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CONTENTS

	PAGE
Address of Mr. A. St. G. Lyster President	(1)
Speech by His Excellency Sir Bertrand James Glancy, <i>K.C.S.I., K.C.I.E., I.C.S., Governor of the Punjab</i> ..	i
The Kalabagh Barrage, by S. I. Mahbub, Paper No. 251 ..	1
Discussion on above	251a
Design of Channels in Alluvium, by N. K. Bose and <i>K. R. Erry, Paper No. 252</i>	67
Discussion on above	252a
Observations on Lined (Haveli) Canals, by S. N. Kapur, <i>Paper No. 253</i>	81
Discussion on above	253a
<hr/>	
Waterway required under Bridges with special reference to the Rohi Beas Bridge on N. W. Railway, by Karnail Singh <i>and Gurdial Singh, Paper No. 254</i>	119
Discussion on above	254a
Effect of Capillarity on Drainage in Waterlogged Areas, <i>by V. I. Vaidhianathan and Chanan Singh, Paper No. 255</i> ..	133
Discussion on above	137a
Soil Stabilization as applied to Roads in India, by <i>S. R. Mehra, Paper No. 256</i>	139
Discussion on above	256a
Densification of Canal Banks, by S. I. Mahbub, Paper No. 257	149
Discussion on above	257a
Electric Transmission Tower, by R. C. Talwar, Paper No. 258	173
Discussion on above	178a

PRESIDENTIAL ADDRESS

PUNJAB ENGINEERING CONGRESS 29TH SESSION 1942

By MR. A. ST. G. LYSTER, I.S.E.

YOUR EXCELLENCY, HON'BLE MINISTERS AND GENTLEMEN,

Of the many interesting aspects presented by irrigation engineering in India, I have chosen as the subject of my address to you to-day "The Right to take water from the Rivers."

This subject which has been little studied in the Punjab will become of increasing importance in the future. The subject is complex and I cannot hope to do more this morning than set out its broad outlines and indicate in what way it can be more fully studied.

There appears to have been no legislation in India on the subject; true, in the preamble to the Northern India Canal and Drainage Act, VIII of 1873, it is stated that throughout the territories to which the Act extends, the Government is entitled to use and control, for public purposes, the waters of all rivers and streams flowing in natural channels—but the Act makes no further mention of the right to take water.

Where legislation in India is lacking it is usual to apply English Law. The English Law on this subject is known as "The Law of Riparian Rights," which may be briefly stated as follows.

Halsbury's Laws of England, original edition, Vol. 28, para 838

"Every riparian owner on a natural water course flowing in a known and defined channel whether on the surface of the land or below it, or in an artificial channel of a permanent character, has, as incident to his property in the riparian land, a proprietary right to have the water flow to him in its natural state, of flow, quantity and quality, neither increased nor diminished, whether he has yet made use of it or not."

A number of disputes in India have been settled in court on the basis of this law.

It is clear that under this law water cannot be diverted from the rivers, for irrigation, on the scale which is the established practice in Northern India. For it is our practice to withdraw at most seasons an appreciable part of the water in the river and at certain seasons to divert the whole flow of the river and to distribute it over areas at great distances from the point of withdrawal and frequently in the watershed of another river. If the Law of Riparian Rights were applied, there could be no canals in the Punjab. England whence this law originates differs in important features from Northern India. In England the rivers from source to the sea flow through territory which is all under one Government, this is not the case in Northern

India. The climate of England provides sufficient rainfall throughout the year and irrigation is not practised. The uses made of English rivers are first Navigation, second to provide power for mills situated on the river bank and thirdly Fisheries. For all these purposes the Law of Riparian Rights is well suited but even so we find that in practice the principle has been violated in the country of its origin. The great cities of England such as Liverpool, Birkenhead, Manchester, Birmingham and others, obtain their water supplies by appropriation from remote catchment areas. These appropriations are usually as near the source of the river as may be and the right to take water, which must be sought from Parliament in each individual case, is accompanied by an obligation to maintain a prescribed flow in the river below the point of diversion. Nevertheless we find a system of appropriations, imposed on the Law of Riparian Rights. Since the Law of Riparian Rights is unsuited to conditions in Northern India, we turn now to American Law.

