



जवाहरलाल नेहरू और जल संसाधन विकास

(उनके कुछ भाषणों का एक संकलन)

JAWAHAR LAL NEHRU AND WATER RESOURCES DEVELOPMENT

(Some of his Speeches: A Compilation)

भारत सरकार, केन्द्रीय जल आयोग

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जवाहरलाल नेहरू
जन्मशती

JAWAHARLAL NEHRU
CENTENARY

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TEMPLES OF THE NEW AGE

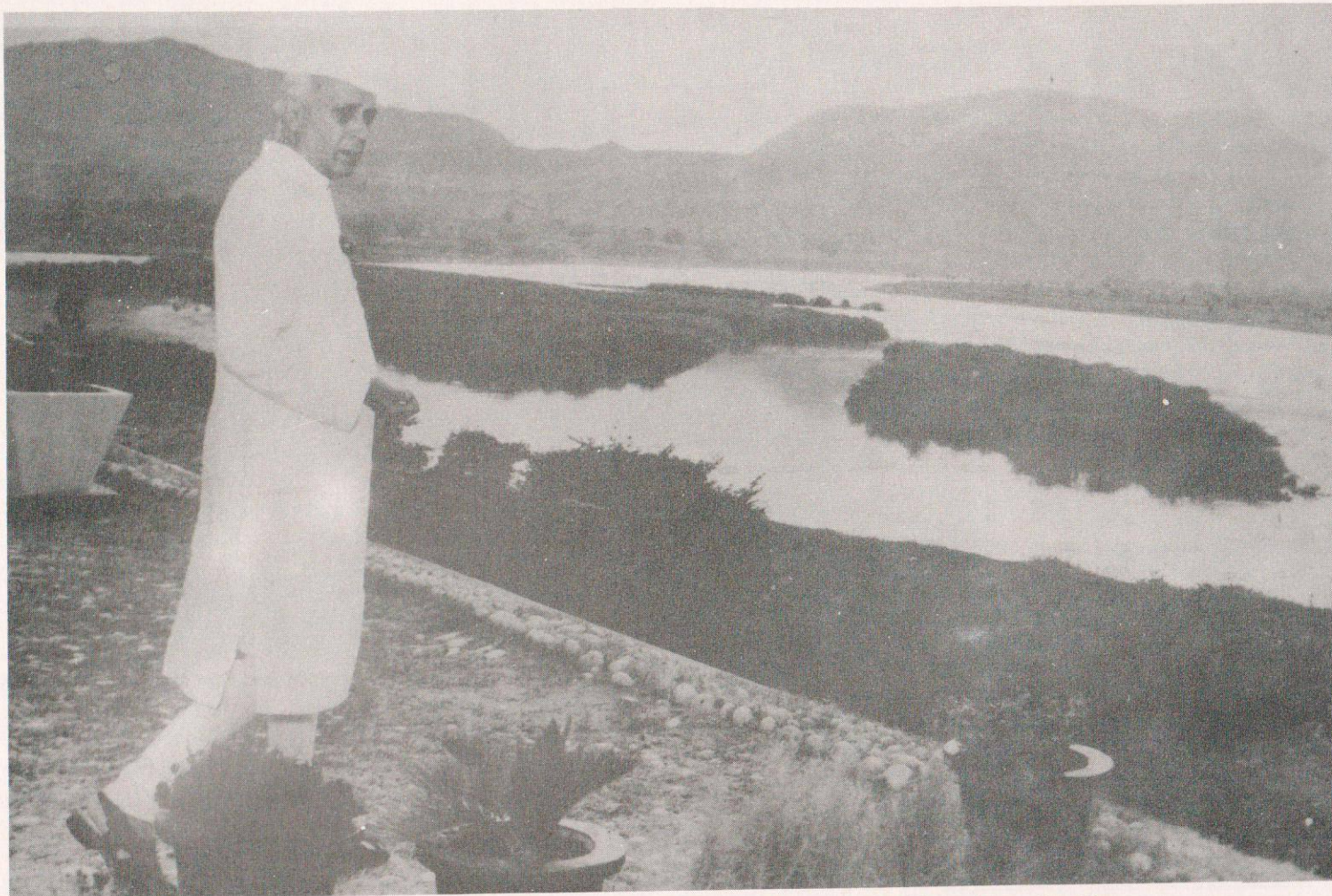
I have occasion frequently these days to participate in functions marking the inauguration of some new work or completion of some other. Today, you and I and all these persons have gathered here on one such occasion. I want to know from you what you think and feel in your minds and hearts on this occasion, because in my heart and mind there is a strange exhilaration and excitement, and many kinds of pictures come before me. Many dreams we have dreamt are today drawing near and being materialized. For the materialization of these dreams, we may praise one another, and those who have done good work should be praised. But how many can be praised when the list runs to thousands, nay, lakhs?

Let us give praise where it is due. The work which we see today, and in the inauguration of which we are participating, is much bigger than our individual selves. It is a tremendous thing. I have told you that I, and undoubtedly many of you, have frequent occasion to participate in various functions. A foundation stone is laid somewhere; a building, a hospital, a school or a univer-

From a Hindi speech delivered at the opening of the Nangal Canal, July 8, 1954.

sity is opened elsewhere. Big factories are going up. Such activity is taking place all over the country because Mother India is producing various kinds of things. Among them, Bhakra-Nangal has a special place - Bhakra-Nangal where a small village stood, but which today is a name ringing in every corner of India and in some parts of the world too; because this is a great work, the mark of a great enterprise.

About fifty years ago, an Englishman came here and for the first time had the idea that something could be done at this place, but the idea did not materialize. The matter was raised many times. Some rough plans were made but they were not pursued. Then India became free. In the process, the Punjab suffered a great shock and a grievous wound. But despite the shock and the wound, freedom brought a new strength, a new enthusiasm. And so with the wound, the worries and calamities, came this new enthusiasm and new strength to take up this big work. And we took it up. I have come here frequently. Many of you also must have come and seen this slowly changing picture and felt something stirring deep within you. What a stupendous, magnificent work - a work which only that nation can take up which has faith and boldness! This is a work which does not belong only to the Punjab, or PEPSU or the neighbouring States, but to the whole of India.



Pt. Nehru on the banks of the River Sutlej, the life giving river for the Bhakra Nangal Project, when he visited Nangal on July 8, 1954



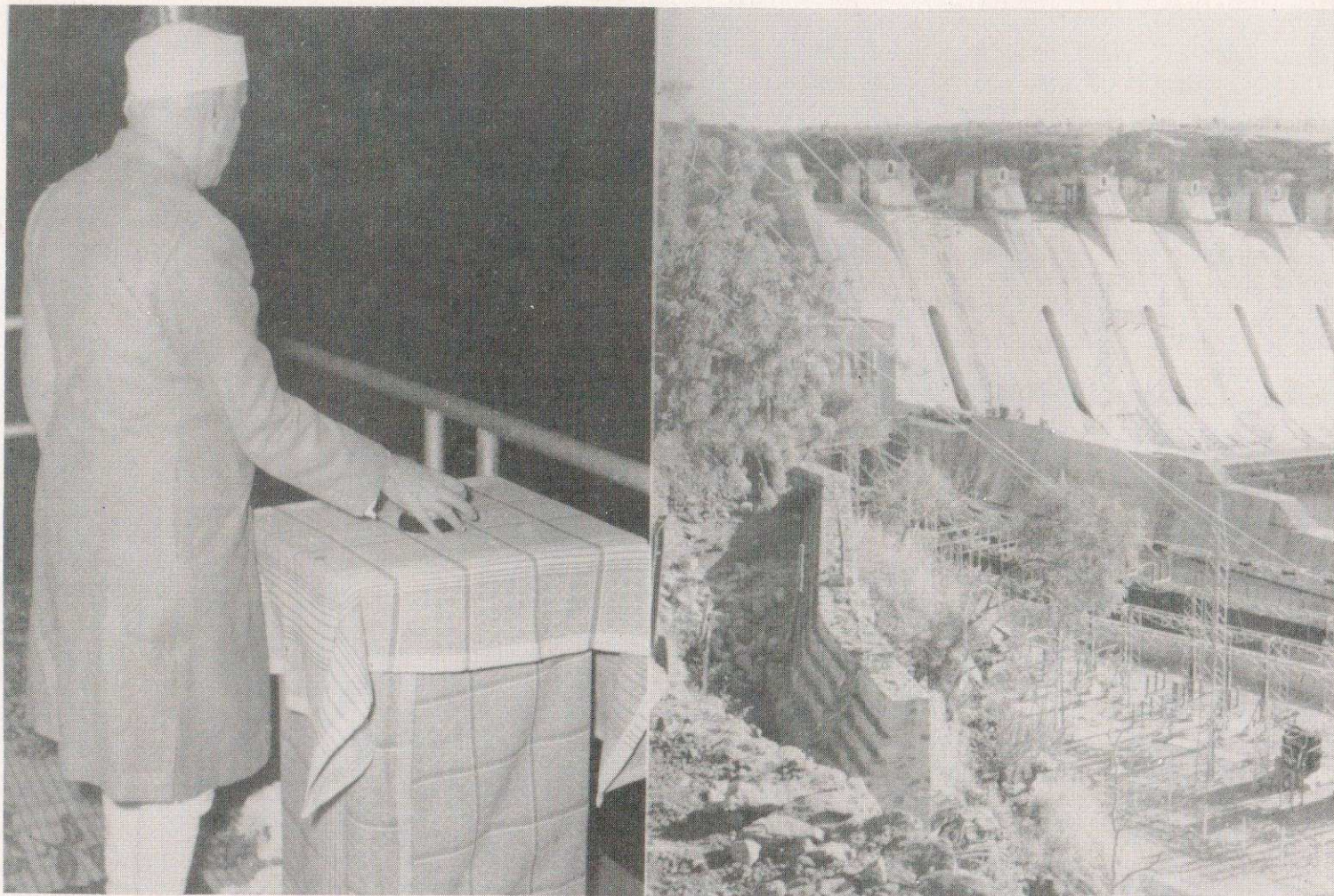
India has undertaken other big works which are not much smaller than this. Damodar Valley, Hirakud and the big projects of the South are going on apace. Plans are being made every day because we are anxious to build a new India as speedily as possible, to lead it forward, to make it strong and to remove the poverty of its people. We are doing all this, and Bhakra-Nangal in many respects will be one of the greatest of these works, because a very big step in this direction is being taken here today after years of endeavour. Every work we complete in India gives fresh strength to the nation to undertake new tasks. Bhakra-Nangal is a landmark not merely because the water will flow here and irrigate large portions of the Punjab, PEPSU, Rajasthan and fertilize the deserts of Rajasthan, or because enough electric power will be generated here to run thousands of factories and cottage industries which will provide work for the people and relieve unemployment. It is a landmark because it has become the symbol of a nation's will to march forward with strength, determination and courage. That is why, seeing this work, my courage and strength have increased, because nothing is more encouraging than to capture our dreams and give them real shape.

Just before coming to Nangal, I was in Bhakra where the Dam is being built. I stood on the banks of the Sutlej and saw the moun-


tains to the right and left. Far away, at various spots, people were working. Since it was a holiday, there was not much work going on, for all the people had come here. Still there were a few persons working. From a distance they looked very small against the mighty-looking mountain through which a tunnel was being bored. The thought came to me that it was these very men who had striven against the mountains and brought them under control.

What is now complete is only half the work. We may celebrate its completion but we must remember that the most difficult part still remains to be done - the construction of the Dam about which you have heard so much. Our engineers tell us that probably nowhere else in the world is there a dam as high as this. The work bristles with difficulties and complications. As I walked round the site I thought that these days the biggest temple and mosque and gurdwara is the place where man works for the good of mankind. Which place can be greater than this, this Bhakra-Nangal, where thousands and lakhs of men have worked, have shed their blood and sweat and laid down their lives as well? Where can be a greater and holier place than this, which we can regard as higher?

Then again it struck me that Bhakra-Nangal was like a big university where we can



Pt. Nehru performing the opening ceremony of the Gandhi Sagar Dam in Madhya Pradesh on November 19, 1960. The Dam is seen on the left



work and while working learn, so that we may do bigger things. The nation is marching forward and every day the pace becomes faster. As we learn the work and gain experience, we advance with greater speed. Bhakra-Nangal is not a work of this moment only, because the work which we are doing at present is not only for our own times but for coming generations and future times.

Another thought came to my mind when I saw the Sutlej. Where has it come from? What course has it traversed to reach here? Do you know where the Sutlej springs from? It rises near Mount Kailash in the vicinity of Mansarovar. The Indus rises nearby. The Brahmaputra also flows from that place in a different direction, reaching India and Pakistan after traversing thousands of miles. Other rivers rise from places near by and flow from Tibet towards China. So the Sutlej traverses hundreds of miles through the Himalayas to reach here and we have tried to control her in a friendly way. You have seen the two big diversion channels. At present the whole river has been channelled through one canal. After the rains we will divert

the river completely in the two channels so that the dam might be built there.

I look far, not only towards Bhakra-Nangal, but towards this our country, India, whose children we are. Where is she going? Where have we to lead her, which way have we to walk and what mighty tasks have we to undertake? Some of these will be completed in our life time. Others will be taken up and completed by those who come after us. The work of a nation or a country is never completed. It goes on and no one can arrest its progress — the progress of a living nation. We have to press forward. The question is which way we have to take, how we should proceed, what principles, what objectives we have to keep before us. All these big questions crop up. This is not an occasion to tell you about them but we have to remember them always and not forget them. When we undertake a big work we have to do so with a large heart and a large mind. Small minds or small-minded nations cannot undertake big works. When we see big works our stature grows with them, and our minds open out a little.

“It is enthusiasm, energy and constant effort of a people that make it a great nation.”

——Jawaharlal Nehru



Pt. Nehru being shown a model for separating sand in the canal improved method of irrigation at All Soviet Agricultural Exhibition, which he visited in Moscow on June 9, 1955



IRRIGATION AND POWER

It has become a habit of mine to inaugurate conferences. I do not know how many I have inaugurated in this Vigyan Bhavan. But I do think that this present conference of Ministers of Irrigation and Power is very important.

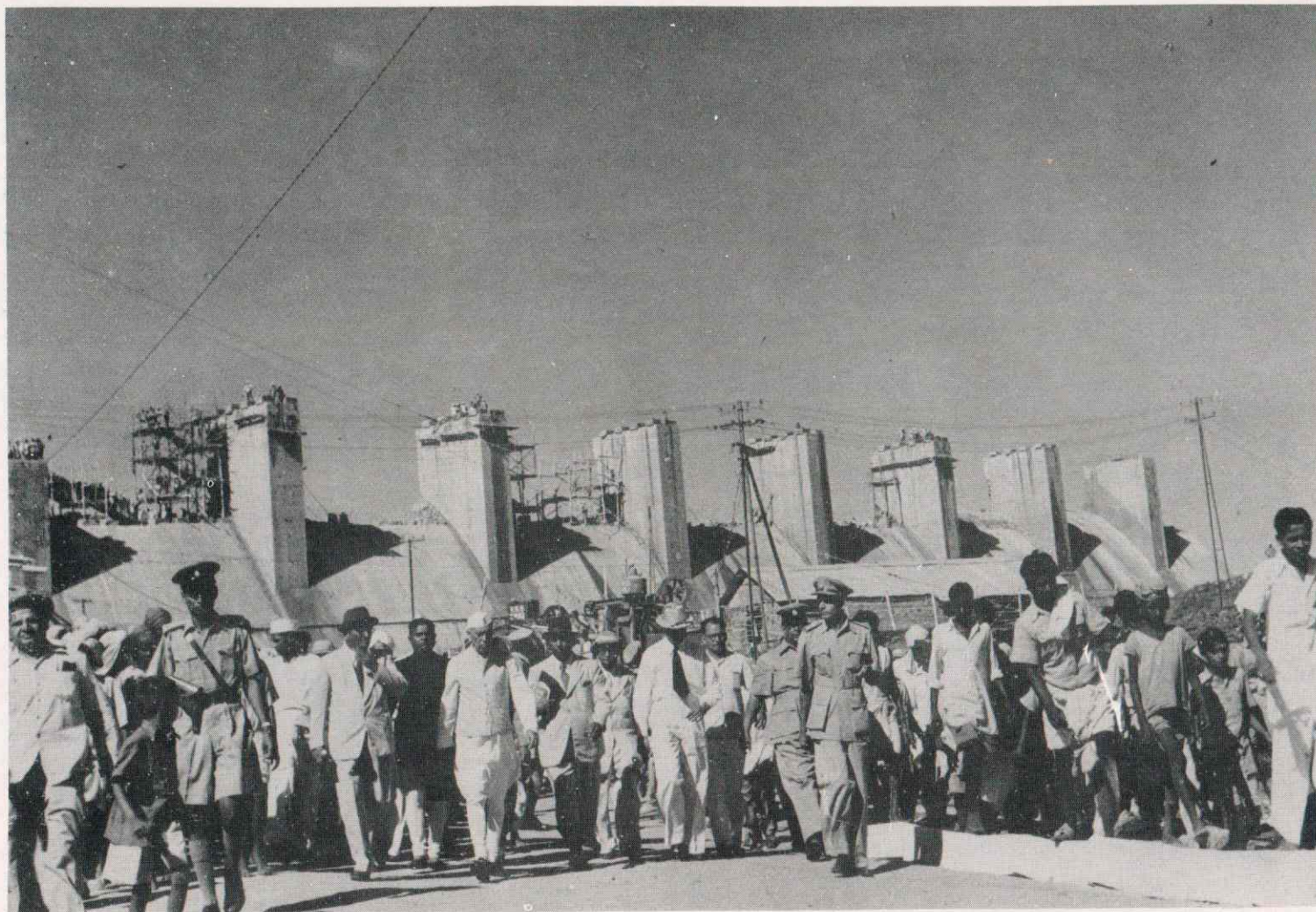
Irrigation, of course, deals with the basic problems of agriculture which lies at the root of all our progress. Power, again is essential for our progress and advancement. In fact, if you take power to the village, you introduce a revolutionary element which changes the face of the village. So the two are most important. The question is how to set about bringing these benefits and how to increase the economic potential with their help. You have come here to discuss that among yourselves and lay down the programme to follow.

