lukewarm interest in its construction. Had they been keen to complete the project, it should not have taken such a long time. In 1960, it was visualized that the construction of the project would be completed in 1970. According to the latest reports, the revised estimate comes to Rs. 1,184 crores against the original estimate of Rs. 66 crores and the Project is now expected to be completed by the end of 8th Plan. i.e. 1995."

5. 4 Failure of Rajasthan to utilise the waters has been confirmed in the 1981 agreement, which says :-

"(ii) Until such time as Rajasthan is in a position to utilise its full share, Punjab shall be free to utilize the water surplus to Rajasthan's requirement"
Commenting upon the terms of agreement, Dr. Sain further says,
"The last statement that 'Rajasthan will soon be able to utilize its share' is factually wrong as every one knows that Rajasthan will not be able to utilise its full share upto 1990 or even later than that."

6 Possible Developments under the Treaty.

6. 1 Dr. Gulhati, in his book, 'Indus Waters Treaty' gives the vivid picture of the possible developments envisaged under the Treaty with reference to progress made before 1948, progress achieved during 1948 to 1960 (i.e. after Agreement of 1948 and before the conclusion of final Treaty in 1960) and the progress expectd to be made after the Treaty.

"In India, as in Pakistan, the developments possible under the Treaty, far exceed those that any one of us could envisage when the dispute arose in 1948" (P. 356).

"In other words, by works constructed between 1948 and 1960, as much new irrigation had been developed in the Indian Part of the Indus basin as in about 100 years preceding Independence". (P. 358).

As per estimates in January 1960, "the total cost of new works already planned on the Eastern Rivers in India would be Rs. 3330 million. on full development, these works would annually irrigate 6.2 million acres and produce crops worth Rs. 181 crores or Rs. 1010 million (at 1956 rates). The total installed hydro-electric power would be 7,44,000 KW". (P. 359)

"The Rajasthan canal, the construction of which was Innagurated in March 1958, has a capacity of 18500 cusec and will be about 300 miles long, not counting 134 miles of the Rajasthan Feeder, a lined supply channel from Harike running, for 111 miles, in Punjab and Hariyana. The canal will have about 4000 miles of beanches and distributoies to command 3.69 millions acres of Rajasthan desert: 2.875 million acres will be irrigated annually of which about 0.53 million acres will be by lift".

6. 2 He further quotes Arhold J. Toynbec saying in 1961, that;

"...within a few years from now, the westernmost and thistiest fringe of Rajasthan, along the Indo-Pakistani border, is going to be brought to life by the digging of what will be the longest irrigation canal in the world upto date .. Two million people will live by agriculture in an area, which at present, maintain no more than 100,000 pastorals". (P. 359-360).

6. 3 Dr. Gulhati further says that :-

"The Rajasthan canal project was ultimately sanctioned in July 1957- to complete the first stage to bring 900,000 acres under irrigation by 1962 and the entire canal by 1965".

Shri S. K. Patil, Minister for Irrigation & Power had declared in Lok Sabha on 26th March 1958,

"We shall not wait a day longer than 1962. When our (Rajasthan) canal and the Sirhind Feeder are ready, we shall withdraw the water..." (P. 360)

Rajasthan canal aimed "at setting up new civilization in an area about 400 miles long and 40 miles wide".

7. **Desperate Results.**

Compared to rosy picture envisaged at the time of the conclusion

of the Treaty, the actual results in the course of time were very desperate Dr. Gulhati has described his sentiments in his book in a very picturesque manner thus;

"The expection of new life, new crops and new habitations in the Rajasthan Desert 'within a few years' though fully justified when it was made, has been belied. Ten years later, Dam Noraes reported (in 1971) "...the new canal hasn't yet been completed... the canal will not be completed for something like 12 years" (P. 360)

"Irrigation from the Rajasthan canal, in its upper reaches, was started in a small way in 1964. An area of 90000 acres was irrigated in 1965-66 and of 2,40000 acres in 1968-69; the latter is less than ? percent of the C.C.A. of that canal. In 1971-72, 450000 acres were irrigated". (P. 361)

"Writing in 1972, it makes me sad to record that far from 'new irrigation colonies emerging in Rajasthan, in lieu of Lyallpur and Montogomery we had lost to Pakistan' as I visualized on the night following the presentation by Wheeler of the Bank Proposal on 5th February 1954, eighteen years later these colonies are still a far cry. The Rajasthan canal which was the kingpin of India's case, in 1950s, for additional uses from the Indus rivers, which was the raison d'etre of withdrawing Eastern Rivers water from Pakistan and the principal purpose underlying several successful battles fought by my colleagues and me, a development which the head of the Government of India, the accredited leader of the Indian people for decades, had declared in a formal communication, to the President of the World Bank, in 1960, as "of vital importance to us" is twelve years later still a project in the early stages of execution. almost 90 percent of the C.C.A. has still to be developed. What a compliment to our democratic planning process change the persons at the helm of affairs and priorities change" (P. 361)

"Coupled with similar progress on the Rajasthan canal, the new developments from the Indus waters in India, carried out after the satification of the Indus waters Treaty, in January 1961, present a poor performance compared to the huge programme of development cum-replacement works executed in Pakistan as described in the preceding section." (P. 362)

"This is all the more sad as the developments from the Indus carried out in India, during the ten years, preceding 1961, were, as shown above, no mean achievement. We had the technical manpower, we had the horohow. we had the experience, we had worked out all the technical details, we had got the foreign exchange and the Indus region needed the development urgently, why could we not do batter ? I will not attempt an answer.'' (P. 362-63)

"With effect from 1st April 1970, when the Transition period under the Treaty came to an end, India is entitled to use the entire flow of the Eastern Rivers, But in July 1971, the Union Minister of Irrigation and Power stated;

"The average annual flow of these rivers is about 33 M. A. F. At present nearly three fourth of these waters are being utilised in India. The balance... amounting to about 8-9 M.A.P. (Sufficient to irrigate over 3 million acres, annualy. Hows down to Pakistan" (P. 364)

8. Case of Hariyana-Aftermath of the Treaty.

8. 1 Allocation of the waters of Ravi and Beas to be used in India was made between the then States of Punjab, Pepsu, Kashmir and Rajasthan by an agreement dated 29-1-1955. Subsequently Pepsu was merged with Punjab and the Punjan State was reorganised in 1966 and Hariyana came into existance and as per the Punjab Re-organisation Act, 1966, all the areas for which 1955 Agreement made allocation of water were passed to the new State of Punjab.

8. 2 Commenting upon the circumstances how the Hariyana, newly formed State, could get the share of water to the extent of 3-50 MAF under the 1981 Agreement, Dr. Kanwer Sain, in his article mentioned hereto before states;

"It will thus be seen that no area from Districts which formed Hariyana was taken for claiming supply from Ravi and Beas rivers, because all areas in Hariyana can be irrigated only by lift and the 1955 Agreement excluded lift areas. Thus according to 1955 Agreement no area in Hariyana was entitled to any supply from Ravi and Beas Rivers. It is only the dynamic personality of the

first Chief Minister of Hariyana, Shri Bansilal, that Hariyana succeeded in getting water from these rivers for lift areas".

8. 3 The 1976 Notification of the Central Government as reproduced by Dr. Sain, gives the basis in following words;

"Taking note of the facts that Hariyana has a large arid tract and several drought prove areas and the present development of irrigation in the State of Hariyana is substantially less as compared to that in the State of Punjab, and further taking into consideration that comparatively large quantity of water is needed for irrigation in the State of Hariyana and there is limited availability of water from other sources in that State, the Central Government hereby direct that... the State of Hariya will get 3.5 M.A.F...."

8. 4 Pars 8.7.1 on P. 113 of Vol. I of Report of the Narmada Water Dispute Tribunal, mentions that:

"The cutchment area of undivided Punjab (in thousand acres) was 5696, of Kashmir 800 and of Rajasthan and Pepsu Nil. It is obvious that the quantum of allocation to these States by the Inter State Agreement had no relation to the catchment area of the respective States or to the contribution of the States to the flow of Ravi and Beas... The order of the Central Government indicates that in coming to this decision, the Central Government expressly took into account the extent of arid tracts and of draught prove areas in Hariyana. It is important to note that the catchment area of divided Punjab is 3360 and that of Hariyana is nil. The draught area in divided Punjab is nil and in Hariyana 1911.5 It is obvious that in coming to its determination, the central Government did not attach much importance to the contribution of divided Hariyana and divided Punjab to the flows of Ravi and Beas but mainly took into account the existence and extent of draught areas in the two concerned States".

8. 5 It is thus clear that without any legislative or executive authority in favour of Hariyana, it got the share in the Indus waters mainly on political grounds any by the good offices used by its political leaders.

9. Allotment of Narmada water to Rajasthan without any legal right.

9. 1 The Rajasthan State had put in its claim for allotment of Narmada waters for desert areas Jalore and Barmer Districts. The reasons advanced by Rajasthan among other things, as shown on P. 26-27 of Vol. III of the Report of the Narmada Water Disputes Tribunal, were;

"It was contended that Rajasthan was a border State of the Indian Union. It was necessary in the interest of national security that irrigation should be extended to the desert areas of Jalore and Barmer districts and there should be a settlement of peasants close to the international border. It was said that the areas of Jalore and Barmer districts suffer from a permanent scarcity conditions and are liable to frequent and severe famines. The area receives very little monsoon rain and no wintes rain and no rabi crop was possible. The sub soil water was very deep and unfit for irrigation. But introduction of canal irrigation and raising of irrigated crops over 14 lakh acres will make a vast change. Agricultural production over the area will greatly increase and would become stable instead of depending on precarious monsoon conditions. Loss of life and misery to human life and cattle would become a thing of the past and mass migration of inhabitants to other parts of the country would become unnecessary. It was said that the gain to the country by way of additional foodgrains in Rajasthan would be over a million tons and there will be great saving of foreign exchange."

9. 2 The Central Government referred the dispute to the Narmada Waters Dispute Tribunal. After detailed hearing and discussion of principles governing the use of waters of inter state rivers, the claim of Rajasthan State in Narmada Waters was factually rejected by the Tribunal in very catagorical terms.

9. 3 In the judgement of the Tribunal, dated 23-2-72, the decision given is;

"That no part of the territory of Rajasthan is located within the Narmada basin or its valley".

It further states;

"Our conclusion therefore is that the State of Rajasthan is not entitled to any portion of the waters of Narmada basin on the ground that the State is not a co-repairan State, or that no portion of its territory is situated in the basin of river Narmada. We also hold that the Reference

of the Central Government No. 10-1-69 WD dated 16-10-1969 in referring the complaint of Rajasthan to this Tribunal for adjudication under Section 5 of the 1956 Act. is ultra vires of the 1956 Act."

9. 4 However due to political menovouring an agreement to compromise the dispute with the assistance of the Prime Minister of India, was subsequently made between the party states, under which 0.5 million acre feet of water of Narmada was virtually donated to Rajasthan. This is apty made out from the Report of the Tribunal vide P. 7 (para 1-3-12) of Vol. I, P. 3 (paras 10.3.1 to 10.3.4) of Vol. II, Page 30 of Vol. III, and P. 56 (para 3.4.9) of Vol. IV.

9. 5 It is worth mentioning here that at the time of this agreemenr, there was no popular Ministry of Gujarat and the agreement was made by the Adviser to the Governor of Gujarat.

Para 10.3.3 of the Report Vol. II states that: "Subsequently the Chief Ministers of Madhya Pradesh, Maharashtra, Rajasthan and the Adviser to the Government of Gujarat arrived at an agreement... on 12th July 1974".

Para 4 of this agreement states:

"4. that the **Requirements of Maharashtra and Rajasthan** for use in their territories are 0.25 and 0.5 million acre feet, respectively and that the Tribunal, in determining the disputes referred to it, do proceed on the basis that the requirements of Maharashtra for use in its territories are 0.25 million acre feet and that Rajasthan will get for use it its territories 0.5 million acre feet without prejudice to the height of the canal".

9. 6 By its judgement dated 8-10-74, the Tribunal recorded the compromise of the party states as follows;

"As a result of this agreement Rajasthan has now became entitled to a share of Narmada waters to the extent of 0.5 million acre feet .. We therefore accept the agreement of the parties in this regard and we decide that Rajasthan is entitled to a share of 0.5 million acre feet of Narmada waters as a result of the agreement of the Party states dated 12th July 1974".

9. 7 The whole question is aptly described in para 1-3-12 on page 7 of Vol. I of the Report thus;

"...As regards the allotment of share to Rajasthan there has been a serious dispute between the party States and the central Government had to make a reference of the dispute to the Tribunal .. The case of Madhya Pradesh and Maharashtra was that Rajasthan had no right to a share of Narmada waters as it was a non-riparian state. In its preliminary decision, given by the Tribunal on 23rd February 1972, it was held by it as a matter of law that Rajasthan being a non-riparian state was not entitled to a share of the waters of the inter state river Narmada. Against the decision of the Tribunal, Rajasthan had taken an appeal to the Supreme Court. This appeal has since been withdrawn by Rajasthan. The result is that the decision of the Tribunal dated 23rd February 1972, has become final. But the legal position has changed as a result of the subsequent agreement between the party states dated 12th July 1974. As a result of this agreement Rajasthan has now became entitled to a share of the Narmada waters to the extent of 0.5 M.A.F. The right of Rajasthan to a share of the Narmada waters is at present based on the agreement between the party states and not on the general law as set out in the decision of the Tribunal dated 23rd February 1972 .."

9. 8 The excess water also on the same basis were proportionately allocated to Rajasthan by the majority decision of the Tribunal. (i. e. 2 members) while the dissenting member Mr. A. K. Sinha held that Rajasthan can get only 0.5 M.A.F. of water only by virtue of agreement of party states and nothing more and therefore he disallowed the claim of Rajasthan for excess waters. (see clause IV of decision on page 123 of Vol. II and dissenting decision in para 3.4.9 on P. 56 of Vol. IV).

10 Claim of Narmada Waters for Banni and Ranns Brief Facts.

10. 1 This issue itself is such a ticklish and important one, that it requires a detailed examination with reference to history and facts, from the beginning to end. However, since our present aim to pinpoint this issue here, is only to show as to how our rightful claims over the sweet waters have been overlooked for want of political will and efficacy, the detailed discussion of the issue is out of place here. The facts in very brief are thorefore

summarized here.

10. 2 As per the statement printed on P. 126-127 of Vol. I of the Narmada Tribunal Report, the Gujarat had claimed to include 72.08 lakh acres in the CCA before the Khosla Committee inclusive of 15.00 lakh acres of Banni and Ranns.

10. 3 The Khosla Committee recommended for 7.50 lakh acres of Banni and Ranns areas under the proposed + 300 canal.

10. 4 The claim of Gujarat before the Tribunal was based on the needs for irrigation of vast areas including Kutch region, particularly Banni and Ranns and accordingly 11.03 lakh acres of CCA of Banni and Ranns was included in the claim before the Tribunal.

10. 5 Dr. Ambika Singh, the Assessor of the Tribunal, expressed his views against the proposal of irrigation in Banni and Ranns as detailed on P. 88 of Vol. I of the Tribunal Report, according to which his main objection was the absence of some detailed investigations and the required detailed data and the economic viability of the proposal.

10. 6 The majority decision (i.e. 2 members) of the Tribunal was therefore against the proposal and the reasons of the decision have been given on P. 127 of Vol. I of the Report.

10. 7 However, the third member of the Tribunal Mr. A. K. Sinha, did not agree with the other two members and therefore he gave his own judgement dated 19-6-78 which is contained in Vol. IV of the Report. He has discussed fully the various investigations, experiments and surveys carried out in Banni and Ranns by various experts, institutions and departmental authorities; and has also pinpointed the recommendations and observations of the Irrigation Commission (1972) particularly in respect of Banni and Scarcity areas of Kutch; and National Commission of Agriculture in respect of desert areas. He has also considered the objections of Madhya Pradesh and Maharashtra against the proposal and ultimately supported the claim of Gujarat in very catagorical terms. He has concluded that;

(1) Reclamation and crop cultivation in these areas is feasible as per investigation reports;

(2) Pilot experiments carried out in Banni has established the feasibility of reclamation and crop cultivation;

(3) Paucity of waters was the reason for not carrying out further experiments and investigations by Gujarat;

(4) It is too early to say conclusively that such reclamation or crop cultivation in these areas will not be techno-economically viable;

(5) Dr. Ambika Singh, has not drawn any firm conclusion in his report;

(6) Socio economic need of Gujarat State for taking Narmada Waters in these areas is established;

(7) There is no other source of water in these areas either for reclamation or even for carrying out experiments, if necessary;

(8) Gujarat has to take its high level canal right upto the border of Rajasthan and therefore from the planning point of view, there is an additional advantage for taking water to these areas without additional costs;

(9) Based on these reasons he has decided to include 4.28 lakh acres of Banni and Ranns within the CCA of Gujarat.

(10) For this purpose, he has assessed the water requirement of 2.47 MAF for these areas and has worked out the additional cost for utilising 1 MAF of water in these areas at Rs. 2.34 crores per year on account of lift irrigation from the 190 canal.

10. 8 It will be seen from the above brief narration of the case for Banni and Ranns, that eventhough, the claim was fully justified, it was a misfortune of Kutch that the Tribunal decided the issue by majority of 2 to 1 against the interests of Kutch. This was a severe blow in the back.

10. 9 It is howevery worth-mentioning here that the decision of the Tribunal was in respect of apportionment of water between the interested States on the basis of the CCA allowed to be considered for the purpose of computation of water recuirement of of each State. That decision only limits allotment of water to Gujarat Madhya Pradesh. It does not deter these states to make use of that water

in whatever areas and in whatever maneer they desire to use it. Clause III (3) of the Final Order makes this clear;

"(3) Within its share of water, each party State is free to make such changes in the pattern of water use and in the areas to be benefitted within or outside the Narmada basin in its territory as it may consider necessary".

The Tribunal has also allowed the concerned States to utilize the surplus waters as they can. Thus, inspite of the fact that the Banni and Rann areas etc., have not been included in CCA for the purpose of deciding the share of water to be given to Gujarat, the State Government is free to give waters of Narmada to the thirsty lands of Kutch including Banni and Ranns; but for that, political will and efficacy are required, just as in the cases of Rajasthan and Hariyana we have seen in earlier parts of this Chapter.

11. Observations of Irrigation Commission (1972)

11.1 The Irrigation Commission 1972 identified all the talukas of Kutch as draught affected areas. It also made the remark that;

"The extreme unrelliabillty of the rainfall, particularly in north Gujarat, Saurashtra and Kutch is the main cause of draught".

"The most serious problem in the draught affected areas of Gujarat is the lack of drinking water. Most of the villages in the scarcity areas have no permanent source of drinking water. In the course of our tour, we came across a number of villages, particularly in Kutch, where the only sources of drinking water for the people and cattle are surface tanks and shallow dug-wells. This water is highly unhygenic. The problem of providing potable drinking water is therefore, of the highest importance".

"Wherever we went, and at whatever meetings were held, we were made keenly aware of the strong conviction of the people, that any significant improvement in the irrigation picture of Gujarat particularly of the scarcity areas in Saurashtra, Kutch and north Gujarat, can only be brought about by irrigation from the Narmada".

11.2 The Commission observed for the Banni area of Kutch as under;

"All the land in this essentially pasture land belongs to the Government, and the Maldharies, a pastoral people who inhabit the area, and raise fine herds of cattle, enjoy unrestricted grazing rights. We were told that there were as many as 13 Maldhari clans living in more than forty villages, which have seasonal resources of water for drinking by human beings and herds of cattle. Our visit to the area took place in a year when the rains had been exceptionally goods, and it was possible therefore, to see more grass than is usually found in the area. The quality of grass was enough to give an idea that the soil was good and of what would happen when the area received irrigation water. If some source of irrigation could be found, the possibilities for growing crops and raising cattle would be immense. We felt greatly distressed to hear from the Maldharis, of the dire distress caused to them, and of decimation of their herds when, as frequently happens, the rains fail. Then the Maldharis have no option but to migrate hundreds of k.m. outside Banni to save their cattle".

12. Observation of National Commission of Agriculture.

"It would also be possible to bring under cultivation some desert areas by providing irrigation facilities there as is being done in Rajasthan with Rajasthan canal..."

13 Special grounds applicable to Kutch.

(1) All the talukas of Kutch are identified as draught affected areas by Irrigation Commission 1972. Kutch is experiencing permanent scarcity conditions and is liable to frequent and severe famines. In Gujarat only one District i. e. Kutch is considered as totally draught-prone area.

(2) Kutch receives very little monsoon rain and no winter rain and therefore no rabi crop is possible except by irrigation. Climatic condition is also very dry and unless humidity is increased, there is no scope of increase in rainfall.

(3) Sub soil water is very deep and more or less unfit for irrigation in major part of the district.

(4) Kutch is a Border State close to Pakistan and in the interest of

National Security it is necessary to irrigate desert areas for settlement of peasants in the border areas.

(5) Kutch is having a large arid tract with practically 100% draught prone areas and the present development of Irrigation is negligible compared to other districts. Large quantity of water is needed for irrigation in this area whereas the availability of water from other sources is very limited.

(6) Kutch is a backward area with actute scarcity conditions. As per policy declared by Planning Commission, such areas require special treatment for irrigation facilities for their balanced and integrated development.

(7) Khosla Committee has also specified in its guidelines that arid areas along international border with Pakistan are to be given priority to encourage sturdy, peasents to settle in border areas.

(8) Kutch has no perreniel river and has no alternative means and other resources to get water.

(9) Economic and social needs of the area and its population as also cattle wealth requires higher degree of priority in satisfying the needs

(10) Out of 967 villages of Kutch, more than 700 villages are 'No source' villages and permanent drinking water facilities are not available in these villages.