While American Law is not binding in India, we may with profit study American experience, where conditions are often analogous to those prevailing in the Punjab and Northern India.

The evolution of the American Law of Water Rights is an interesting and picturesque story which we have not time to relate in this address, its development is now very complete and provides for every kind of flowing water whether on or below the surface of the ground. It is only certain main features which I shall describe here.

The Eastern States of America have a humid climate in comparison to the Western States so that in the Eastern States there is less demand for large scale irrigation schemes and it is in the Western States that we find conditions most analogous to Northern India. There are in the Western States great rivers which have their gathering grounds in the mountains where rainfall is plentiful and which then cross a region of arid plains suitable for irrigation and which finally reach the sea after traversing more than one political boundary. Each of the States has its own Legislature and there is a Central or Federal Legislature.

As regards the Law of Water Rights for irrigation. Principles and Procedure for Engineers by S. T. Harding.	each State has adopted the principles which, at least at the time of their adoption, seemed best suited to its conditions. Some States adopted the English Law of Riparian Rights and others what may be called the Law of Appropriation.
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The Law of Appropriation which has evolved from the self-imposed regulation of mining camps, has, as now developed, the following principal features :

1. The intending appropriator must give due notice at the State office of his intention, stating the quantity of water claimed, the purpose and place of intended use, and the character and size of the works to be built.

2. The appropriation must be for some useful or beneficial purpose. If not so used or if allowed to fall into disuse, the right ceases.
 3. Within a reasonable, stipulated time the appropriator must commence the necessary works, which must be carried on to completion with due diligence.
 4. If these conditions are complied with, the right to appropriate has priority from the date of giving notice (priority of appropriation, however, does not necessarily create superiority of right in the waters of an inter-state stream.)
- New Jersey V.
New York Ct. 283
U. S. 336 (1931).

This is a very different principle from the Law of Riparian Rights which I have already enunciated. Here the legal right is based on beneficial utilization taken up and continued with diligence. No limit is set to the place of utilization which may be remote from the place of withdrawal and even beyond the watershed of the river from which the withdrawal is made. The Law of Appropriation is in principle well adapted to the practical needs of large scale irrigation.

In contrast, the Law of Riparian Rights strictly applied would prevent any such use of a stream. Under Riparian Law the right vests in the land adjacent to the river and the right exists and continues whether it is exercised or not.

The conflict between these two legal systems is well illustrated in the legal history of water right disputes in America. Those States which adopted the Riparian Law and afterwards desired to develop extensive irrigation schemes have found it necessary either to impose restrictions on the operation of Riparian Law or to abrogate it altogether.

The boundaries of the Western States of America were not based on the drainage areas of streams. Instances are numerous where rivers cross the boundary of more than one State before reaching the sea. In some cases, the most economical storage sites are in the Upper State and the land requiring irrigation is in the Lower State. The States interested in the use of a single river have sometimes different systems of water rights. In such cases mutual agreement may be reached between the State concerned. Such agreements when ratified by the Legislatures of the States and the Federal Legislature become inter-state compacts. Where different principles are followed in different States such agreements are based on what is called 'equitable apportionment of benefit.' What is equitable depends on the conditions of each case. Where the contending States recognise the same principles such an apportionment may be made as though the state line did not exist.

In inter-state cases in America, the principle has been established that the river throughout its course is a single stream where in each state has an interest which should be respected by the other. A claim by one state to own all the waters arising within its boundaries did not succeed. In another case it was stated in judgment that "A river is more than an amenity, it is a treasure. It offers a necessity of life that must be rationed among those who have power over it"; and the decision of the Supreme Court U. S. A. was, that while the downstream state would be adversely affected in its amenities this was outweighed by the benefits which would be realized in the upstream state.

Wyoming and
Colorado 1922
(42 S. Ct. 552).

