

## Transcript of Dr R K Pachauri's Video Message

Fellow SAMs, Friends and my seniors from Gymkhana,

I am terribly sorry that I won't be able to join you on this occasion because of my minor injury and of course overcautious doctors who don't want me to fly all the way to Kolkata which is what I had planned earlier, but I'm very grateful to be given this opportunity and I do want to say a few things which may be relevant for the future of IRIMEE and all the SAMs who are gathered on the occasion and particularly those who are yet to come and go through the portals of this remarkable Institution. I might mention that many years ago I submitted a very detailed paper to the highest levels of the Railways, to the Chairman of the Railway Board, who had the welfare of this Institution at heart and I gave several ideas on what could be done to restructure and revitalize the Institution. Now of course quite independently much of that has already happened. But what I'd like to submit is a few thoughts that you might want to keep in mind in bringing about the development of the Institution as it moves ahead in the years before us.

Firstly, I think I should highlight and salute the vision of those who established the Indian Railways Institute of Mechanical and Electrical Engineering for the foresight and this actually goes back to British times when the Institution was established. But at that stage technology was very different. You must remember that this was established in conjunction with the Jamalpur Railway Workshops simply because they felt that the kind of practical training that apprentices, Special Class Railway Apprentices would get in the workshop would really be essential to creating the best engineers that could run the Railway system. But technology has changed. We have now reached a stage where I don't think it's essential at all for Special Class Railway Apprentices to carry out filing and chipping as indeed we had to do for a long period of time when I was a Special Class Railway Apprentice. And I really think that what we need to do now is to focus on a vision of the future. The vision of the future to my mind should not only embrace training Special Class Railway Apprentices and officers of the Indian Railways but actually creating an intellectual base whereby we carry out proactive research on what technology should be in the future, and what really is going to drive Indian Railways in the future, and actually serve the overall interest of the nation is to bring about a major shift and technological revolution by which we use the resources of this country as efficiently as possible. It is certainly a matter of great regret and disappointment that over the years the share of rail traffic, both passenger and freight, has actually been going down and the share of road transport has been going up.

This is clearly not a sustainable situation. Because we have a serious challenge of energy security and if we continue with this trend of greater and greater road transport, both passenger and freight, we are essentially increasing our dependence on oil imports. A detailed exercise that my Institute has carried out using fairly sophisticated modeling techniques clearly shows that if we continue on a business as usual path then what we would find is that twenty years from now this country would be importing something like 750 million tones of oil per year and almost 1300 million tones of coal. It is a myth to believe that India will remain self sufficient in coal for all times to come because that's certainly not going to be the case. So energy security is one major issue that we need to be concerned about.

But another area on which India quite apart from reasons of global responsibility but also in response to the kind of pressures that we are going to be subjected to in the past will have no choice but to ensure that our growth and development takes place through the moderation of the emissions of greenhouse gases. And in

the transport sector, clearly a shift to road transport really means an increase in net emissions per unit of transportation that's provided. So this is where the Railways have a major advantage and this is an advantage which has not been projected adequately either for the benefit of our policy makers or for the implementation of schemes whereby we can bring about major technological upgradation of the Railways.

So I would like to submit before you that if we really want to create an intellectual resource that not only supports the training of those who are passing through the portals of this Institution, we have to ensure that there's adequate research which is carried out in the Institution. And the argument that, you know, the Railways have their own research organization RDSO is really not good enough to deny the opportunities that should really be created in Jamalpur. I personally believe that if we were to create the Institute at Jamalpur into a resource where we carry out detailed research essentially of a software variety and based on policy analysis leading to technological assessment and analysis of options in the future, I think that would be a great benefit to decision makers because then we would be able to make investment choices that essentially lead to the development of technologies. And those technologies don't necessarily have to be developed in Jamalpur, they could easily be developed by RDSO, or for that matter in this day and age where you have specialization the world over and that we are living in a globalized economy, we could make choices in terms of outright purchase of technology that would suit the interest of the Railways. So what I am emphasizing is the fact that for Jamalpur to really become an institution of excellence it is essential for us to create a research programme that not only ensures a good training material being provided to those who go through this particular Institution but also support in terms of decision-making by the Railways themselves.

Traction technology is changing very rapidly. We also know that the whole framework within which rolling stock is designed is changing rapidly. There are newer materials, there are new techniques, there are new methods whereby which we can ensure the design and production of good rolling stock. Now all of this in my view needs to be assessed and I think if we were to do this in Jamalpur then for one thing it would raise the profile of this institute, it would be regarded as a serious technological think tank that could not only help the Railways but the Government and the society as a whole. And therefore what I am trying to do is to place before you the need for developing a vision that clearly embraces not only training, not only ensuring that Special Class Railway Apprentices are equipped with the best engineering knowledge that we can provide but it should also be an Institution where perhaps we can also run a large number of short-term training programmes at every level of the department dealing with mechanical as well as electrical engineering.