(11) No major irrigation project is there in Kutch or is possible in near future. Kutch should have priority over the areas which now face water logging problem.

(12) Out of total cultivable waste land of 50 lakh acres in Gujarat, nearly 40 lakh acres is only in Kutch. Thus 80% of the cultivable waste is only in Kutch.

CHAPTER IV

CONCLUDING SUMMARY

The facts narrated in the preceeding chapters and an impartial objective analysis of these facts with the relevant data given therein, as also in the various Exhibits printed herewith, reveal certain conclusions, which cannot be disputed. They are summarised briefly in the following paras.

1. Conclusions as to legal Riperian Right.

1.1 It is an established fact that River Indus was flowing into Kutch territory from very ancient times to the later years of 19th Century and its waters were irrigating rice fields in the North-west part of Kutch.

1.2 North Western portion of Great Rann and the mainland of Kutch are clearly and specifically included in the Indus Basin area as is evident from an authoritative Survey of India map of Indus Region printed in the book 'Indus Waters Treaty' by Dr. Gulhati.

1.3 The right to Indus Waters for Kutch had been accepted in past in an undisputed manner.

1.4 The Government of India also accepted this position by making provision for Indus waters for Kutch area in the Draft Outline Plan submitted to the World Bank for development of Indus Basin as a whole, including a part of Kutch territory.

1.5 The Principles of 'Equitable Apportionment' for use of inter-state river waters between the basin territories as accepted in the International law, clearly establish the right of Kutch Area over the Indus waters as Riperian State. These very principles, even in their more liberal form, have been applied within the Nation also, by Government of India and other authorities for solving the disputes of river waters within the Indian Territory.

1.6 Kutch could not get Indus waters only in the National Interest during the solution of dispute between Pakistan and India.

1.7 Eventhough, Rajasthan had no riperian claim over Indus waters, National interest required to emphasise the requirement of Indus

waters for Rajasthan canal being in Rajasthan area, that state got the Indus supplies as a result of Indus Waters Treaty.

1. 8 Indus waters made available for Rajasthan canal are thus National Waters and therefore Rajasthan cannot have any exclusive claim over the same. The territories now in India, but originally included in Indus basin, have evidently a prior claim over the waters that have been allocated to India as a result of the International Treaty.

1. 9 The Central Government can therefore be approached on legal grounds to provide for a share from these waters for the original Indus Basin area i.e. Kutch.

2. Conclusions as to Right on Special Grounds

2. 1 Central Government have alloted 3.50 M.A.F. of water from Ravi and Beas waters to Hariyana on special grounds, eventhough that State was not legally entitled to any waters of these rivers, These special grounds applied in case of Hariyana are more effectively, applicable even in its severe form, to the Kutch area, over and above its legal claim.

2. 2 Similarly in case of Narmada waters, the Narmada Tribunal catagorically rejected the claim of Rajasthan and decided that it had no legislative or executive right in Narmada waters. Inspite of this, on political and other special grounds, the Narmada waters to the extent of 0.50 M.A.F. were allocated to Rajasthan by intervention of Central Government.

2. 3 Gujarat State is also made to agree to allot waters from Mahi canal to the Rajasthan at the time of finalization of Kadana Project.

2. 4 Gujarat State can therefore claim to re-imburse the waters to the extent of rightful share of Kutch in the Indus waters, from the share of Narmada waters or of Mahi waters allotted to Rajasthan by deducting that much quantity from its share and supplying that quantity to Kutch as Replacement. Alternatively, the share of Kutch can be demanded directly from Rajasthan canal, now known as Indira Canal. The waters from this canal can directly and easily come to Kutch right upto Kandla as shown in Exhibits printed herewith.

2. 5 It is worth mentioning here that to extend Narmada and Mahi canals

upto Rajasthan and to extend Rajasthan canal (i.e. Indira canal) upto Kutch would in fact be a national waste of crores of Rupees. Instead of this, the water allotted as share of Rajasthan from Mahi and Narmada, should directly be given to Kutch, Saurashtra and Banaskantha as a Replacement of share of Kutch in Indus waters which have entirely gone to Rajasthan.

2. 6 Alternatively, Narmada high level canal which is going right upto the border of Rajasthan should be utilised to release additional water for Kutch to the extent of our share of Indus waters by decreasing that much flow from the share of Rajasthan. The supply to Kutch from this canal can be done without additional cost as specified by Mr. A. K. Sinha, Dissenting Judge of the Narmada Water Dispute Tribunal.

3. Conclusions as to Narmada Waters.

3. 1 There is no ban on Gujarat to use Narmada waters in any area within or outside Narmada basin. Similarly surplus waters will also be available to Gujarat. There waters can be given to areas known as Miyani Pat and Powerpat in Kutch through originally planned Banni Branch of Narmada. Similarly Kutch Branch should also be taken up to village Kaduli of Abdasa Taluka as originally planned. Chhadbet Branch as originally planned can be substituted by Pranthal Branch, to serve Pranthal area of Rapar Taluka for irrigating these arid areas of Kutch.

3. 2 As per the subsequent clarifications made by Gujarat in Exhibit G. 905 before the Narmada Tribunal, it has accepted that all the areas including Banni and Rann can be covered for supply of water even in allotment of 8 M.A.F. of water.

3. 3 The new areas included in Narmada canal system after the decision of Tribunal, should be considered only after the areas originally proposed before the Tribunal are allocated the requisite quantity of water as per the originally proposed proportion.

4. Special case of Kandla complex

4. 1 The Government of India have invested crores of Rupees for the development of Kandla as a Major Port on Western coast of India. Many private enterprenures have also invested sizeable amounts in this area. We cannot afford to let go this investment as waste only

for the paucity of water for drinking and industrial purposes.

4. 2 It is worth mentioning here that the Government of Gujarat had appointed a committee vide G. R. No. KMW 1080 65.B dated 17.1.1980 to assess the water requirement of Kandla Gandhidham complex during the period of next 15 years and to identify sources to meet this requirement. No person from public life was included in this committee. In its report dated 15-2-1982, they have drawn a gloomy picture and in a very discouraging tone, have said that no industrial development is possible due to paucity of water. They have recommended that no water based industry should be started in this area.

4. 3 It is very surprizing that in an area where industrial development is negligible, where there is very thin population in border areas, and where there are immense opportunities of industrial development due to availability of large quantities of various Mineral and salt resources, the industrial development itself is discourged instead of finding out the solutions to remove the difficulty of water to boost the industrial development.

4. 4 In Gujarat, industrial development is mainly concentrated in South Gujarat, where density of population per sq. k.m. has gone upto 350 as against Gujarat average of 174 and India average of 216. This has raised various problems there, e.g. problems of air and water pollution, soil eroision due to water logging, problem of law and order etc., Is this unbalanced and one sided development in National interest ? Do we not have to think of finding out other areas for industrial development ?

4. 5 Last year, we have seen that the problem of drinking water in Rajkot area became a serious concern and all concerned immediately started to think about solving it. As a result, a project to bring Narmada water by pipeline at the cost of about Rs. 500/- crores was prepared and got sanctioned. It is now under implementation. Whereas, in Kutch more than 700 villages have no sweet drinking water for human and cattle population and the development of whole Kandla Complex is being hampered for want of availability of water resources and even then, why no permanent remedy is being thought of, is a problem for every person in Kutch to think. To provide water for Jamnagar, pipe

line from Machchu dam was thought of, planned and implemented within one year, Whereas the same type of pipe line for Kandla, eventhough planned and provided for its carraige on the Surbari Bridge years ago, has not been taken care of and in fact, has been easily forgotten. Why ?

4. 6 Narmada Pipe line has been sanctioned as technically and economically viable project and its landing point would be some where in Bhavnagar District It will cross the whole Saurashtra area and thereafter it will reach near the border of Kutch. This means that Kutch will get water only if there is any surplus after meeting the needs of the whole area of Saurashtra.

4. 7 There has been a constant decline in rainfall during last 10 to 15 years in the catchment area of Narmada to such an extent that the technical experts have also been purturbed by this phenomenon. Nobody knows what will happen in future and how far the Narmada supplies would be sufficient to feed the big project as Narmada pipe line. Of course, there is no point to discourage the project as it has other many advantages.

4. 8 But the point to stress here is that the Narmada supplies depending on rainfall is comparatively less reliable source than the Himalayan Rivers which are evidently the most reliable source. Rajasthan canal gets supplies from Himalayan Rivers and therefore it is more dependable and reliable source. Secondly the length of pipe line from Rajasthan canal would be much less compared to Narmada pipe line. Thirdly the landing point of Rajasthan canal pipe line would be more or less equidistant to all the three thirsty areas i.e. Kutch, Saurashtra and North Gujarat. Thus to plan and implement this project in addition to Narmada pipe line project would be more beneficial, more reliable and would be able to serve most of the areas which are in dire need of sweet drinking water for human population, cattle wealth and for industrial development. It would also provide an alternative in cases of scarcity and famine conditions.

4. 9 Of course, this project is connected with two States viz., Rajasthan and Gujarat, whereas the Narmada pipeline project is to be implemented within the Gujarat State, still however, when we can plan for and imple-

ment a very big inter-state project of Salaya Mathura Pipe line at the very very big amount of investment for carrying petroleum products only, why can we not attach that much priority for the requirement of living human beings ?

4. 10 The cost of this pipe line can be recovered from the Industries that will be benefited just as we are planning to recover the cost of Narmada pipeline from the vehicles using the Bridge which will be constructed on the Bay of Khambhat.

4. 11 We can thus solve the problem of Kandla complex by planning to get water by pipeline from Rajasthan canal straighway.

5. Conclusions for Action.

This heads us finally to conclude as to what can now be done to remedy the situation. We think, the problem should be taken up on three different platforms as summaricd hereunder;

5. 1 International Action.

(1) On popular front, a delegation consisting of some knowledgible persons particularly consisting of some persons of minority community can be sent to Pakistan to impress upon the Pakistan Government to consider the needs for water for demestic use of the people living on the border areas particularly, on humanitarion grounds.

(2) On political front, when cur Prime Minister Rajiv Gandhi is all out to improve the relations with the neighbouring states and particularly Pakistan, he can be convinced by Gujarat leaders to tackle this issue on personal level with the President of Pakistan to give Indus waters at least for demestic use from the western rivers.

(3) On legal front, the provision contained in the Indus Waters Treaty in clause (2) of Art. III thereof in respect of right of domestic use and non-consumptive use of the waters of the Indus, The Jhelem and the Chenab, in the drainage basin of these rivers, can be purposefully utilised to secure such waters from tail-end of Indus canal system as are required for the above uses.

(4) For this purpose, there is a provision of 'Future co-operation' in the Treaty in Article VII and provision of 'Settlement of Differences and Disputes' in Art. IX and a saving clause in Art. XI of the Treaty. These provisions can be examined on legal basis and can be resorted to, if possible.

(5) The efforts described above can be limited to bringing water for domestic purposes (i.e. drinking etc.,) only and therefore we may forget to get the waters by canal but only insist to get pipeline to carry this limited quantity of water.

5.2 Interstate Action.

(1) Gujarat State should follow up the correspondence closed in about 1962-64 after the denial of Rajasthan to spare waters from Rajasthan canal and ask for the intervention of the Central Government either administratively or under the water Disputes Act, to press Rajasthan Government to allot the equitable share of Kutch from Himalayan Rivers waters flowing in Rajasthan canal which Kutch is legally entitled to get as a region comprized in the Indus basin area, particularly when the Rajasthan has got Indus waters as National asset and Kutch has suffered because of that National interest which was paramount in relation to claim of India against Pakistan.

(2) The grounds on which the Central Government have alloted the Ravi and Beas Waters to Hariyana and Narmada Waters to Rajasthan, both of whom had no legal or riperian claim over these waters, are equally and more emphatically, existent in relation to Kutch even in more severe form. This must be impressed upon emphatically on political levels also.

(3) Worst come to worst, atleast the case of having a pipeline instead of irrigation canal, from the tail-end of Rajasthan canal, for Domestic, Non-consumptive and Industrial uses only, in the areas of Kutch including Kandla Complex, Saurashtra and North Gujarat, must be vehemently presented before the Central Government. It can be emphasised with the data given in preceeding chapters, that the Rajasthan has not been able uptil now to utilise all the waters

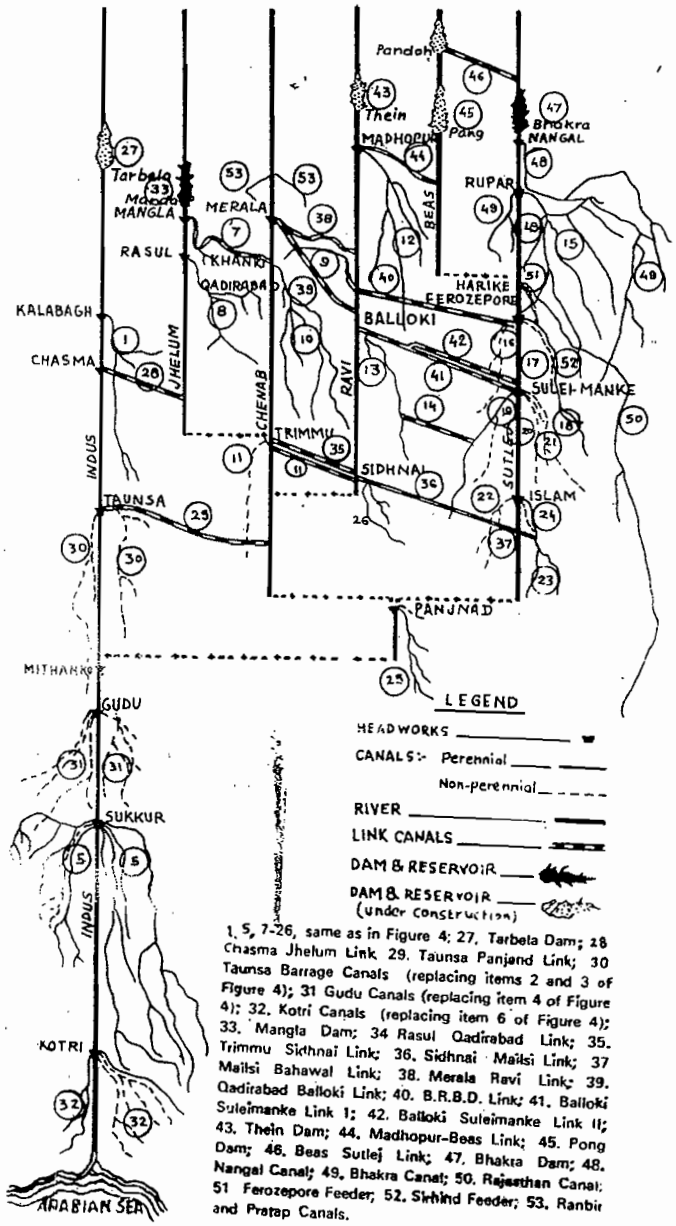
of Eastern Rivers which it was expected to utilise in 1970 and as a result these waters are used in Pakistan which under the Treaty India can use in its own territory.

5.3 State Action-Gujarat.

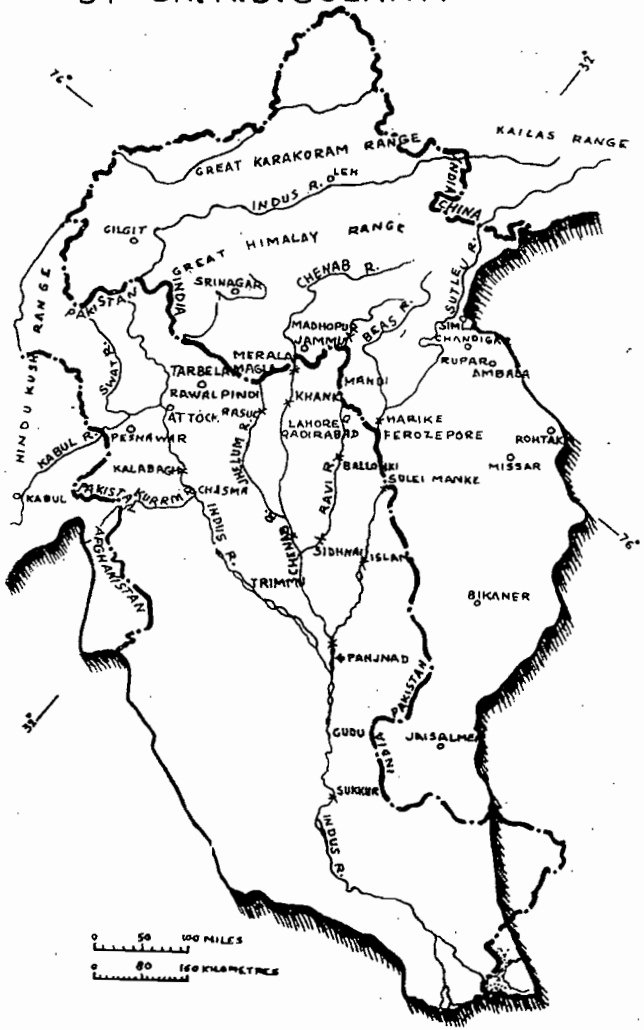
(1) As mentioned earlier, the distribution of Narmada Waters allotted to Gujarat is left entirely at the discretion of State Government and it is competent to decide the manner and area which is to be covered by Narmada canal system. The Gujarat State can therefore consider the areas of Kutch as originally planned for irrigation by Narmada canal. The coverage of new areas of other districts which were not originally included in the case submitted before Khosla Committee and before Narmada Tribunal should be considered only after the water requirements of areas which were originally proposed are satisfied.

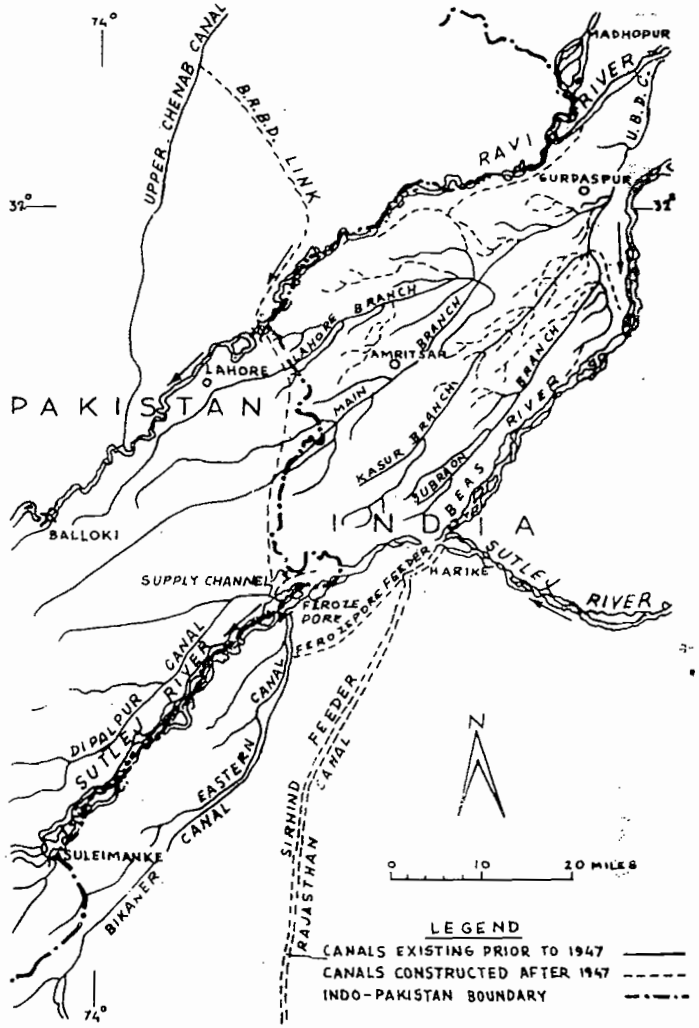
(2) It should be impressed upon the Government of Gujarat, to give more weight to National Interest, and justice than to the political pressure tactics and political exigency.