Though we all know that agriculture is essential and basic, it has been rather neglected. I say neglected in the sense that people hoped that crops will grow by themselves and not by much effort on our part.

Speech at the Conference of Ministers of Irrigation and Power, New Delhi January 3, 1964

Now, greater attention is being paid to it and I hope this will bear results. There are all manners of things that go into agriculture. We have large irrigation schemes, but it takes a long time for us to take advantage of them fully. We first spent a lot of money and energy in building them, and then started thinking of how best to use them. Between the two there has been a long gap. We should plan for their full utilization in advance. The other problems of agriculture, of irrigation, etc. are given in this book which has been circulated and you will no doubt discuss them and come to your own conclusions.

As for electric power, the more I think of it, the more I feel the importance of it. It does not matter how much electric power you have in India, it will always fall short of the demand, and there is no question of your exceeding the demand. Possibly, we are going to get over this shortage of power sometime, through power obtained from atomic energy. That is a new source of power and it is good that we are getting it, because I believe that its cost of production will gradually lessen and we may have to go in for more and more atomic energy civil stations for power supply. For the present, we are planning for three, but they will take several years to yield results.



Pt. Nehru being shown round the various phases of Tungabhadra Dam

AGREEMENT ON CANAL WATERS



An Hon. Member asked me about the Canal Waters Agreement. Broadly it is based on the World Bank's proposal of 1954, the salient feature of which was the allotment of the waters of the Indus, the Jhelum and the Chenab, except for minor uses in Jammu and Kashmir, to Pakistan and those of the Sutlej, the Ravi and the Beas to India. A transition period during which Pakistan would construct canals, etc. to replace supplies hitherto received by her from the rivers going to India was to be fixed, India contributing towards the replacement works and allowing to Pakistan progressively diminishing supplies from the eastern rivers during this transition period.

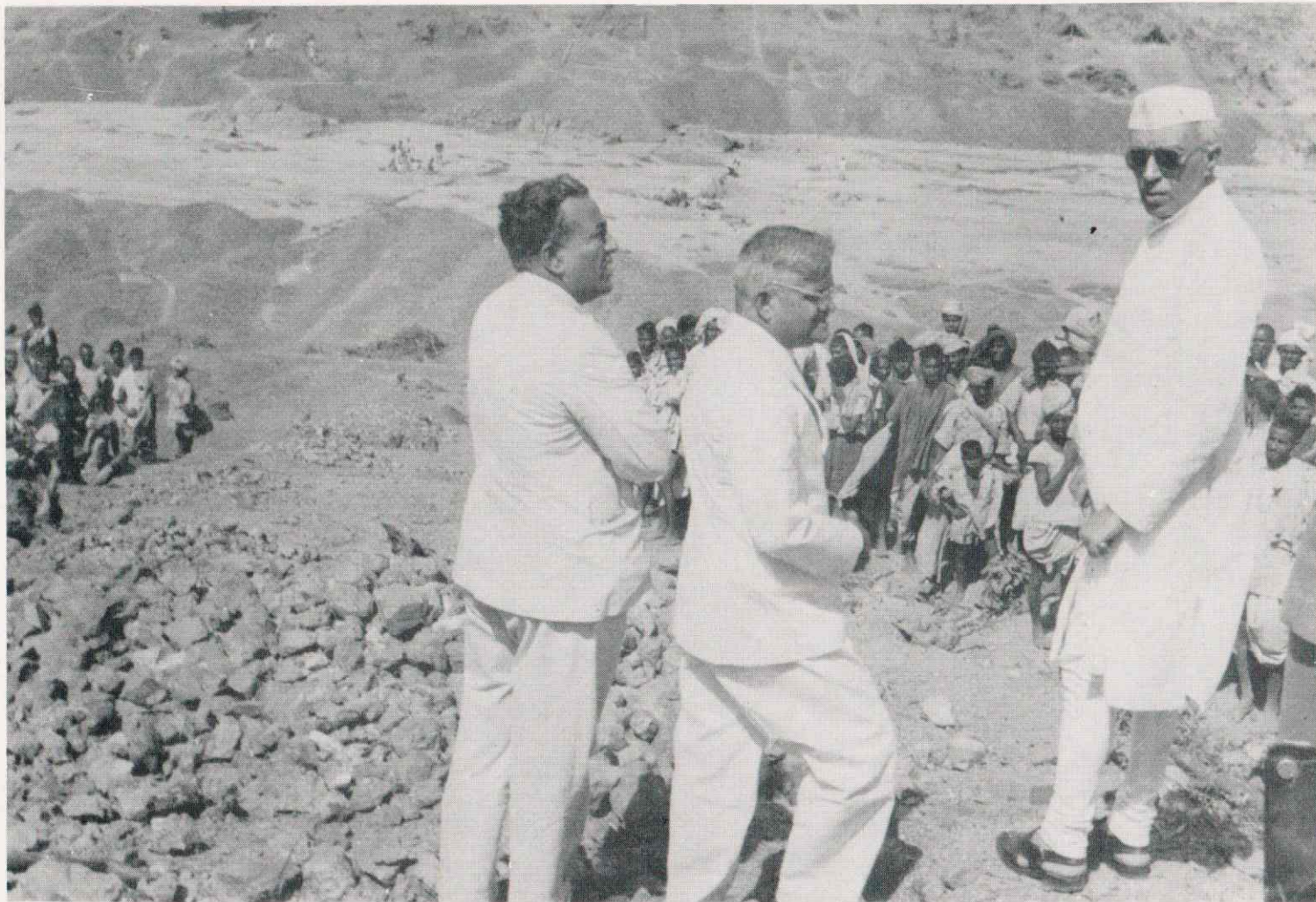
The main features of this treaty are: Pakistan should build these replacement works, presumably in ten years' time, and during these ten years we supply water to them, though in a progressively diminishing degree. In building these works, Pakistan is going to be helped by us financially to the extent that we are going to deprive her of the water that she has been getting so far.

From reply to debate in Lok Sabha September 1, 1960


In effect, however, Pakistan is going to build on a much bigger scale with the help of a number of countries and the World Bank. Large sums of money are going to be given to Pakistan by the World Bank and by a number of other countries. But that has nothing to do with our agreement. We are going to make an ad hoc contribution spread over ten years.

It has taken a long time to decide how much water we are to give during the transition period of ten years and in what form the payment should be made. The ten-year period began on April 1, 1960, the date on which the treaty came into effect, and it can be extended by a further period of three years at Pakistan's request. The extension is subject to a reduction in our contribution by 5 per cent in the first year, 10 per cent over two years and by 16 per cent over the three years. The ten-year period is to be roughly divided into two phases, 1960-66 and 1966-70. The water to be supplied by India to Pakistan from the eastern rivers during the transition period is to be of a diminishing scale. India will have no responsibility for their canals, etc.

A question that troubles many people is what effect this agreement with Pakistan is likely to have on the Rajasthan Canal. According to present plans, the Rajasthan Canal will be ready to carry some irrigation water



Pt. Jawaharlal Nehru at Konar Dam site on 23rd April, 1950



up to 1,200 cusecs in 1961, 2,100 cusecs in 1962 and 3,000 cusecs in 1963. Thereafter it is proposed to enlarge the capacity in such a way that by about 1970 the Canal would be developed to 18,500 cusecs. We are trying to provide water to the Rajasthan Canal throughout this period on an increasing scale. This will partly depend also on another scheme, namely the Beas scheme. Although the Rajasthan Canal will get water in an increasing quantity during this period, the full supply will come only when the Beas scheme is completed. Because we are accommodating Pakistan to a considerable extent, the World Bank has promised us aid for the construction of the Beas Dam.

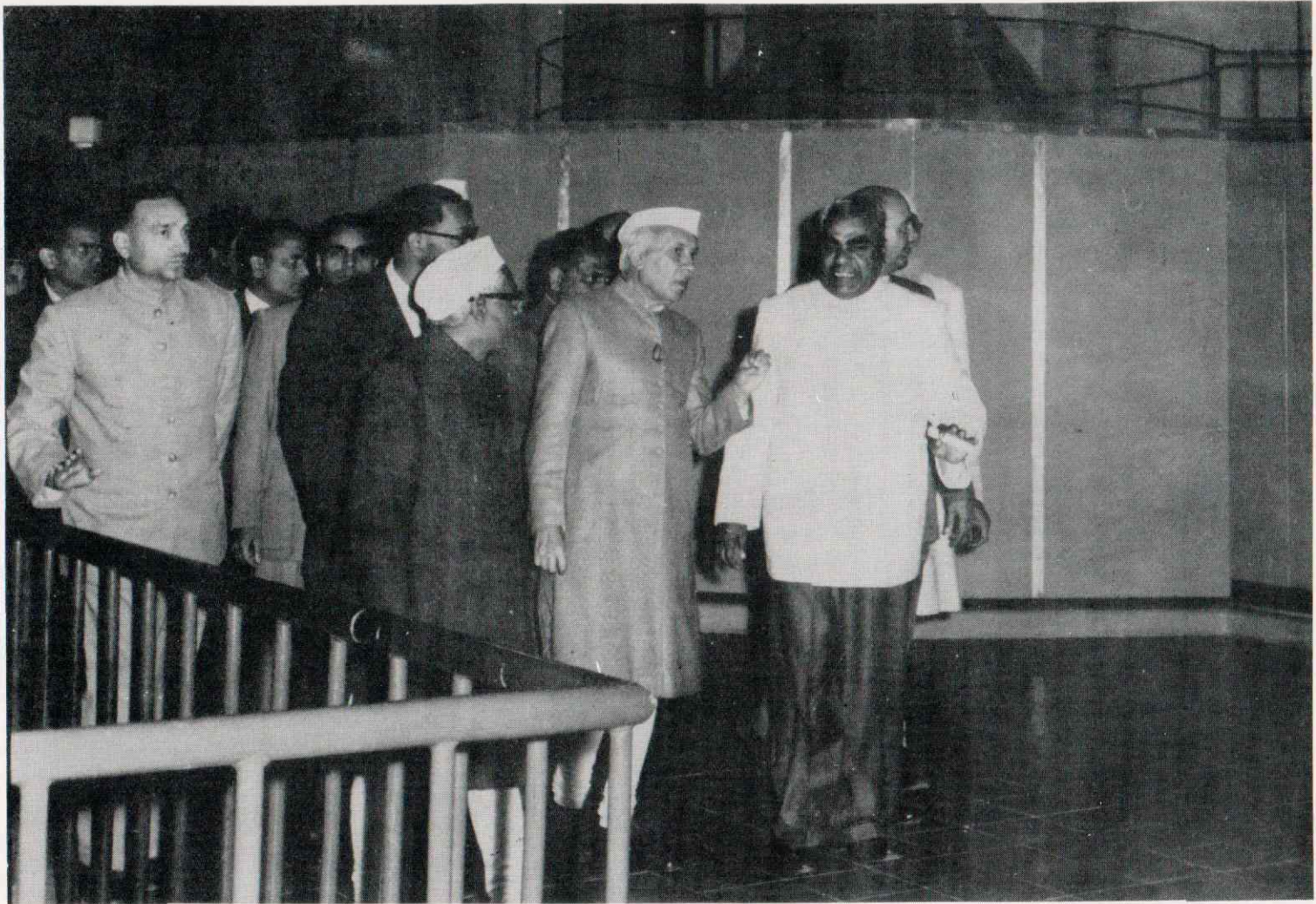
The treaty provides for a permanent Indus Commission, consisting of commissioners from India and Pakistan. Each commissioner will be the representative of his Government for all matters arising out of the treaty and will serve as a regular channel of communication on all matters relating to the implementation of the treaty. The permanent Indus Commission will take the first steps to iron out any differences between the two sides. The treaty also provides for a neutral expert to whom differences of a technical nature would be submitted for solution. A court of arbitration has been provided to deal with major disputes on the interpretation of the treaty. This, broadly, is the position.

This is indeed a unique occasion and a memorable day, memorable in many ways, memorable certainly in the fact that a very difficult and complicated problem which has troubled India and Pakistan for many years has been satisfactorily solved. It is also memorable because it is an outstanding example of a co-operative endeavour among our two countries as well as other countries and the International Bank.

On behalf of India I congratulate you, Mr. President, and I congratulate you, Mr. Iliff, as representative of the International Bank. I know how Mr. Black and you have laboured these past many years. Indeed, I often marvelled at your patience and your persistence in spite of all manner of difficulties.

This settlement is memorable because it will bring assurance of relief to large numbers of people - farmers and others - in Pakistan and India. All of us, in spite of many scientific improvements, still depend upon the good earth and good water and the combination of these two leads to prosperity for the peasant and the countries concerned. By this arrangement we have tried to utilize to the best advantage the waters of the Indus river system. These waters have flowed down

Statement at the time of signing the Canal Waters Treaty, Karachi, September 19, 1960



Pt. Nehru going round the Power House of Rihand Dam on January 7, 1963



for ages past, the greater part going to the sea without being utilized. This is a happy occasion for all of us. The actual material benefits which will arise from this are great. But even greater than these material benefits are the psychological and emotional benefits. This treaty, Mr. President, is a happy symbol of the larger co-operation between your country and mine. I should like to express my deep gratitude to the International Bank and to all those who have laboured within Pakistan, in India and in other friendly countries, and to all who have come to our assistance in this matter and generously made contributions towards solving this problem.

I feel sure that if we approach any problem in the world in a spirit of co-operative endeavour, it will be much easier of solution than it might appear to be. Therefore, most of all I welcome the spirit which, in spite of all difficulties and obstructions and obstacles, has triumphed in the end. Ultimately, the spirit does triumph even in this material age. I should again like to express my deep satisfaction at the happy outcome of many years' labour and hope that this will bring prosperity to a vast number of people on both sides and will increase the goodwill and friendship between India and Pakistan.

“You have great opportunities in India. Prepare yourself for them, Grow strong in mind and body. Have that inner urge to do things and I have no doubt that you will do big things.”