Kansas V.
Colorado
(27 S. Ct. 655).

New Jersey V.
New York 1931
(51 S. Ct. 478).

Equitable apportionment takes account of past commitments and present needs with due regard for future developments.

The Final Report of a Committee on Inter-state water rights appointed in America is to be found as Paper No. 2055 of the Transactions of the American Society of Civil Engineers for the year 1939.

The utilization of rivers which cross the boundaries of the United States has been invariably settled through diplomatic channels resulting in international treaties. It has generally been necessary to appoint a joint Commission of experts to advise on the technical features of each such case.

This completes our survey of Water Rights in America.

In Egypt a Commission was appointed in 1920 to report on certain projects for the control of the Nile and in particular the proprietary of the proposed allocation between Egypt and the Sudan of the additional supplies obtainable from these projects. The Members of the Commission were F. St. J. Gebbie, Esquire, Inspector-General of Irrigation in India; Dr. G. S. Simpson, late Head of the Government of India, Meteorological Department and H. T. Corey, Esquire, of the U. S. A. Reclamation Bureau.

I recommend a careful study of the report of this Commission. Its special features were :

1. Permission to the downstream state, Egypt, to construct a reservoir at its own expense, on the White Nile in the upstream State's territory, on condition that, as the effect of the dam will be to injure to some extent the basin and other systems of flood irrigation between the dam and the Sudan-Egypt border, so much water as shall permit 80,000 feddans of summer crops in these provinces to be irrigated by pumps shall, as compensation, be appropriated every year from the Nile after the dam is built. The cost of pumping this supply was not allocated; it was apparently to be borne by the Sudan.

2. Permission to Egypt to construct a reservoir on the Upper Blue Nile in Sudan territory at its own expense and to use all the water so stored but the Sudan to have the right to an increasing allocation from this water in the future in proportion as Sudan shall pay to Egypt a share of the cost of the reservoir.
3. Mr. H. T. Corey, the American Member of the Commission, wrote a minority report which contains a masterly exposition of the mental processes necessary to arrive at an equitable apportionment.

In Australia, there has been a long and complicated dispute between the States of New South Wales, Victoria and South Australia as to the utilization of the waters of the Murray River. This river has a basin about four times the size of the Punjab and a catchment area of about 158,000 sq. miles. The disputes which are of long duration illustrate well the conflicting requirements of navigation, irrigation and the domestic requirements of the riparian land holder.

In Australia as in America an Inter-state Agreement is required to be ratified by each of the State legislatures concerned and also by the Federal Government. An inter-state Royal Commission, reporting in 1902, recommended that, inter-state disputes cannot be decided on a strictly legal basis alone but must take into consideration matters of policy, vested interests and the general welfare of the people.

This completes our survey of water rights in other countries. We have now to consider the past practice in Northern India with particular attention to the Punjab and the basin of the River Indus.

As regards physical features, the rivers all have their gathering grounds in territory which is either wholly or in large part beyond the political boundary of the Government of the Punjab. The rivers traverse Punjab territory uniting into a single stream before they cross the boundary and then pass through the Province of Sind to the sea. Before the Punjab came under British rule, there were only primitive inundation canals whose scope was limited by their nature and the natural slope of the ground. Since the British occupation and up to 1937, all major undertakings for irrigation have been submitted to the Secretary of State for sanction. In 1884, a project was prepared to construct a canal to take water from the Sutlej near Rupar. This project which provided for British territory only was returned by the Government of India with the instruction that, it should be revised so as to distribute the supplies available in the best interests of the public at large irrespective of provincial or State Boundaries. This was done and the present Sirhind Canal delivers 36 per cent. of its Supplies to Indian States none of which have territory contiguous to the River. Subsequent to the Sirhind Canal, a number of major canals were successively sanctioned forming a great irrigation system. In none of these projects was the area in which the water was to be

utilized restricted to the watershed of the river from which it originated. We have here a procedure utterly at variance with the Law of Riparian Rights but agreeing closely with the Law of Appropriation. In 1919, a Conference was held at Delhi to decide certain differences between Bahawalpur and the Punjab. At these meetings, Bahawalpur pleaded the Law of Riparian Right but the Government of India claimed that the sole right to direct the utilization of the waters of the rivers for irrigation was vested in the British Government and that the rights of parties were limited to their utilization established for 20 years past.