MAP SHOWING BARRAGES & CANALS OF SINDHU
WITH THANKS FROM INDUS WATER TREATY
BY DR. N.D. GULHATI

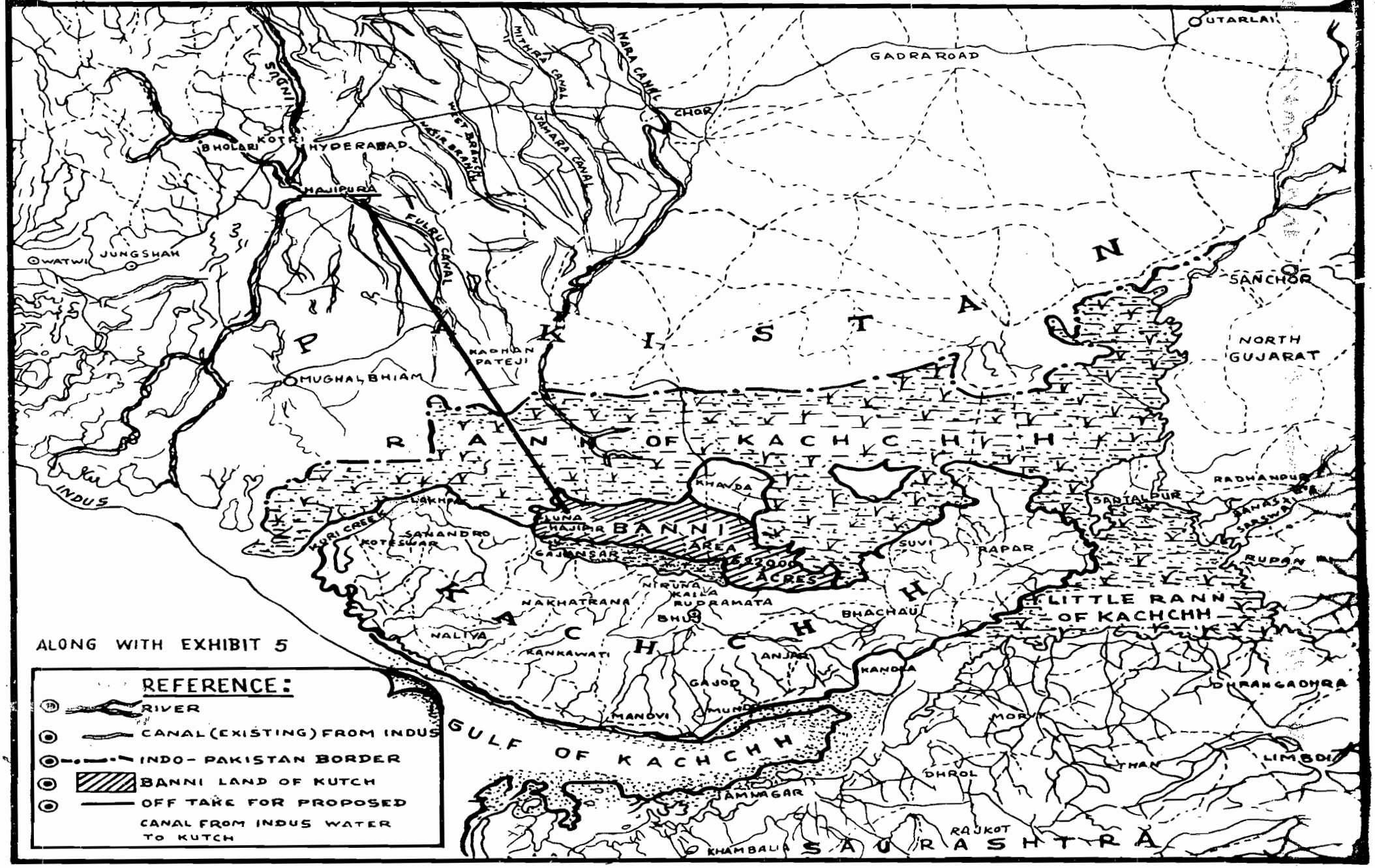


1, 5, 7-26, same as in Figure 4; 27. Tarbela Dam; 28 Chasma Jhelum Link 29. Taunsa Panjand Link; 30 Taunsa Barrage Canals (replacing items 2 and 3 of Figure 4); 31 Gudu Canals (replacing item 4 of Figure 4); 32. Kotri Canals (replacing item 6 of Figure 4); 33. Mangla Dam; 34 Rasul Qadirabad Link; 35. Trimmu Sidhnai Link; 36. Sidhnai Mailsi Link; 37 Mailsi Bahawal Link; 38. Merala Ravi Link; 39. Qadirabad Balloki Link; 40. B.R.B.D. Link; 41. Balloki Suleimanke Link I; 42. Balloki Suleimanke Link II; 43. Thein Dam; 44. Madhopur-Beas Link; 45. Pong Dam; 46. Beas Sutlej Link; 47. Bhakra Dam; 48. Nangal Canal; 49. Bhakra Canal; 50. Rajasthan Canal; 51 Ferozepore Feeder; 52. Sirhind Feeder; 53. Ranbir and Pratap Canals.





INDUS RIVER CANAL SYSTEM
AND SURVEYED ALIGNMENT OF HAJIPURA TO BANNI



ALONG WITH EXHIBIT 5

REFERENCE:

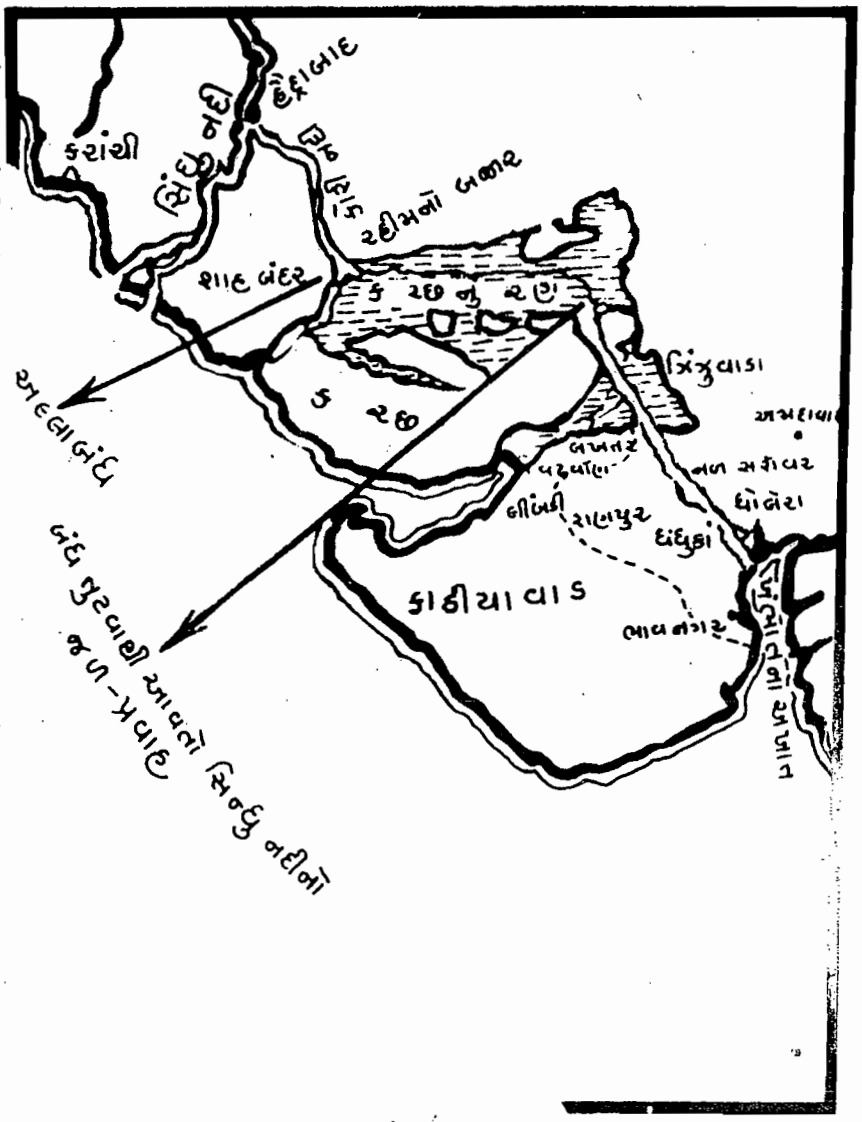
- RIVER
- CANAL (EXISTING) FROM INDUS
- INDO-PAKISTAN BORDER
- BANNI LAND OF KUTCH
- OFF TAKE FOR PROPOSED CANAL FROM INDUS WATER TO KUTCH

EXHIBIT-1

સિન્ધુનાં પાણી : કાઠિયાવાડમાં?

[જાણો છો પ્રથમ સિન્ધુ નદી કાઠિયાવાડમાં વહેતી હતી? હવે પાછાં સિન્ધુ નદીનાં પાણી કાઠિયાવાડમાં ઉતારી શકાય કે નહિ?]

અતિ પ્રાચીન કાળમાં કાઠિયાવાડ બેટ હતો. એ બેટ શી રીતે હતો? આજે કાઠિયાવાડદ્વીપકલ્પ એની ત્રણ બાજુએ પાણી અને ચોથી બાજુએ જમીન છે. બેટની તો ચારે બાજુએ પાણી હોય તો પછી આજે જ્યાં જમીન છે ત્યાં પુરાતન કાળમાં શેનાં પાણી વહેતાં હશે? પ્રાચીન કાળમાં કાઠિયાવાડને ચોથે છેડે મશહુર સિન્ધુ નદીનાં પાણી વહેતાં હતાં.



કોઇ ભૌગોલિક અકસ્માતથી સિન્ધુનાં પાણી ખંભાતના અખાતમાં પડતાં બંધ થયાં અને કચ્છના અખાતમાં પડવા લાગ્યાં. ઈસ્વીસનની બારમી સદીના અંતભાગમાં થયેલા એક ધરતીકંપથી આજના રણનો કેટલોક મોખરાનો ભાગ ઉપસી આવ્યો ને સિન્ધુનાં પાણી લખપત બંદરે અરબ્બી સમુદ્રમાં મળવાં લાગ્યાં.

અઢારમી સદીના મધ્ય ભાગમાં, ૧૭૬૧ માં પાણીપતની ચોથી લડાઈમાં જ્યારે મરાઠાનો પરાજય થયો ત્યારે એજ અરસામા અહમદ શાહ દુરાનીનો દોસ્ત સિન્ધનો અમીર ગુલામશાહ કલોરા કચ્છ ઉપર ચડાઇ લાવ્યો.ને ઝારાની સંહારક લડાઇમાં એણે કચ્છને હરાવ્યું. તે વખતે સિન્ધુ નદીને પોતાનીજ સુવાંગ નદી બનાવવાની અભિલાષાએ ગુલામશાહે સિન્ધુ નદીનાં પાણી આડે એક બંધ બાંધ્યો. અને એ બંધનું નામ અલ્લાબંધ રાખ્યું. સિન્ધના રાયમાં બઝાર નામના ગામથી આસરે દશેક માઇલ દૂર રણમાં આ અલ્લાબંધ નામનો બંધ આવ્યો છે.

પૂરાં અઠ્ઠાવન વર્ષ સુધી કચ્છના રાવોને આ બંધ તોડવાનો અને સિન્ધુના પ્રવાહ ઉપરનો

આ અંતરાય દૂર કરવાનો વિચાર સરખો પણ કરવાની ફુરસદ ન મળી ભાયાતો અને રાજ્યના સતત ઝઘડાઓ અને લૂંટારૂ ચડાઈઓમાં રાજ્યે એ કાળ ગાળી નાખ્યો. ઈ. સ. ૧૮૧૯ના જૂન માસમાં સાડા અગિયારસો માણસોને ભોંયમાં દફનાવી દેનાર ભયંકર ધરતીકંપ થયો. અલ્લા-બંધ પાસેની જમીન એક માઇલના વિસ્તારમાં અઢાર ફુટ ઉંચી થઇ ગઇ સિન્ધુના પાણીની આમ કાયમી રૂકાવટ થઈ ગઇ.

આજે તમે ભાલપ્રદેશ જુઓ. તમને દેખાશે કે આ પ્રદેશ કોઇ વિશાળ નદીના તળિયા જેવો છે, નકશામાં કાઠિયાવાડના એક છેડા ઝાંઝુવાડાથી જતવાડમાં વિઠ્ઠલગઢથી આસરે બારેક માઈલ દુર આવેલા નળસરોવર અને હડાળા (ભાલ) ઉપર એ લીટી ખેંચીને ધોલેરા બંદર પાસે એ લીટીને તમે ખંભાતના અખાત સાથે મિલાવો. સિન્ધુ નદીનો એ પ્રાચીન પંથ હતો. એ રસ્તે સિન્ધુ નદી ખંભાતના અખાતને મળતી અને કચ્છ-કાઠિયાવાડમાં હિમાલયનાં પાણી પહોંચાડતી.

એ કાળે સિન્ધુ નદી કચ્છ કાઠિયાવાડના પ્રાણ–રક્તના પ્રવાહરૂપ હતી, કાઠિયાવાડની કેટલીક નદીઓ એને મળતી અને સદા લીલી રહેતી. આજ કાઠિયાવાડમાં અમુક નદીઓના પટો એટલા બધા પહોળા છે કે તમને કોઇ ગજાવર નદીઓના ખ્યાલો આપે, છતાં આજે એમની લંબાઇ ખુબ ટુંકી છે, ભૌગોલિક દ્રષ્ટિએ આ અસંગત લાગે એવી નવાઈ છે. એનો ખુલાસો એક જ છે કે પ્રાચીન કાળમાં આ નદીઓમાંથી લીંબડીનો ભોગાવો, વઢવાણનો ભોગાવો એ મૂળ નદીઓ નહિ હોય, પરંતુ ઝાલાવાડમાં પાણી લાવવા માટે સિન્ધુ નદીમાંથી ખોદેલી નહેરો હશે સિન્ધુનો પ્રવાહ ઓસરી જતાં આ નહેરો પાણી લાવવાને બદલે ચોમાસાનાં પાણીનો નિકાસ કરતી નદીઓ સમી બની ગઈ ત્રીજી નદી સુખભાદર પણ આજે ભાલમાં ફેલાઈ જાય છે.

આ ત્રણ નદીઓ પટમાં ખૂબ પહોળી અને ચોમાસે ખુબ વેગદાર છતાં દરિયા સુધી નથી પહોંચી શકતી પરંતુ ઉપર આપણે જે કલ્પિત લીટી દોરી છે એ લીટી નીચે આવતા પ્રદેશમાં રેલાઇ જાય છે. આનો ખુલાસો એક જ હોઈ શકે. પ્રાચીન કાળમાં એ સ્થળેથી વહેતી કોઇ મહા નદીની તેઓ શાખાઓ જ હશે. પ્રાચીન કાળમાં એ સ્થળે સિન્ધુ નદી વહેતી.

આ તો વાત થઈ હજારો વર્ષ પૂર્વેની. આજ સિન્ધુ નદીનો એ અસલી પ્રવાહ સુકાઈ ગયો છે. એ પ્રવાહના તળિયાના મોટા ભાગમાં પારકર અને કચ્છનું નાનું અને મોટું રણ આવ્યાં છે. બાકીનો ભાગ આજ પણ 'નળ'ના નામથી ઓળખાય છે. કુદરતી અંતરાયો આવતાં નદીનાં વહેણ આજે ફરી ગયાં છે.

સવાલ એ છે કે સિન્ધુ નદીના વહેણની સામે આવી ઉભેલા કુદરતી અંતરાયો આજે દુર થવા શકય છે કે? ફરીને આપણે એ જુના પ્રવાહને લીલો કરી શકીએ એમ છીએ કે? એમ કરવા માગીએ તો ખર્ચ કેટલું થાય? એના લાભાલાભ કેટલા? લોકોને એમાંથી હાંસલ કેટલું?

સિન્ધુ નદીનો લખપત સુધીનો પ્રવાહ પલ-ટાઇ જવાનું કારણ તો મૂળમાં ગુલામશાહ કલોરાએ બંધાવેલો અલ્લાબંધ અને ત્યાર પછી ઈ સ. ૧૯૧૯માં કચ્છમાં થયેલો ધરતીકંપ. અલ્લાબંધ મૂળમાં આઠ ફુટ ઉંચો. ધરતીકંપને કારણે અલ્લાબંધ અને આજુબાજુની એક માઈલના વિસ્તારની જમીન અઢાર ફુટ ઉંચી થઇ ગઇ. આની સાથો સાથ જૂનાં તળિયાંની અંદર થોડું ઘણું ખોદકામ કરવું પડે જો આટલું થાય તો સિન્ધુ નદીનાં પાણી લખપત બંદર સુધી તો પાછાં પહોંચે.

હવે સવાલ રહ્યો કચ્છના રણનો. કચ્છનું રણ કાંઈ રેતીથી ભરેલું નથી. એ તો છે કાળી ખારી

મ ટી એની જમીન કઠણ અને સાધારણતઃ ખરાબા જેવી છે. પારકરના રણના સિન્ધના છેડા ઉપર આવેલા રાયમા બન્દર પાસેથી સિન્ધુનો અસલનો પ્રવાહ જતો. ત્યાંથી તે ઝીંઝુવાડા સુધી નદીનું તળીયું dredge કરવું પડે. ઝીંઝુવાડા ઉપરથી નદી આ રીતે કાઠિયાવાડમાં દાખલ થાય પાટડી અને વિરૂલગઢ વચ્ચેથી આગળ વધીને નળકાંઠામાં ઉતરે આંહીથી એક તસુ જમીનનું પણ ખોદાણ કરવાની જરૂરત નથી રહેતી આંહીથી નદી ધોલેરાથી પાંચેક માઈલ દુર જેટલે ખંભાતનાં અખાતને મળે ત્યાં સુધીના એના મર્ગમાં વસ્તીવાળુ નથી એક ગામ આવતું, ખેતી થઈ શકે એવું એક પણ ખેતર નથી આવતું. આખો ય એ પાધડી પટો આજ પણ ખરાબો જ રહ્યો છે.

લગભગ પાંચેક વર્ષ ઉપર એક ઇજનેર મિત્ર સાથે સિન્ધુ નદીના પાણીને કાઠિયાવાડમાં લાવવાની વાત થયેલી. ત્યારે પહેલાં તો એમણે એ વાત હસી કાઢેલી પરંતુ જ્યારે એમને કહેવામાં આવ્યું કે ખુબ જુના કાળમાં સિન્ધુ નદી આંહી આવતી જ હતી, ત્યારે એમણે એ પ્રવાહ શાથી બંધ થયો એની તપાસ કરેલી. લગભગ ચાર પાંચ માસ પછી એમણે કહેલું કે સળંગ નહેર ખોદવા કરતાં પણ ઓછી મહેનતે અને ઓછે ખર્ચે આજ પણ એ પ્રવાહ કાઠિયાવાડમાં આવી શકે આને માટે મોટું ખોદકામ વધારેમાં વધારે લંબાઈમાં ચારેક માઈલનું અને ઉંડાઈમાં વીસ ફુટનું કરવું પડે.

એમના કહેવા મુજબ કોઇ જુના ધરતીકંપને કારણે રણની સપાટી ત્રણેક ફુટ ઉંચી ચડી ગઇ હશે. તેથી સિન્ધુના પાણી લખપત બંદર આગળ અટકી ગયેલા. પરંતુ ઇ.સ. ૧૮૧૯ના ધરતીકંપથી રણની સપાટી ત્રણ ફુટ જેટલી નીચી બેઠી છે. એટલે બહુ બહુ તો રણમાં કયાંક કયાંક 'ડ્રેજીંગ' માત્ર કરવુ પડે એમના હિસાબે ચારથી પાંચ હજાર મજૂરોને આ તમામ કામ પુરૂં કરતાં બેએક વર્ષ લાગે. માટે એકંદર ખર્ચ લગભગ દોઢથી બે કરોડ જેટલું થાય.

હવે આટલા ખર્ચનું ચોખ્ખું વળતર શું? સિન્ધુ નદીનાં પાણી કાઠિયાવાડમાં ઉતરે તો એનાથી લાભ શો?

પહેલાં તો આપણે બંદરી લાભ વિચારીએ. ધોલેરા એની ઓસરી ગયેલી જૂની મહત્તા ફરીને પ્રાપ્ત કરે એ સમજાય એવી વાત છે. ધોલેરા બંદર થાય તો અમદાવાદ અને સમસ્ત ગુજરાતને એક સારૂં સ્વાયત્ત બંદર મળે. ધોલેરા બંદરથી થતા લાભો ઉપર વિવેચન કરવાનો આંહી અવકાશ નથી, કેમકે ધોલેરા બંદરમાં કાઠિયાવાડના રૂ. મલબારી લાકડું અને જુવાર ખાંડના આયાત નિકાસની પૂરેપૂરી શકયતાઓ ભરી છે.

પરંતુ સિન્ધુ નદીની કાઠિયાવાડ અને ગુજરાતના બરાબર સીમાડે સીમાડે થતી આયાતમાં ખુદ અમદાવાદ પણ બંદર બનવાની શકયતા છે. ઝીંઝુવાડા કે ધોલેરા બેમાંથી ગમે તે બાજુએથી એક નહેર ઠેઠ અમદાવાદ લાવી શકાય આ માટે વધારેમાં વધારે પચીસેક લાખ રૂપીઆનું ખર્ચ થાય. અમદાવાદના મીલઉદ્યોગને, લોખંડના વેપારને આનાથી કેટલું જોમ મળે અને સમસ્ત ગુજરાતને આનાથી કેટલો બહોળો લાભ થાય એ પ્રત્યક્ષ સમજાય એવી વાત છે.

આની સાથોસાથ બે પેટા યોજનાઓ પણ જો હાથ ધરવામાં આવે તો કાઠિયાવાડનો આખો મહોરોજ ફરી જાય. એક લીંબડી અને વઢવાણના ભોગવાઓને એના અસલ સ્વરૂપમાં ફેરવીને દરિયા તરફ વહેતી નદીને બદલે નપાણીયા પ્રદેશમાં પાણીનો ભોગવટો આપનાર ભોગાવા નહેરો બનાવીએ તો ભાલ અને ઝાલાવાડની રસાળ ધરતી આખાયે કાઠિયાવાડને પૂરૂં પાડે એટલું અનાજ પેદા કરે.

જળ – સંગ્રહની યોજનાના એક વિભાગ તરીકે બીજી પેટા યોજના સિન્ધુમાંથી એક નહેર કાઢવાની છે. આ નહેર મોરબી ઉપરના ભાગ–માંથી લઈને હાલાર સુધી પહોંચાડવામાં આવે તો આખા કાઠિયાવાડમાં આજે જે પાણી ઉણપ દેખાય છે એ સાંગોપાંગ પુરી પડે.

સિન્ધુ નદીને કાઠિયાવાડમાં લાવવાની વાત પહેલી નજરે ધારવામાં આવે એટલી મુશ્કેલ નથી, એટલું જ નહિ પરંતુ જળસંગ્રહની બીજી યોજનાઓ કરતાં એ વધારેમાં વધારે પ્રમાણમાં કુદરતને અનુકુળ રહેનારી હોવાથી વધારે સરલ અને વ્યવહારૂ બની શકે તેવી છે. આંહી હજી એનું જૂનું તળીયું કાચમ છે. આહી હજી એના જૂના ચીલા એમને એમ પડયા રહ્યા છે. આજ પણ તમે નળકાંઠો જૂઓ, અલ્લાબંધ જૂઓ, સિન્ધુ નદીનાં વહેન આજ પણ એનું સુકકુ તરસ્યું તળિયું કોઇ સહાયક માનવકરામતની રાહ જોતું બેઠેલું તમને દેખાશે.