——Jawaharlal Nehru



Pt. Nehru going round the Kota Barrage after declaring it open at Kota
on November 20, 1960

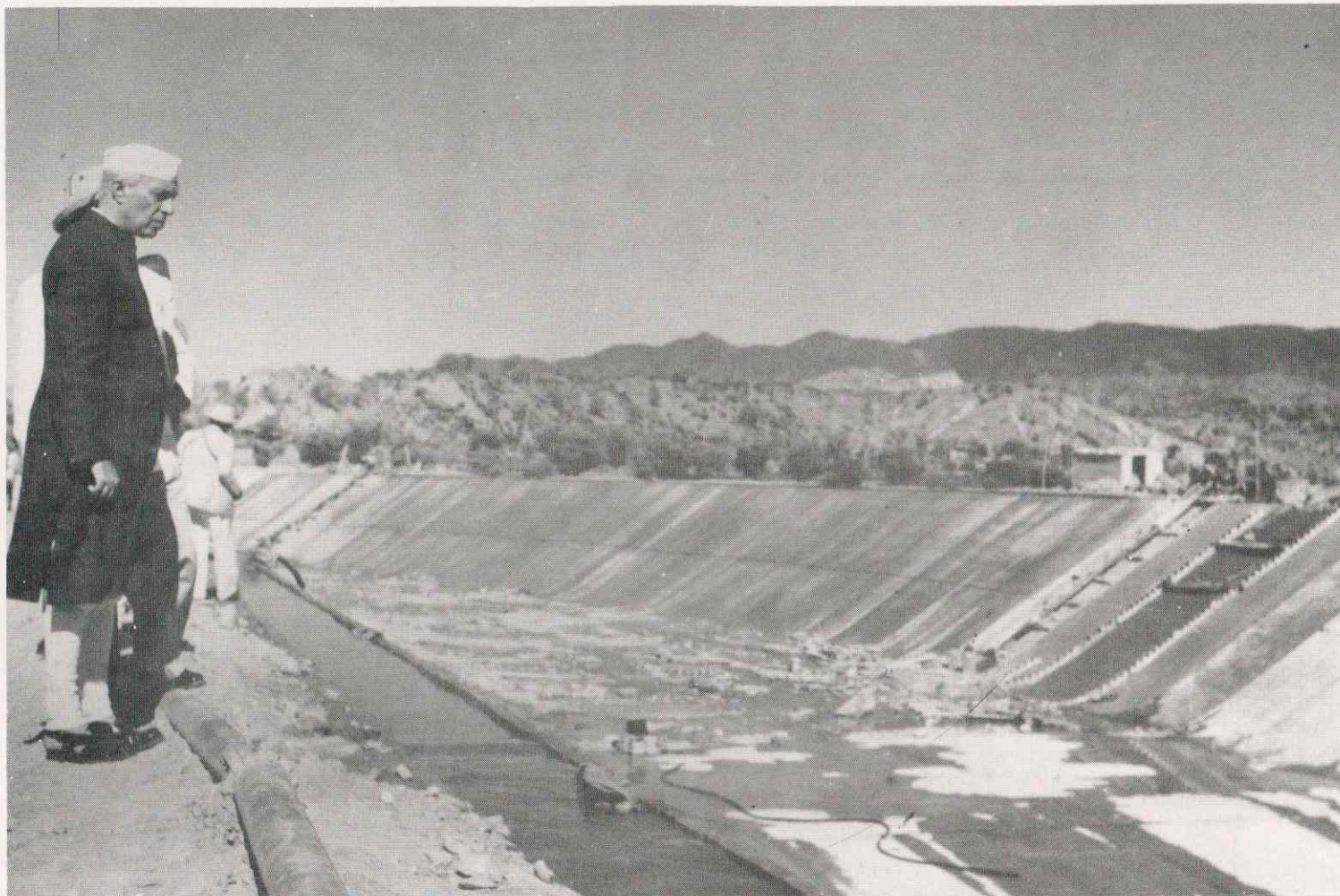
THE CANAL WATERS DISPUTE

You know that in the matter of Bhakra-Nangal, our neighbour Pakistan has some complaints and has raised objections. It is a story seven or eight years old, which dates back to the time of Partition. I can understand Pakistan's anxiety. I have been worrying all these years how to solve this question through mutual consultation, to the advantage of both India and Pakistan. Why could this question not be solved till now? Why all this strife? You may perhaps remember that we held talks more than six years ago, when this dispute arose. Representatives of Pakistan and our representatives met at a conference in Delhi. I was also one of them. Therefore, I can speak from personal knowledge. The present Governor-General of Pakistan also participated in the conference and his signature as well as mine are on what was written there. Other Ministers of Pakistan and India and of East and West Punjab have also signed it. A settlement was arrived at. What was the settlement? They told us and we told them that this was not a matter for legal dispute in which lawyers could be engaged and legal quibbles indulged in. The law did not help in such matters.

From a speech in Hindi on the occasion of the opening of the Nangal Canal, July 8, 1954

This was a human problem, a matter affecting the welfare of lakhs and crores of human beings on both sides. We did not raise the matter of legal rights but it was clear that East Punjab could not do without the waters of the Sutlej and other rivers.

We said we did not desire to harm Pakistan. Therefore we had to find out a way which would serve the purpose of both of us. And the way which was found through the agreement of 1948 was this: that India should gradually increase her offtake of waters on the East Punjab side, but bearing in mind that Pakistan should have an opportunity to make alternative arrangements, so that the people on the Pakistan side did not suffer any loss. This was a wise and sensible decision. How can we wish harm to the inhabitants of Pakistan? After all, she is our neighbour, our comrade of yesterday and in a sense a comrade of even today. Besides this, if there is distress and starvation on our borders it would be a danger to us. We desire prosperity for this side as well as that. There may be any number of disputes and quarrels between ourselves and Pakistan today, but a day will come when these disputes and quarrels will end and we shall live in friendship. Therefore, it is a foolish presumption if any one thinks that we want to do anything which might harm Pakistan and her peasants or landowners, because ultimately



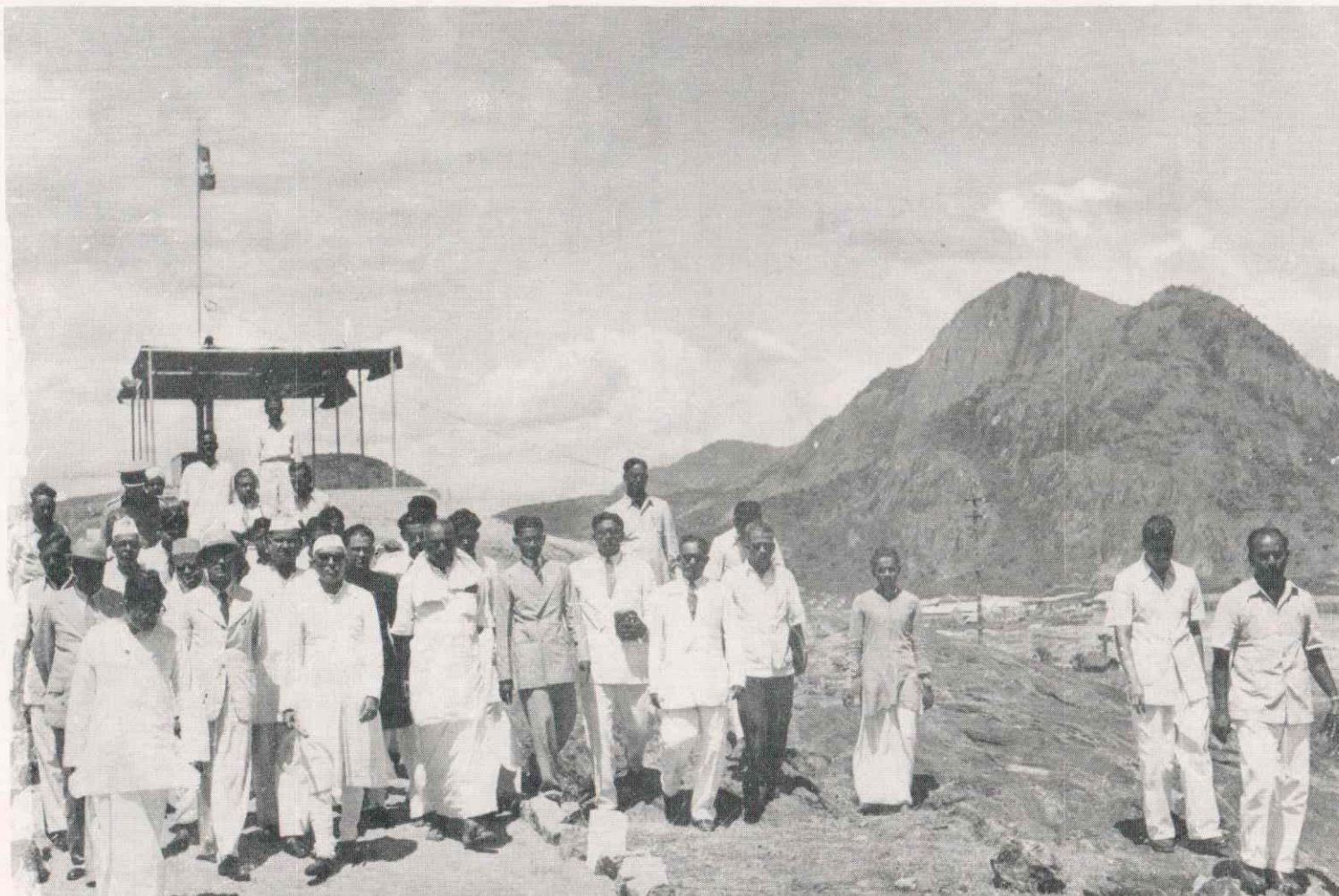
Pt. Nehru inspecting the canal near Dabatwali when he inspected the Nangal Hydel Canal during his visit to Bhakra Nangal Project on November 8, 1953



her injury will recoil upon us, and create loss and dangers for us. At the same time, however, if anybody should tell us that we cannot under any circumstances take the waters of the Punjab rivers then it does not make sense. Can Punjab and India agree for all time to starve, to remain in poverty and not to make progress? Considering all these things we reached a settlement and Pakistan agreed to it. The agreement was to the effect that we had a right to the waters of the East Punjab rivers and we should give time to West Pakistan to make alternative arrangements, so that they might not suffer any loss. This was not a question of law. It was sense. Please remember that law and sense are not always the same. In this dispute as well as may other disputes, legal experts have made long statements and written big books. I tried to explain that all this labour would be useless. This was not a matter for law, whether it might be raised in the International Court or in the United Nations. This matter should be settled between the countries where it was a question of life and death for lakhs and crores of people. This proper way is what we followed in 1948 when we all arrived at a settlement. The settlement provided that our engineers and theirs would consider how to secure the good of both of us. You should remember that a very small portion of the waters flowing in the rivers of both the Punjabs is today being

utilized. The rest flows into the ocean. There is no dearth of water. If you look at East and West Punjab as a whole there is no lack of water. We only lack an arrangement to take that water to the right places. The right way is to make those arrangements. Some money will probably have to be spent. This is a matter for consideration because we are making arrangements not for today but which would yield results for a hundred or two hundred years. Naturally, these arrangements will require money. We have already spent vast sums on Bhakra-Nangal and we shall have to spend much more. In all, Bhakra-Nangal, it is estimated, will require about 160 crores of rupees. This may appear a big sum of money but look at the benefits to the country and the people. Compared with the benefits, 160 crores of rupees are nothing.

Unfortunately, the agreement arrived at was not put into practice. I was in favour of joint consultations between the engineers of both sides. A thousand obstacles were created from Pakistan's side. They would not talk or allow us to go on. Perhaps they thought that by raising obstacles they would be able to arrest our progress. They could not do that. Now suddenly we are told that the 1948 Agreement was useless and that it was secured under duress. As I told you, it so happened that I was also present at those talks and can give personal testimony. The present Governor-General of Pakistan was also



Pt. Nehru inspecting the Dam (Malam-puzha Project, Tamil Nadu) under construction during his visit to the project on October 4, 1953



present there as one of the signatories. I cannot understand how I or anybody else could coerce him into appending his signature. It is very undignified for countries to argue like small lawyers. Big countries do big things with big minds, whether it is peace or war. It is not in my nature to indulge in legal quibbling. I gave up law forty years back.

Spokesmen of Pakistan said that they had denounced the 1948 Agreement. An agreement between two parties cannot be abrogated by unilateral action and so the dispute went on. Some people of the World Bank came here from America and talked with us and with Pakistan. They were prepared to mediate, so that our engineers and Pakistani engineers might hold discussions with their help. This was what we had been saying from the very beginning: that our engineers and theirs should hold joint consultations because there was sufficient water for all. So we accepted that World Bank's proposal and said that we were ready, if they could make them agree to joint consultations between the engineers. They told us that as long as the talks went on we should not reduce the supply of water to Pakistan from this side. Please remember that the 1948 Agreement with Pakistan, which I just mentioned, laid down that India had a right to reduce the supply of waters, but this was to be done gradually so that

Pakistan might get time. Sufficient time was given and years passed. We had thus a right to reduce the supply of Water. Still we agreed to the World Bank's suggestion not to reduce the supply of water as long as the talks under the auspices of the Bank went on. It was not envisaged at that time that this arrangement was meant for all times. We thought that the talks would go on for five or six months and would come to some conclusion. We hoped that the result would be helpful; so, taking everything into consideration, we accepted the suggestion for the duration of about six months. Those six months lengthened into a year, and now to two and a half year. It is a strange situation. Talks which are held with Pakistan go on lengthening so much that there does not seem to be any end to them. I get sick of this. I want a decision this way or that.

The World Bank people put forward a proposition of their own about three or four months ago. It is clear that they had no authority to force us. As mediators they had merely a right to put forward a suggestion. It was for us to accept or reject it. They put forward a suggestion when they thought that our direct talks were not going to yield any result. Their scheme more or less provided for a division of the rivers of the Punjab. Pakistan was to take the waters of some rivers and we were to take the waters of



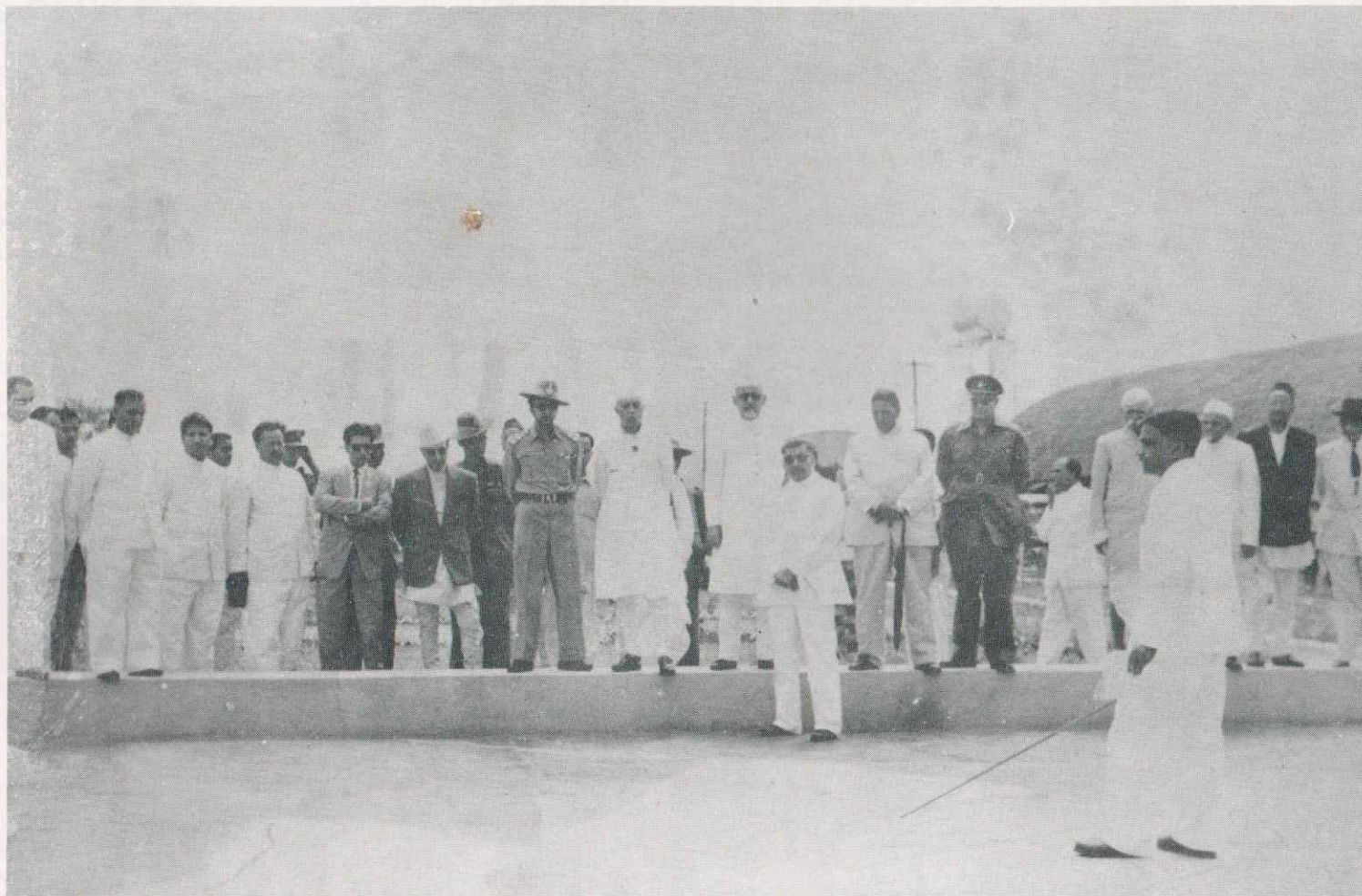
Pt. Nehru looking at the reservoir of Rihand Dam after he inaugurated
the Dam on January 7, 1963




some other rivers. That is, there was no doubt that we were to get all the waters of our side, but they laid a very great burden on us. We were asked to give financial aid to Pakistan so that she might construct new canals from other rivers to get more water. They did not clearly specify the amount but they indicated a very large sum. It was a heavy burden on us but we considered and consulted the Punjab Government and thought that if the matter was being settled once for all and our welfare as well as the welfare of Pakistan lay in it, then we should accept the payment of the heavy price demanded from us. So we wrote to the World Bank within a few days that we accepted the basic principle put forward by them and though it imposed a very heavy burden on us, we were prepared to pay this price so that the matter might be settled peacefully and we could go on with our work in our country in peace. We said Pakistan would also benefit thereby.

