

Seminar Session S-2

WELCOME ADDRESS

By **S. Dutt Mazumdar,**

Town & Country Planning Commissioner, Govt. of W. Bengal

On behalf of All India Conference on Engineering Materials and Equipment, I have much pleasure of extending to you a most hearty welcome to this Seminar organised by the Association of Engineers and various other organisations of the Govt. of India and the State Govts. The urban development programme is to be executed primarily by the engineers and other technologists in association with social workers and of course, supported by the administrator.

Now, it has been mentioned to you that Calcutta has reached a state where the whole renewal programme is called for. The Principal Adviser to the Governor who was present in the inaugural session yesterday explained to you in great details about the city of Calcutta which has been deteriorated, the cause of the deterioration and the suggestion under which a massive development programme, at least, in the first phase has been accepted by the Government. It depends on those who are directly incharge of the implementation work, to implement it in a manner to give satisfaction not only to those concerned but also to the residents of the city of Calcutta.

Urban development programme has been assuming greater importance even in developed country like U.S.A. Whatever has been done to provide necessary infrastructure which are out stripped very soon because of the addition of new influx of population. So the city is being met with enormous problem and there should be rapid growth of urban development so that facilities created get outstrea-
med. In the past we have done very little.

Now, in this particular city of Calcutta, you have heard yesterday that our trouble started not today, not in 20 years but it started as early as 1905. I would say, from what I find people to say, that the city deterioration started from the year 1942 and 1943 with the last Bengal Famine. In the wake, came the war within 4-years time to be known as Second World War. Soon after came our Partition. As a result of the partition, Calcutta City and its environs which is now termed as Calcutta Metropolitan District were flooded with new refugees from the neighbouring East Pakistan. Although certain measures were taken for their rehabilitation, particularly economic rehabilitation which still has been continuing—very little was done

and could be done to settle them in proper locations after providing the basic minimum requirements of civic amenities. Apart from the rural areas of Bengal, from many outside States, people come to the City of Calcutta in search of jobs for betterment of life. This continued congestion has complicated the situation very much so that civic amenities left much to be desired. Otherwise, within the city of Calcutta and Howrah, within Metropolitan District a million of people would not have lived in slum areas. So, if we want really, sincerely and genuinely to better the condition of the City, we will have to accept the challenge and really try our best in right earnest to implement whatever programme has been drawn up. It is only the beginning and I am confident even within 3½ years the programme that we have now undertaken to implement it will run satisfactorily. In that context, All India Conference that has been organised, will discuss on the collection of materials, their finance and the technology that should be ensured. If the materials—certain materials are not available at a certain time the whole programme will be halted—and the rest programme will be injurious. Consequential to planning for materials— their timely procurement and delivery at site is really very important. I am certain that this Seminar will be able to suggest useful and fruitful measures for the implementation of the Calcutta Metropolitan District Development programme. In this connection I would also refer some of the items of issue or points that have been raised yesterday. You have heard that in the past, Govt. as well as other agencies responsible for looking after the civic bodies providing civic amenities have

not been effective. In the past, because of the negligence, the situation reached such a state that we are suffering from not only economic stagnation but also unemployment generation causing thereby a huge number of unemployed engineers, diploma-holders and other technical skilled people intending employment. They could not be secured, suitably employed because number of employment in this State have shrank considerably. It has also been mentioned that the planning has been defective. Though some amount of work has been done but in certain respect has not been at all fruitful.

I wish to refer to rural electrification. More than 100 crores of rupees have been invested in the Electrification Development Programme. For proper development of electricity, you require certain changes. One is generation, next your transmission and the third is distribution. Now, the West Bengal Govt. with its own generation could extend this programme within the licenced area and else with urban development during the 25 years, the capacity created to meet the electrical requirement was found to be totally inadequate.

Now, you will be discussing many of the items which have been mentioned here. Whatever suggestions you as a joint team after matured deliberation put forward to us, we will certainly give it consideration. We have experts and matured engineers who have spent their life time in studies and researches, knows the actual execution of works and learnt through personal experience what is a proper method, what is the proper technique, what should be accepted for speedy and satisfactory execution of a programme, Their valued

opinion will certainly be most welcome. I will again extend on behalf of the Organisers of this Seminar a most hearty welcome to you.