ઈ.સ. ૧૮૧૯માં થયેલા ધરતીકપ જુન માસથી તે સપ્ટેમ્બર માસ સુધી અવારનવાર નાના મોટા આંચકાઓ આપતો ચાલ્યો હતો. એ ઘણે અંશે સાનુકુળ બન્યો છે એણે રણનું આખુ તળિયું નીચે બેસાડયું છે. પ્રવાહ સામેનો એ મોટામાં મોટો અંતરાય એણે દૂર કર્યો. એક બીજો ધરતીકંપ એટલો જ સાનુકુળ થાય તો જરૂર સિન્ધુ આપમેળે આવે. પરંતુ પૃથ્વી ઉપર જવાળામુખીઓના પગ ઉપર આપણો દેશ નથી આવતો એટલે આપણે ધરતીકંપની રાહ જોવી કે ધરતીકંપની કોઈ આશા રાખવી નકામી છે. એ ન બને તેવુ છે.

આ વિશાળ યોજના પાછળ થનારા ખર્ચની જોગવાઈનો પ્રશ્ન કાઠિયાવાડની વિચિત્ર રાજકીય પરિસ્થિતિને કારણે મુશ્કેલ બને છે. સિન્ધુ નદીનાં વહેન જો આંહી ઉતારવાનો વિચાર કરવામાં આવે તો મુંબઈ સરકારે કચ્છ, ધ્રાંગધ્રા પાટડી, લખતર, બજાણા, વિરમગઢ લીંબડી વગેરે રાજ્યો સાથે આ વાતનો પ્રાથમિક વિચાર કરવાનો રહે સિન્ધું નદીનું વહેન આટલા રાજ્યોની હદમાંથી પસાર થાય.

આ યોજનાથી સૌથી વધારે લાભતો કચ્છને થાય. આજ આખાયે કચ્છમાં એક પણ નદી નથી. મીઠાં પાણીની જોગવાઈ નથી ને વરસાદ ઓછામાં ઓછો પડે છે. આને પરિણામે કચ્છમાં ખેતી થતી નથી. એટલે કચ્છની દશ લાખની વસ્તીમાંથી પાંચથી છ લાખ જેટલી વસ્તી તો મુંબઈ. આફ્રિકા, બંગાળા મધ્ય હિન્દ વગેરે સ્થળોએ વસવાટ કરી રહી છે.

પાણીની તાણને કારણે જે મુલકની અરધા ઉપરાંતની વસ્તી પરદેશમાં જ વસતી હોય એ મુલકના રાજતંત્રે પાણીની જોગવાઇનો વિચાર કરવાનો રહે છે. કચ્છ રાજ્ય પાસે નાણાંનો પુરાણો સંગ્રહ વિપુલ છે એમ કહેવાય છે. ધારે તો એક કચ્છ રાજ્ય આ યોજનાને અમલી સ્વરૂપ આપીને પોતાના ખારા, રેતાળ અને સદા તરસ્યા પ્રદેશને જળતરબોળ કરી દઇ શકે.

તાર અને ટપાલની જેમ સરકાર ગુજરાતનું મહા હિત લક્ષમાં રાખીને પણ આ યોજના ઉપાડી શકે ભાવલપુર રાજ્યના જળબોળ મુલકમાં નવી નહેરો નાંખવાને જે સરકાર કરોડ કરોડની લોન આપે છે એ સરકારને આ યોજનાની પાછળ કરોડ રુપીઆ ખર્ચવા મુશ્કેલ ન બને

કચ્છમાં શ્રીમંતો 'સખાવત–શૂરા' હોય છે. ચાર ગાઉના પંથકમાં ચૌદ ધર્મશાળાને બાર દવાખાના સ્થાપીને પોતાની નામના જમાવવાની કામનાવાળાઓ પણ અનેક કચ્છી છે. આવાઓ-માંથી પાંચસાત જણાને માટે આ યોજના મુશ્કેલ નથી.

આ યોજનાની ઈજનેરી દ્રષ્ટિએ તપાસ

(અનુસંધાન EXHIBIT–1 Bના પાછળના પાને)

EXHIBIT-1 A

Extracts from "The Geography of Rgvedic India" by Manoharlal Bhargawa

(1)
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In his Mohen jo Daro and the Indus Valley Civilization Sir John Marshall says: 'Twelve centuries ago when the Arabs first came to Sind there were two great rivers flowing through the land: to the west the Indus, to the east the great Mihran also known as the Hakra or Wahindah. Of these two rivers the eastern one was the more important..... Major Raverty, the foremost authority on the subject, concluded that at the time of the Arab invasion the main channel of the great Mihran followed a line roughly coincident with the existing eastern Nara Canal, which was once an important river bed. It passed close by the city of Alor, thence flowed south for some 90 miles and swept eastwards in a curve which carried it west of Umarkot and so to the Rann of Kaccha (then an estuary of the sea) and by the Kori creek to the Arabian sea According to him, the terminal course of the Indus which flows by Mohen jo Daro, was then a subsidiary branch of the Mihran, but its course was not the same as at present. The Mihran itself, he held, was the chief channel by which the rivers of the Panjab (including the Citang, the Ghagghar and the Satluj in the east, the Bias, the Ravi, the Canab, and the Jhelum in the centre and the Indus in the west) found their way into the sea..... Throughout the mediaeval period and up to the middle of the fourteenth century there were two large rivers instead of one flowing in parallel courses to the sea and that these two rivers divided between themselves the vast volume of the water from the five rivers of the Panjab as well as from the old Ghagghar and Citang to the east..... According to Major Raverty, the transfer of the Satluj from the Hakra to the Bias, the drying up of Hakra itself and perhaps the breaking away of the Indus from the Mihran resulted from terrific storm floods, which in the middle of 14th century A D. overwhelmed the whole country between the Satluj and the Canab.

According to Wadia, as quoted by Das the western border of the Rann of Kaccha subsided only in 1819 A.D. This means that the Rann was not directly connected with the sea before that year, but only through the Gulf of Kaccha on the one hand and also the Gulf of Cambay through Nal and the Rann of Cambay on the other till that year From Mahabharata - mausala VII & the Puranas it seems that the original Dvaraka and the area further inland was submerged in the 36th year after the Bharata war. The modern Dvaraka is situated in the north-western corner of Saurastra on the sea coast at the mouth of the Gulf of Kaccha The submersion of land would have, therefore, taken place in that neighbour hood and it is very likely that the area now occupied by the Gulf and the Rann of Kaccha was solid land about 2000 B C. according to traditions.

Prabhasa, mentioned near the mouth of Sarasvati. is situated on the South-eastern coast of Saurastra at the mouth of the Gulf of Cambay. The lowest course of the Sarasvati about 2000 B.C. would, therefore. be alcng the Ranns of Kaccha and Cambay, Nal and the Gulf of Cambay, the last being in reality the mouth of the Sarasvati.

These facts prove that the Sarasvati must have been a very big river at one time even after the Rgvedic age and ran through the whole of the modern Ambala division, Northern Rajasthana; Bahavalpur and Sindh of Pakistan, Kaccha area and Saurastra to join the western sea near Prabhasa.

(2)
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When that sea receded further back, the Sarasvati, joined by the Sindhu and the combined stream of the four Punjab rivers (in case that stream did not fall into the Sindhu higher up), ran further south and joined it there till it had receded beyond Romaka Bazar, after which the Sarasvati turnded eastwards along the present Rann of Kaccha and then, passing southwards through the present Rann of Cambay, Nal and the Gulf of Cambay. joined the sea at Prabhasa as stated in Mahabharata During this period it threw out a branch called the Sindhu near Jakrav, which joined the sea further west.

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But the stream continued to flow underground and the Sarasvati, joined by the Satluj, used to reappear at Camasodbheda and, after uniting with Sindhu and the rivers of the Panjab, reached the western sea at Prabhasa through the Ranns of Kaccha and Cambay, Nal and the Gulf of Cambay as stated in the Mahabharata and by the early commentator of Amara.

About the end of the 7th century A.D. the combined stream of the Indus and the Panajab rivers changed the course and began to flow further west. But the Sarasvati still joined by the Satluj and probably aided by some water flowing through the old channel of the Indus, continued to run as a large river in the Sindh province as found by the Arab conquerors.

At a still later period (probably the 14th century A.D.) the Satluj made a further change in its course and began to unit with the Bias & then the Panjab rivers Probably the Indus also stopped sending any water through its old channel about the same time. As a result of these, and also on account of the further decreased rainfall over its drainage area the Sarasvti became a very small stream in the Sindh province and finally ppeared altogether, leaving only a dry bed there.

Ultimately due to the alterations made by the engineers of Firoz Shah Tughluq and the use of its water in the canals, as well as due to the further decreasd rainfall over its sources, the Sarasvati became the insignificant stream that it is today: so that

people find it hard to believe that it is the same river that it so frequently mentioned and described as the mighty river in the Rgveda. Luckily its old beds and the evidence of the Mahabharata and other literature are there to satisfy the sceptics, if they will take the trouble to study them.

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At present the old course of the Sarasvati is divisible into five distinct parts. The lowest is now occupied from below upwards by the Gulf of Cambay, Nal and Ranns of Cambay and Kaccha. The second, i e. the Nara of Sindh province. has been converted into a canal from the Indus, which passes through the Allah Band (a bread ridge of ground thrown up by an earthquake in 1819 A D.) and joins the Gunni, which falls into the Arabian sea through the Rann of Kaccha and Kori Creek. The third part, running through Bahavalpur and Bikaner district and known yariously as the Vahindah, Raint, Sotra or Hakda, is always dry except in its upper part after very heavy rains. The fourth part, now called Ghagghar after its union with the river of that name at Sagra, generally gets flowing during the rainy seasons and may have some water above Sirsa at other times.

EXHIBIT–1 B

Extracts from Gujarati book "Khambhat No Akhat" by Ratnamani Rao Bhimrao Jhote

(૧)
પા. ૧૭૫

હાલની ત્રણ સરસ્વતી

આપણે હાલ ત્રણ સરસ્વતી નદીઓ જાણીએ છીએ: એક કાશ્મીરના ડુંગરોમાંથી નીકળી પતિયાળાના રણમાં અદ્રશ્ય થતી બીજી ગુજરાતમાં અંબાલવાની પાસે કેટેશ્વર પાસેથી નીકળી કચ્છના રણમાં મળતી. ત્રીજી ગીરના જંગલમાંથી નીકળી પ્રભાસ ક્ષેત્રમાં શ્રીકૃષ્ણના દેહોત્સર્ગ તીર્થ પાસે મળતી નદી. સરસ્વતી અને એના તીર્થોના વર્ણન દરેક પુરાણમાં ઓછા વધતા પ્રમાણમાં આવે છે કેટલાક પુરાણો આ ત્રણે સરસ્વતીને એક જ માને છે. પાશ્ચાત્ય વિદ્વાનો અને એમને માનનારાઓ મૂળ વૈદિક સરસ્વતી પતિયાળાના રણમાં વિનશન તીર્થમાં લુપ્ત થઈ તેને જ માને છે. બીજી સરસ્વતીઓ તો એ મુળ ઉપરથી બીજી નાની નદીઓના નામ પડયાં એમ માને છે.

(૨)
પા. ૧૭૮–૧૭૯

હિમાલયથી કાઠીઆવાડના કિનારા સુધી વહેવાનો કોયડો

આ બધી પૌરાણિક ભુલભુલામણીમાંથી ખરો પ્રવાહ કયો અને કયાં થઈને વહેતો હતો અને કાઠીયાવાડની હાલની ભૌગોલિક સ્થિતિ જોતા એ પ્રવાહ ઉત્તર હિંદમાંથી ઊતરી આવીને કાઠીયાવાડમાં પ્રભાસ પાસે કેવી રીતે આવ્યો એ એક મોટો કોયડો ઉકેલવા જેવું છે આ કારણથી ઘણાં સરસ્વતીને વિનશન આગળ જ લુપ્ત થઈ માને છે. ઘણા એને ઘગ્ઘર નદીના પ્રવાહ સાથે જોડે છે અને સતલજ સાથે મેળવે છે. કેટલાક મૂળથી જ એને સિંધુની શાખા

અને સિંધુને મળતી જણાવે છે તથા વૈદિક વર્ણનને માન્ય રાખનારા કેટલાક છેવટે એટલે સુધી માને છે કે મુળ વૈદિક સરસ્વતિનો પ્રવાહ કચ્છના રણને મળતો કચ્છનું રણ એ વખતે સમુદ્ર હતો. સિંધુ અને સરસ્વતીની વચ્ચે હાલનું રાજપુતાના અને થરનું રણ આવેલું છે તેનો વિસ્તાર બહુ નાનો હતો. અગર તો ત્યાં રણ હતું જ નહિ અને એને બદલે ફળદ્રપ જમીન હતી. રાજપુતાનાના રણમાં થઇ સરસ્વતી કચ્છના રણમાં મળતી.

નોંધ : ૨૩ Sir T. Holdich P. 144 Cutch Gza P. 15 ઈ. સ. પૂર્વે સિકંદરે ચઢાઈ કરી ત્યારે એ વહાણ મારફતે સિંધુમાંથી કચ્છના રણના સમુદ્રમાં આવેલો હાલ રણ છે તે મોટા સરોવર જેવો દરિયો હતો એમ એના વર્ણનમાં લખેલું છે પેરિપ્લસના વર્ણનમાં કાદવ છતાં વહાણો જઈ શકે એવું હતું (ઈ. સ. ત્રીજી સદી) પેરિપ્લસ પછી એક હજાર વર્ષ પછી પણ સિંધુનો મોટો ભાગ કચ્છના રણમાં થઇ દરિયામાં જતો, કચ્છ ગેઝેટીઅર પૃ. ૮મા લખે છે કે પશ્ચિમ હિંદના રેતાળ પ્રદેશો કેવી રીતે બન્યા તેનો ખુલાસો કચ્છની ભૂમિથી જડતો નથી. કચ્છની ભુમિ દરિયાઇ કીચડ (silt) અથવા જળમળથી બની હોય એમ સિદ્ધ થતુ નથી. દરિયાઈ તત્વોનું કાંઈ અશ્મીભુત અવશેષ (Fossiles) કચ્છમાં જડતું નથી તેથી ઉલટું નદીના અવશેષો જડે છે. એ ઉપરથી કચ્છ સિંધુ આદિ પંજાબની નદીઓથી બન્યો હોય એ સંભવ મજબૂત બને છે.

નોંધ : ૨૪ Sir T. Holdich આ લેખક રણ હતું પણ સિંધુ અને સરસ્વતી વચ્ચે બહુ નાનુ હતું એમ લખે છે. પાર્જીટર પણ એમ માને છે પણ ત્યાં છીછરો સમુદ્ર હોવનું માને છે ખરી રીતે સિંધું, બીઆસ આદિ નદીઓ ખસી ગઈ અને સરસ્વતી આખી ઉડી ગઈ તેથી મોટું રણ થયું. હસ્તિનાપુરથી દ્વારકા સરસ્વતીને રસ્તે જતાં મહાભારતાદિમાં રણનો ઉલ્લેખ મળતો નથી અને રણ હતું જ નહિં એ વધારે સબળ લાગે છે એ જગ્યાએ ફળદ્રપ ભુમિ હતી રજપૂતાનાના રણના દક્ષિણ ભાગમાં સમુદ્ર નહોતો મહાભારત અને ભાગવતમાં સૌવીરસારસ્વત વગેરે ભાગોમાંથી જતાં રણનો ઉલ્લેખ મળતો નથી. રણ નદીઓ ગયા પછી થયું છે. ભિન્નમાળ આગળ સમુદ્ર હોવાની દંતકથા છે તે સિંધુની શાખા કે બીઆસ હોવાનો સંભવ છે. એ જગ્યાએ કચ્છનું રણ પાસે હોવાથી મુખ હોવાને લીધે નદી સમુદ્ર જેવડી પહોળી હશે.

(૩)

પા. ૧૮૩

સિંધુ આદિ નદીઓ હાલ કરતાં ઘણી પૂર્વમાં વહેતી અને સિંધુ પોતાની શાખાઓ સાથે કચ્છનાં રણમાં મળતી. બીઆસ નદી સ્વતંત્ર કચ્છના રણના સમુદ્રને મળતી સતલજ સરસ્વતીની કે બીઆસની શાખા હતી. જમના સરસ્વતીને મળતી એમ માનવાને કારણ છે. સિંધુ અને એની શાખાઓ, બીઆસ અને એની શાખાઓ હાલ છે તેનાથી ઘણી પુર્વમાં વહેતી એટલે સરસ્વતીનો પ્રવાહ પણ હાલ મનાય છે ત્યાંથી પુર્વમાં હતો.

નોંધ : ૩૮ "Hakra was fed by both Satlaj and Jumna" મિ. વ્હાઇટહેડ લખે છે કે ખેતીવાડી ખાતાના મિ. નીકલસનના મત પ્રમાણે (૧૯૧૬) એમ સિદ્ધ થયું કે ચૌતાંગ નદીનો માઇલ પહોળો પટ એ જમાનાનો જુનો પટ છે, આગળ જમના ચૌતાંગ મારફતે હકરાને મળતી એમ લખે છે. આ ચૌતાંગ (Chautang)એ વૈદિક દશદ્વતી નદી છે જે સરસ્વતીની શાખા હતી અને જેની અને સરસ્વતીની વચ્ચેનો ભાગ બ્રહ્માવર્ત કહેવાતો. એની પછી તરત જ જમના નદી આવે છે. જમના સરસ્વતીને મળતી અમરનાથ દાસ લખે છે કે ટોલમીના વખતમાં

સરસ્વતીના ઉપલા અને નીચલા પ્રવાહ જુદા થઇ ગયા અને વચ્ચેનો ભાગ અંતશીલાને નામે ઓળખાવા લાગ્યા જેને પુરાણો વિનશન અથવા સરસ્વતી ગુપ્ત થઈ એમ કહે છે હકારનો સૂકો મોટો પટ ભાવલપુર રાજ્યમાં થઇ બીકાનેરના રણમાં આવે છે. હકરા એટલે નીચી સપાટીનું રણ. આ ઉપરથી મીહરાન નદી (Eastetn Nara) પંજાબની કઈ નદી હશે તે કહેવું મુશ્કેલ છે. કદાચ સિંધુની પશ્ચિમની શાખા હોય આ નદી છેક પંદરમી સદી સુધી હતી (જુઓ મોહેન જો ડેરો અને ઈન્સવેલી-સર જોન માર્શલકૃત), તે હાલ નથી. એટલે એ નદી પણ લુપ્ત થઇ છે.

(૪)

પા. ૧૮૪

ખંભાતનો અખાત એ સરસ્વતીનું મુખ

આ બધી ગુંચવણનો નીકાલ સરસ્વતી અર્બુદારણ્યમાંથી સહેજ પશ્ચિમ તરફ વળી પાલણપુર-રાધનપુરના પ્રદેશમાં કચ્છના રણના સમુદ્રની સહેજ પાસે જઈ તેમાં ન પડતાં દક્ષિણ તરફ વળી નળકાંઠા અને ખંભાતના રણને રસ્તે વહી ખંભાતના અખાતરુપે કાઠીઆવાડના દક્ષિણ કિનારાની હદ સુધી જઇ ત્યાં સમુદ્રને મળે છે એમ માનીએ તો થઇ શકે છે એમ માનવા માટે જે જે પ્રમાણ હોય તે હવે જોઇએ.

સિંધુ અને સરસ્વતીનાં મુખ

સરસ્વતી સિંધુને મળતી નહોતી પણ સ્વતંત્ર કચ્છના રણના સમુદ્રને મળતી હતી એટલે સુધી તો વિદ્વાનો માન્ય રાખે છે. પરંતુ તે સાથે સિંધુ કચ્છના રણના ઉપલા ભાગમાં મળતી અને લુણી એ સિંધુનું પૂર્વ તરફનું છેવટનું મુખ હતું એમ પણ ગ્રીક લેખકોના મત ઉપરથી વિદ્વાનો માને છે. એનો અર્થ એટલોજ છે કે સિંધુ અને એની બીજી સહચરીઓ પૂર્વમાં રાજપૂતાનાના રણમાં પશ્ચિમ ભાગ સુધી વહેતી હતી. વેદમાં સાત સાત સખીઓવાળી ત્રણ મહાનદીઓ કહેલી છે. તેમાં પહેલી સિંધુ, બીજી સરસ્વતી, અને ત્રીજી ગંગા સાથે અહીં સંબંધ નથી. સિંધુ અને સરસ્વતી પોતાની સાત સાત શાખાઓ સહિત સ્વતંત્ર રીતે સમુદ્રને મળતી. એટલે સિંધુનાં મુખ હાલના કચ્છના મોટા રણની જગ્યાએ માનીએ તો સરસ્વતી પણ એજ દિશામાં સમુદ્રને મળતી હોવાથી કચ્છના રણના નીચલા ભાગમાં કે એથી સહેજ દક્ષિણે એનું મુખ હોવું જોઈએ એમ માનવું પડે.