We thus accepted the proposal within a few days, but Pakistan did not give any reply though weeks and months passed. We were very perturbed. Our representatives are still sitting in Washington, New York and other cities of America. A long time has passed and a reply from Pakistan is still awaited. It is a strange situation. We wanted to recall our representatives. They had no work to do, but then we thought that Pakistan

might make it a pretext and say that we recalled them. Therefore we let them stay there till such time as a reply was received. In the end we told the World Bank to fix some date for Pakistan's reply so that we might know where we stood; otherwise a whole lifetime might pass in waiting. They accepted our suggestion and told Pakistan that they should reply within a week whether they accepted the principle or not, with details to be settled later. When they did this, Pakistan showed signs of life and began to run about. In the end Sir Zafarullah Khan undertook the long journey to Washington. Many things were said about the issue - neither yes nor no, but that they would consider and so on. The World Bank told them that this reply amounted to a rejection. Should it be taken that they had rejected the proposals or had they something more to say? Pakistan saw how the matter would end. They felt that if they rejected the proposals and India accepted them, the consequences would perhaps not be good for them, because the effect would have been that our interim agreement would come to an end, the discussions would end and the World Bank's suggestions to us to pay them crores of rupees would become ineffective. The rights of both sides were clear. Then the World Bank asked Pakistan to give a clear reply. We had made our arrangements for the return of our deputations, but only three or four days ago



King Mahendra of Nepal laid the foundation stone of Kosi Barrage at Hanuman Nagar on April 30, 1959. Pt. Nehru and Dr. Zakir Hussain studying a model of the Kosi Project on that occasion



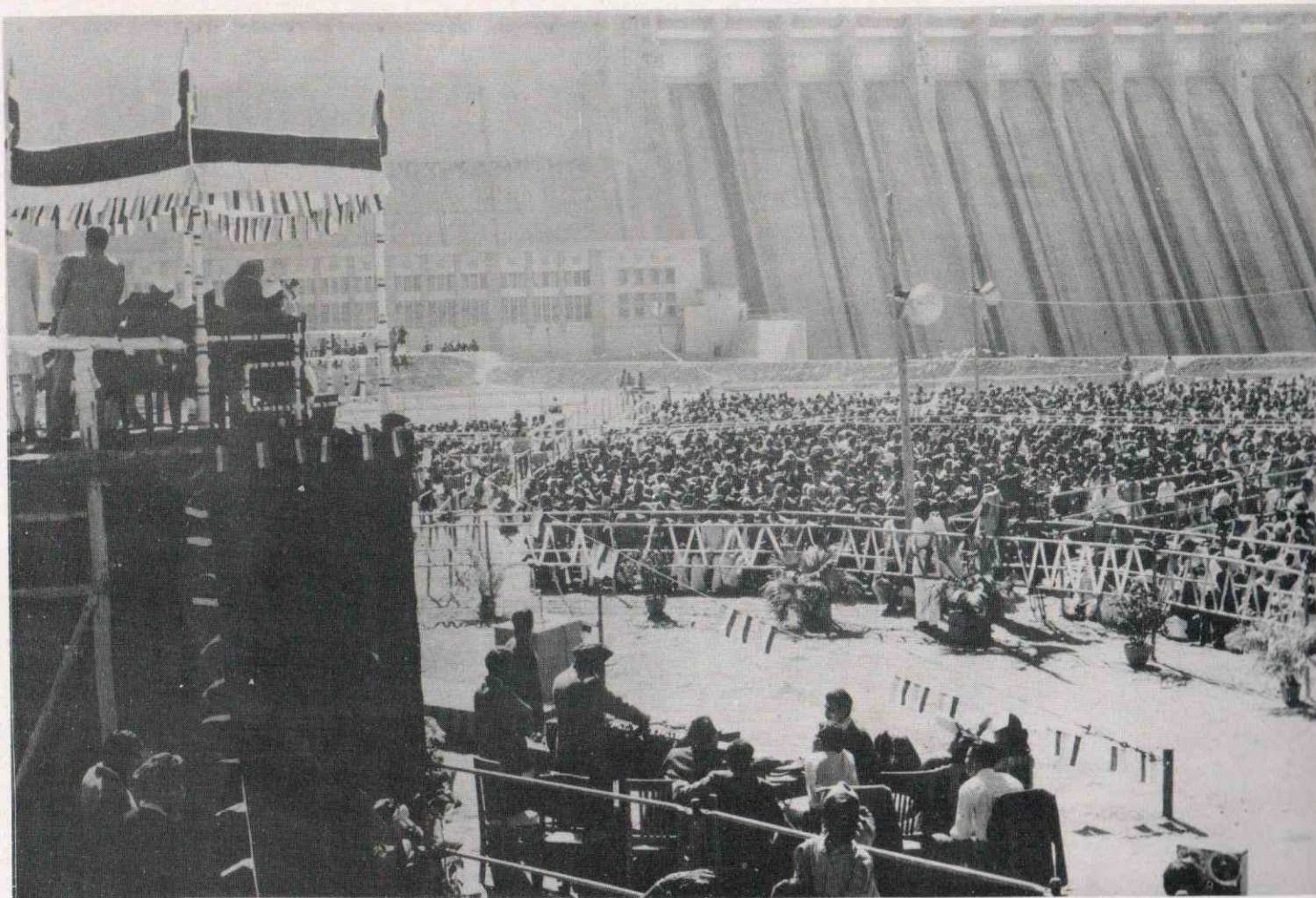
Pakistan said that they accepted the principle underlying the proposals put forward by the World Bank. But they added that they could not give a final reply unless the whole picture was before them. That is the same old legal quibbling. On one side they say that they have accepted the proposals and on the other they keep the door open for escape on the pretext that they have not seen the full picture. This is where matters stand at present.

Meanwhile, when Pakistan did not accept the proposals we wrote to the World Bank that we had been marking time for three months and that we had accepted their proposal, which Pakistan had rejected. Therefore our agreement not to reduce the water supply no longer held good. We resumed our freedom of action. We were ready to talk when they or Pakistan wanted, because we did not intend to shut the door to agreement. But the talks had ended and our delegation would be returning home. The Bank people told us, however, that Pakistan's attitude was changing and that they were saying that they accepted the principle. Since there were chances that a way out would be found, the Bank asked our delegation to wait for a few days more. Our representatives agreed to do so.

The point is that our former agreement with the World Bank or with Pakistan for not

reducing the supply of waters has ended. We have every right to reduce it, but we do not want to stand on legal rights in this matter. We want to do something which would harm neither Pakistan nor us. Therefore we again told them that we would do nothing in haste which may harm the landowners and peasants in Pakistan. We would give them a chance to make their own arrangements. After all we had to reduce the supply of waters but we would do it having regard to the conditions, that is, we still stood by the principles which we accepted in the Agreement of 1948. If you have read the Pakistan newspapers you will see that there is a great storm and outcry, as if something is going to take place on July 8 here in Nangal which would immediately stop the waters flowing into Pakistan and create a drought as a result of which lakhs and crores of people would die of hunger and thirst.

This is wrong and deplorable. We cannot tolerate it. We have told Pakistan clearly, time and again, that for the present we would not reduce the supply of water. It is a fact that they have built one or two canals from which they can take some water. Therefore, they can take water from their side and we would reduce supplies to that extent. This would not reduce their total supply of water. If they could build some more canals as they intend, then this process would go on. The



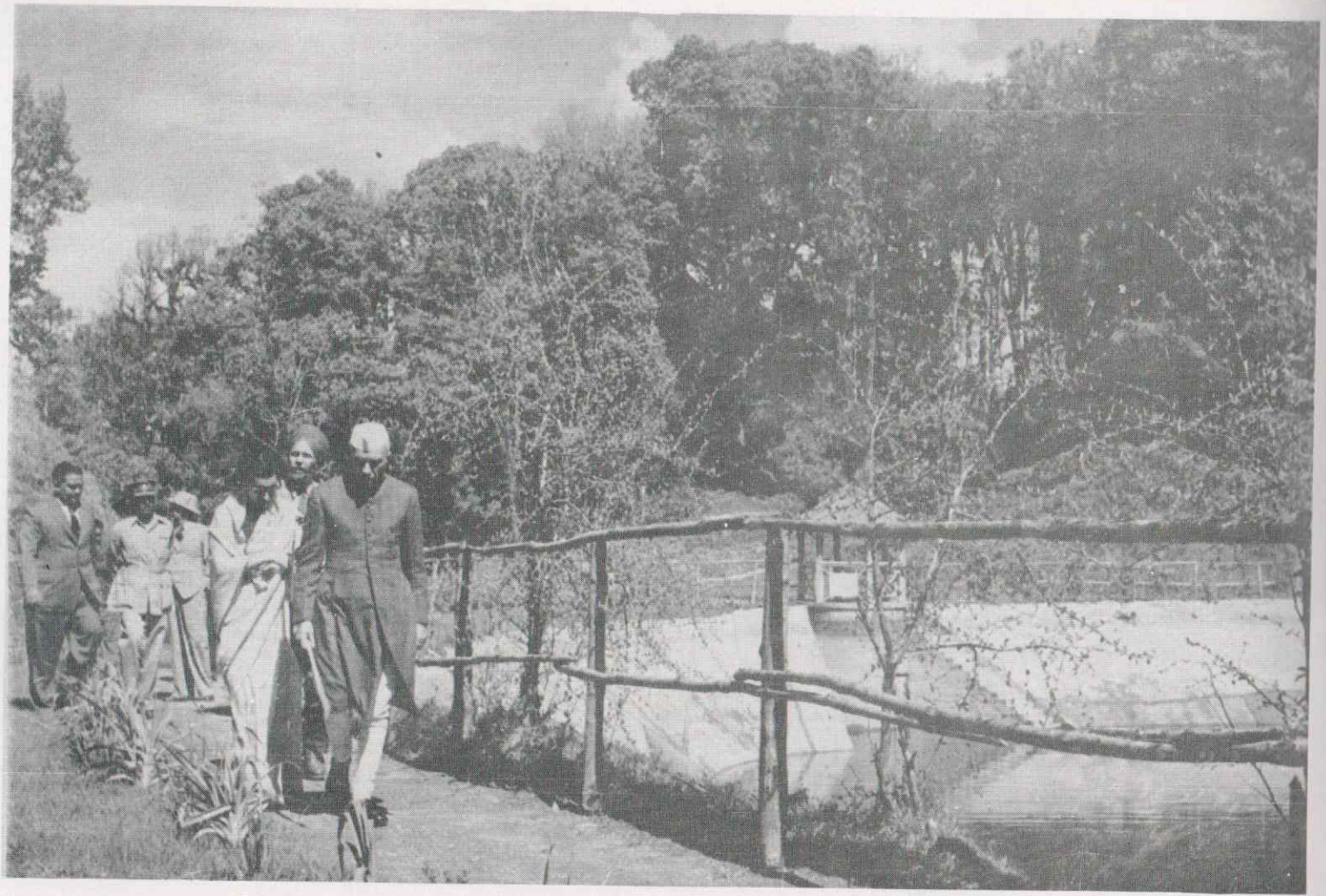
Pt. Nehru addressing the masses on the occasion of inauguration of the
Rihand Dam



exploratory talks held under the auspices of the World Bank made it clear that there is no dearth of water. Only an arrangement to bring the waters to the desired directions was lacking. It is evident that on our side in East Punjab, we have no other source of water than the Sutlej. You can see that from the map. If we do not take water from it, it would mean that we have no water at all. We should totally deprive ourselves of water and no progress would be possible. Whether it is East Punjab, PEPSU or Rajasthan, they would always remain dry. On the other side, they have many rivers from which they can easily take water with a little hard work. We are ready to help them with money to do this. What is their difficulty then?

As I have said, we do not want to harm Pakistan. As a Government we do not proceed on the principle that we should inflict loss on Pakistan. It would not be proper if lakhs of landowners and peasants suffered a loss. It is against our principles and, as I have told you, it is a dangerous thing to do on our borders. It is out of the question. We do not want at this juncture that there should be any reduction in the waters which they have been getting. There will be rains in a few days. After that, we have a right to reduce the supply to the extent to which they have made alternative arrangements. There is only one way by which there would be no ultimate

reduction, and the way is that they should speedily make other arrangements and construct canals to draw water from their rivers. We would meanwhile go on reducing supply to the extent they have augmented their own supply. It is a simple proposition. We in India have given priority to big projects like Bhakra-Nangal, Damodar and Hirakud, to construction of canals, to generation of electricity and to the setting up of big factories. You know that we have set up a magnificent fertilizer factory at Sindri. Big railway engines are being manufactured at Chittaranjan, Railway coaches are being made, aeroplanes and ocean-going ships are being built and we have many big factories working. India is fired with an enthusiasm for work. Construction is going on all round. I do not want to criticize a neighbouring country but I submit that energy in Pakistan is spent in disputes and clamours instead of work. If she had done even one-fourth of what India is doing, she would have made sufficient progress. The dispute about waters and other disputes would all have been settled long ago. But I regret that in Pakistan less attention is paid to work and to the building up of the country and more to disputes and family feuds. I wish and you should all wish that Pakistan should progress. It is a matter for regret that instead of seeking the advancement of their country through their own efforts they want to advance by dependence on other countries. No country or individual



Pt. Nehru and Smt. Gandhi while going to visit the water Reservoir
in Darjeeling on April 27, 1952



in the history of the world so far has been able to stand on the legs of others.

As far as Bhakra-Nangal is concerned, for the last six or seven years, thousands and lakhs of people have been toiling on it. Much money has been spent and now it is taking some shape and we shall be able to reap some benefit from it. It will take four or five years more to complete the project. The work is difficult, and the really difficult part of the work is the construction of dam which will be one of the most remarkable in the world. This work is to be taken up now. The world has to understand and Pakistan should understand that this work will go on with vigour. Let them not believe that it can be stopped.

There is no power which can arrest our harnessing of this surging river. But we are ready to help the people of Pakistan to make their plans so that there may not be any dearth of water. On the contrary, they may get more than what they are getting now. They can get more because they have an inexhaustible supply of water if only they construct their canals. This is the situation. Under these circumstances, why should there be complaints and outcry except that in Pakistan they are averse to work? They want somehow to gain advantage without work, and that is not reasonable. I thought it proper to place this picture before you because there are complaints in Pakistan and in some other countries which create great misunderstanding, and I do not want misunderstanding.

“Let Science grow, as it must and will. Let the arts and humanities grow as well. Behind it all let there be a dynamism that vibrant message, that, creativeness without which life of the individual becomes drab and dull.”