Nowhere do we find that the Provincial Government had a right to take water from the Rivers and the existing treaties with Indian States on the use of water are made not in the name of the Punjab Government but of the British Government.

Since the passing of the Government of India Act of 1935, the authority held by the Secretary of State has been transferred to the Governor-General. Provision is made for disputes to be referred to him and he has power to set up machinery for the avoidance of disputes. There is not, however, in the present Government of India Act, 1935, Section 130-134. Act any instruction as to the principles which shall govern the settlement of disputes. It is greatly to be desired that such principles should be established at an early date and machinery set up to facilitate their application.

Irrigation is an activity on which the existence and welfare of many thousands of population depend and it is important that the right to take water should be securely founded on an abiding principle of equity and not exposed to chance decisions of administrative convenience.

**Speech made by H. E. Sir Bertrand Glancy, Governor of the
Punjab, in opening the Punjab Engineering Congress
Session at Lahore on the 5th of March, 1942.**

GENTLEMEN,

It is a great pleasure and a great honour for me to be present among you to-day and I should like to take this opportunity of expressing my profound and life-long admiration for the work of your profession in the Punjab. I have just read an advance copy of an address by the District Board, Lyallpur, which is to be presented to me shortly. In that address the representatives of the greatest revenue-producing district of the Province pay a very just tribute to the engineers to whom, they acknowledge, they owe the prosperity of their district. Benefits are so often forgotten that I think you will be glad to hear of this expression of gratitude. The Indian Service of Engineers, which has won fame for itself all over the world, will in a few years be fading out of the picture, but it has transformed the entire face of the Province and hands on to the provincially recruited service a magnificent tradition. The future well-being of the Punjab will depend very largely on the success with which that tradition is maintained.

The War has given you a new opportunity of proving your metal. The railway engineers like all railway officers have been working under intense pressure to keep the great North-Western Railway system going. The Irrigation Branch officers have worked overtime to let a considerable number of valuable engineers undertake military duties. The Buildings and Roads Branch have coped splendidly with a tremendous programme of road construction necessitated by the War. Mr. Howell of the Public Health Circle has become Chief Engineer, Civil Defence, and by his foresight and energy has earned fresh laurels for his service.

There is one important War service that every public servant should perform. Public servants are, as a rule, men of considerable education and their official position gives them influence and prestige. Each of them comes into contact with a large circle of the general public and can influence many people. The passing on of alarmist rumours and the expression of alarmist views are by no means as uncommon among officials as they should be. It is the clear duty of officials to be, as far as possible, a moderating influence in public opinion. When news is good they should be cautious; when it is bad they should preserve their balance and look beyond immediate misfortunes to the obviously favourable long-term view. This is a far more important matter from the point of view of national security

than some may be inclined to think, and I appeal to each one of you to do all he can for the maintenance of a steady unflustered civilian morale.

I do not propose to detain you any longer now, gentlemen. It has been a privilege to meet you, but it would be fruitless for a layman like myself to endeavour to take part in the technical discussions on which you are about to embark, and which I trust will prove of great value to the Province. As an instance of an unfortunate attempt on the part of a layman to step beyond his legitimate sphere perhaps you may be diverted by an anecdote which was told me many years ago by a very well-known and distinguished Punjab officer. So I avoid following this unhappy precedent, and I content myself with paying my humble tribute to the skill and devotion with which the great net-work of communications has been created and the water of the five rivers so controlled and distributed that over 13 million acres of the Punjab have been brought under irrigation.

If ever a body of men have earned the thankfulness of a great community you and the pioneers who came before you deserve the heart-felt gratitude of the Province we are all so proud to serve.