(૫)

પા. ૧૮૭-૧૮૮

નોંધ : ૫૧ ગુજરાતના, કચ્છ કાઠીઆવાડના, સિંધ વગેરેના ભાગ વારંવાર ભૂકંપથી પીડાયાનું આગળ જોઇ ગયા. અંબાજી માતા પાસે આરાસુર વગેરે તથા આબુ વગેરેમાં ભૂકંપ વારંવાર થાય છે તે આજે પણ જાણીતું છે. અંબાજીના પ્રકોપથી કુંભારિયાનાં દહેરાં બળ્યાની આખ્યાયિકા ભૂકંપ અને જવાળામુખીનું કાર્યજ વ્યકત કરે છે. ગુજરાતમાં સો વર્ષ ઉપર ઈસ ૧૮૧૯માં જે પ્રચંડ ભૂકંપ થયો તેમાં કેટલા ફેરફાર થયા તે જાણીતી વાત છે કચ્છમાં સિંધુની છેલ્લી શાખા લખપત બંદર આગળ થઈને વહેતી હતી તે હંમેશને માટે લુપ્ત થઈ અને રણમાં ઘણા ભાગ ઊંચાનીચા થઈ ગયા. એ ભૂકંપ નજરે જોનારા કહે છે કે એ વખતે જમીન નદીના મોટા તરંગોની પેઠે ઉછાળા લેતી હતી. (જુઓ કચ્છ ગેઝેટીઅર ભૂકંપનું વર્ણન) છેલ્લાં સૌ વર્ષમાં પણ ગુજરાતમાં ધરતીકંપ ત્રણથી ચાર વખત થયાનું નોંધાએલું છે. આબુના ભાગમાં તો ઘણીવાર થયા છે. આમ સો વર્ષ પહેલાં ફેરફાર થઈ નદી ખસી ગઈ તો છેલ્લા ત્રણ હજાર વર્ષમાં ફેરફાર થાય તેમાં નવાઈ નથી. છેલ્લા ધરતીકંપે (૧૮૧૯) પણ એટલું બધું બદલી નાખ્યું છે

કે પહેલાંનું સમજાય નહિ. જુઓ વ્હાઈટહેડનો પંજાબની નદીઓનો લેખ.

નોંધ : ૫૨ કાઠીઆવાડ અને ગુજરાતની વચ્ચે અને ખંભાતના અખાત અને કચ્છના રણના અગ્નિ ખુણાની વચ્ચે આ નળ સરોવર આવેલું છે. ૧૮૨૭માં મિ. મેલવીલ (Melvill) કહે છે કે એની અને રણની વચ્ચેનો ભાગ એટલો નીચો છે કે કોઇ વસ્તીવાળો ભાગ ભાગ્યેજ એટલો નીચો હોય. નળ અને ભોગાવો નદીનો નીચલો પ્રવાહ મળીને નજીકના ભુતકાળમાં દરિયાનો ફાંટો હશે એમ ગેઝેટીઅરના લેખકોનું માનવું છે. અતિવૃષ્ટિ વખતે કચ્છના રણનું પાણી નળમાં આવે છે અને વધીને ખંભાતના અખાતમાં પણ જાય છે. એ વખતે કાઠીઆવાડ આજે પણ બેટ બની જાય છે. નળને કાંઠે કાણાં કોતરેલા મોટા પથ્થર નીકળે છે જેને વહાણનાં પ્રાચીન વખતનાં લંગર કહે છે ઈ:સ. ૧૭૮૮ સુધી પર્તણવાડ (Partanvada) મીઠાપુર સુધી ભાવનગરનાં વહાણ મીઠું લઇ આવતાં અને ભાલનું રૂ લઈ જતાં, કાઠીઆવાડ ગેઝેટીઅરનો લેખક આ ભાગ પુરાવાનું કારણ ખંભાતનો અખાત પુરાતો ગયો એમ માને છે એ કારણ થોડે અંશે હોય ખરૂં. કારણ કે અખાતના હાલના ભાગમાં ભરતી અને નર્મદા વગેરેના પ્રવાહથી જળમળ ઘસડાઈ જાય પણ નળ અને તેની નીચેના ભાગમાં મોટી નદીઓ ન મળવાથી જળમળ ભરાતો જાય. અમદાવાદ ગેઝેટીઅરમાં આ વિભાગ પુરાવાનું કારણ એક આખ્યાયિકા કે જેમાં ટીટોડીનું ઈંડું તણાયું હતું અને ગરૂડે સમુદ્ર સુકાવ્યો હતો એ આપે છે. એટલે કોઈપણ રીતે ત્યાંથી સમુદ્ર અથવા સમુદ્ર જેવડો જલ સમુહ સુકાયો એટલું તો સ્પષ્ટ થાય છે. વહાણનાં લંગર મળે છે તે પ્રાચીન ઢબનાં છે તે પણ સૂચક છે

(૬)

પા. ૧૮૮–૧૮૯

નોંધ : ૫૪ નદીઓ ખસવાથી રણ થયાના દાખલા પશ્ચિમ હિંદમાં જ ખાસ મળે છે. જુઓ આગળ જણાવેલો મિ. વ્હાઇટહેડનો લેખ : Subsequently the rivers deserted their ancient beds, retreated to the North west (પંજાબ માટે), and a vast tract of country became a waterless desert" X X "A huge river system which once flowod down from mountains through Bhavalpur and which has wholly disappeared" આ મહામદ્દી ગુપ્ત થઇ તેનું છેલ્લું ચિહ્ન છેક અઢારમી સદી સુધી હતું એમ એ લેખક લખે છે. આ રણના રસ્તા ઉપર પહેલાં ફળદ્રુપ જગ્યાએ આવેલાં નદી તટનાં શહેરો ને ગામોના ઉજ્જડ ટેકરા આજે પણ પડેલા છે. કાઠીઆવાડ ગેઝેટીઅર પૃ. ૭૮ (Geology)માં કાઠીઆવાડ ગુજરાત વચ્ચેના આ પટાને માટે આ પ્રમાણે લખ્યું છે. "In tertiary and Post tertiary times Kathiawar was an Island. The Indus or some other large river, flowed into an arm of the sea, which probably streached nearly if not quite as far as Lahor. when the Indus or the other river changed its course, and entered the sea through the lesser run. Jhalawad was a shallow muddy lagoon connected wrth the sea both through the gulfs of Cutch and Cambay." પછી લખે છે કે ખંભાતનો અખાત પાછો હઠતો ગયો તેમ ભાલનો પ્રદેશ બંધાતો ગયો અને સિંધુ હાલની જગ્યાએ ગઈ ત્યારે ઝાલાવાડ ફળદ્રુપ બન્યો કા ગેઝેટીઅરના લેખક કાઠીઆવાડને જવાળામુખીથી ઉત્પન્ન થયો ગણે છે જ્યારે ઈમ્પીરીઅલ ગેઝેટીઅર (Vol 1. pp. 37.38 (Geology) અરવલ્લી જે જૂનામાં જુનો છે તેટલો જૂનો કાઠીઆવાડ ગણે છે. પરંતુ રજપુતાનાનો રણમાં દરિયો હોવાનું જણાવે છે. ભુસ્તરશાસ્ત્ર પ્રમાણે

હિંદુસ્તાનનું હાલનું સ્વરૂપ બંધાતાં પહેલાં હિમાલય થતાં પહેલાં રજપુતાનામાં ભલે દરિયો હોય પરંતુ વૈદિક સમયમા ત્યાં દરિયો નહોતો એ જોઇ ગયા. આ બાબત વૈદિક સમયને લાગુ પાડે તો ગેઝેટીઅરના લેખકો સરસ્વતીને ધ્યાનમાં નથી લેતા એજ કારણ છે. એટલે જેમ પતિયાળાનું રણ, ભાવલપુરનું, રજપુતાનાનું તેમ ગુજરાતમાં રાધનપુરથી ગુજરાત કાઠીઆવાડ વચ્ચે આવેલો નળકાંઠો અને ખંભાતનું રણ એ બધું મહાનદી ખસી જઈ લુપ્ત થવાથી રણ થઇ ગયું એ સળંગ પટામાં ઉતરની પેઠે દક્ષિણમાં પણ નદી જ ખસી ગઈને રણ થયું સમુદ્ર સુકાઇને નહિં. વધું આગળ જોઇશું.

નોંધ : ૫૫ આગળ વ્હાઇટહેડના લેખના પંજાબની નદીઓના ઉલ્લેખમાં વીસથી ત્રીસ માઇલ પહોળા પટમાં નદીનો પ્રવાહ બદલાયા કરે છે અને એંશી માઇલ છેટે પણ જાય છે તે જોયું તે જોતાં રાધનપુર અને કાઠીઆવાડ ગુજરાત વચ્ચેનો રણનો પટો સમુદ્ર કરતાં નદીનો સુકાએલો પટ હોવાનું વધારે બંધ બેસે છે આગળ જોયું તેમ કચ્છના રણમાં જેમ સમુન્દ્રનાં અશ્મીભુત અવશેષો (fossils) નથી મળતા પણ નદીનાં મળે છે, તેમ આ પટામાં પણ સમુદ્રનાં અવશેષ મળ્યાનો ઉલ્લેખ નથી. જો કે કચ્છના રણ જેટલી ઝીણી સર્વે આ ભાગની થઇ નથી.

(૭)

પા. ૧૯૪

સિંધુ અને સરસ્વતી નદી એમના પ્રવાહના નીચલા ભાગમાં ઘણી પહોળી સમુદ્ર જેવી વિશાળ થઈ ગઇ હતી તેથી જ એ બન્ને નદીઓના નરજાતિના શબ્દો સમુદ્રના પર્યાય થઈ ગયા. જે નદીઓની વચ્ચે વહાણ ચાલે તો કિનારા ન દેખાય એવી નદીઓને આજે પણ સાગર કહે છે અને પ્રાચીન કાળમાં સમુદ્ર કહેતા. સિંધુ અને સરસ્વતીના નીચલા પ્રવાહ એવા હોવાથી એમનાં નામ સમુદ્રના પર્યાય થઈ ગયા. સરસ્વતીનો નીચલો પ્રવાહ રજપુતાનાના દક્ષિણ ભાગથી ખંભાતના અખાતના મુખ સુધી એવો પહોળો હશે એમ માની શકાય. રાધનપુર બાજુનું રણ, નળકંઠો અને ખંભાતનું રણ અને ખંભાતનો અખાત એટલું એ બાબતની સાક્ષી પુરી શકે છે. રાજપુતાનાનું રણ આ વિસ્તાર કરતાં મોટું છે કારણ કે એમાંથી સરસ્વતીનો પ્રવાહ ખસતો ખસતો લુપ્ત થયો અને સિંધુનો ખસીને દૂર ગયો એટલે એ બધો ભાગ રણ થઈ ગયો. રાધનપુર વાળા રણથી ખંભાત સુધીમાં માત્ર એકલી સરસ્વતી જ લુપ્ત થઈ. નળકંઠા વાળા ભાગમાં સિંધુના પ્રદેશમાંથી નીકળે છે એવા મોટા કાણાવાળા પથ્થરો– જે પ્રાચીન કાળમાં વહાણને લંગર નાખવા માટે વપરાય છે – નીકળે છે.

(૮)

પા. ૧૯૪

નોંધ : ૭૮ સરસ્વતીઅને સિંધુ સિવાય વિપાશા પણ સમુદ્રને સ્વતંત્ર મળતી તે પણ ત્યાંથીજ લુપ્ત થઈ એટલે એ બધો ભાગ મોટું રણ થયો. ત્યાં સમુદ્ર હતો તે ખસીને રણ થયું એ માન્યતા ખરી નથી. શ્રીમાળ આગળ પણ સમુદ્ર નહિ પણ સમુદ્ર જેવા પ્રવાહવાળી નદી હોઇ શકે ત્યાં સમુદ્ર દરિયાના અર્થમાં ન સમજવો.

EXHIBIT–1 નો બાકી રહેતો ભાગ

કરવામાં આવે અને આ યોજના પાર ઉતારવાની જ છે એ દૃષ્ટિએ તપાસ હાથ ધરવામાં આવે તો દેખાશે કે કાઠિયાવાડ, કચ્છ અને ગુજરાત ત્રણેને સમાન આશિષરુપ થઇ પડે એવી આ યોજનામાં પ્રાકૃતિક અનુકૂળતા મોટામાં મોટા પ્રમાણમાં આજ પણ મોજુદ છે.

આ યોજનાનો સફળ અંત કચ્છમાં ખેતી સ્થાપશે, કાઠિયાવાડની ખેતીને વધારે કસદાર બનાવશે, ખેતી ઉપરનું ભારણ દુર કરશે, ઉદ્યોગની સ્થાપનાને સહાય કરશે અને અનેક જુવાનોને રોજગારી આપશે.

કોઇ પણ માણસ મુંબઇ ઈલાકાનો નકશો હાથમાં લઈને પારકરના રણ ઉપરથી વહી જતી સિન્ધુ નદીને માટે રાયમા બજારથી કચ્છના રણમાં, કચ્છના રણમાંથી ઝીંઝુવાડા પાસે, અને ત્યાંથી નળકાંઠામાં ઉતરતી કલ્પે અને નકશા ઉપર એ માર્ગની લીટી દોરે તો એને તાજુબી સાથે દેખાશે કે જે વહનને સેંકડો માઇલ દુર ખંભાતના અખાતમાં એ ઠાલવવા માગે છે એ વહનના તૈયાર માર્ગ ઉપર એને વાળવા માટે ઓછામાં ઓછા ખોદકામની જરુર પડે એમ છે.

આંહી એ મહાનદનો જુનો ચીલો હજી જળવાયેલો પડયો છે. આંહી પાણીની જરુર છે. આંહી એ જૂના પ્રવાહ ઉપર નવા વસવાટનાં કોઈ દબાણ નથી થયા આંહી કોઈ 'લેવલીંગ' કરવાની જરુર પણ નથી. અલ્લાબંધને પેલે પાર લાખો કરોડો મણ મીઠું પાણી દરિયામાં ઠલવાય છે. અલ્લાબંધની આ બાજુ પાણીની જરૂર છે. સિન્ધુ નદીના પાણી ફરીને સીમાડેથી વહેતાં થાય એ જોવાનું કાઠિચાવાડને ભાગ્ય સાંપડશે ખરૂં ?

EXIBIT-2

By Air Mail

P.W.D. Secretariat
Karachi, 24th July 1943

Dear Maharao Saheb,

Thank you for your letter of 11th July 1943

2. I am glad that you received the report safely.

3. I have written you in my letter of 7th July about the Dredger.

I would suggest that if you should decide to have her overhauled you should also write to J. Cumming esq. of Kessers Carsta irs & Cumming, Engineers, Karachi, They would be prepared to quote for you and would send a man down to make an estimate as I suggested you in my last letter.

They also are very busy indeed with ship repair works but are a most reliable firm an would carry high class work.

4. I am sending herewith a copy of my note on the possibility of getting Indus water to Kutch.

It will be feasible provided you can cultivate land on the north side of the rann next the Sind border.

This note, is, naturally, some what sketchy as no land levels in Kutch State were available, and I had no knowledge of the nature of soil along the Sind border. You may have to put a bund around the area irrigated to keep out Rann waters and flood discharge from the east. This can only be settled when you have proper contours taken.

I consider the alternative scheme i.e. commencing irrigation at the border to be sufficiently reasonable to merit investigation.

(a) In regard to the area which can be irrigated on the border, nature of soil, contours, etc. and

(b) if (a) gives satisfactory results, The sind government could be approched and asked to make a proper investigation realignment of canal

and rough estimates of cost of construction and of share of cost of Head works.

Before you ask Sind to make any investigation, Mr. Antani should work out whether the return from crops give you a reasonable return on the approximate capital cost I have given.

If you do build canal you would have to reckon on paying yearly to Sind the cost of maintainance of the Head works.

5. I am returning the copy of the note by Burns and also the folded toposheet map you lent me.

6. The report is accompained by one blue print plan and a rolled tracing showing the longitudinal section of the proposed channel.

7. This completes the notes etc. which you wanted me to write and I hope that I may have been also to help you.

I shall be ready, of course, to advice or help you in future and will let you know my Delhi address as soon as I know it.

My kindest regards,

Yours sincerely,
Sd/- C. C. Howes 24-7-43

His Highness the Maharao Vijayarajaji of Kutch.
BHUJ-Kutch.

EXHIBIT-2 A

NOTE ON THE POSSIBILITY OF BRINGING INDUS WATER TO KUTCH STATE

1. A study of "Memoirs" of Lt. Alexander Burns made in the 1927-28 indicates that prior to the year 1928 Indus water used to flow in to the Rann. Lt. Burns states that floods from the river between the Sukkur and the confluence of the Chenab and the Indus came down into the Rann. Probably these floods came down through Sind North of Rohti and then followed the Nara river and so reached the sea via the Puran Dhoro.

These floods have decreased with the passing of the years due to the construction of the Bunds in Sind, the canalisation of the Nara and possibility to a reduction in the size of the floods sice 1928.

Of late years no water at all enters the Rann by the Puran Dhoro except perhaps run-off from exceptionally heavy rains.

2. It is quite safe to say that it will not be feasible to bring Indus water to Kutch via. the Nara and Puran Dhoro. The cost would be heavy as to be prohibitive. There is a possibility, however, that sind may build a barrage on the Indus in the vicinity of Jherruck which will be required to conteract the effect of withdrawals of water by the Punjab from monsoon supplies for storage in large reservoirs which it is prepared to build.

This barrage is situated about 75 miles from the nearest point in Kutch Territory vide the blue print map attached. This map shows in red the position of the lower sind Barrage and the line of a possible feeder to bring water to Kutch.

It will be seen that the Kutch border is at the 75th mile of this feeder, from which the canal line is shown in red upto village Luna in the Banni.

The Longitudinal Section Tracing has been plotted from contours only, but may be taken as the ground surface levels fairly accurately.

From mile 75 onwards no ground levels are shown as contours are not available in the Topographical sheets.

3. A note on this proposed feeder giving very approximate costs etc. is attached as Appendix-1. This note shows that the Feeder upto Luna village plus the pro-rata share of the cost of the lower Sind Barrage would be about Rs. 1,64,20,000.

This cost does not provide for lining. The canal lining at the time pf construction would be very difficult because of the fact that the canal runs in very heavy bank. It could be considered after the canal silted and fromed its own and burms and it would probably cost at least Rs. 75,00,000.

A glance at the Longitudinal section will show that the canal would have a gradient of 1 in 12400 and with this gradient will bring the full supply level at the tail to R. L. 11. In the absence of any longitudinal section of ground beyond the 75th mile and of levels and contours of the Banni, it is not possible to say whether water at this F. S. L. with canal bed at R.L. 11 only would be of any use for flow irrigation on the on the Banni.

To get the water to Luna village even at R. L. 11 the canal will have to run in very heavy bank and will thus expensive and also, for some years, very liable to breach. Probably also a number of cross drainage works will be required in the length from mile 75 to Luna i.e. across the Rann. These would be required to pass rain water accummulation through to the Gulf of Kutch. The cost of these has not been provided in the rough estimate in Appendix-1.

An alternative would be to give up the idea of taking water to luna and to commence irrigation (or rice probably since the Rann are presumbly saltish) at mile 75 along the border of the Rann. A note on these alternative is attached as Appendix-II.

The calculations in Appendix-I have been made on the basis of giving 2000 cusecs at the tail. At duties prevalent in sind this should irrigate 85,000 acres of rice or 170,000 acres of dry crop, after allowing for distributary and water course losses. If irrigation were done from mile 75 the quantity of water available would be 2300 cusecs, as the losses in the last 47 miles of canal would be saved. Allowing for losses this would irrigate 95,000 acres of rice.

If irrigation were commenced at miles 75, it would be possible drop the Full supply level from R. L. 29-8 to say R. L. 16 and to reduce the cost of the canal between its Head and mile 75 enormously by the introduction of two falls. Probably full supply and bed levels for this alternative are shown on the Longitudinal section in dotted blue and red lines.

If the soils of the Rann at mile 75 is suitable for rice and if the contours of soil surface are favourable to the distribution of weter by gravity than the question of bringing Indus water to Kutch territory would be worth considering. The cost of the canal to mile 75 plus share of the cost of Barrage would be Rs. 70,000 (cost of distribution system approximately Rs. 6000,000.)

4. Water would only be available for this canal during June, July, August and September in each year. Supplies in May and October are uncertain. Crops which could be grown will therefore be rice (the salt resistance variety known as Karai Bajra in lands, but this crop wants water in May, October and possibly November to give really good results.

5. The estimate of costs in Appendix I and II makes no allowance for the actual distribution system from the point at which irrigation commences. In sind development of an (i.e. providing distributories and minors (but not water course which Zamindars have to dig. costs about Rs. 6 per acre of command.

On the assumption that only rice will be grown and that intensity of 90% will be allowed, the area of command would be about 1,00,000 acres and the cost of developing would be Rs. 6,00,000 approximately.

6. Although Indus water was undoubtedly flowed into Kutch in the past, I am doubtful if Kutch can be counted as a "riverrain" state with a claim on the waters of the river.

But the State of Bikaner, which also is not a riverrain one has been given a supply from the Sutlej and there would seem to be no bar to the giving of water from the Indus to Kutch State from lower Sind Barrage as the 2660 cusecs required for the scheme outlined would be available always during July and August, though there might be difficulty in July and September when water may in some years be short.

7. I would suggest :-

(a) the levelling of line of canal from miles 75 to Luna village and investigation to the possibilites of using the water on the Banni Lands. Lift by diesel pumps could be considered if flow supply can't be given.

(b) an investigation in the suitability of soil in an area of 1,00,000 acres of the Rann immediately south of mile 75 and into the contours of the land to decide on the possibilities of the area.

(c) observation of the conditions in the Rann during the monsoon in order to find out if there is any heavy run off water from the North and East into the Rann and on to the Kori-creek, for which a cross drainage works would be necessary under the Feeder canal if built to Luna village.

8. I don't think that the irrigation of the Banni lands will be feasible at any reasonable cost, and feel that alternative (7) (b) is possible and worth closer examination.

But if preliminary investigations on the Lines suggested show that either scheme is possible, it will be necessary to approach the Sind Government in regard to the provision of the feeder canal and the government of India in regard to the taking of water from the Indus.

If any thing comes out of the proposal, it would be necessary for the Sind Government to construct all the work lying within Sind Territory. The Sind Government will charge the normal percentage for establishment, Tools and Plants etc. and to allow for this about 30% should be added to the cost of the canal itself. This percentage would not be added to the contribution made to the cost of the Head works.