———Jawaharlal Nehru



Pt. Jawaharlal Nehru at the site of the Sirsa Aqueduct of the Nangal Project on November 8, 1953

A GENERATION SENTENCED TO HARD LABOUR



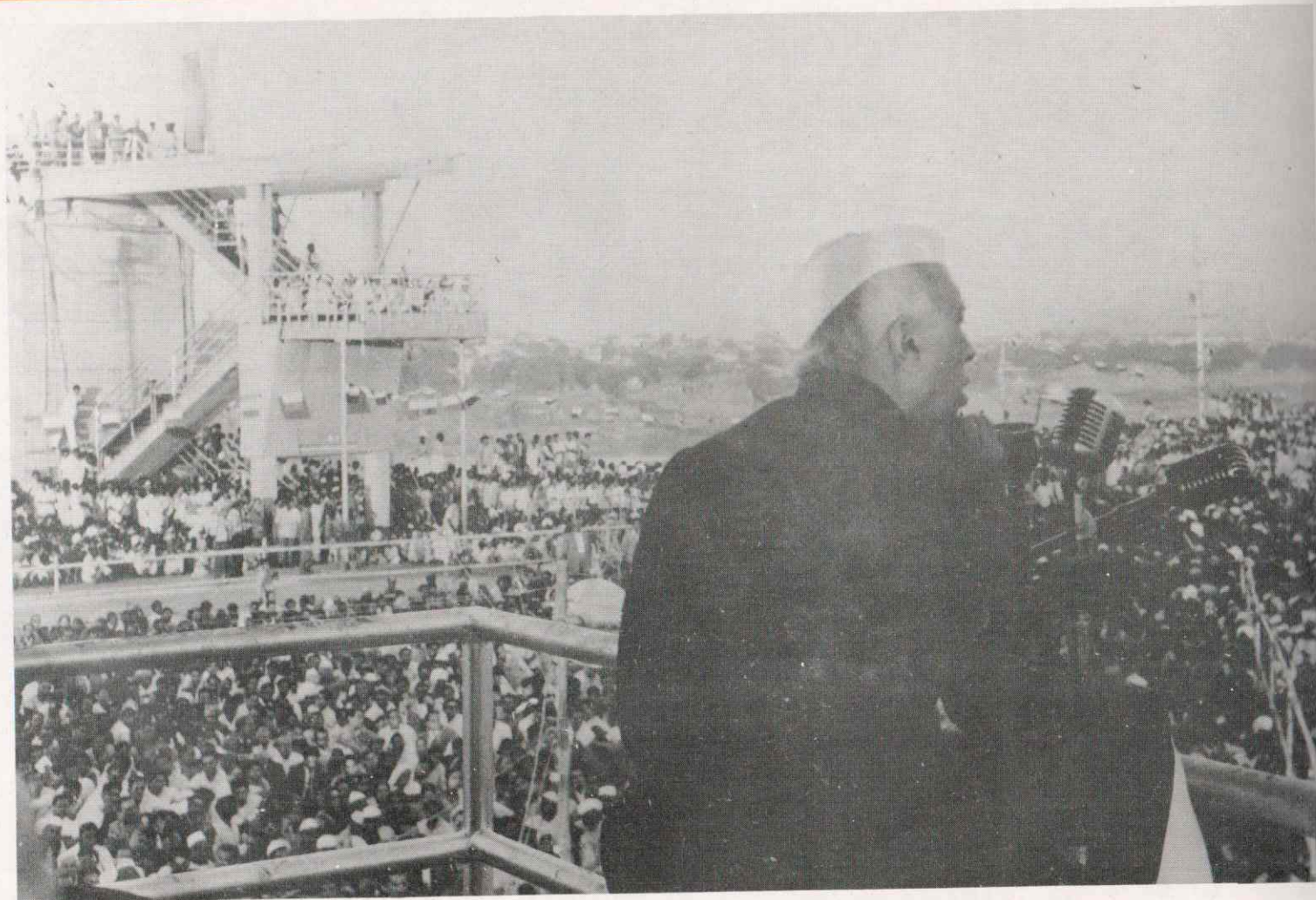
I am Happy to associate myself with this meeting of yours and I am thankful to you for inviting me on this occasion. I have been interested in many types of activities during the past few years and in the position I occupy now, I have to cultivate a many-sided interest in things. Life is an intricate and complicated affair for the individual and more so for a nation and it is sometimes difficult to say which of any two things is more important, for each depends upon the other. Nevertheless, it is true, as I have said many times before and as you, Sir, have said in the course of your address, that the development of river valleys in India is of the most basic and fundamental importance. For a number of years past, I have been very greatly interested in this matter not as an engineer, because I am not an engineer, but in its wider public aspect, in the aspect that makes it the foundation of every large-scale planning in India. I have been interested in planning, because it seems such an extraordinary and such an unfortunate fact that all the potential resources available in India—and in a way it applies to the whole world—that all these enormous resources have

A speech delivered at the nineteenth annual meeting of the Central Board of Irrigation, New Delhi, December 5, 1948

not been utilized to raise the standard of living of our people and our nation.

There was a time in the past—in the long distant past—when it might have been said with some correctness that the world's resources were not really enough to raise the standard of living of the population of the world to the extent desired. Now I suppose it must be clear to the meanest intelligence that with the proper utilization of the present resources of the world—leaving out further development, or even leaving out the world if you like—we can raise the standard of India. This can be shown with a pencil and paper. Nevertheless, the fact remains, not only that we did not utilize them to the best advantage, but we wasted these resources in destructive activities. That is the tragedy of the present generation, even more so than it has been of past generations.

Always found in history, this conflict between the forces of constructive effort and those of destruction is found to an even acuter degree today. We find this conflict in the attitude of nations to one another of groups and ultimately perhaps in the spirit of man himself. Now, no man can be a prophet enough to say what is going to happen. Nevertheless, any man can work effectively with the faith in him that the forces of constructive and creative effort shall win. I have no doubt that they will win, but I do not



Pt. Nehru addressing the gathering after performing the opening ceremony of the Kota Barrage in Rajasthan



know what damage the other forces might bring about by delaying the process of planning and raising the standard of humanity.

Well, we have to convert this vast potential into actuality. Look at the map of Asia and of India. It stares at me in my room and in my office, and whenever I look at it, all kinds of pictures come into my mind: pictures of the long past of our history, of the gradual development of man from the earliest stages, of great caravan routes, of the early beginnings of culture, civilization and agriculture, and of the early days when perhaps the first canals and irrigation works were constructed and all that flows from them. Then I think of the future. My attention is concentrated on that huge block of massive mountains called the Himalayas which guard our north-eastern frontier. Look at them. Think of them. Can you think of any other part of the world similar to it in extent, which is a great reservoir of power, of potential strength and power? I know of no other place in the world which has as much tremendous power locked up in it as the Himalayas and the water which comes to the rivers from them. How are we to utilize it? There are many ways. Essentially, it is the job of the engineers to tap this tremendous reserve of power for the benefit of the people. It falls to the lot of you engineers to play a very effective and vitally important role

in this work. Looked at from that point of view, the profession and work of an engineer in India is of the highest importance and significance.

You can judge of the growth of a nation by finding out which class of that nation, in a particular period of history, is held in honour and repute more than the others. At one time, you may find that the landholder, the proprietor of the land, is a nobleman and he is held in the greatest esteem. From that you can judge the nature of the society of that period. So you will find various occupations occupying the forefront at different periods and you can come to some conclusion as to the nature of the social background of the society of the time, whether it is static, whether it is creative or whether its growth is dynamically constructive.


A short while ago, not to go back to the long past of history, in the last generation or two in India, there were two avenues to which Indians looked forward. One was Government service, more especially the administrative Government service. Of course, a State should have good administration. It is important. But the administrative service in India was rather of an unusual variety. It was good in so far as it went, in so far as it served the purpose for which it was meant. It was not meant for other purposes. It was not really meant to cultivate a social outlook

in the Government or the people but in so far as it went it did its work well. Perhaps it is right to say that 30, 40 or 50 years ago, the ambition of an Indian was to belong to that administrative service in India, because that brought respect and a certain measure of power, considerable emoluments in office and prestige. About the same time there was another branch. To those people who did not take up Government service, the law provided the greatest opportunities of distinction, of money-making and the like. So we find that in the past two or three generations in India, there were two peaks of ambition for young Indians: to rise in the superior administrative service or to rise in the profession of law. This, of course, has happened in other countries too. Now, both of these, the profession of law and administrative service, useful I suppose as they are in their own way (though I rather have some doubts about the profession of the law), yet both of them represented what might be called a static view of society, not essentially changing nor dynamic. The lawyer always talks about precedents. The administrator carries on with the aid of conventional practice. Of course, there may have been a dynamic administrator and a dynamic lawyer, but they represented a static unchanging view of society. No country can, however, be completely unchanging. You find however that the lawyer played a very important part in the national movements. That

again might be true of other countries too. At a certain stage in the national movement, the lawyer played a great part in other countries also. Today you will find that the lawyer has progressively ceased to play that part in the national movement or other varieties of national endeavour. He is still important in his own particular field of activity, but that importance, looked at from a wider viewpoint, is infinitely less than it used to be. The civil administrator in India is still important as an administrator always is. But his importance is much less than it used to be.

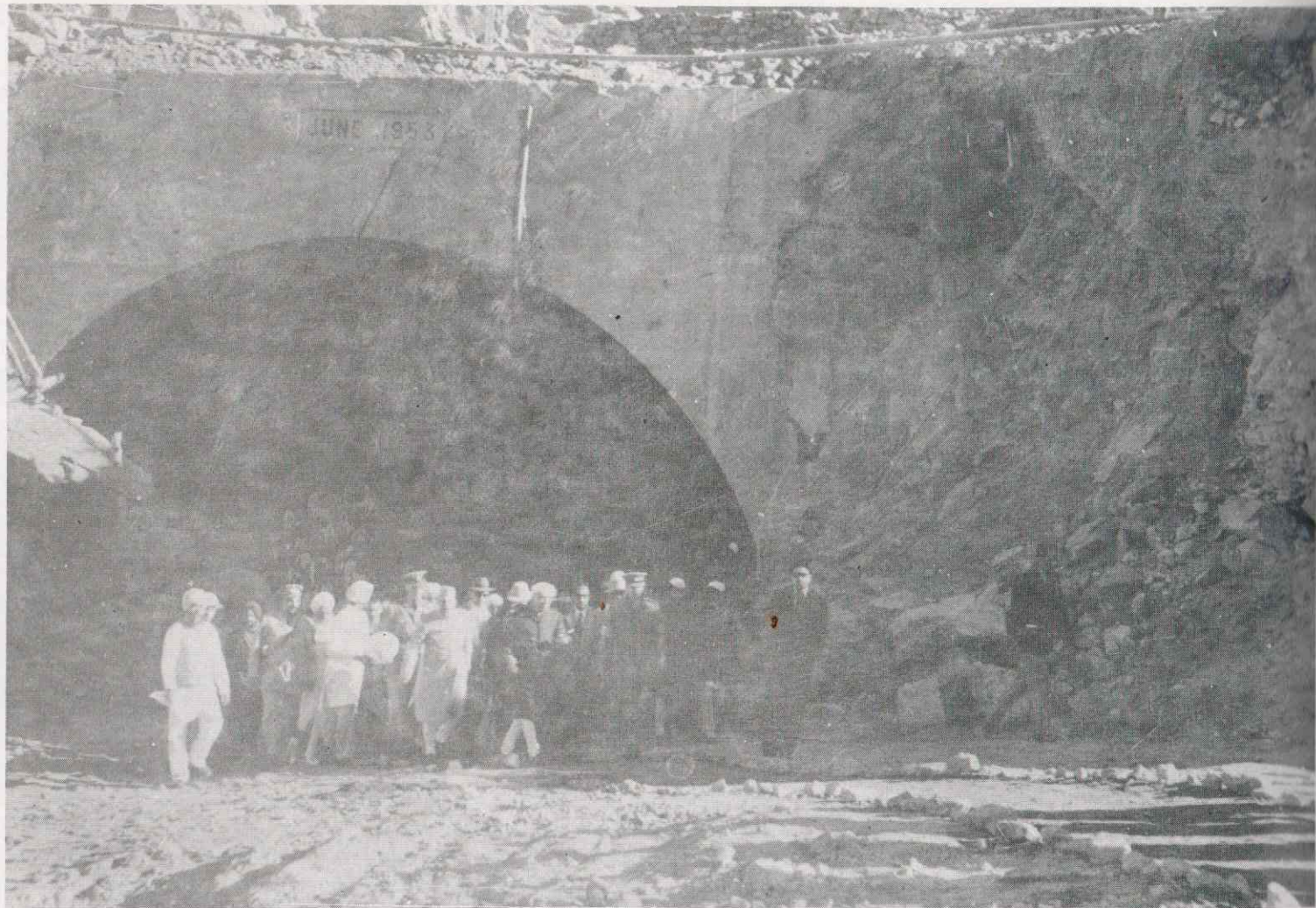
What is a young man's ambition today? There may be varieties of ambitions, but I rather doubt if there are quite so many people who think in terms of law or administrative service. They think in other terms. They think of the politicians's life or of going to the assemblies and then becoming ministers, secretaries, etc. Not a very happy training for anybody, but still people do look that way. They think of joining our Defence Services, the Army, the Air Force and the Navy. They think of becoming economists, because an economist plays a big part in the modern world. They think of becoming engineers, because engineers are playing and will play an important part. You see the static nature of our society gradually changing into something dynamic and that will reflect in the

people's and individual's urge as to what profession he should take up.



The world as it is constituted today is tremendously dynamic. That is right, of course, and that is inevitable, even if somehow we have failed in this respect. The world as it is constituted today is in a stage of revolutionary change so that you just cannot help trying to change yourself; otherwise you get into trouble. We have passed through a period, a fairly long one, though it was very short in terms of India's long history, a period which though undoubtedly changing was, nevertheless, in another sense unchanging—the British period in our history. Changes work consciously and unconsciously, but when the superior outside power dominates a certain situation, the various forces that are working inside the country are curbed by that power and they cannot easily find balance and adjustment between themselves. Finding a balance is achieved by the evolutionary process or by a revolutionary process, either by peaceful or violent means. In any human society there is always an attempt to find a balance and for as long as it does not succeed agency prevents the achievement of that balance, the result, for the moment, may be even good if you like, but the result is that problems accumulate—problems which history solves in its own way, sometimes peacefully.

there is trouble. Now, when some outside sometimes with bloodshed. If you do not solve the problem by killing it. Thus it is with nations and communities. But when an extraordinary agency prevents such a solution, problems accumulate. So in India problems accumulated. The problem of the Indian States has no doubt been solved. Our agrarian problems which ought to have been solved long ago drag on and on till we have to face them now immediately and to solve them in a hurry whereas this should have been solved gradually and in a much better way. Now, because problems have accumulated, we have today to face not one problem, but a multitude of problems. It is very difficult to decide that you will set aside all these problems and take up one or two first. We just cannot, because if we slacken our attempt to solve some problems and merely concentrate on one or another, the other problems tend to overwhelm us. Let us take the problem of the refugees. There are millions of them. It is not a fundamental problem as problems go. It is a temporary problem, but it is of exceeding importance. It is important, because a large number of human beings and their lives are involved, and where human lives in large numbers are involved it is of vital significance to the nation. We cannot allow that human material to deteriorate and simply to go to pieces, but apart from that, apart from the human aspect of it, if we try to ignore it,



Pt. Nehru inspecting the Right Diversion Tunnel of Bhakra Nangal Project

the problem becomes worse and comes in the way of other problems.

These accumulated problems have to be faced to some extent together. One has to proceed on various fronts and one has to see that the progress is more or less co-ordinated on each front or else you go ahead on one front and there is a bottle-neck on another and you have to stop. That is where planning comes in, and planning becomes essential.

We have talked about planning for a considerable time in India. I myself have been associated with the planning scheme and the like. I must confess to a feeling of exceeding disappointment that all our effort has not yielded better results. I expected much better results and better results there should have been. When you know what happened in the past and our difficulties and our failings in the matter, it is well, if I may say so, for each one of us, whether he happens to occupy a very responsible position such as that of a Prime Minister or other Minister or any other important officer of the State, it is well always to think of any problem that we are entrusted with, not as if failure was somebody else's responsibility or somebody else's fault, but that we are ourselves responsible for any failure that may occur. There is too great a tendency for each one of us—and again I say I include the Prime Minister and other

Ministers in this category—always to think in terms of somebody else having failed. If each person thought of his own job and that he had failed in it, we should get on better with the problem. The fact is that each major job requires the co-operation and the hard work of a large number of people from top to bottom and if that co-operation is lacking and the spirit of working together is lacking, then that job is not done properly or is delayed and then it serves no useful purpose for us to go on finding fault with each other, though sometimes that may be necessary. We have various jobs to do in this country in every field. Somebody said once that we had been born in a period of world history which was both changing and revolutionary and very inconceivable things were happening. Now, it is no good complaining of these inconceivable happenings. Since we are born, we have to face them. We cannot escape them. Not being able to escape, we have to face them like men and conquer the difficulties. I am afraid in our generation (I do not know about succeeding generations) there is going to be little rest or real peace. There are going to be no dividends of leisure and repose brought about for our generation. The prospect before us is work, hard labour. This generation is sentenced to hard labour. That hard labour can be of the type of constructive activity which, however hard, is something that raises the community and the nation, or it may be fruitless labour,

or even evil labour, but hard labour you cannot escape. Therefore let us divert that hard labour into constructive and creative channels so that at least it may be said of this generation that we helped to build up our country to the extent possible so that the next generation and succeeding generations may have leisure—greater leisure, though I am not myself keen on too much leisure for any individual, but some leisure there ought to be. Perhaps, it is not leisure that is so much required. It is the type of work that is better than the leisure itself. However, I am afraid I am just meandering in my thoughts and ideas.