I believe that if we were to run short-term training programmes then not only would we be able to create much better human capital in the Railways at every stage of the system but also ensure that there is a live feedback from those who are practitioners to those who are teaching some of these disciplines in the Institute at Jamalpur. So to sum up, what I would like to say is the following, and I would like to conclude by giving you four specific points for your consideration:

Firstly, I think we should look at the history of Jamalpur and see what it's been able to achieve. There's no getting away from the fact that this is an Institution that has produced persons of enormous caliber and excellence who have clearly made a great difference to the running of the Railways, to the expansion and modernization of the Railways and also several other sectors of the economy. Just to give you an example, a large number of people who have gone into BHEL for instance, a premier public sector undertaking which

has performed yeoman service at a time when we had very few choices in this country . It really has a large number of railway officers who have helped to establish that organization. And many railway officers have gone to the other sectors of the economy. I myself am an example, I have been able to do very interesting things, stimulating things to me at least throughout my life only because I had the basic education and the culture that I imbibed in Jamalpur that has carried me through a whole lot of experiences in life. So I think it is important for us to look at the strengths, look at the record, the history of Jamalpur, to be able to see what we are building on. We have to understand the foundation before we build on it any further and to make sure that whatever we conceptualize as the next stage of development is clearly well rested on the foundation that we have created.

The second point that I would like to make is a need to combine training with active and meaningful research and here I know that we cannot possibly think in terms of converting Jamalpur into a hardware research and development kind of establishment because presumably that was what our RDSO was set up for. But I think this could really become a place where you create capabilities and capacity to look at railway technology in its widest sense not necessarily going into say the telecommunications and electronics business except to the extent that it applies to mechanical and electrical engineering. But I think this could really become an establishment where we carry out research and development on traction technology, on rolling stock technology, and this of course will have to be done by keeping abreast of developments all over the world. And I think a large part of the evaluation, appraisal and research that we carry out over there should also have a policy dimension so that we are able to provide policy advice to every section of society and particularly to decision-makers in New Delhi and of course within the railways themselves. To be able to see that we clearly come up with a direction and a vision of how technology must move in the future.

The third point that I would like to make is with respect to the need for bringing about training of practicing managers on the Railways. It is critically important that we refurbish and we revive the knowledge of those who are in positions of decision-making at different levels of the Railway establishment. It is not enough to just carry out training at Jamalpur in the initial stages and expect that people will learn throughout on their own. And I think the Railway Staff College from where you have the leader of the Institution as Chief Guest today is certainly a very good Institution that provides you with general management and other aspects of knowledge which is critical to the Railways. But I think on a technology-based arrangement, I think what you really need is an institution like Jamalpur that could carry out post-experience training at different levels of the organization. I would like to request you to consider this as a necessity because I think it would have enormous benefits as I mentioned earlier in terms of the interaction that you provide.

And the final point that I would like to make is the need for networking. You cannot have institutions today living in isolation. It's not necessary that you link up with the IITs, it's not necessary that you link up with other railway institutions but I would say that it is extremely important for Jamalpur to have MoUs, to have agreements with institutions in other countries. And I think if we were to do that then you would be kept fully abreast of developments all over the world. I have seen the way the railway system in China has been transformed. The first time I went to that country in 1981 and the railways over there were firstly much, much smaller and they were in an abysmal state of disrepair. But look at them now. They are clearly one of the best railway systems in the world, and certainly one of the fastest. And they brought about this transformation in such a short period of time. There are several other establishments. You have got CNRS, you have got the Japanese railway system. They have think-tanks, they have got institutions where

technology is being developed and assessed and therefore I would say that networking of Jamalpur with institutions across the world is critically important. So my plea and my advice would be for the leadership in railways and certainly for the leadership in Jamalpur to come up with a blue print that is visionary, that is forward-looking, and that embraces all these four areas which I think will not only help strengthen the institution but enable it to provide service to society and to India far beyond we have been able to achieve so far. And I think we have to keep up with challenges. The challenges ahead are enormous and growing very rapidly. And I have no doubt with the strengths, with the history, with the tradition that Jamalpur has, IRIMEE will be able to rise to the occasion and really perform yeoman service for Indian society in the years ahead.

Once again I offer my deep regrets for not being present with you physically but thank you very much for giving me this opportunity to speak to you. This at least to a miniscule extent allows me to reduce my carbon footprint which in any case is elephantine and is growing everyday. However I shall come to Jamalpur very soon, I hope on Club Day next year if possible. Thank you very much, indeed!