The additions on this account would be approximately.

Scheme I	Rs. 35,69,400
Scheme II	Rs. 13,60,800

and the total cost of the schmes excluding the development of irrigation would be approximately.

Scheme I	Rs. 1,99,89,400
Scheme II	Rs. 84,30,800

(9) The cost of preliminary investigation inregard to this scheme by the Sind Govt. i.e. surveys etc. would probably of the order of Rs. 70,000 (for Sind area) which has been provided in the estimate vide item I

Sd/-
C. G. Howes
CE. in Sind 23/7/43

EXHIBIT-3

The Secretariat,
BHUJ-Kutch
the April, 1950

From :
The Chief Commissioner of Kutch.
Bhuj-Kutch.

To,
The Secretary to the Government of India
Ministry of Works & Mines and Power,
New Delhi.

Sir,

Subject : Irrigation in Kutch from the Indus.

I have the honour to refer to your letter No. DW (3A)-S/49 of the 18th April, 1950, and confirm the telegram sent by me in reply reading as under :-

WOMIPO
NEW DELHI

"No. P/80-50 your letter DW (3A)- S/49 of" eighteen instant. A request your getting file WI 27(2)/47 from "CWINC" which has relevant information on the subject. (.)Meanwhile my chief engineer, H. M. Antani reaching New Delhi twenty seven early morning Tata-Air Kindly arrange accomodation for him Western Court or Constrtution House and wire."

The matter of irrigation in Kutch from the Indus was first considered in the recent past in July, 1943, when Brigadier C. G. Howes, the then Chief Engineer and Secretary to the P.W.D. Sind, prepared and submitted a note on the subject. He favoured the idea of starting irrigation of Kutch lands immediately below the Sind border that is on the 75th mile of his tentative feeder canal from the then proposed Hajipir barrage. In addition he left for further detailed investigation if Kutch Banni lands 36.5 miles lower down, near and round about Luna could be irrigated by flow from the same waters.

3. In August, 1946, the Central water Power, Irrigation and Navigation Commission were requested to look into the matter of re-establishing the Indus waters flow into Kutch lands. Copies of the note & plans by Mr. C. G. Howes were supplied at its request to the CWINC and to the Director Indian Water ways Experiment Station. The latter Mr. K. K. Pramji send down to the CWINC his comments on the proposal under his D. O. No. 44/47 of the 14th February, 1947, His note is a more detailed one, based on additional data collected as well as the fact that the original projected lower Sind barrage was decided to be sited now at near Kotri 23 miles above the original site at Hajipur. His impotant recommendation is to run out a "separate branch from the tail of the Fuleli canal to be used as a feeder for Kutch with or without lining as may be found better upon more detailed examination."

4. Mr. H. M. Antani my chief engineer, was sent out to New Delhi in March, 1947, where he put all relevant facts etc. before the Central Water, Power, Irrigation and Navigation Commission. He met the Chairman, Rai Bahadur Khosla, and Members Mohsinali and Mithal respectively the Irrigation Member and the Director of Irrigation, CWINC. A note on the subject was drawn by the Director. As a result of these discussions Members Mohsinali and Mithal visited Kutch for a week in May, 1947. The inspection report submitted under no WI-27(2) of the 20th May, 1947 by Mr. Mohsinali member, CWINC, say besides other details, "It would be quite feasible to irrigate the Cultivable land adjoining the Sind boundary, on the north of the Rann, by canals taking off from the projected Lower Sind Barrage". The Kutch Government would of course, have to "Pay the cost of such canal extensions as would be necessary, and should lose no time" in pegging a claim for their rightful share in the Indus river waters. The Govt. of India have accepted the principle that the "waters of a river basin should be utilised for the benefit of all the inhabitants of that" basin, irrespective of provincial or State boundaries, CWINC therefore recommends that "Kutch should be given its due share of the Indus waters for the irrigation of its lands on the northern shore of the Great Runn and 'lying in the Indus basin'.

5. As desired by you, Mr. Antani is bringing all the papers I have here on the subject and will discuss the matter with you giving all available information.

Yours faithfully,

(Chief Commissioner of Kutch)

EXHIBIT-3 A

IRRIGATION IN KUTCH FROM THE INDUS

Preamble : In accordance with his letter No. DW(3A)- S/49 of the 18th April, 1950 on above subject of irrigation in Kutch from the Indus, I came to Delhi and discussed the matter with Mr. N. D. Gulhati, Deputy Secretary to the Government of India in the Ministry of works, Mines and Power. The notes and plans, comments, memoranda or letters by Brigadier C. G. Howes Chief Engineer, Sind P.W.D., Mr. K. K. Premji, Director, Indian Water ways experiment Station, Poona. Mr. Mohsinali, I.S.E. Member, CWINC and the Chief Commissioner for Kutch, were all considered.

2. **Subject of these notes :** As desired by Mr. Gulhati, at the conclusion I give here below a few notes on the important **prima facie** features of land that can be irrigated, its extent, its levels, its present condition etc.

3. **Extent of the cultuable command area :** The agencies that have considered the projects of re-establishing the Indus flow for irrigating Kutch lands have all agreed that the north-western portion of the Kutch territory above the Rann of Kutch, to the west of the Allah Bund, hatched on the plan is best suited for the purpose. A gross area of 500 sq. miles or 3,20,000 acres of culturable command area is available here. Though extensive cultivable lands called the Banni exist lower down to the south of the Allah Bund and the salt beds below, their levels and the distance rule out of consideration, their irrigation, on a large scale, by flow from the Indus. And again the crossing over the Kori-Allah Bund Creek and the thick vast salt beds that intervene would be too expensive to be within the campass of economic and practical consideration.

4. **Slopes and levels :** The Kutch lands, under consideration, adjoining the Sind border slope gently towards the south, almost in continuation of the Sind lands above. The feeder canals from the Sind territory would, therefore, command these lands. Before it is decided to actually implement the project, proper surveys will of course have to be carried out to ascertain the necessary details of levels etc.

5. **Uninhabited saline, waterless tracts :** At present the entire Kutch tract to the south of the Allah Bund is uninhabited. On its, at places, there

are large pockets of salty marshes. The top soil is mostly sandy Digging of wells in the terrain might not yield any appreciable quantities of fresh water at easy depths.

6. **Little vegetation** : Little vegetation except 'Lana' i. e. saline grass grows on the most of the area. Eastwards, hewever, better grass, very good, for grazing thrives.

7. **Rainfall runoff** : The average rainfall (annual) in the tract is not more than 9 inches, falling between July and September. Local runoff will, therefore, be very little. There are no winter rains in these parts.

8. **Crops and discharge required for them** : Such varities of rice and millets, and even wheat and cotton (if water is assured for their entire cropping season), as can grow on brackish soils, will have to be raised on the area. Out of the gross command area of 3,20,000 acres, 1,20,000 might either be too salty to come under cultivation or might be required for setting up of villages and for their pastures etc. The remaining 2,00,000 acres, if at all used for growing rice, will require, at the duty rates prevailing higher up in Sind, (and allowing for distributary and water course losses) 4500 cusecs; for millets or other dry crops the discharge required would get halved. This flow should be available continously from May to October, or at Leest from June to Sept. to enable the irrigators to sow and eventually mature their Kharif crops. If the discharge can be made available earlier than June, say by May, and to last up to the end of November, raising of cotton on the tract can also be considered. Thus for growing partly rice, partly millets and dry crops, wheat and cotton, from May to November, a discharge of 3500 cusecs should suffice.

9. **A bund to prevent sea water innudation** : Before concluding this note I must mention that every year, high south-west winds blow the tidal waters of the Kori-creek upon portions of the Rann this side, innudating the low lying areas. A creek of sea water gets formed along the foot of the tract called the Allah Bund. If it is decided to gradually improve and reclaim and then irrigate the entire area considered in this

note, a bund may have to be thrown round the outer borders of such low-lying areas on to which the wind swept tidal waves rise each year.

Sd/- H. M. Antani 28-4-50
B.E. A.M.I.E.
State & Irrigation Engineer Kutch State.

New Delhi
28th April 1950

Government of Kutch.
Irrigation Department BHUJ.
8th May 1950

No. 1455 of 1950

1. Copy submitted with compliments to the Chief Commissioner Saheb for information and record.
2. The original of this note was delivered personally by the undersigned to Shri N. D. Gulati, Dy. Secy. to the Govt. of India, Ministry of Works, Mines and Power. A copy was also handed over to the Ministry of State.

Sd/- H. M. Antani
8/5/80 Irri. Deptt. Kutch.

EXHIBIT-4

30, Prithviraj Road,
New Delhi
15th December, 1957.

Shri S. K. Patil
Hon'Ble Minister for Irrigation & Power
Government of India
NEW DELHI

Dear Sir,

Further to the discussion with Shri Bhavanjibhai, Shri Lavji and myself and with you the other day, I am enclosing herewith a brief note about the claim of Kutch for a portion of water from the Indus river. Some interesting maps in support of this case are also attached to the note.

If the note is got departmentally examined, lot of more information may be obtained than what I have been able to collect in such a short time. considering its merits, I feel very hopeful that the Pakistani Government and any other authorities concerned, shall appreciate the reasonableness of this claim and shall agree to the extension of a fresh water canal into the main land of Kutch. This will be a great boon for the citizens of Kutch and the residents of Gandhidham and will probably be the best possible solution for the problem of water supply, the new port of Kandla is facing.

I shall feel, if the needful is done to push forward this case.

With kind regard.

Yours faithfully,
Sd/-
(Pratap Dialdas).

EXHIBIT-4 A

Shri S. K. Patil,
Hon'le the Minister of Irrigation Power,
Government of India, New Delhi.

18th December 1957.

Sir,

I have the honour to submit herewith a brief note giving some particulars about the claim that the territory of Kutch, within the Union of India, has over the waters of river Indus, regarding which a deputation consisting of Shri Bhavanji A Khaimji, Member of Lok Sabha from Kutch Sri Lavji Thacker, Member of Rajya Sabha from Kutch, and the undersigned had waited on you a few days ago.

1. Kutch, as you are aware, sir, is singularly arid and not having any source of perrenial river within reach and suffering from frequent spells of drought, is often striken with famines so that the peoole residing in this territory have every now and then to face great hard-ships. Yet, hardly a century ago, when a distributary of Indus flew this territory, Kutch was a fertile land, rich in the cultivation of all kinds of crops and even the cultivation of rice-for which its north western districts were well known.

2. Looking at the combined map of Kutch, and sind (Marked Appendix) it will be noticed that Kutch falls within the delta formed by the various distrubutories of the Indus. Some of these distributaries flow right into the Rann of Kutch and until the waters of Indus were impoinaed by the Dams and barrages constructed in Sind, both before and after the creation of Pakistan, has a substantial-discharge, which is either now stopped or greately reduced.

3. Of these distributories, as noticed from the map attached (Marked Appendix A) the largest is one called "Eastern Nara" but known in history as 'Hakro' which starting from a point just above the town of Sukkur (where the upper Sind Barrage was constructed in 1936) and following a south easternly course crosses the border of Pakistan and

flows right into the Rann of Kutch. The course of this distributory indicates that once it was joined up with the main river Sutlej, which followed on independent course more or less along the western border of present India and flew into the Rann of Kutch without allowing its waters to be mixed up with the main river Indus (Calcutta review No. cxvii Vol. Lix. 1874) "The lost river of the India Desert." The change that caused a westward shift of the course of Sutlej, so that it merged with the main river Indus, occured about 800 years ago. There after also the lower one of this independent river continued to flow as the largest distributory of the Indus, discharging its waters into the Rann of Kutch and came to be known as river Hakro.

4. The other important distributory of the Indus that discharged its waters into the Rann of Kutch is known as the 'Phuleli and Guni Canal' This canal starts about 10 miles above Hyderabad Sind, where the new Pakistan Govt. has recently constructed a barrage known as the Kotri or Lower Sind Barrange." The bed of this distributary is also ancient one and until very recent times was deep enough to permit navigation between sind and Kutch. A photograph copy of map (marked appendix B) reproduced from a publication of 1894 (The Indus Delta Country-by Major General M. R. Haig, M.R.A.S.) clearly indicates how these two distributories after joining up, flew through the Rann of Kutch into a creek of Kutch called "Kori Creek" The course of the river being deep enough, permitted navigation and there were three important ports towns of Kutch called **Sindri Port, Lakhpat & Koteswar** located in its bank. Lakhpat and Koteswar were flourishing until about 100 years ago, but are in ruins now.

5. It will perhaps not be out of place to quote a passage from the Gazetter of the Bombay Presidency, Vol. V. where the History of this mouth of the river Indus is briefly traced from ancient times till the publication of the Gazetter in 1880.

"In the west, Kori or east mouth of the Indus is of much historic interest. At the time Alexander (325 B.C.) and of Ptolemy (150 A.D.) under the name of Lonibare it was one of the Chief mouths of the Indus. It seems to have continued of equal importance with the more western mouths until about 1000 the main stream of the river seems to

have turned towards the west, still as late as the middle of the eighteenth century, the eastern of Kori branch continued to bring water enough to irrigate a large area of rice land to the north of Lakhapat. Increasing demands on its water by the people of Sind led to feuds between Kutch and Sind. In 1764 at the battle of Jhara the people of Kutch were defeated and soon after Gulam Shah raised so great a bank across the Kori that its stream was nearly stopped and Lakhapat rice fields were changed into grazing grounds. In 1802 a fresh dam was raised at Ali Bundar. This so entirely stopped the flow that even floods could not pass. The channel filing with mud dried above Sindhori and shoaled at Lakhpat., and the old rice fields, unable to grow even grass, were included in the waste land of the Rann. For the next sixteen years (1803 1818) except when flooded during the windly and rainy seasons, May-October, the bed of the river and the part of the Rann through which it flowed remained dry. The 1819 earthquake made a great change. At Lakhpat, where it used to be fordable, the river bed became eighteen feet deep. Near Sindri about sixteen miles further up from two to six miles of the bed were raised, and again beyond Sindri the level of the Rann fell forming a basin about twelve feet deep. and behind the basin right across the bed of the river rose the Allah Bund, "God's Dam" At the same time a great wave rushed up the river and filled the basin with salt water. For eighteen years the channel of the river was closed and except during the season of flood its bed was nearly dry. In 1826 the upper Sindu burst its bank over spread the desert, and clearing every dam before it burst through Allah bund, filled the Sindhri lake with fresh water and, sweeping the silt, so cleared the Kori bed that boats of 100 tons could pass from the sea to Lakhpat. For three years the Kori continued to come down in so large a stream that it was open for trading as Amarkot. Meanwhile the Sinduians were rebuilding their dams, and in 1834, the stream was almost stopped. In 1838, except during the rains, the channel was dry. For the next thirty years (1839-1874) silt kept gathering in the bed of the river below the Allah Bund In 1856 there was water enough for boats from Sindhri to the river mouth and in 1860 the goods could not pass further up than Lakhpat. In 1874 there Was another flood on the Indus, a large body of Water runn through the Allah Bund and filled the Sindri lake".

In January 1857 at the Allah Bund the channel Was 70 to 80 feet

across, the speed per second 22 feet and the discharge from 1200 to 1500 cubic feet. The Sindhri lake was a stretch of clear blue water broken only by a ruined tower of this Sindhri fort. Major Smith B. E. quoted by Cal Barton.

6. The fresh water lake referred in the aforesaid was in existence until the early part of the present century when due to the intensive irrigational canals created in Sind and the construction of the barrages on the main bed of the river, the flow of the Sindhu river into the territory of the Kutch was considerably reduced, if not altogether cut off; so that the fresh water lakes were either dried up or turned into salty marshes.

7. The barrage in the upper part of Sind, on the above mentioned eastern-most distributory of the river Indus, called Eastern Nara alias river Hakro was utilised in creating a perennial canal. This canal is the longest and the largest canal of the Sukkar Barrage having a discharge capacity of abouf 17000 cusecs and carrying water over length of about 200 miles, terminates right into the Rann of Kutch.

At the time when the scheme of "Sukkar Barrage" was being finalised the Maharao of Kutch had put in a claim with the Government of India for the extension of the Eastern Nara canal into the main land of Kutch. Unfortunately at the time, the Government of India was some what annoyed with the rulers of Kutch because the latter was not agreeing to allow the customs duties in the Kutch to be brought on par with those prevailing in India; so that the claim put in by Kutch state received no serious consideration.

8. Again about three years ago the New Pakistani Government has constructed a further barrage lower down near Hyderabad sind, which is known as "Kotri or lower Sind Barrage" Here too the other important distributory of the river Indus called "the Phuleli and Guni canal" that flew into the Rann of Kutch is utilised for bringing water over a length of about 100 miles upto the border of Kutch or very near it. The discharge capacity of this perennial canal would be 18000 cusecs.

The scheme of the lower sind barrage has been initiated before the country was partitioned and Pakistan came into existence. The Maharao of

Kutch again put in claim for the share Kutch state had in the supply of Indus water. That claim was under consideration by the then Government of India which had gone to the extent of appointing a body of experts to examine the sites when the country was partitioned and the Kutch Gove-rnment was ceased to be the Mahrao's state and its claim remained unattended.

9. A photographic copy of the plan of the canal system in Sind from both these barrages (marked Appendix) attached herewith clearly indicates the position of the barrages in Sind and the alignments of the two canals referred above which come upto the border of the Kutch. Both of these canals being fed from the Barrages, are perennial and have a joint capa-city of about 35000 cusecs and at their tail end may even now be discharging some water in the desert which is wasted.

10. The terrain of the main land of Kutch is hilly, There are two ridges of hills running throughout its length. The word "Kutch" is derived from a word meaning a 'tertoise' because of similarity in their shape. Therefore, the seasonal nalas starting from the ranges of its hills, flow either south ward into the Gult of Kutch or towards the north into the great Rann. The silt brought down into the Rann by these nalla throughout the ages have reclaimed along the northern edge of the main land of Kutch a large area known as Banni. This tract covers an area of about six lakhs of acres and is very rich in its soil. It was a portion of this tract that when fed by the fresh waters of the aforesaid distributories of river Indus produced even rice. Today, denied that water, it is lying barren. During the years of good rainfall, it is covered with grass and turns into a grazing land ground. The waters of the river Indus through the two distributories mentioned above, which now are converted into the perennial canals, reach within 20 or 30 miles of this tract. It would therefore be reasonable to bring some water from terminal points of these perennial canals and utilize it in putting some area of this tract under cultivation. As the tract of Banni is reclaimed from the Rann itself (Level of which is equal to sea level), it is low levelled plain ground and running a canal through it will not be difficult. on the other hand, even if couple of lacks of the acres of Banni tract area is brought under cultivation not only frequent occurence of famines in this area will be

prevented but there will be scope for settling some more population particularly amongst from those who were displaced from Sind.

11. Apart from the considerations referred in the previous paragraph, there is one very important consideration for persuading the pakistani Government to allow a portion of the river Indus waters to be brought into Kutch. The new major port of Kandla, just completed, and the new township of Gandhidham, adjoining it, are faced with an acute problem of water supply. The original expectation of copious water sources has proved to be incorrect. A site of tube wells at present in use, originally expected to yield 5 to 6 millions gallons per day. An additional sites of tube wells under examination will firstly cost a large sum of money to develop and may also prove to be as disapointing as the present one. The major port of Kandla and the new township will therefore not be able to flourish under a source of copious supply of water is found for them. There is no perennial river within easy reach of Kandla excepting Indus as the only perennial river within the Union of India as Narmada, which is about 500 miles away, Government has spent a large sum of money on the development of the port of Kandla and considering its utility and its future prospectus, no pains should be spared to provide for its maintainance and future growth, a supply of fresh water which would be possible only if water is obtained from the terminal point of the afore said distributories of the river Indus.

12. I am also attaching a plan, marked appendix 'D' showing broad alignment of a canal or a masonry conduit that could be taken from the tail end of the eastern Nara canal below the junction of the branch from phuleli canal system, into the main land of Kutch right upto the site of the port Kandla. The total length of this canal would be about 130 miles. Its crossing over the Rann of Kutch would be at most about 30 miles. Therefore, it would be irrigating the tract of Banni and flowing eastward, some of its waters would be pumped up through a pipeline along the low lying between the hill fromations of the main land of Kutch and its districts of waghar i.e. between the townships of Anjar and Bhachau, and brought down to the site of the township of Gandhidham and the port of Kandla. The length of this pipeline would be 20 to 25 miles.

13. The requirement of the port and the township taking into the

consideration its future growth, is expected to be about 100 cusecs i.e. about 50 million gallons per day. If the canal taken from the terminal points of the two Indus distributories of Eastern Nara and phuleli canal, is say of 1000 cusecs capacity, the remainder would be utilised for the irrigation of the Banni tract and could bring about two lacs of acres under cultivation. It would not at all be difficult for the Pakistan Government to spare about 1000 cusecs of water from its barrage canals which, as refered above have, a joint capacity of about 35000 cusecs. A portion of this water atleast during the season of full supply, might even otherwise be going waste into Rann of Kutch. So far as the undersigned is aware, both the canals of Eastern Nara and Phuleli, are so designed as to carry a little extra water if that become necessary. Even if some improvement is required to be made, the cost involved will be negligible.

14. It will be appreciated that on account of the location of Kutch past history and its urgent requirement, Kutch is entitled to a share from the waters of Indus and it is requested that this case may be taken up with the Government of Pakistan and other authorities concerned and the needful be done to secure for Kutch, the port of Kandla and the township of Gandhidham, a portion of the Indus river which is justly due to it.

In the light of the facts mentioned in this note it is submitted that after these facts had been got verified, the Government of India may take up this case with the Government of Pakistan and other authorities concerned and secure for Kutch a portion of the Indus waters that it is justifiable entitled to.