1. Corrosion Control in modern Town planning by **Dr. A. K. Lahiri**, Scientist, National Metallurgical Laboratory, Jamshedpur.

The most important preventive method consists of isolating the corroding metal from the environment by the application of an impervious coating or use of another metal coating which can sacrifice itself to protect the main structure. The other important field in which greater attention is being paid is the use of organic coatings, such as, paint, plastics etc. The use of cathodic protection combined with a suitable coating also forms an important part of modern town planning, specially of water distribution system.

Use of inhibitor like silicate in potable water may have a considerable effect in reducing internal corrosion of water pipes. Selection of suitable alloys for the particular service is also important. Cast iron pump impellers is known to fail due to cavitation erosion and this point needs consideration while selecting this material of construction.

It is well known that concrete has a passivating effect on iron and it is known to protect the reinforced steel considerably. However, this is not always true and under many conditions reinforced bars are susceptible to attack.

2. Fibre Glass— A new engineering material by **Dr. H. N. Bali**,

Br. manager, Fibreglass Pilkington Ltd., Calcutta.

The advent of glass in modern building technology has opened up new fields of research. Glass fibre reinforcement provides structural strength, with high young modulus. Glas fibre reinforcements having a temperature resistance upto 600°C, are non-hygroscopic and are unaffected by most chemicals. [The paper was illustrated with slides].

3. Silicone—The wonder material, by **Dr. K. K. Banerjee**, Professor, Bengal Engineering College.

Silicone is an organo-plastic product of silicon. In the building industry, it has exclusive utility as a highly water repellent material. Walls and roofs worked by silicone solution will resist action of water on brick surfaces. Silicon in solution has reduced surface tension which is the cause of water repellency. (Difference in water absorption capacity of KHOA with and without silicon treatment was demonstrated). The item is at present imported and cost for mass-scale adoption is a factor.

4. Water-proofing Compounds by **Sri S. K. Motilal**, Sahara Chemicals.

Prevention of water percolation in brickwork construction is done by incorporating application of water proofing compounds.

5. Possibilities of development of powdered metallurgy by **Dr. D. Bagchi**.

Powder metallurgy has sprung up as a new branch in ceramic technology. In the

tool making industry: carbides of tungsten and oxides of aluminium are used to manufacture cutting tools. Oilless bearings are made by powder metallurgy. Powder metallurgy has a bright future.

6. Economy in Use of Engineering Materials, by **Sri R. N. Mukherjee**, C.M.P.O.

The conventional ideas about thickness of wall or diameter of reinforcing rod or

section of a joist need review and re-orientation on the basis of latest knowledge about the properties of materials.

Sri S. N. BANDOPADHYAY, former Chief Engineer, Construction Board was in the chair. In winding up the discussions, he very lucidly projected the distinctive aspects of various papers and hoped that knowledge of materials, derived from the hard labour of scientists and engineers, should be applied in practice.

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Seminar Session S-3

WELCOME ADDRESS

By **Sri U. P. Mullick**,

President, India Society of Engineers.

It is a great pleasure to welcome you all to this afternoon session (S-3) on "Engineering Equipment", and I hope this distinguished gathering of engineers & technologists, with the help of your deep technical knowledge and experiences will make a success of the session.

The object of this Seminar and this Session is to locate, identify and understand the requirements of engineering materials and tools we require to implement the very large outlay we now envisage for the development of Greater Calcutta under the Fourth Plan and probably under several succeeding plans. In

this endeavour we must not forget that the main purpose of the development & renewal programme is the improvement of the living conditions of the great many of our people living in the concentrated area of greater Calcutta as well as in the hinterlands.

Our first endeavour and objective in preparation of development programmes and choosing of equipment materials should therefore be primarily directed to ameliorating the lot of the marginal strugglers in this part of the world. A great deal of misery has been for years and years piling up at the base of our social life, which carried