I listened to Sri Khosla's address with interest. I might say that I agree with almost everything that he said in his address. I like the approach and I hope it is going to be the approach of this Board and of engineers as a whole in India and of the Government. I do wish you to realize, engineers who are present here, that the burden on the engineers today and their responsibility for constructive effort is tremendous and a great deal depends on how they discharge their duties and in what spirit they discharge them. We want you to be first-rate and competent in your jobs, because second-rateness is never good. It is bad for the nation. But in addition to that, we also want you to infuse your work with something, some higher spirit of

doing a fine creative job, with the fulfillment of certain objectives and ideals that immediately infuse into your work something which is bigger than you. To go back to the Middle Ages or even to older times, you still see the remains of ancient buildings, ancient structures, temples, cathedrals, mosques and the like. No one knows who built them, but any man who sees them knows that the people who built them were not only fine builders, fine engineers, but they were men of faith in their work. No man can build or construct anything beautiful unless he has faith. See the magnificent cathedrals of Europe. People seldom know who their builders were, but we do know, because the evidence is there for our eyes to see, that they are the embodiment of the faith of the builder. So also with our great temples and mosques and other buildings. Now, we live in a different age. We do not spend much time and energy nowadays on mosques, cathedrals and temples, but in other types of public works. But those public works should also be fine and beautiful, because they should also express faith. So I would like you to work in that faith and you will find that if you work with that faith and that spirit, that will itself be a joy to you.

On a smaller matter, Shri Khosla mentioned something about the dictionary of technical terms in Hindi. I am glad to hear of it. But may I warn you that in evolving terms, technical terms, you must not evolve something



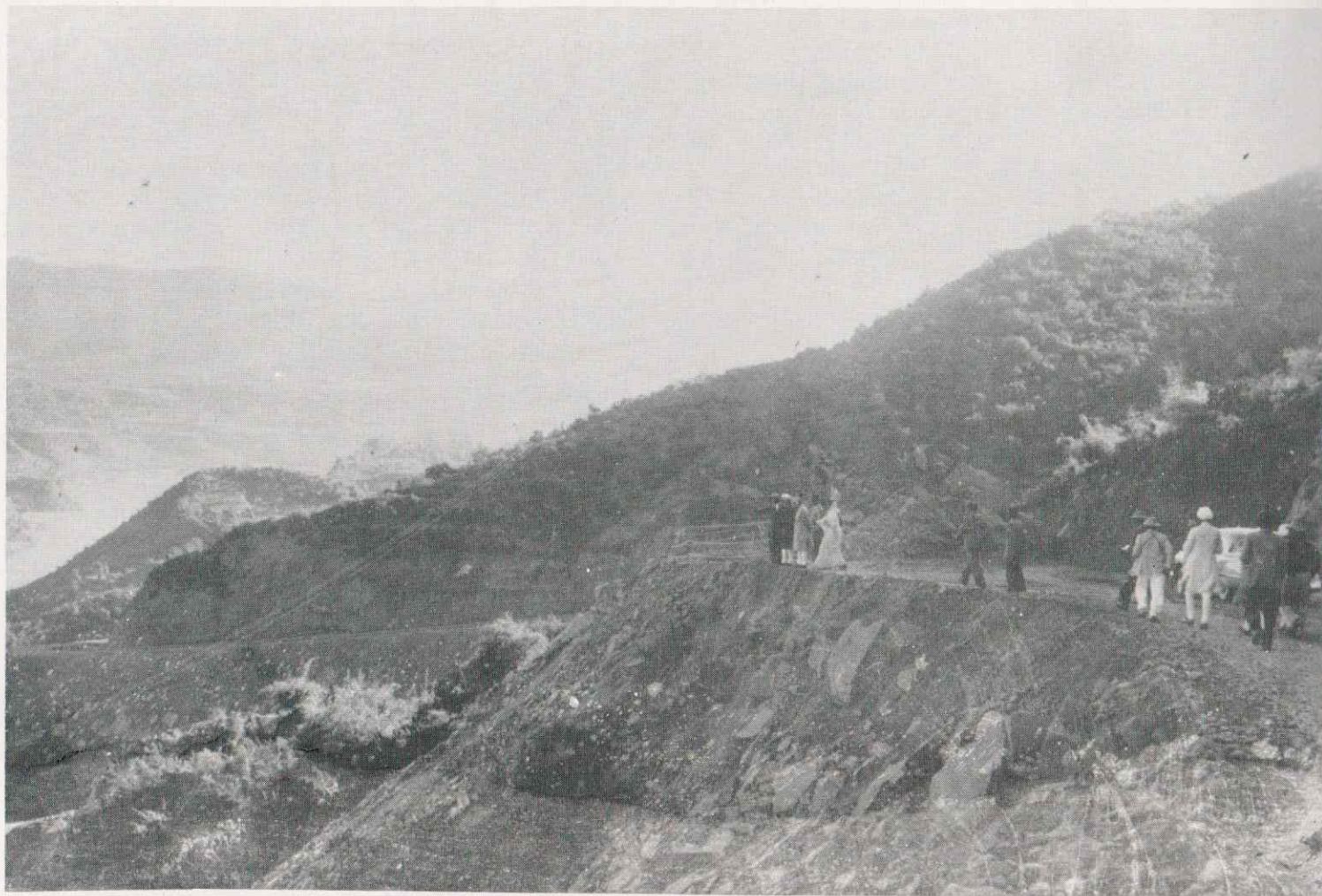
which the common man does not understand? There is too much of a tendency today to do that. For my part, I think that words from foreign languages which have become current coin in this country should be retained, retained partly because they are current coin, and partly because the more common words you have with the rest of the world the better for scientific and technical subjects. Science and technology know no frontiers. Nobody talks or ought to talk about English science, French science, American science, Chinese science. Science is something bigger than the countries. There ought to be no such thing as Indian science. So also with technology. This great business of looking at these questions in a narrow nationalist way will ultimately

lead to the narrowing of your science and the narrowing of your technology and your work itself. This business of evolving special terms which are known neither to the general public nor to anybody else in the wide world really means that you are isolating yourself from the general drift of knowledge and at the same time dissociating yourself from your own people who do not understand your technical terms and thus you convert yourself into something which nobody understands and nobody cares for.

Gentlemen, I have great pleasure in declaring open the annual meeting of the Central Board of Irrigation.

“In the modern age the success of the public servant depends, in addition to ability, efficiency and integrity, upon his capacity to co-operate with the public. If he does not have this capacity, his efficiency is not of much use. His success in his job depends on the extent to which he can evoke public co-operation.”

————Jawaharlal Nehru



Pt. Nehru being taken round the lake area at the Bhakra Project site
on November 8, 1953



THE ADMINISTRATIVE JUNGLE

It has become a common practice with us—this applies to me also to some extent—to organize gala functions at a time when we should all be absorbed in work of great magnitude. A lot of effort goes into pomp and show and very little into work. We exhibit ourselves as though we were some commodity. This is true of all organisations, governmental and non-governmental.

In Delhi, nowadays, there are any number of conferences—so many that one does not find time even to breathe. Of course, I too attended several of them because I am very much interested. How I wish silence would prevail in Delhi for some days and all the conferences would be stopped!

New Delhi is a jungle, a jungle of able men; still a jungle. You are lost in this jungle of administrative mazes and labyrinths because there are thousands of offices and roads. It is for scientists to examine this problem and suggest remedies. True, the activities of growing nation must expand, but how and in what direction should they expand? The child grows and looks handsome only when the

Inaugural address at the 24th annual meeting of the Central Board of Irrigation and Power, New Delhi, October 26, 1953

body grows proportionately with the hands and feet. If the hands alone grow and not the feet, the child looks defective. That would apply to government offices also.

In India, as in any other country of the world, there is a great need for engineers, and as our plans and schemes materialize, we shall be needing more and more engineers. Why only engineers? We need teachers also in great number, but we cannot recruit them straightaway. As our educational development plans mature, we shall be needing lakhs of teachers. Unless we foresee even now what we need after two or five years, we cannot plan in such a way that we have enough of trained men to teach after two or five years. There are difficulties and bottlenecks in any undertaking. We have to improve and extend our health services but we cannot achieve this by merely planning on paper. Even money, which is required in large amounts, will not help us achieve such expansion. It can be done only by having a sufficient number of experienced men who have had sound training. But it takes time to acquire experience. Whether it be engineering or medicine or any other profession, one has to learn and work hard to gain the necessary experience. Therefore, if we plan to extend our health services in the next five years, we must begin getting prepared for it right now, so that we have the requisite number of qualified doctors after

five years. Training and experience are as essential for an engineer as for a doctor or a health officer. It will be risky to entrust a responsible task to an engineer who does not know his work. It can result in a lot of damage. The country can sustain small losses but losses in works of great magnitude cannot be tolerated because their repercussions will be serious and injurious. You know very well that if we undertake construction of a large dam somewhere and if by some reason of neglect or inexperience the dam gives way at a future date, it will result in untold loss to the country. Not only will it be a great monetary loss, but it will also create misery and ruin. Therefore, in such works, it is not enough if we have men with mere academic degrees. We should have men with ripe experience who would not commit mistakes even inadvertently. Their eyes should ever be vigilant and their hands ever ready to work. But it takes time to have such men, as proper and thorough training is needed.

This leads us to the obvious conclusion that, whatever be our plan, we must keep one fundamental point in view: how best to train and equip our men properly, be they engineers or doctors or teachers or members of any other important profession, so that we may have men with training and experience when we need their services. Though this applies to all fields it is more essential in scientific

and technical activities. In these fields we cannot even allow slips to occur because slips can cause disaster. And if we do not train our men properly it means only two things: either the work will have to be entrusted to second-or third-rate men or we shall have to depend upon the trained personnel of other countries. I agree, of course, that in India the number of engineers is smaller than our requirements but even then the number is large enough. We should endeavour to increase their number and give them opportunities for better training. Our country has produced a good number of engineers of high calibre and some of them have achieved international reputation. We have ultimately to depend upon our own men in engineering as well as other field. Opportunity for further training, if necessary, should be given to them so that we have a large number of engineers of high quality. We may have foreign men if we must, under extraordinary circumstances, because we should never allow work to suffer. A big undertaking can be completely ruined by employing an inexperienced Indian in preference to a highly experienced foreigner. If we are in doubt whether we have the requisite experience for an important project I have no hesitation in employing an experienced foreigner; because, first, the work will not be mishandled, and secondly, our men will have the opportunity of getting training and gaining experience.



There is a weakness in our country—a tendency to look to the sky and stars for guidance and to try to foresee the future by astrology. Blessed be those who are so interested! But our work lies in visualizing the future of our country not by looking to the stars and basing our calculations on their movements but by assessing our strength resources and means and knowing how best to use them. Several factors and efforts go to the making and developing of our country but the engineers, probably, have the most active role to play. For they have the largest share in the execution of any plan.

The Chairman has raised a few questions with regard to the fact that while formerly engineers used to be Secretaries to the Government, they are no longer so now. I have no objection to engineers being Secretaries to the Government, but I object to those who are specially qualified for a particular profession sitting in the office, quill-driving. I consider it a waste of their talents, knowledge and experience. Enough persons are available in India who can use their pens well in the office, but the number of good engineers is inadequate. Why is it so?


This is because, for some reason or other, we have classified people according to the position occupied by them in their official life and we consider one class better than the other. Everybody desires to go to the

upper class. But the irony of it is that such classification and gradation itself is absurd. You all know Einstein. He is working as a professor in an American university and is engaged in research work there. But how many of you, may I ask, know the name of the principal of that university? You do not know it. You do not even know the name of the highest officer of that university, but you know the name of one of its professors because of his exceptionally brilliant work. It is plain that according to the rules and regulations the head of the university is the superior of that professor. But in the eyes of the world Einstein is a much greater man, one whose name will be remembered not only now but long after his death.

Our services are steeped in a system of gradation or caste system which is probably the legacy of British rule. One could explain such a classification in the old system because it was the very basis of administration. All persons in the employment of Government were under the Viceroy, who was supreme, and perhaps such an arrangement was suited to those times. Such a pattern is totally out of place in the present set-up and conditions. But the pity of it is that people's minds still cling to the old system. It is possible that a renowned, first-class engineer might be much more needed by us than any of our Secretaries. Secretaries are



Pt. Nehru going round the Jhodi Tank near Malgaon in Nasik District
which he visited on May 7, 1953



available in abundance but engineers are few. It may be that though the engineer is working in his own sphere, yet in official status the Secretary is in a way his superior. This is just a gradation. Whereas engineers have a reputation all over the world, the Secretaries are not known to anyone outside Delhi. What I am driving at is that it is a wrong way to assess a man's worth by the salary drawn by him or the designation attached to his post. Such a notion does not appeal to me because, as you know, I entered the administration at quite an advanced age. Whatever I learnt about assessing a man's worth had nothing to do with his salary, with his dress or with his house. All my life I have gauged people from altogether a different angle, and I still believe in the same method. It is possible that I may consider a peon with more pride and respect than his own officer, and I do not see any flaw in it. Essentially, respect is due for work and not for the salary drawn. A man may be a famous poet, but his income may be meagre; still, he should and will be respected much more than officers drawing high salaries. In short, the idea of money being made a yardstick for assessing a man's worth has clouded the issue and created confusion. The practice of grading people according to their status in official capacity should go.

As I told you earlier, the need for

engineers will increase day by day in India, nay, in the world. By engineer I mean a worker. An engineer who sits in the office and does not know how to work with his own hands is useless. However big an officer he might be, and whatever his age, he should be retired. The test for engineers should be whether they are working with their own hands or not. An engineer becomes useless and reaches the stage of retirement when he begins to desire a comfortable office chair merely to issue orders. I would say that I want all people, whether engineers or non-engineers, to possess an engineering approach to the problems facing them. The scientific approach means that a person has a systematic way of thinking and arrives at the reality by reasoning. The engineering approach would be a scientific approach coupled with the urge for creation, the urge to make and produce new things for the common good. When the people of a country have such an approach to their problems then that country progresses. For this to happen, it is not necessary that all people should study engineering but it is essential that all should have the proper approach to their problems.

In your address you have covered a wide range of problems and thrown light on some of them. I do not propose to talk about all of them today. I shall content myself by saying that our future status amongst the nations, and the good name of our country, will depend

entirely upon our work and work alone. Of course, we have big achievements. Our river valley projects like Bhakra-Nangal, Damodar, Hirakud and Tungabhadra will remain landmarks for ever. Even as we have undertaken these gigantic projects we have successfully to complete thousands of smaller projects in a planned way. We must remember that in all our undertakings we must carry with us our people and keep them well informed. Wherever there are labourers working under you, in a village or town, confide in them; only then can big works be done well. It thrills one to feel that one is engaged in a great and useful work. The same thrill should also be felt by the masses.

Now let me warn you against one pitfall. I see a strange maldevelopment in the country and it conjures up before me a figure of a man five feet tall but with arms four feet long. The way Government organizations and departments multiply leads us nowhere but to waste. With the growth of offices arises the problem of co-ordination between them. A co-ordinating agency is created and, as usual, its size also goes on increasing. Then arises the problem of how to co-ordinate the activities of the co-ordinating agencies. All this is at once baffling and amusing. If it is not stopped, I tell you, the head will remain small while the body will go on increasing in size. Such maldevelopment of organizations

is dangerous to our country. It means that quality will suffer and quantity will increase.

In a few days I shall be going to Bihar and flying over the areas recently devastated by the floods there. I shall also talk to the engineers of that State. Though I have read enough details of the havoc created by the floods, I shall have a better idea seeing the affected places with my own eyes. You know that many things have been under active consideration about the Kosi for many years and probably some action has also been decided upon. I am glad to know that schemes are to be taken in hand to prevent floods in River Gandak.

The floods in Bihar are a major problem needing careful study on scientific and engineering lines. We should know how to tackle this problem. I am not prepared to admit that we are helpless. Floods are governed by natural phenomena which can be studied. We should carefully study the rainfall during the last forty to fifty years. What are the meteorological reports that we have? What do they say? What cycles of floods are mentioned therein? When do high floods occur and when low floods? These require careful study. We have had the Meteorological Department for more than a hundred years. Recently the Department celebrated its centenary, and we have data and figures collected for the last

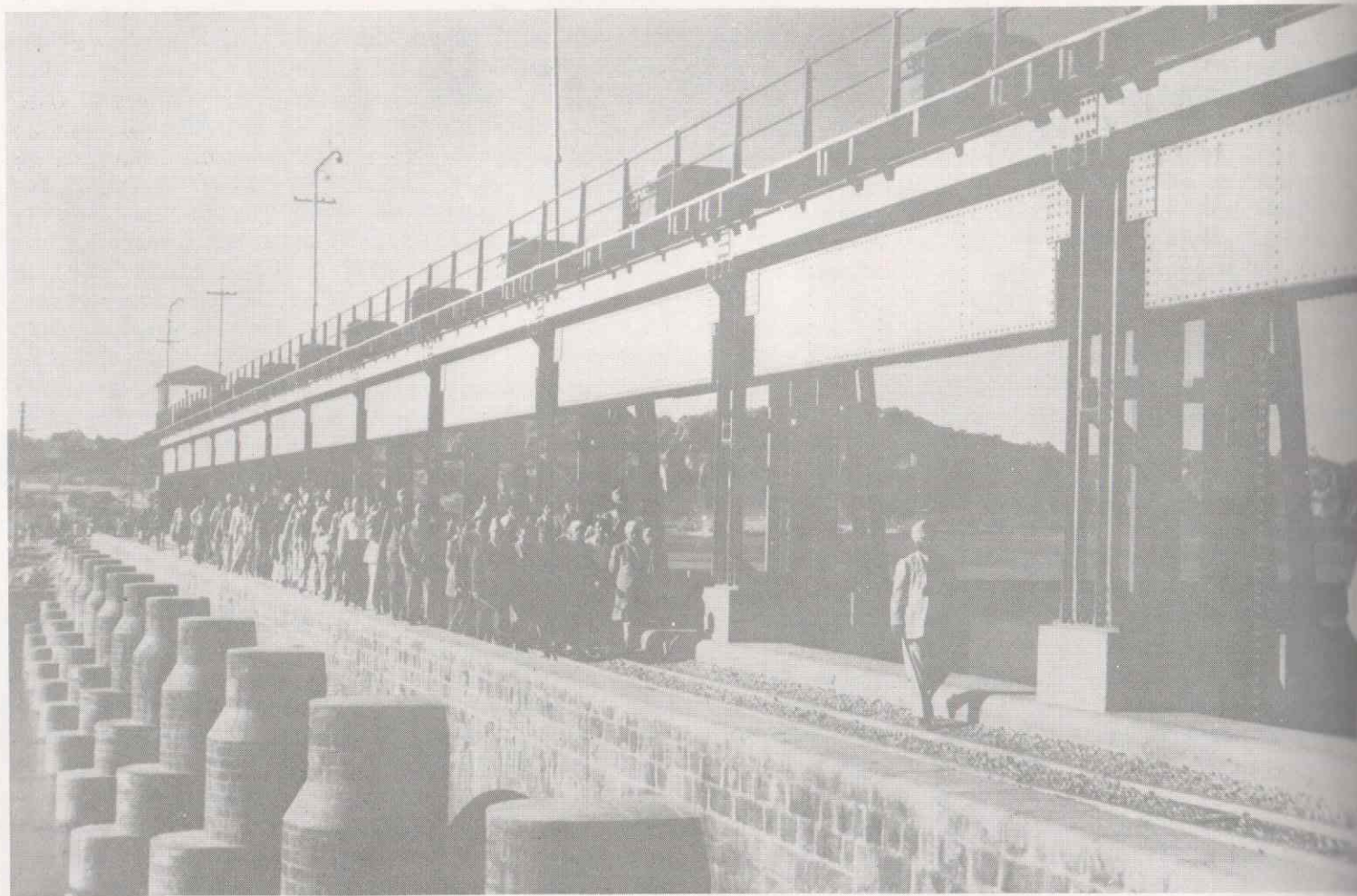


hundred years. We should examine all these data relating to floods, study the hydrology from every angle and arrive at some conclusions as to when floods occur and what their causes and cyclic periods are. This is the scientific approach to the problem. What we have been doing is that when there are floods we run shovel in hand to pile up earth to prevent floods. That is not a scientific or planned approach.

I do not want that a big office should be opened forthwith for these studies and that a hundred or fifty men should take a whole year to decide what staff is necessary, that there should be elaborate application forms for recruitment and that senior members of the Public Service Commission should then start considering them. That will mean that it will take three years for a decision to be taken on who should be appointed to the organization. This is not a matter to be so delayed. The proper thing would be to form a small unit consisting of few engineers who should select a particular area, whether in Bihar or in Bombay, and study its hydrology and its effects. Only those areas where there is immediate necessity, and not the whole of India, should be taken up for such study. Instead of going about in this businesslike way, we wander aimlessly and plan big schemes for studying hydrology. India being so vast a country, it will be proposed that there

should be one Director-General of Hydrology. Then we will think how many Deputy Directors-General should be under him. Next we will think about Assistant Directors-General. Then we will think of some high officers or an inspector above all these people. The aim is to evolve a reasonable scheme! We then require accommodation, both for office and residences. Where will the Director-General of such a big office live? Again, there will be proposals for a Secretary, Joint Secretary, Deputy Secretary, Assistant Secretary and so on. Two or three years will be taken up this way in deciding these proposals. When these proposals are ready, we would have forgotten what we started all this for. This is strange and funny. In Delhi, you would have noticed, there are no Directors—all are Directors-General! We feel that the bigger the designation, the higher our status.

I have spent my life in quite a different sphere. It is six years since I have been in this office and yet I fail to understand what this affair is. I do not want you to convert the whole population of India into Directors-General. I want you to conserve your energies to take up only one area at a time. Plan for this area, with the material that is with you; and after planning for this area, then take up another. I do not want a big officer to come to me and say: we have to do this and that, we want so much staff, we want so many



Pt. Jawaharlal Nehru at the Rupar Headworks during his visit to the
Bhakra Nangal Project on November 8, 1953



peons because our status is so high that each should have three or four chaprasis. I have neither any complaint nor any grudge against peons. They are very good men. But as long as this practice of getting the work done through peons lasts, Delhi will not get out of the old rut. The new age will dawn only when there are no chaprasis. Nobody wants to walk even to the neighbouring room. Even in this age of telephones everybody wants to send messages through peons. Maybe, we might need a couple of messenger boys, but surely not a big crowd of peons. I have heard that before the war there were only 3,200 peons here in Delhi but now this number has increased to 10,000. No doubt the work has somewhat increased but the pomp has increased much more. The poor chaprasis do work and they are not to blame. Nor do I mean to dis-
pense with them. But I am against the mentality

of those who sit in their rooms, press the button and want the peon to come. Maybe, they would have just two steps to take, but they won't like to go and personally discuss a matter for five minutes. They won't even talk on the telephone. They would write long notes and send them to the other man because each has his own room. What is this method of working? This way not only will no work be done, but we shall be wasting time and money. We have to adopt an entirely different way. This is a very important aspect, and requires deep consideration. Much work can be done without any pomp and creation of big departments.

If you examine your problems in this manner, I am confident you will be successful in your projects. On the engineers of India rests a great responsibility and you have to show how you shoulder it.

“Our objective is a socialistic pattern of society. We mean a society in which there is equality of opportunity and the possibility for everyone to live a good life. We have, therefore, to lay great stress on equality, on the removal of disparities, and it has to be remembered always that socialism is not the spreading out of poverty. The essential thing is that there must be wealth and production.”

—Jawaharlal Nehru

THE IMAGINATIVE APPROACH

I am happy to be present here today not only because the subject with which you deal is important but also to pay a tribute to the work done by Indian engineers. The words 'Irrigation and Power' excite my mind and all kinds of ideas come to me - ideas of history and long perspective of human progress. I do not know what kind of history books are written for schools nowadays. The kind of history that really counts does not merely present the names of kings and big individuals but traces the progress as also the occasional set-backs of humanity. The biggest development in the history of humanity was, I suppose, the discovery of agriculture. Irrigation came later. I think it would be a fascinating study to find out how the development of irrigation has affected human progress. That would naturally mean going into the development of various techniques and devices that have affected agriculture and finally coming to the latest techniques and the latest uses of power.

There are the themes overriding the so-called national conflicts which affect the whole human race. In spite of the fact that

Speech at the Silver Jubilee celebrations of the Central Board of Irrigation and Power, New Delhi, November 17, 1952

there has been so much development in the application of science, our minds remain narrow and limited and cannot get over the narrow boundaries, not only of geography but what is much worse, of the mind. The subject of irrigation and power, as I said, excites me and is full of adventure for me. When I look at the map of India in my office-and I look at it very often-it stares me in the face. It is a huge map with marked physical features. That mighty chain of mountains in the north and north-east, called the Himalayas, is given a particular colour. I often think that not only is this great mountain chain a boundary and a frontier of India rising like a great sentinel, inspiring so much of our culture and thought through the ages but that this mighty chain is also an untapped source of vast energy. The energy flows out in great rivers, watering the plains of India, running into the sea and forming minerals and the rest of it. If only we could utilize this mighty reservoir of energy to full purpose, what could we not do with it? Since it has to do with human progress, this subject is full of adventure and excitement for me and I should like you to consider it in the same way, because you thereby give life to something that is otherwise dull and dry.

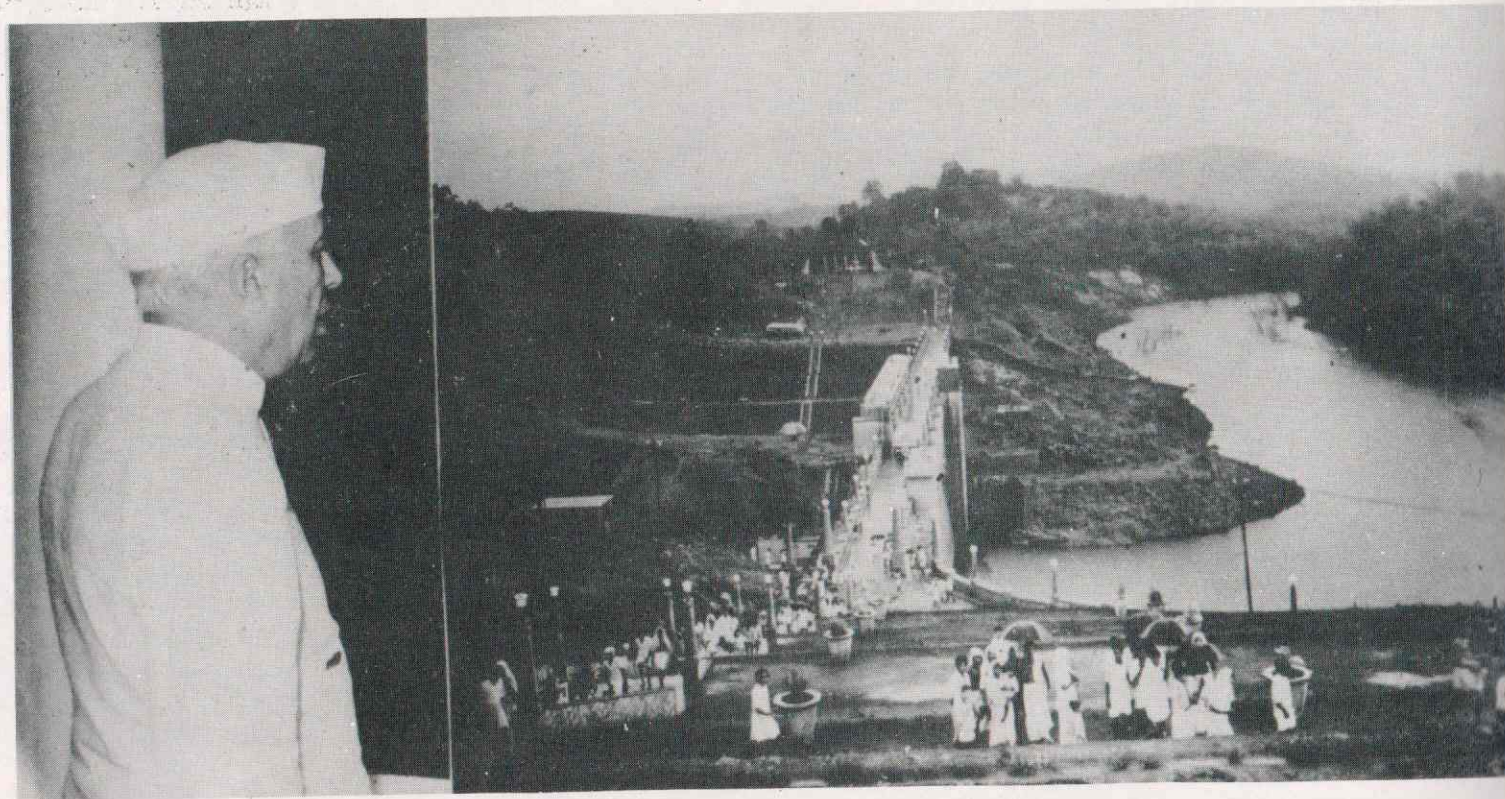
Now, as a politician and as one who meddles in many other things not directly connected with politics, I have to deal with



very difficult material. You can measure with your techniques and rules the hardness or the strength of this metal or that, of stone and iron and so on but how do you measure the content of a human individual? A politician in the real sense of the word has to deal with human beings as material and not with stones and steel and iron and the like. Human material is not only a difficult material but also an exciting material because it is a live growing, changing and dynamic thing. No two persons are alike and we have to build with that material! If you deal with stones and cement and steel and iron in a dead way without any feeling of building life or something that is akin to life, then you are second-rate men. You have not grasped the problem; you are just people sitting down at a table with pen and ink writing down figures and calculations, which may, of course, be useful, but you have lost the essence and meaning of the work you are doing. That applies to every politician and to every profession. It applies more especially to those of us who, like me, inexorably grow in years. We grow static in mind and it is extraordinarily difficult to prevent it. One loses the resilience of mind which is a necessary concomitant of life. When that resilience goes, then a person begins to recite pet phrases and pet dogmas, whether it has to do with religion or science or any other branch of human activity. These pet phrases are characteristic

of a mind that is dead and has lost the capacity for growth. I find a great deal of this narrow-mindedness. When a man says: 'We have the truth, you have not. We know this, you do not', then I suspect him. I feel that he has lost touch with something that was growing, that he has got left behind.

The point I want you to appreciate is that even the work you do here should be infused with adventure, life and the things that come out of life. When you are building a bridge, it signifies infinitely more than just a bridge. When you are working for a river valley scheme, for instance, you must also see the other vast things that flow from it besides canals and irrigation and hydro-electric works and industry and all that. There is something even more important than these, and that is, the progress of humanity in a particular direction. If your imagination is fired by an idea or a problem, then the work that you do will be vital whether you do it as a chief engineer or a small engineer, a mechanic or even as an unskilled labourer. It is sad that imagination counts for so little today and we work in grooves. I suppose, too much imagination would lead us astray and we do have to keep our feet on the ground. Nevertheless, too little of it is also a handicap. I find that one could do with a good deal more of imaginative approach here in this city of New Delhi. A man who sits cooped up in an



Pt. Nehru at Peechi (Kerala) - viewing a beautiful landscape at the reservoir site during his visit on April 26, 1958



office becomes static and a deadweight. If I may make a personal confession, that is why I occasionally want to run away from New Delhi and rush about from place to place. I want to escape from the deadly static atmosphere of paper and files and ink in which one forgets that there are human beings in India. We consider figures but figures are no human beings; figures are only hints or some suggestions as to what human beings are. Well, I get out and I see the faces of my people and your people and derive from them inspiration and what is much more important, something dynamic and growing, I grow with them and to some extent get in tune with them. I hope, I also effect, to some extent, the mood and tune of their minds. Whatever capacity you may work in, I am quite sure, you will deteriorate, unless you go down to the field and do the job yourself and unless you refuse to consider any job too low for you. You have to maintain a direct contact with the living thing that you are building. A bridge is a living thing if you look at it imaginatively; everything is living if only you look at it with the eye of imagination and are alive to what the thing is and what it means to humanity. It is part of human life and human progress. Engineers, therefore, are, normally speaking, fortunate, because they have to work in the field which an average person sitting in an office does not have a chance to do.


Our ideas of education which are very slowly being given effect to—I wish the pace was faster—revolve round this so-called basic education. There are many virtues in basic education; but the main thing is that you really get down to something and not just repeat things from a book. You get even the smallest child to do something. Of course, there is nothing specially Indian about it. Modern education is like that everywhere. In India, a certain trend has been given to it, notably by Mahatmaji. The idea is to get down to the job with your hands and feet and not talk about it. I am tired of people who merely talk about things. However wise you may be, you can never enter into the spirit of a thing if you only talk about it and do nothing. Even scientists have a tendency to let a wonderful experiment remain an experiment once it has been performed. The next stage somehow does not come. They may well say that the next stage is somebody else's job but I think, if the scientist had a sense of practical application, he would either try to do it himself or get somebody else to do it. This association of thought with action is, I think, of utmost importance. Thought without action is an abortion; action without thought is folly. They must always be allied, whatever we may do. As I said before, they are normally allied in an engineer and, therefore, he perhaps keeps fresher

than others do. Also, the engineer is actually building; he is not planning for others to build. There is some value in making plans, of course; it has to be done but the man who does the job in the field is actually creating something and there is nothing like creative activity for the growth of the individual and the community.

As I said, you engineers are fortunate; but you are fortunate only if you realize your good fortune and live up to it. If you also become static under the enervating atmosphere of New Delhi or wherever you live, then so much the worse for you. However high your intellectual attainments might be, you will lose the living touch and it is the living touch that counts in life, whatever you may or may not do.

I confess I was very much surprised to learn that samples of some materials had been sent for testing to distant countries. Of course, it may be that a particular object sometimes has to be sent abroad but to adopt such a procedure in the normal course seems to me an amazing confession of our weakness and inability to do anything. If you have to get things tested abroad, what are these dozens of laboratories and all these scientific and research institutes here for? I think this matter should be looked into.

If I may take this matter a little further, I am not at all enamoured and as the days go by I become more and more suspicious of the crowds of people who go out of India for so-called education. Undoubtedly, there has been some change in this state of affairs since the days when I went abroad. At that time, a great majority of Indian students used to go to the United Kingdom in the hope of adorning the profession of law subsequently. Well, some of them did; most of them did not. Now people go mostly for technical studies, and this of course is infinitely better. Such information as I have goes to show that most Indian students in England and America do well in their work. I have nothing against that. In every matter, be it education, science, culture or anything else, I dislike nothing so much as the narrowly nationalistic approach which makes us think that we have attained the summit of wisdom and that we need not learn or anything more. That kind of attitude denotes a static condition. And anything that is static becomes stagnant and gradually leads to death. I am all for opening our minds to every kind of knowledge or information that can be obtained. I am all for free intercourse with the rest of the World; I am all for inviting people from other countries to come here to learn from us and to teach us. I want no barriers. Therefore, it is not with a view to having a barrier that I say what I am going



to say.

I have explained what my basic position is. Even so, I feel surprised at this excessive enthusiasm to rush abroad to learn something. It is, indeed, amazing how many people are constantly going abroad. I am not talking for the moment of students. That is quite another matter. Students should certainly go but I shall qualify that by saying that they should go only if they are capable of profiting by it and that not everybody whose parents have superfluous cash need go. I am talking for the present of people other than students. During the last two or three years, there has been such an abundance of all kinds of scholarships, fellowships, this, that and the other that I have lost count of them. We became rather alarmed at the large numbers of people who went abroad. This included a very large number of officials of the Government of India and State Governments who, instead of doing their jobs, were constantly trying to learn something from abroad. This desire was no doubt laudable. We tried to make a rule so that nobody in government service could go without special reference to the Cabinet itself. The result of that rule was that half the work of the Cabinet was to consider these applications? It is amazing. The other day, I had a chart prepared to show how many officials had gone abroad in the

course of one year. It astonished me to see that number which ran into many hundreds. I agree that we should aim at higher efficiency and that our officials should go and learn. What disturbs me is the scale at which this has happened because of these scholarships and fellowships and things like that. There is a tendency to accept these scholarships too readily, because people feel that the United Nations or the FAO or some other organization is paying for them. They do not realize that payments are never made for nothing. In fact, a good part of the expense does fall on us. We also lose the services of a highly paid man for a period. What do we pay him for?

There is yet another aspect to this problem-and this applies to students as well as to other who go abroad. We do want to learn the highest technique and to make our people as efficient as anybody else in the world. But we should like them to be efficient and yet to fit into the scheme of things in India. Obviously, the highest type of efficiency is that which can utilize existing material to the best advantage. If a person has to work in India as an Indian must, then he must know how to work in India. It is no good if a man comes back from America and tells me, 'I will do this and that if you get this and that equipment from America.' When expensive machinery of all kinds which we have not got, which we cannot afford to get is not available,



Pt. Nehru inspecting the various phases of dam construction at
Tungabhadra Project in Andhra Pradesh on September 29, 1952



he bemoans his lot - 'How backward we are, we cannot do this, we have not got this and we have not got that.' He becomes frustrated and the very special knowledge that he has obtained is of little use to us because his mind has somehow been adapted to a different environment. That environment may be very good but it so happens that our environment is different. The result is that we can derive no profit from the expenditure of so much time, energy and money on the education of a student or an official. You have to function in India with the material and environment of India and you have to make that go as far as possible. Certainly we shall get equipment and machinery from abroad where needed but it should only come when it is absolutely necessary. As far as possible, it should only come once and we should then produce it ourselves. There is no point in putting up magnificent structures with the aid of foreign equipment. They will be just showcases that do not fit into the general scope of the development of India.

I entirely agree with what the President said about the far greater importance of developing our smaller valley systems. It is true that to a large extent we have to go in for enormous undertakings but our emphasis should be on developing India as a whole. We are not out to develop one little part of it more than the rest. The more we spread out

the development, the better it is. Of course, everything has ultimately to be judged by the general progress, development and advancement of the human beings involved, not by a show-structure put up for others to see so that you may be able to show off your skill. I do not mean that we should not experiment or go ahead with specialized things. We must do that also, otherwise we cannot progress and our levels remain low.


There is, however, one difficulty. If you look at the political field or the economic field or any other field, you find two slightly contradictory tendencies. One is the tendency to centralize. Now, centralization is inevitable in the modern world, whether it is governmental or of any other kind. It may give you better results, it may develop better efficiency and all the rest of it, although a stage arrives in the process of centralization when perhaps efficiency does not grow but lessens. The other tendency is, shall I say, the growth of individual, human freedom. Undoubtedly, the greater the centralization, the less the individual freedom, even though the results obtained might be better. Some people prefer the processes of decentralization because they allow the individual to grow more. On the other hand, there are certain very important things in modern life which cannot be decentralized if you want any progress

at all. Well, you have got to balance these things but the main thing is that the growth of the individual human being or group cannot be imposed. A human being grows and ought to grow like a flower or a plant. You cannot pull it out; you can water it, you can help it grow; you can give it good soil; you can put it in the fresh air or in the sun. But it has to grow itself; you cannot make it grow by force. Many of our people sometimes think that you could make something grow by some decree from above but you cannot.

I do not know if I have talked relevantly or not about irrigation and power. But being somewhat imaginatively inclined, my mind runs off in various directions. I was talking to you about the effect the map of India with the Himalayas produced on me. I thought of the tremendous source of power, often enough running to waste and of the potential energy which is there for you to tap. I wonder if ever there will be somebody wise enough and knowledgeable enough to write the story of our rivers. What a wonderful story they would make? Let us take the story of the Ganga. It will be the story of India and more especially of North India. It will be far more important, far more living and real than all the trumpery history books that you have. It will be the story of the growth of Indian culture and

civilization; it will be the story of the great cities on the Ganga; it will be the story of the Gangetic valley and the water of the Ganga helping irrigation and so on; it will be the story of the rise and fall of empires; it will be the story of the development of human life, of people, Aryans as well as other races, coming down from the north-western frontier to the broad plains of India right up to the Ganga. It will be a magnificent story if it could be written properly. Of course, it is not the engineer's job to write it but I want the engineer who works on these rivers to have an imaginative approach to his work. Then the water he deals with will become alive. Even the stones will tell a story. I should like, not only the big engineer or the middleling engineer but also the small engineer to think in this way and to convey something of this exciting approach to the worker in the field. Make him realize that he is also working with live material, even though it might be stone or steel and that it will give birth to further life. Let him be a partner in this adventure that you are starting. If you approach your problems in this spirit, the results will ultimately be far speedier and other results will also follow. In this process, the worker and the engineer will also progress and advance and become better men and women.

THREE HUNDRED AND SIXTY MILLION PROBLEMS



Once I was asked, "What is your principal problem? How many problems have you got?" I said, "We have got 360 million problems in India." Now that answer amused people, but it has an essential truth in it: that all our problems have to be viewed from the point of view of the 360 million individuals, not some statistical mass which you see drawn in curves and graphs on paper. Graphs are very useful to understand, but we must think in terms of individuals, individual happiness and individual misery.

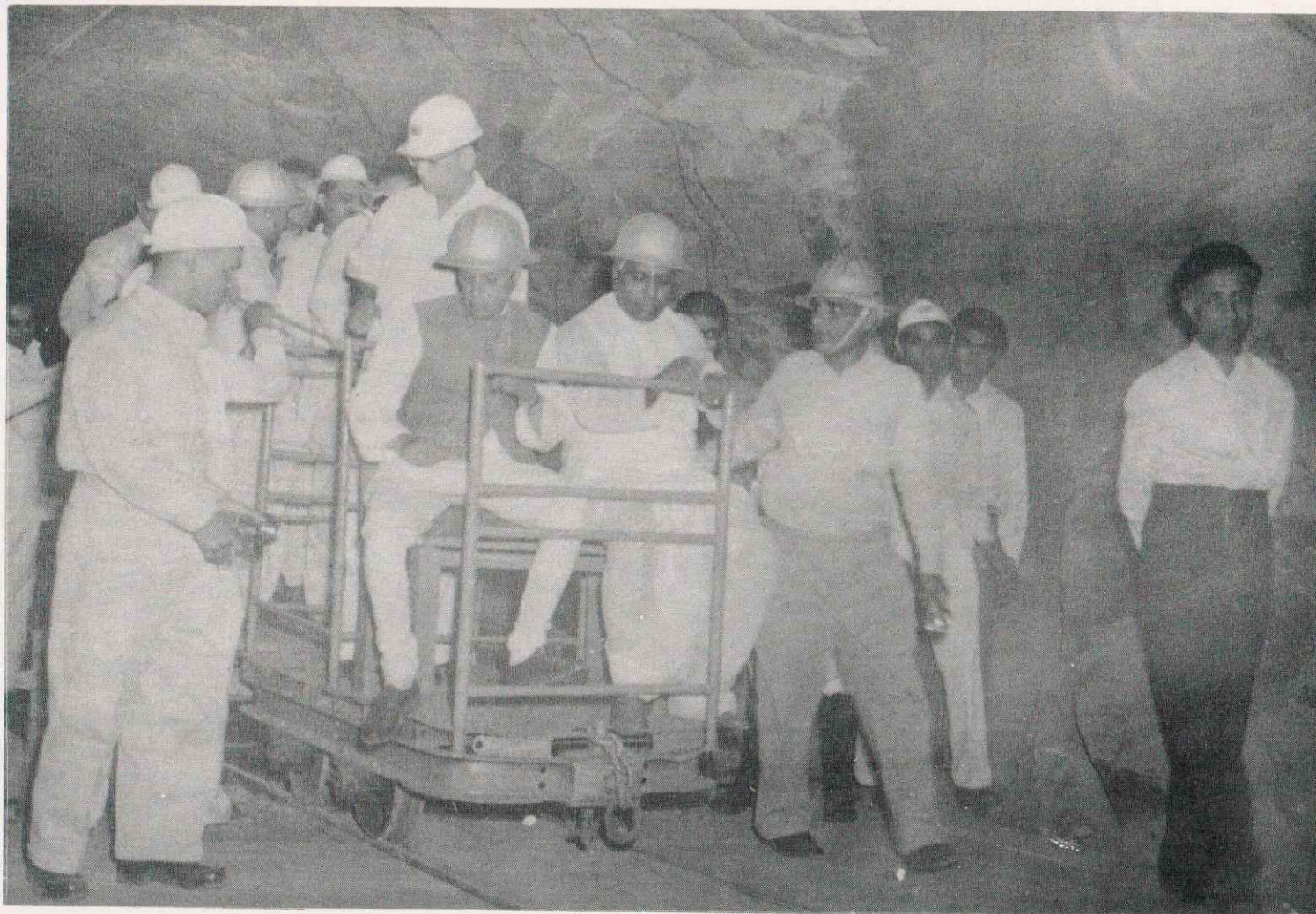
We are starting planning for the 360 million human beings in India. We may sit down and argue about the theoretical approaches. We may argue about, let us say, whether we should have a socialistic approach or a private enterprise approach or a communistic approach or a Gandhian approach. We may go on listing any number of approaches; and it is interesting to argue and to clarify our minds, because thinking is helped by the sharp exchange of ideas. But, unfortunately, all these words which at one time had some precise meaning have gradually tended to become de-

From a speech at the inaugural meeting of the Co-ordination Board of Ministers for River Valley Projects, New Delhi, October 13, 1954


based and to lose their meaning by association with hosts of new ideas, new conflicts, new passions.

Words are tricky things always. In the final analysis the word is the biggest thing in the world. All the knowledge we have, everything we possess, is a collection of words which represent ideas of course. A simple word like table or chair, if it is simply that, the matter ends there; but as soon as we get out of that category of tables and chairs and get to concepts which have emotional significance attached to them, they become very tricky. When we think of such words we get roused up; a certain emotion fills us. An emotion may fill us with enthusiasm but we cease to think straight. And when two persons meet whose emotions have been roused up in different ways by the same word, then it becomes quite impossible for them to have any reasonable discussion. In the international sphere today, there is so much emotion, passion and anger roused by words, and what the words are supposed to connote, that it is becoming very difficult to have consistent or reasonable discussion. Words are thrown at each other just as a bomb might be thrown at a person. Therefore I say: Beware of words, great as they are. What do we want? Not words, even though words may signify much.

What do the 360 million people want? It



Pt. Jawaharlal Nehru at Koyana Hydroelectric Project



is fairly easy to begin making a list - later there may be difference of opinion - but it is obvious enough that they want food; it is obvious enough that they want clothing, that they want shelter, that they want health. They want such things, regardless of the social or economic policies we may have in mind. I suggest that the only policy that we should have in mind is that we have to work for the 360 million people; not for a few, not for a group but the whole lot, and to bring them up on an equal basis.

We are now at a stage when we can go forward in our journey with greater assurance. We have to utilize the experience we have gained, pool our resources and prevent wastage. We cannot allow the nation's resources to be wasted. Democracy has many virtues, but one of its concomitants is wastage of time and energy. Nevertheless, for many reasons, we prefer democracy to other methods of government. That does not mean that we cannot avoid waste. We cannot afford waste, because the basic thing is that we should go ahead. The devil is at our heels, or as they say Shaitan peechhe ata hai, to bhagte hain. I should like you to have this kind of feeling. To hell with the man who cannot walk fast. It serves him right if he gets out of the ranks and falls out. We want no sluggards. We want no slow people who always complain about their service conditions and their transfers

and so on. I am fed up with such complaints. Service conditions and salary and status may be important. But I want work and work and work. I want achievement. I want men who work as crusaders. I want men who are going to fight for what they think is right and not submit humbly to wrong. I want you to do big things. I want you to build up India. Can you conceive of a bigger thing than to build up this immense country of ours? That is the spirit in which you have to undertake this job. And let the weak and the slow and lazy go to the wall. There should be no pity for them.

We have many critics. It is essential that we should have critics, because otherwise we tend to grow complacent and lazy in our thinking and in our action. But it is not fair or helpful for critics not to see things as a whole. Let them do so and then point out the many failings we suffer from. Let them see what we do, and feel with conviction what we do. What we are doing in India is something very worthwhile, something to be proud of, something worthy to be compared with the work in any other part of the world, given of course comparable conditions. You cannot certainly compare something happening in India with anything happening in the United States of America in the course of a year. They can get their steel production up to any number of million tons, if they want to, while we struggle and struggle because

the conditions here are different. We have, first of all, to see this picture, the objective, the big tasks that we have undertaken and feel a sense of achievement. Shall I say that by the bigness of the task that we have undertaken we become big ourselves? A person grows by his thoughts, by his actions, by his objectives. We are, as the Buddhist Dharma-pada has said, just a collection, a layer upon layer, of our thoughts. So if we think in a big way and act in a big way, we tend to

become big ourselves, as individuals and as a nation.

I wish you all success in the work you are beginning, and I hope particularly that you will look upon it as what it is, an amazing adventure in doing big things. Thereby you can, to some extent, change the face of India and go a few steps towards the realization of our goal, which is the welfare and advancement of India's three hundred and sixty millions.

“You should not forget that you have something in Bhakra Nangal which will stand for generations and centuries. Likewise in Kosi, we have done plenty of work, through shramdan and so on. Thousands of miles of roads have been built. Kosi was our first experience of public co-operation on a large scale in a major project. For more people came forward than anybody had imagined. They were all peasants and came not to earn wages, but because they were interested in the Kosi project. The appeal was: "Here is the Kosi river causing disastrous floods every year. Come and help" So they came to help, I can not say their work was a hundred percent upto standard, but that is another matter. Basically the Kosi experiment of public co-operation succeeded. We have learnt from it and we shall do better next time.”

————Jawaharlal Nehru

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