I remain Sir,

Respectfully yours

(Pratap Dialdas).

EXHIBIT-5

IRRIGATION IN KUTCH

The matter of irrigation in Kutch in the territory of Kutch and found about from the Indus is pending since long. It was first considered in 1943, when Brigedier G. G. Hawes, the then Chief Engineer, and secretary to the Public works Department, Sind prepared and submitted a note on the subject. He favoured the idea of starting irrigation of Kutch immediately below the Sind border. In addition, he felt that, subject to further detailed investigation, the Kutch 'Banni' lands 36.5 miles lower down near and round about Luna could be irrigated by flow.

In August 1946, the Central Water Irrigation & Navigation Commission were requested by the Chief Commissioner of Kutch. to look into the matter of re-establishing the Indus water flow to the Kutch lands, Copies of note and plans prepared by Mr. G. G. Howes were supplied at the than C.W.I.N.C. and to the Director, Indian Water ways Experiments Station, Poona. The letter, Mr. K. K. Premji sent to the Central Water Irrigation and Navigation and Navigation Commission, his comments on this proposal under his D.O.No. 44/47 of the 14th Feb. 1947. This not is a more detailed one, based on the additional data collected as well as a fact that the lower Sind Barrage should be sited at Kotri, 23 Miles below the original site at Hajipur and a separate branch from the tail of phuleli canal should run as feeder canal for Kutch with or without lining as may be found better upon more detailed examination.

Mr. H. M. Antani, the then Chief Engineer, Kutch discussed this question and put up all the relevant facts before the than Chairman C.W. P.C. Raibahadur Khosla and C.W.P.C. members Mohsinali and Mithal of C.W.P.C. A note on the subject was drawn up by C.W.P.C. As a result of these discussions Members Mohsinali and Mithal visited Kutch for a week in May, 1947 The inspection report submitted under No. W.I. 27(2) of 20th May, 1947. by Mr. Mohsinali, member of C.W.I,N.C. states besides other detail, that ''It would be quite feasible to irrigate the cultivable land adjoining the Sind boundary, on the north of Rann by a canal taking off from the projected lower Sind barrage. The Kutch Government, would of course, have to pay the cost of such canal extentions

as would be necessary and should lose no time in pegging its claim for ther rightful share, in the Indus river water.'' The Govt. of India have accepted the principle that the waters of a river basin should be utiliged for the benefit of all the inhabitants of the basin, irrespective of the provincial or state boundaries. 'Kutch, therefore, should be given its due and legitumate share of Indus waters for irrigation of its lands in the Great Rann as far as possible from the water of the Indus basin.

The matter was again taken up to the ministry of Irrigation and Power Government of India, by the deputation consisting of Shri Bhavanjibhai A. Khimji, the then member of Lok Sabha from Kutch, Shri Lavjibhai Thacker, the then member of Rajya Sabha, and Shri Pratap Dialdas (detailed note herewith attached for reference). It was pointed out that irrigation of Kutch areas should be done by an extension of the phuleli canal, which by then get transferred to Pakistan. It was thus a problem which should be settled quickly between the Government of Pakistan and Government of India. Subsequent development on the question of sharing the waters of Indus basin has taken a different turn. In addition to the other projects connected with the supply from the Indus basin, the Rajasthan canal taking off from the Harike Barrage has now been prepared to bring under irrigation certain areas of the East Punjab and Rajasthan through the Rajasthan canal.

Ancient history as well as the recent facts quoted above amply prove that Kutch lands are rightfully a part of the Indus basin and should have a share in the Indus supplies. Now that the Rajasthan canal is going to bring waters almost to the border of Kutch, it is but right that adequate supplies should be given to Kutch from this source. The facility which was under consideration of the Government of India, prior to partition and which was subsequently considered difficult to be implemented due to the division of the country should not be denied now when supply from the same basin can reach Kutch through an alternative arrangement of canal

system lying entirely in India.

The accompanying plan shows that an area measuring 10 lakhs acres gross can be provided with irrigation facilities from the tail, extension of the Rajasthan canal which is under consideration as for a navigation channel. An irrigation canal can easily be taken out (as shown in yellow) from the Navigation canal which will run as contour channel in the Banaskantha district to irrigate the occupied land and to reclaim and maintain under irrigation some of the land of the Rann of Kutch. As a first approximation, taking the water requirement as 3 cusecs for 1000 acres of command, an allotment of 3000 cusecs is the minimum that may be considered for this area. In fact the physical command from the tail of the Rajasthan canal is much more than 10,00,000 acres considering the western and sourthern parts of the Rann of Kutch, However, considering that a larger claim may cause embarassment at this stages and that subsequentity can always be considered at a future date the demand is limited at present to 10,00,000 acres only.

One index map of 32 miles-1" scale showing the location of the area for which irrigation and reclamation facilities are required visa vis the Rajasthan canal, and another map on 1 mile-1" scale showing the possible canal alignment and the command are enclosed.

D.A. 2 maps.

1 copy of a report.

EXHIBIT-5 A

MARKING OF THE ALIGNMENT OF KANDLA NAVIGATION CUT.

1. According to the original plan the tail of Rajasthan canal was to be at mile 325 near village Diha. Aliwar with a discharge capacity of about 3500 cusecs was to run form the tail upto Ranagarh and then lower down for a length of nearly 50 miles.

2. The possibility of constructing a direct navigation cut from the tail of Rajasthan canal does not exist because of high levels requiring enormous depth of cutting in the alignment.

Maj. M. L. Chopra, Superintending of the eastern circle Mt. Abu has marked a very good alignment of navitation channel from Ranagarh by making use of Lilwan-anch is a distance of about 70 miles ecovering the sheets 40(i) 11,(i) 7,(i) 8,4085 & 6.

3. Since the proposed Full Supply Level at Ramgarth at R. L. 490, the alignment has been proposed on suitable levels so that high enbankment and deep excavation are aided. The alignment will be mostly at a distance of about 20 to 30 miles from the boder except that it will be about 4 miles in the sheet nos. 40 K 10 and K 15 mile 175 to 220 The alignment has been marked on the sheets 40 J. II 12 m K9. K1, L14, L15, L16, 40pi p5 and p6 The proposed cut will cross meter gauge near Gadere road shown in sheet 40 K 10 at an elevation of 500. The alignment, of course can be shifted towards west on suitable levels that may be required from the consideration of enconomical construction. It is however, necessary that on sheet Nos L10, K15, length about miles the alignment is not proposed to be laid nearer that about 3 to 5 miles from the Border Any shifting towards east beyong 5 miles involves high excavation. Even on proposed alignment a cutting 40 to 60 ft. for a lengh of about 20 miles would be necessary.

4. The alignment will meet the Rann of Kutch in sheet no. 40P6 at the mouth of river Luni, a point about 10 miles from the Pak. border and some distance south east of Bhakesar. There is a drop of nearly 400 ft. in a distance of about 30 miles which in a way suits us best in locating

and grouping the proposed locks that would be constructed for the vessels to fly from the sea levels to the Canal levels.

5. The area from Kandla to Luni is subject to spills both from river Luni and Banas and from the local drainage.

The Bombay Government are interested in irrigating certain areas between on the east of Rann of Kutch and the north of river Banas covering the sheets no 40P9, 10, 11, 13 and 14, 14 This irrigation can only be possible if the crossing of water were available and the navigation crossing with Luni is constructed at an elevation of 50 ft. above the sea level. This can be accomplished either by a taking a separate small irrigation channel from higher up to that point and leaving the alignment of the navigation cut as described in the para 4 above or by taking the navigation cut through the circutous way as shown on the sheets no 40, °3 and °11 and meeting the river Luni in sheet °11

6. The levels in the Rann of Kutch are said to be or the order 20' to 30'. The navigation channel in this this area, distance of nearly 180 miles will be constructed as drainage so that it fits best with the proposed plans of Bombay Government. The navigation channel is likely to meet the sea back water at Navlakhi where steamer service already exists upto Kandla port, 20 miles distance.

Chief Engineer.

Rajasthan Canal Project.

EXHIBIT-5 B

Tour note : Delhi-Jaipur of Superintending Engr. (1) Central Designs Organisation, Bombay 13 to 16 August, 1959.

Note : 3

RAJASTHAN CANAL

1. Under his D.O.No.M. 54/RCP/3835 dated 3-8-59 addressed to C.E. (I.P.) Shri B. R. Lamba, Chief Engr. Rajasthan Canal Project suggested that S. E. (I), C.D.O. should contact the Rajasthan State officers for preliminary discussions on the possibility of the taking the Rajasthan canal through the Bombay State areas preliminary for the navigation facilities and if possible for some irrigation. C.E. (I. P.) permitted me to go to Jaipur and discuss the matter at engineering level.

2. Accordingly, I contacted Shri Lamba and discussed the problem with him. My discussions were limited to the engineering aspects of the proposal viz. possibility of extending the Rajasthan Canal further by the Bombay State. I was told that the Rajasthan state is thinking of extending the canal directly from the tail to the northern tip of the Rann of Kutch along the west of the river Luni. At this point it will enter the Rann at about R. L. 35 Thereafter it will not be of much use to us for irrigation because it can not provide much command. I pointed out that in order to enable to provide some command for irrigation, it will be desirable to take canal to the left to luni where the toposheet shows that a satisfactory crossing may be available at about R. L. 150. If this canal is extended further south we can get a larger block of command both of the land under cultivation as well as of the Rann of Kutch lying to the north of the river Banas. We may plan to irrigate the areas south of Banas from the waters of Narmada.

3. Shri Lamba was of the opinion that the amount of the water that can be spared for Bombay cant' be visualised at this stage but the alignments required for purely a navigation canal and a navigation cum irrigation canal would evidently be different as pointed out above I said that unless a substantial quantity of water was given to Bombay, it May not be possible for Bombay to meet any large fraction of the cost and that although I would not commit on the financial participations of the two states, the interest of the Bombay state in any such participation

would naturally be related to the extent to which water for irrigation can be spared. If negligible quantity water was likely to be spared for Bombay, it may not pay us to take the canal acroes the Luni (as shown in the yellow in the plan enclosed) because this will be a large route.

4. Fortunately the Superintending Survey of the Survey Department of India, Abu, was also available at Jaipur with his rough plan of surveys in this region From a study of the rough toposheets under preparations it was evident that deep cutting of 50 to 60 feet would be required across the hump near the railway line from Jodhpur to Hyderabad, where the ground level is about 518. The survey in the southern portion adjoining the Rann of Kutch and the maps for these areas are likely to be available next season. I enclose a copy of the note that was directed by the Chief Engineer, Rajasthan, as a result of his discussion with the Superintending Surveyor, Abu; this note incorporate reference to the toposheet which have been recently modernised. This will not yet be availablle officially from the Survey of India department but I was told by the Superintending Surveyor that if a personal contact is made it may be possible to get the rough prints makes with spot levels in pencil from their Abu office.

5. I will request S.E; G.I.C. to arrange for such a personal contact and procure at least three copies of the toposheets. mentioned therein. we should also attempt to get copies of the areas that will be surveyed in next fair season, as soon thereafter as possible.

6. I have also requested for a copy of the Rajasthan Project Report, but until this is received the following information might give rough conception of the scheme.

7. The Rajasthan Canal takes off from the Harike Barrage below the juncition of Sutlej and Bias. The first 100 miles of the canal pass through the Punjab areas and there after it enters the Rajasthan territory. The discharging capacity at head is about 18000 cS. and that at the Rajasthan border is 16000 cs. The project envisaged an unlined canal but subsequent to the discussion at the C. I. B. session Hyderabad, the Rajasthan engineers are thinking of having a lined canal all along. The total losses on the unlined canal were estimated at about 6000 cs and it was stated by Shri Kanwar Sain that if the main canal can

be lined a substential part of these losses would be available for use. It was against these "saving" we can hope for some water. The project is meant to irrigate 40 lacs acres and will cost about Rs. 90 crores in storage plus about much as in the canal.

8. I have also procured a copy of the first meeting of the communication committee held at Jaipur on the 12 and 13th August 1959 This note gives the view point of Rajasthan officers about developing navigation on the canal.

9. After these discussions at Jaipur with the Chief Engineer I met Shri Kanvar Sain Chairman of the Rajasthan Canal Project Board at Delhi We had a general discussion on the possible alternatives of the alignments (a) purely in the interest of navigation and (b) for navigation cum-irrigation. I pressed on Shri Kanwar Sain the great need of getting some supply from this canal, to areas in the north Gujarat and for the reclamation of the Rann of Kutch. Whereas he welcomed the proposal he said that he would not be in a position to indicate how much water could be spared. He however stated that if the navigation link was established some flow in the canal would have unavoidably to be maintained to sperate the locks necessary for going down from R. L. 478 the tail of the canal to about R. L. 35 near the Rann of Kutch. In addition, he said, some supplies will have to be maintained for drinking purposes of the population en route. I told him that command under a contour of about R. L. 150 at Luni in the Bombay state was very large being of the order of 10 lacs acres and that the exact proposal that we would evolve would depend much upon the size of the supply that we can get. Shri Kanwar Sain indicated that whereas there will be no difficulty to consider the supply of 500 cs. for the reasons mentioned above, any supply higher than that was brought with other complications such as the international water dispute, the claim of Punjab and Rajasthan from the waters of the Himalayas and so forth. He however mentioed that Bombay Government may make out a case for the minimum supply required by them supported by maps to show the regions in which such supplies should be utilised.

10. With reference to the engineering aspects of the proposal I brought out that the question of irrigation in this area was associated

with the question of draining the northern part and the little Rann of Kutch by an efficient drainage system, I brought out that even if Rajasthan contempleting to have a purely navigational project with a channel through the Rann of Kutch, it will be necessary to maintain F.S.L. of such a channel adequately below the ground level in the basin of the Rann so as to obtain effective drainage of the areas that we are plan to reclaim and irrigate from the supplies of the Narmada. It was evediently not possible to carry the technical discussions any further because of the lack of data in this area.

11. Shri Kanwar Sain further suggested that Bombay should at once approach the survey department of India for 4"1 mile maps of the entire area in which thay are interested also start observations on the following lines :-

(1) Gauging the discharge of the rivers meeting Rann of Kutch at the northern and eastern sides.

(2) Establishing a number of gauges stations in and around the Rann of Kutch to observe the water level throughout the year.

These information together with the spot levels that will be provided by the Survey department of India will enable us to gauge the extent of flooding that is occuring at present in this region. This information will be very helpful to design the drainage system of the area suitable for taking care not only of the sub soil drainage but also of the flood waters discharging into the Rann.

12. It is suggested that C.E. (I.P.) may request to S.E.G.I.C. (who is in charge of the Narmada project) to make arrangements for the river gauging and the other observations in the basin of the Rann.

13. Shri Kanwar Sain further suggested that while making out the case for supplies of the Rajasthan canal to the Rann of Kutch and the areas round about, it may be possible for Bombay to press its claims on the ground that these areas once formed the basin of the river which had their origin in the Himalayas. If some authoritative references can be quoted to point out that this area has a legitimate claim on the waters of

the Indus basin, it will strengthen his hands to get as much as allocation as possible from the Rajasthan canal The C.D.O. will take up some study in this direction.

14. In this connection Shri Kanwar Sain made a special request to me to keep these matters within department and avoid any publicity as any such reference in the press may prejudice our cause.

15. Shri Kanwar Sain suggested that it would be desirable if the tail area can be inspected to understand the local topography and hydrology. I said that the area of the Rann of Kutch is inaccessible during the monsoon but by about the end of the calander year it should be possible to inspect it. It was decided that a joint inspection by Bombay and Rajasthan officers may be proposed sometime late this year or early next year.

16. I further pointed out to Shri Kanwar Sain that some study on the reclamation of alkali soil of the Little Rann of Kutch had been carried out earlier vide article of Shri R. K. Shah J. C. Vohra and A. M. Trivedi in the Journal of Soil and water Conservation in India April 1958. This study was however limited to a small area of about 800 sq. miles bounded by 23° 30 minutes 23° 50 minutes and 71° to 72° east (shown hatched in the plan enclosed). Shri Kanwar Sain was of the opinion that survey should been extended to cover large areas in the northern end of the Rann as well as the little Rann of Kutch where reclamation possibility exists. It is suggested that the C.E.R.I. in its Baroda soil wing may undertake further studies with the help of the soil physists in this direction C.E. (I.P.) may please issue suitable directive to the Dir. C.E.R.I.

Acceompts : 1. Map

2. Copies of Proceedings.

EXHIBIT-6

No. GUD/G. 2/1483 Dated 7th March 1960

Sub :- A note on release of surplus water from the Gudu Barrage for utilisation in the Rann of Kutch.

Ref. :- Secret D.O.No.F. 4/1/GWD/59 dated Jan. 29th 1960 from Mr. G. K. Vij, Deputy Secretary, Ministry of Irrigation & Power Govt. of India, addressed to Shri N. T. Mone, I.C.S. Chief Secretary to the Govt. of Bombay.

Purpose :

Under the D. O. letter quoted above, it is stated that the Government of India have under consideration a proposal to obtain from the Govt. of Pakistan certain surplus supply from the Gudu Barrage on on the river Indus, for use in India. Govt. of India, therefore, desires to know the technical feasibility of the proposal for utilisation of the above water in the Rann of Kutch togather with the view of the Bombay Government thereof.

Observations :

The above reference does not indicate the exact location of the Gudu barrage with its F.S.L. and other relevant levels. However, it is presumed that the location of the barrage may be some where near the Kotri barrage on the Indus river or below the Eastern Nara Canal. In any case it will be possible to command the areas of the Rann of Kutch, lying towards the southern border of Pakistan as the levels and locations are favourable.

Rann of Kutch :

The average level of the Rann of the Kutch to the east of the proposed extension is about R.L. 10 to 15. The tail level of the canal from the Gudu barrage upto the junction of the fuleli and Eastern Nara Canal will certainly be higher than the command in the rann of Kutch. Moreover, as the area is entirely plain there will be no difficulty in the alignment of the proposed canal and its distribution system, through the Rann of Kutch.

Recently, Bombay Government has already taken up a pilot scheme for reclamation of the salt affected area of Bhal. It is further proposed to extend the above scheme in the little Rann as well as the entire Rann of Kutch depending upon the availability of water both for reclamation and for irrigation.

The area now proposed for reclamation and irrigation in the Rann of Kutch excluding the little Rann of Kutch admesures about 20,00,000 acres and will require a supply of 6000 cusecs at an average rate of 3 cusecs for 1000 acres. It will thus be possible to use almost all the wafer we may expect to get from the Gudu Barrage.

Main Land of Kutch :

The terrain in the middle of Kutch is hilly, with hilly redges running throught its length in the east-west direction. therefore, the northern nallas staring from these ranges flow towards north into the great Rann. The silt brought down, by these nallas throughout the ages, have reclaimed along the northern edges of the main land of Kutch, a large area known as "Banni" This tract covers an area of about six lakhs of acres and is very rich if water supply can be guaranted. A portion of this tract when fed by the fresh waters of the river Indus in the older past produced very rich crops including even rice. To-day, the supply from the Indus is denied to this area and hence it has become barren. During years of good rain fall, it is covered with grass and turn into good grazing ground, the tract of Banni is reclaimed from the Rann itself and is not much higher than level of the Rann. Even if a couple of lakhs of acres of the Banni tract are brought under cultivation from the supplies brought from the Indus Basin, across the Rann of Kutch, the frequent occurance of famines on this area will be prevented. Hence it is proposed to irrigate an area of abouf 2,00,000 acres by extending the irrigation into this part of Kutch also.

The requirement for irrigating this Banni area would be about 600 cusecs, on the same basis.

Total Requirement :

Thus the total requrements of the waters from the Gudu Barrage will be as under :-

1.	For reclamation and irrigation of 20,00,000 acres in the Rann of Kutch.	6000 cusecs.
2.	For irrigation of 2,00,000 acres of the Banni land in the main land of Kutch.	600 cusecs.
	Total	6600 cusecs.

Recommendation :

The Rann of Kutch and the Banni areas of Kutch from a part of the Indus Basin. They have no other source of supply as even the ground waters are saline. They need supply to bring them back to fertility which they once enjoyed when Indus flowing towards these areas.

It is therefore requested that a claim for supplying 6,600 cusecs may be pressed on Pakistan for irrigating these areas.

Sd/-
G. G. Dhanak
Superintending Engineer (I)
Central Designs Organisation
Bombay.

D.A. 1 Plan.

EXIBIT-7

ARTICALS REGARDING SINDHU WATERS

૧ કચ્છમિત્ર દૈનિક અષાઢી બીજ તા. ૩-૭-૮૧નાં અંકમાં અષાઢી બીજે "કચ્છ રજૂ કરે પાણીને વીજળી સબળની માંગણી" શિર્ષક નીચે મહેશ ઠક્કર દ્વારા લખાયેલ લેખમાંથી અવતરણ.

૧ સિંધુના પાણી

૧૮૧૯નાં ભુકંપમાં 'અલાબંધ' ઉપસી આવતાં કચ્છમાં આવતા સિંધુના પાણી બંધ થયા.

કચ્છનાં મહારાવશ્રીએ સિંધ ગવર્નમેન્ટ સાથે ૧૯૪૩માં હાજીપીર બેરેજમાંથી ૧૨૧ ૫૦ માઇલ લાંબી બન્ની સુધીની કેનાલની દરખાસ્ત કરેલી જેની અંદાજી કિંમત રૂા. ૨ કરોડ હતી

આ દરખાસ્તની શકયતા ચકાસવા સેન્ટ્રલ વોટરવેઝ ઇરીગેશન અને નેવીગેશન કમીશનને પણ પુછાવી હતી જેનાં અભ્યાસનાં અંતે શકયતાના સ્વીકાર સાથે સિંધુ નદીમાંથી કચ્છને પાણીનો હિસ્સો આપવા ભલામણ કરી. આગાદી આવતાં આ વાત આટલેથી અટકી.

૧૯૬૦માં પાકિસ્તાન સરકારે ભારત સરકારને ગીધુ બેરેજ'માંથી વધારાનું પાણી કચ્છ માટે આપવા ઓફર કરી કેન્દ્ર સરકારે તે વખતની મુંબઇ સરકારને શકયતાઓ ચકાસી અહેવાલ આપવા સુચના કરી. મુંબઈ સરકારે ૧૬-૪-૧૯૬૦નાં સિકેટ પત્ર દ્વારા આ દરખાસ્તની તાંત્રીક શકયતાનાં સ્વીકાર સાથે વૈકલ્પીક શકયતા તરીકે 'કોટરી બેરેજ'માંથી પાણી મેળવી શકવાની શકયતાની તાંત્રીક શકયતા અંગેનો અહેવાલ કેન્દ્ર સરકાર પાસે મુકયો.

મે ૧૯૬૦માં કચ્છ ગુજરાત રાજ્યનો ભાગ બન્યો. ગુજરાતે ઉકત માગણીની ભારત સરકાર પાસે ઉઘરાણી કરતાં કેન્દ્ર સરકારે ૧૯૬૧ નવેમ્બરમાં માંગણી તાંત્રીક અને આર્થિક સક્ષમ નહિ હોવાથી પડતી મુકાઈ છે તેવો પ્રત્યુતર આપ્યો. ભારત સરકારની ચકાસણીમાં 'ગીધુબેરેજ'થી ૪૦૦ માઈલ લાંબી પાકી કેનાલ દુરગમ રેતાળ વિસ્તારમાંથી લાવવી દુષ્કર હોવાથી "કોટરી બેરેજ"માંથી પાણી લાવવાની શકયતા સ્વીકારી આમ છતાં નહિ જણાવાયેલ કારણોસર ભારત સરકારે પાકિસ્તાન સરકારને કોટરી બેરેજ'માંથી પાણી આપવાની વૈકલ્પીક દરખાસ્ત નહિ કરવાનો નિર્ણય લઈ આ હકિકત અત્રે પુરી થયેલી ગણવા જણાવ્યું.

કચ્છનાં ઝુમારા ગામથી માત્ર ૩૫ માઇલ દુર પાકિસ્તાનનાં નાના ગામડા 'કાઢણપતેજી' પાસે સિંધુ નદીની 'ઢોરો પુરાણ' પ્રશાખા કચ્છના મોટા રણમાં પડે છે પાકિસ્તાન સરકાર પાસે ઢોરો પુરાણનાં પાણી રણમાં વેડફાવાનાં બદલે પાકી કેનાલ દ્વારા કચ્છના બન્ની સુધી લઈ જવા એક વધુ પ્રયાસ ન કરી શકાય ?

૨ રાજસ્થાન કેનાલ

૧૯૫૯માં મુંબઈ રાજ્ય સેન્ટ્રલ ડીઝાઈન ઓર્ગેનીઝશનનાં અધિક્ષક ઇજનેર સ્વ શ્રી જી. જી. ધાણુકે રાજસ્થાન કેનાલના વહીવટદાર શ્રી કવરસિંહ સાથે રાજસ્થાન કેનાલને કચ્છ સુધી લઈ આવવા ચર્ચા કરી અને આવી કેનાલ સિંચાઈ સાથે પરિવહન માટે કંડલા મહાબંદર સાથે જોડવાની શકયતા પણ બતાવી કંડલા પહોંચતા આ કેનાલ ૩૬૦ માઈલ લાંબી થાય અને લગભગ ૧૦૦ કરોડ રૂપીઆ ખર્ચ થાય એવો તે વખતે અંદાજ હતો તે વખતના આયોજન પંચના સિંચાઇ વિભાગનાં સલાહકાર શ્રી બલવંતસિંહ નાગે પાણીનાં સિમીત જથ્થા વિશે અંગુલી નિર્દેશ કરી શકયતાનો ઈન્કાર કર્યો આમ છતાં ત્યાર બાદ ગુજરાત રાજ્યે આ કેનાલ માત્ર સિંચાઈના પાણી માટે લંબાવી પાણી આપવા રાજસ્થાન સરકારને વિનંતી કરી ૧૯૬૪ જુનમાં રાજસ્થાન સરકારે દરખાસ્તનો અસ્વીકાર કર્યો.

પાકિસ્તાન સાથેનાં જળ કરારમાં સતલજ નદીનાં વધારાનાં પાણી મેળવી એ પાણી સિંચાઈ માટે કચ્છ પહોંચાડવા ફરી એકવાર શકયતાઓ ચકાસવા સમય પાકી ગયો છે.

૨ કચ્છમિત્ર દૈનિક દ્વારા ભારતનાં પંતપ્રધાન રાજીવ ગાંધીની તા. ૨૦-૩-૮૬ની કચ્છની મુલાકાત પ્રસંગે પ્રસિદ્ધ થયેલ પૂર્તિમાં "કચ્છનાં પ્રાણસમો પાણીનો પ્રશ્ન ઉકેલવો છે ?" શિર્ષક નીચે મહેશ ઠક્કર દ્વારા લખાયેલ લેખમાંથી અવતરણ.

સિંધુ નદીનાં પાણી

કચ્છ એ વિશ્વના ભૂકંપગ્રસ્ત વિસ્તારમાં આવેલ પ્રદેશ છે એ સતત ભૂકંપનો ભોગ બનતું આવ્યું છે એ સર્વવિદીત છે. ૧૮૧૯ના ભૂકંપમાં ઉપસી આવેલા 'અલ્લાબંધ'ને કારણે સિંધુ નદીના પાણી કચ્છમાં આવતાં બંધ થયાં.

સિંધુ નદીનાં પાણી કચ્છમાં ફરી પાછા આવે તેના માટે ૧૯૪૩માં કચ્છના એ સમયના મહારાવે સિંધ સરકાર સાથે વાટાઘાટ કરેા. પ્રાથમિક મોજણીમાં ૧૨૧ ૫૦ માઈલ લાંબી બન્ની સુધીની નહેર લઇ આવવા તે વખતની અંદાજી કિંમત બે કરોડ રુપિયા હતી. આ દરખાસ્તની ઈરીગેશન કમિશનને પણ પૂછાવાયું હતું, જેમના તરફથી અભ્યાસના અંતે શકયતાનો સ્વિકાર કરવામાં આવ્યેા અને સિંધુ નદીનાં પાણી કચ્છને આપવા ભલામણ કરવામાં આવી. આઝાદી આવતાં આ વાંત આટલેથી અટકી.

આઝાદી પછી એટલે કે હિન્દુસ્તાનના પડેલા ભાગલા પછી સિંધથી ઘણા બધા સિંધી કુટુંબેા ભારત આવીને વસ્યા જેમાંથી કરાંચીની અવેજીમાં આકાર લેતા કંડલા મહાબંદરની આસપાસ આદિપુર – ગાંધીધામ મહત્વનાં વિસ્તારેામાં નિર્વાસિતેાને સ્થાઈ કરવામાં અથાગ પરિશ્રમ લઇ જહેમત ઉઠાવનાર 'ભાઈ પ્રતાપ' સિંધુ નદીના પાણી કચ્છમાં લઇ આવી પાણીનેા પ્રશ્ન હલ કરવા સી સ્ટેટ વખતે કેન્દ્ર સરકાર પાસે સતત રજુઆત કરતા રહ્યા.

ભારત પાક વચ્ચે મતભેદ

સિંધુ નદીના પાણીની વહેંચણી અંગે ભારત અને પાકિસ્તાન વચ્ચે તીવ્ર મતભેદેા ઉભા થયા. એક તબકકે પાકિસ્તાન સરકાર ''ગીધુબેરેજ''માંથી કચ્છને પાણી આપવા સંમત થવાની પરિસ્થિતિ નિર્માણ થતાં કેન્દ્ર સરકારે જાન્યુ ૧૯૬૦માં મુંબઈ સરકાર પાસે શકયતાઓ ચકાસી રીપોર્ટ કરવા કહ્યું કચ્છ તે વખતે મહાદ્વિભાષી મુંબઈ રાજ્યનેા ભાગ હતું પછી એપ્રિલ ૧૯૬૦માં મુંબઇ સરકારે તાંત્રીક શકયતાનેા અહેવાલ કેન્દ્ર સરકાર પાસે મુકયેા.

મે ૧૯૬૦માં કચ્છ ગુજરાત રાજ્યનેા ભાગ બન્યેા. પછી ગુજરાત સરકારે ભારત સરકારને ઉપરોકત માંગણી અંગે ઉઘરાણી કરતાં માંગણી તાંત્રીક આર્થિક સક્ષમ નહિ હેાવાથી પડતી મૂકાઈ છે તેવેાપ્રત્યુતર આપ્યેા ભારત સરકારની ચકાસણીમાં 'ગીધુબેરેજ'થી ૪૦૦ માઇલ લાંબી પાકી કેનાલ દુર્ગમ રેતાળ વિસ્તારમાંથી લાવવી દુષ્કર હેાવાથી 'કેાટરીબેરેજ'માંથી પાણી લાવવાની શકયતા સ્વીકારી.

જળ કરારથી કચ્છને નુકશાન

વિશ્વ બેન્કની મધ્યસ્થી પાણીની વેંચણીનાં ઝઘડાના ઉકેલમાં એક વાતનેા સ્વીકાર થયેા કે કચ્છએ ઇન્ડસ બેઝીનનેા ભાગ છે જે રીતે Indus water Treaty સિંધુ જળ કરાર ૧૯૬૦ થયા તેમાં ઈસ્ટર્ન રીવર્સ સતલજ બીયાસ અને રાવિના પાણીનેા વપરાશ ભારત કરે અને વેસ્ટર્ન રીવર્સ સિંધુ–જેલમ–ચિનાબના પાણીનેા ઉપયેાગ પાકિસ્તાન કરે. આ કરારથી વધુમાં વધુ નુકશાન કચ્છને થયું. કારણ કે વેસ્ટર્ન રીવર્સ સિંધુના છેડા પર કચ્છ આવેલ છે. આમ દેશના હિતમાં કચ્છના હિતનેા ભેાગ લેવાયેા.

કચ્છ ઇન્ડસ બેઝીનમાં હોવાની વાતનાં સ્વીકારને કારણે અને વેસ્ટર્ન રીવર્સ સંપૂર્ણપણે પાકિસ્તાનને સુપરત થતી હોવાને કારણે રાષ્ટ્ર હિતમાં કચ્છને થયેલ નુકસાનનો બદલો વાળી આપવા ભારતને ફાળે આવેલ ઇસ્ટર્ન રીવર્સના પાણીમાંથી રાજસ્થાન કેનાલ કચ્છ સુધી લંબાવી તેમાંથી કચ્છને પાણી આપવા આશ્વાસન અપાયું પાણી નથી મળ્યું એ હકીકત છે. રાજસ્થાન કેનાલની વિગતો આપણે આગળ જોશું.

નવેસરથી પ્રયાસો જરૂરી

ભારત એક સારા પાડોશી તરીકે પાકિસ્તાન સાથે સંબંધો સુધારવા અને સારા રાખવા સતત પ્રયત્નશીલ રહે છે યુવાન પંતપ્રધાન શ્રી રાજીવજી સત્તારૂઢ થયા પછી પ્રયત્નોમાં વધુ વેગ આવ્યો છે તાજેતરમાં જ આપણા નાણાંમંત્રીશ્રી પાકિસ્તાનની શુભેચ્છા મુલાકાત લઈ આવ્યા. સંબંધો સુધારવાની દિશામાં એક વધુ ઘનિષ્ઠ પ્રયાસ થયો છે ત્યારે સિંધુ નદીના પાણી અંગે નીચેના મુદ્દાઓ નજર સમક્ષ રાખી ચર્ચા ઉપર લઈ શકાય

–સિંધુ નદીની ઉપશાખા "ઢોરાનારો" અને ઢોરાપૂરાણ જે પાકિસ્તાનની સરહદ ઉપરના 'કાઢણપતેજી' ગામ સુધી આવે છે અને ત્યાં ક્ષાર યુકત જમીનને નવસાધ્ય કરવા માટે એ પાણીનો વપરાશ થાય છે, લીચીંગ પ્રોસેસને કારણે થતા (કોન્સનટ્રેટેડ સેલાઈન' વોટર) તીવ્રતમ ક્ષારયુકત પાણી આપણા રણ વિસ્તારમાં ઠલવાય છે અને એ ઉનાળુ પવન વખતે બન્ની તરફ આગળ વધી આપણી જમીનને ખારી બનાવે છે. આ દલીલ સાથે આપણા સારા સંબંધોની ચેષ્ટારૂપે સિંચાઈ માટે નહિ એટલે કેનાલ મારફત નહિ પણ ૪' કે ૬' ચાર ફુટ કે છ ફુટ વ્યાસના પાઇપ વાટે પીવાના પાણી આપવા સમંત કરાવવા કોશીષ કરવી જોઇએ કાઢણપતેજીથી કચ્છનું હાજીપીર માત્ર ૩૫ માઇલ દુર હોવાનું નકશા ઉપર દેખાય છે.

રાજસ્થાન કેનાલ

સિંધુ જળ કરાર ૧૯૬૦થી કચ્છ ઇન્ડસ બેઝીનના હોવાના સ્વીકાર પછી પણ થયેલા અન્યાય ઇસ્ટર્ન રીવર્સ રાવી, સતલજ બિયાસમાંથી રાજસ્થાન કેનાલ દ્વારા કચ્છને પાણી મળશે એ આશ્વાસન અને આશા હતી રાજસ્થાન કેનાલ પીવાના પાણી અને સિંચાઇ બન્ને દૃષ્ટિએ અને કંડલા મહાબંદરના હિન્ટર લેન્ડમાં પરિવહનમાં ઉપયોગી થાય એવું આયોજન વિચારાયું કંડલા મહાબંદર સુધી પહોંચતા ૩૬૦ માઇલ લાંબી કેનાલનો ૧૦૦ કરોડનો ખર્ચ અંદાજવામાં આવ્યો પણ આયોજન પંચના સિંચાઈ વિભાગના સલાહકાર શ્રી બલવંતસિંહ નાગે પાણીના સિમીત જથ્થા વિશે અંગુલી નિર્દેષ કરી શકયતાનો ઇન્કાર કર્યો આમ છતાં પરિવહનની શકયતા બાદ કરી માત્ર સિંચાઈ માટે પાણી આપવા ગુજરાત સરકારે માગણી કરતાં ૧૯૬૪ના જુનમાં રાજસ્થાન સરકારે ઈન્કાર કર્યો. આમ ફરી એક વખત કચ્છને અન્યાય થયો હજુ પણ એ દિશામાં કેન્દ્ર સરકારની મધ્યસ્થીથી એક પ્રયાસ શકય છે.

–રાજસ્થાન કેનાલના પાણી પાઈપ લાઈન મારફતે કચ્છને પીવાના પાણી તરીકે આપવા કચ્છ ઇન્ડસ બેઝીનનો ભાગ હોવાના કારણે કચ્છને સિંધુ જળ કરારથી નુકસાન થયું હોવાના કારણે અને ઇસ્ટર્ન રીવર્સના પાણી રાજસ્થાનને મળતા હોવાના કારણે.

Aradhana Trust

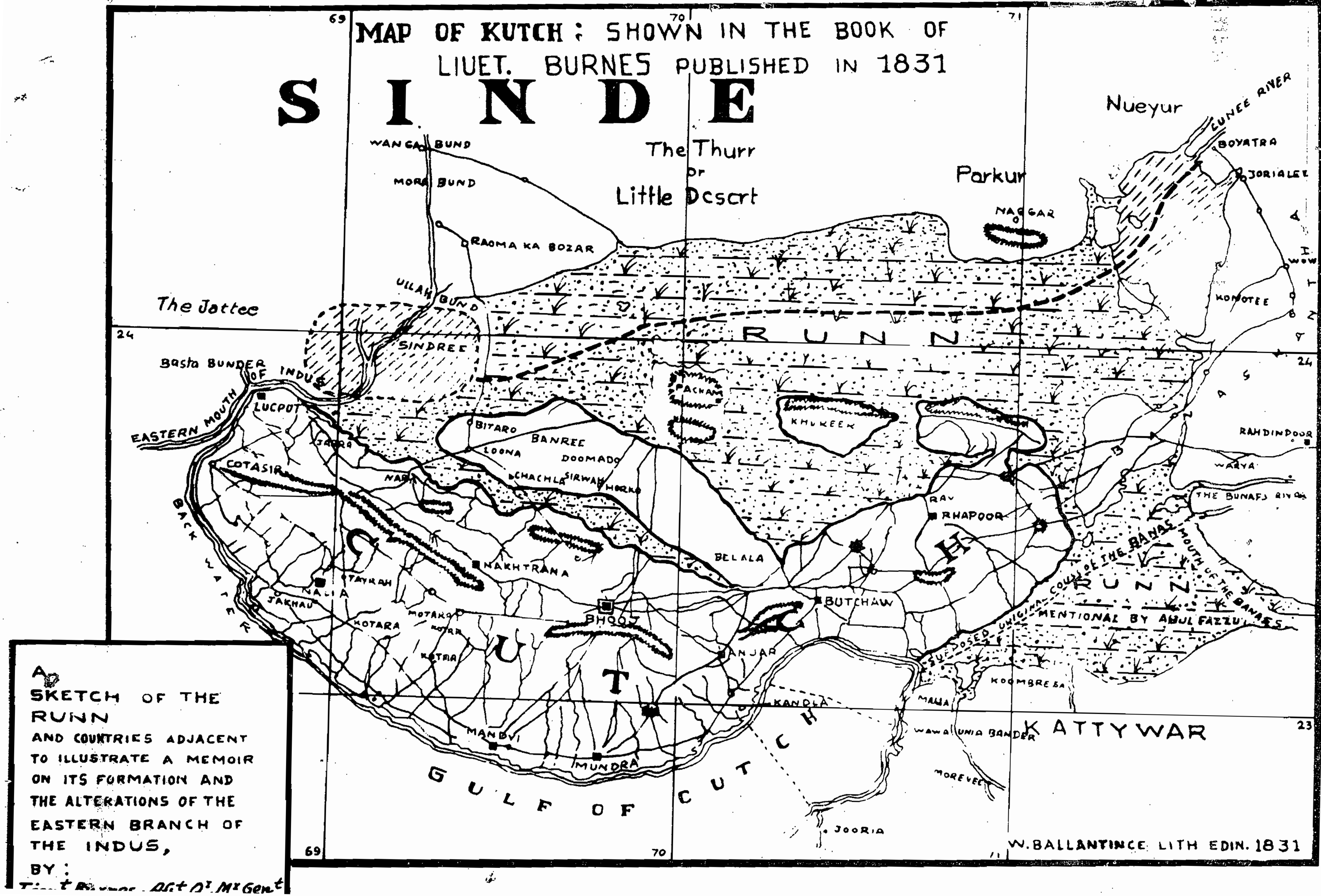
Aradhana Trust has been created jointly by Shri Khataubhai Naranji Thacker, Smt. Dahiben Khataubhai Thacker and Late Parvatiben Harjivan Thacker on 19-12-1983 for the purpose of Public Service.

This trust has been registered on 23-4-83 by the charity commissioner vide register No. E-762 (Kutch). It is also registered by the I. T. Commissioner Rajkot on 18-7-84 under Section 12 A (a) of the I. T. Act. and thereafter the I. T. Exemption under S. 80 G (5) of the Act, has been Granted Vide CIT/R/63-97/87-88 dt. 23-11-87.

The Trust has already started its activities with donations secured, It has given the facilities of Bal Mandir and a Primary School Building at Swaminarayan Nagar for educational Activity. It also provides financial help to deserving students for higher education in term of books and College fees and to the patients in the form of free medicines. In winter, It tries to distribute blankets to the down-trodden. Draught affected human beings and animals are also provided help. Informative literature useful to the people at large is also being published by the trust.

The Donations given to the trust are Tax-Free as mentioned above. Donation to the trust means encouragement in educational, cultural & Health-care activities for public Welfare. your helping hand will boost up our enthasiasm.

Board of Truseets


MAP OF KUTCH: SHOWN IN THE BOOK OF LIUET. BURNES PUBLISHED IN 1831
SINDE
The Thurr or Little Desert
Nueyur
Parkur
LUNEE RIVER
WANGA BUND
MORA BUND
RAOMA KA BOZAR
ULLAH BUND
The Jattee
SINDREE
Basta BUNDER
OF INDUS
EASTERN MOUTH
LUCPUT
JARRA
COTASIR
BACK WATER
NARA
BITARO
LOONA
BANREE
DOOMADO
CHACHLA
SIRWAH
HORKO
PACHAM
KHUREEK
NAGGAR
BOYATRA
JORIALEE
KONOTEE
RAHDINPOOR
WARYA
THE BUNAFS RIVER
RUNN
RAV
RHAPOOR
BELALA
NAKHTRANA
TAYRAH
NALIA
JAKHAU
KOTARA
MOTARO
KOTRA
BHOOJ
BUTCHAW
ANJAR
KANDLA
MANDVI
MUNDRA
CUTCH
GULF OF CUTCH
JOORIA
MOREVEE
MALIA
WAWANIA BANDER
KOOMBREBA
KATTYWAR
SUPPOSED ORIGINAL COURSE OF THE BANAS MENTIONAL BY ABUL FAZZUL
MOUTH OF THE BANASES
W. BALLANTINCE LITH EDIN. 1831
A SKETCH OF THE RUNN AND COUNTRIES ADJACENT TO ILLUSTRATE A MEMOIR ON ITS FORMATION AND THE ALTERATIONS OF THE EASTERN BRANCH OF THE INDUS, BY: