AUGUST 9, 1974

17.84 hrs

Scheme to get back 244
Indian Scientists, etc.

from abroad (HAH DIS.)

[Shri C. K. Chandrappan]

With these words I fully support the Bill moved by my friend Shri Dr. Laxminarayan Pandeya.

17.82 hrs.

RE.: BUSINESS OF THE HOUSE

MR. CHAIRMAN: Before I call another Member, as per agenda at 5.30 we are expected to take up the Halfan-hour discussion raised by Shri Vishwanath Pratap Singh on the package scheme to attract Indian scientists, technologists and engineers working abroad. I want to know the sense of the House-whether to continue with this and postpone the halfan-hour discussion. Only 45 minutes are allotted for this Bill.

श्री हुकम चन्द कछवाय (मुरैना) : इम को अगली बार के लिये स्थगित कर दीजिए, इम ममय आधे धन्टे की बहस को ले लीजिये।

SHRI R. R. SHARMA (Banda): Let us take up the Half-an-hour discussion. This can be continued next week.

THE MINISTER OF PARLIAMENTARY AFFAIRS (SHRI K. RAGHU-RAMAIAH): We have no objection to it.

MR. CHAIRMAN: Because there are quite a number of speakers who want to speak on your important Bill, I think this can be postponed to the next allotted day for private Members' Bills, and we may now take up the Half-an-hour discussion.

Shri Vishwanath Pratap Singh.

HALF-AN-HOUR DISCUSSION

PACKAGE SCHEME TO ATTRACT INDIAN SCIENTISTS, TECHNOLOGISTS AND ENGI-NEERS WORKING ABROAD

SHRI VISHWANATH PRATAP SINGH (Phulpur): This phenomenon of "brain-drain" is a function of the "wealth-poverty" gap between the countries of the world. And so long as we continue to treat human talent as a commodity, it will seek the market: legitimat ly or illegitimately and the forces of supply and demand will ruthlessly siphon it wherever their equilibrium may be. Brain continue to be sold, smuggled blackmarketed just like gold or uranium. And so long as the developed countries continue to seek answers within the ambit of the economics of Adam Smith, the answer that they will get is that there is no answer.

We must assess the odds we are pitted against. We are pitted against the mighty wealth of the affluent countries We cannot hope to match the emoluments of our scientists the facilities in our laboratories with those of the developed countries. we are seeking answers in this direction, we are seeking answers which we cannot afford. We have to seek our answers elsewhere. We will have to address ourselves to the human element to the human intellect itself, and understand its sensitivities and susceptibilities and match them to needs and the demands of the country. Before I come to the solution of this problem I would like to lay before you the dimension of the problem of which we have had a glimpse in the UN Secretary General's report followed by a detailed study UNCTAD. The UN Secretary General's report says:

"Relatively few advanced nations are now obtaining a valuable resource for which they pay virtually nothing."

The report further says:

"The UK, US and Canada are receiving as a gift from developing nations a large number of trained persons whose education was expensive to the developing countries and who contribute critically important medical services to the populations of the developed countries"

What is true of medical services also true of senior scientists, technologists and other scientific personnel It has been assessed that some 1,236 scientists and doctors from all developing countries emigrated to the U.S. in 1970. In that year alone the net income to the US, from this brain drain is Rs. 27.750 million, which is more than 03 per cent of its gross national product and 39 per cent what it spends on higher **ed**ucation The irony is that the biggest contributions are made by countries that are the poorest in the developing world itself. Giving specific example it is said that when a medical doctor leaves India to settle in the U.S., it amounts to a loss of Rs. 3 lakhs for India and a gain of Rs. 50 lakhs to the U.S. Similarly every scientist leaving India makes the country poorer by Rs 1.7 lakh while adding Rs. 18 lakhs to the wealth of There is also the further interesting detail that in 1970 a total of 3141 Indian doctors and scientists emigrated to the US thus contributing a staggering Rs. 6563 million to that country in a single year by way of brain Thus we too give foreign aid. I wish we also could attach some strings to it.

This problem has two aspects. One is, how are we going to utilise the services of our scientists who are staying abroad and the second is how to check the unusual drain of technical and scientific personnel from the country? Though I do not want to strictly separate these two, still, for

purposes of discussion, let us keep this distinction. We have had answers given in Parliament with regard to this subject. The main features of the "package scheme" under discussion would be to offer a package deal to the scientists technologists who are experienced in production technology consisting of a licence where required, facilities for import of capital goods and infrastructure facilities such as power, water and industrial site/building. They will be allowed to retain their earnings in foreign banks for a given period and use them for import of esssential etc. equipments, spare parts, starting industry. They will also be provided financial support by the nationalised banks in this regard.

Looking at the solution compared to the dimensions of the problem. I was really disheartened. Sir. our scientists may be needy but not greedy. Yet this answer addresses itself to only those who would think of manufacturing and making a profit. Luckily just after reading this answer I met Prof. Y. Nadyamma. I was happy to meet him and I could assess other schemes that had been undertaken by the C.S.I.R. like the supernumerary appointments, the scientists' pool scheme and a scheme of bringing scientists here for a temporary period. This is really encouraging.

Apart from these, I would like to suggest a few things. We must regulate the inflow and outflow of talents to match with our national demands. For instance, if we have to send someone for welding we would rather send him to Russia where welding is a specialised subject rather than to Poland where mining is the specialisation If we send a scientist to U.S.A. instead of sending him for exploring lunar rocks we should rather send him to learn the technique of sea-bed drilling. When we seek foreign collaboration, we should see whether Indians settled down abroad could be usefully inducted as technicians and

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## [Shri Vishwanath Pratap Singh]

who can collaborate here with our industry. At the same time we should think of making arrangements with the other countries so that it would be difficult for anybody going abroad to stay there for a very long time. Or, at least, there should be some compulsion to return back after a certain period of time to the country. If such bilateral rangements could be made, genuine efforts should be made to move in that About information, most of the data that we get are only incomplete. When a person leaves the country why cannot we, from the very start when he asks for a passport, ask him as to where he wants to go and for what period he wants to go abroad. You must keep in touch with him. That may not be very difficult. If you have a Scientific Attache abroad, he can keep in touch with all the information and pass on the same to us. Our basic approach is economic wicket on which the developed countries will always No word has been score against ue said about the scientific environment of our country, wherein the spirit of enquiry will not be stamped out of hierarchial under the heels authority, wherein the infinite challenges of our development will be married to the scientific mind, wherein status will accrue not from the Let it be chair but from brains. remembered that a scientist may be needy but he is not greedy. This has been proved that in our Atomic Energy Establishment and in Space Establishments where there is a team-work. ı am sure a Sethna or a Rammana will not be lured away by the mighty wealth of the affluent countries. this country we have seen that scientists given the environment will bring the richest rewards of service of intellect to the It is this environment we country. should seek to create.

We should increase the base of R & D cess. I will compliment the

Minister as he said the other day that a cess is going to be imposed for R. & D. We should make salaries to correspond with our national priorities. The regards in a society follow a certain power structure which need not necessarily cater to the real contributors of national wealth. We have to see that the sonal order is sone-structured that the real contributors to national wealth get their due regard.

There is a basic dysfunction between our educational goals and our national needs. It is no wonder that our graduates emerging from university organised in the grand model of bigger nations find better use of themselves in Paris and London rather than Gurgaon of Pampat.

In a social structure where the status and recognition is based on bank balance and not brains there the problem of brain drain is symbolised by the educated people fleeing the villages. The problem will have to be tackled at that level.

SHRI ARJUN SETHI (Bhadiak): Mr. Chairman it is a matter of gratification that our Government has come forward with new incentive to our technologists and our scientists who are serving abroad to attract them to our country for building of our nation and to raise our status in the whole world.

My friend, Mr. Singh, has already narrated the dimension of the problem. At present the whole country is trying to tackle the problems we are facing today. Within the short time at my disposal I would like to some clarifications from the Minister. My first clauf cation is: in his answer which is provided this does not reveal any concrete proposals rather only they have tioned that an advisory committee is being set up to look into the whole question of the schemes which enunciated to be implemented. I would like to know how much time will they take to finalise these schemes so that these schemes may be implemented speedily and the scientists who are serving abroad may come back and their services are utilised for the betterment of our country.

Secondly, it is mentioned in the case of scien ists and technologists to attract them mainly to establish some . industries for development of infrastructure in our country. I would like to know whether they have schemes at present for those scientists who want to come back but they do not want to set-up industries but only want to serve the country for earning their livelihood. It is a general complaint that since the general environment or the general condition in our country is not favourable therefore, they are abroad, and this brain-drain is taking place.

So, I would like to know from the hon Minister what kind of incentives Government are contemplating to give to those who want to live in this country so that the emoluments and the other necessities may be provided to them and thus this braindrain may not take place in the future.

In conclusion, I have a request to make to the hon. Minister. So much delay has taken place in evolving suitable schemes or a suitable policy to implement in this particular case. So, I would request the hon. Minister that he should come forward immediately with a suitable scheme and a suitable policy so that our nation may not lose further time and we may not be again in this sorry state of affairs.

श्री हुकस चन्द कछवाय: (मुरना) : सभापति जी, श्राधे घंटें की चर्ची में मैं मंत्री जी से कुछ विशेष बात पूछना चाहना हैं। इस में दो राये नहीं है कि हमारे देण के निकानिक श्रीर वृद्धि जाबी लोगों के साथ सरकार

द्वारा ठीक प्रकार का व्यवहार नहीं किया जा रहा है यही कारण है जिस की बजह से वह विदेशों में जाना चाहते है और वहां काम करना चाहते है। सरकार ने जो योजना बनायी है वह केवल कागज पर है. जिस में कोई सार नहीं है। यह लोगों में भ्राज धारणा है। उन के साथ पक्षपात श्रीर भेदभाव किया जाता है भीरयोग्य व्यक्तिके ऊपर एक भ्रयोक्य व्यक्ति को बँठा दिया जाता है जिसकी वजह स लोग काम नही करना चाहते, इसीलिये विदेशों में जाने हैं। बहन बड़ी संख्या में हमारे देश के वैशानिक विदेशी की तरफ आदाधित होते जा रहे है। क्या अभी सरकार ने सोचा कि इस के क्या कारण है <sup>?</sup> उन को जिस्न प्रकार के वायु मंडल में रहना है वह माधन ग्राप नही देते। योग्य व्यक्ति विना मिफारिश के ग्रपना स्थान प्राप्त नहीं कर सकते । यही मूल कारण हैं जिन के कारण वैज्ञानिक विदेशों में जाना पसन्द करते हैं। भ्राप इन कारणों को हटाइये भीर देश में ऐसा वातावरण बनाइये जिस से हमारे वैज्ञानिक जो विदेशों में भ्रच्छी सेवा कर रहे है वह पुनः भ्रपने देश में भ्रामकें ताकि देश को उन का लाभ मिल सके। इस के लिये आप कौन मा आकर्षण पैदा करने जा रहे हैं। यही नहीं विदेशों में जो योग्य व्यक्ति हैं वह भी भारत की ग्रोर प्राकपित हों इस के लिये भी ग्राप कौन से बदम उठाने जा रहे हैं ? इस वान से इन्तर नही किया जा सकना कि वैज्ञानिकों भारतीय ग्रस्टर बडा सम्मान है ? उनको हर प्रकार ने खुश रखा जाता है, नाना प्रकार के साधन उनके

minute

SHRI K GOPAL (Karur) fortunately my name did not come in the ballot But Shri Samar Guha was absent I will just take

Scheme to get back

Indian Scientists, etc.

from abroad (HAH DIS)

MR CHAIRMAN. I cannot start this practice If I make this exception, I hope you will not repeat it. One minute

SHRI K GOPAL M1 Chairman, thank you very much for accommodating me I would like to ask the Minister only one question In spite of all the incentives that were offered to our scientists, engineers and technologists, the mair difficulty they are faced with is the procedural delay as far as our Udyog Bhavan is When concerned these and engineers ask for details from our embassies, they do not have the information, they just act as post offices and say they would forward their application or whatever it is This takes a lot of time for being processed

Another thing is that when these scientists and engineers want to start an industry here, the amount

लिए महैवा किये जाते है, रहने की मकान, तनख्वाहो ग्रादि के मामले में उनको किसी प्रकार का ग्रभाव महसूस नही होता है। यही कारण है कि वे वहा टिके रहते है। वे सब चीफो उनको यहा नही मिलती है। जो चापलसी करने बाध होते है, जी हजुरी करने वाले होते है, ग्रपोग्य होते है उन्ही को सम्मान मिलता है, इसके धनेको उदाहरण यहा मोजद है। मैं जातना चाहता हूं कि क्या प्राप घोषणा करेगे कि दूनिया मे जो हमारे वैज्ञानिक फैले हए है व अगर देश के अन्दर आते है, यहा उद्योग लगाना चाहते है अपने साधनों को यहा लाना चाहते है स्रीजार चाहते है उस सब पर उन से किसी प्रकार की इयटी नहीं ली जायगी, कस्टम इयुटी नहीं ली जाएगी यदि वे यहा मकान भ्रादि भ्रपने द्वारा श्रजिस किए गए साधनों से बनाना चाहते हैं तो उस पर किसी प्रकार के टैक्स भ्राप नही लगाएंगे ? मैं समझता हैं कि श्रगर इस प्रकार की घाषणा प्राप करे तो काफी लोग भारत की ग्रोर श्राकांषत होगे भीर भाज विदेशी राष्ट्र जो उनका अच्छा उपयोग कर रहे है भीर हम इसमे बचित रह जाते है, वह नही हो पाएगा ।

मन्नी महोदय ग्रपने उत्तर मे हमे साफ बताएँ कि कौन कौन से ठोम कदम वह उठाने जा रहे है। जो योजना वह लागू करने वाले है यह भी बताएं कि उसको शीघ से शीघ्र कब तक वह लागू करेगे। ग्रापके द्वारा दिए गए ब्राकर्षणो से दुनिया से फैले हुए भाग्नीय वैज्ञानिक इतने बरसो मे इतनी

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of red-tape they have got to go through is such that they are fed up and they do not want to invest their hard-earned foreign exchange in our country for the simple reason that the applications are not processed in proper time.

So I would like the Minister to tell us whether the procedure will be simplified to see that they are not put to any hardship and do not have to face red-tape in our country.

THE MINISTER OF INDUSTRIAL DEVELOPMENT AND SCIENCE AND TECHNOLOGY AND AGRICULTURE (SHRI C. SUBRAMANIAM): Chairman, at the outset, I would like to thank the hon. member, Shri Vishwanath Pratap Singh-not only thank but also congratulate him-for having brought up this subject for discussion. I wish there are many more discussions like this not only for half an hour but for a longer period. I should also thank the other young friend who participated. But much more than that, I was pleasantly surprised when my hon. friend opposite lent great support for all our scientists and technologists abroad. in itself shows the big change that is taking place in our country.

The point raised by the member who initiated the discussion laid stress on the brain drain and what it costs particularly to the developing countries. In the recent past, this has studied in depth and it has been discussed in various world forums and it has been clearly brought out that whatever might have been the aid from the developed countries, it is much more than compensated and repaid by the service which our scientists, technologists, engineers etc. have rendered to those countries. rally the question arises: should we not utilise the services of those scientists who are abroad, particularly when they are talented and experienced and they have got knowledge and skill to strike new paths in the field of science and technology. This is of great concern to the Government today and we are trying to formulate various proposals for this purpose so that our scientists abroad might be attracted to our country.

#### 18 hrs.

As far as medical personnel are concerned, I think they stand on a slightly different footing because I am quite positive that they have all the opportunities they require within the country and when they go abroad for higher studies I think we were a little but indiscriminate in allowing those persons to go abroad. My own son-in-law has gone abroad studies. We should be a little more discriminating: for what purpose they are going, whether they are going to learn something which is not available here and will it be useful when they come back here. The types of diseases in America and United Kingdom are different from the tropical diseases here. Therefore except in certain narrow areas, I think we can provide better opportunities for study and specialisation. When they go abroad, they are offered opportunities of jobs with fat salaries and they get accustomed to a certain standard of life; particularly if he has a doctor wife, both of them get employment and it is difficult to get them back. Therefore, I agree that this will have to be considered on a completely different basis altogether.

MR. CHAIRMAN: Many of them marry there.

SHRI C. SUBRAMANIAM: I do not know. This becomes a separate problem. I have also some views about it; it is not as if I have an empty mind about it. We are trying to evolve some formula so that people who go abroad for training would be compelled to come back after a certain period of study in other countries.

But as far as scientists are concerned, particularly in the area of scientific research and development, the

[Shri C. Subramaniam]

scope so far in our country has been limited and therefore when people went abroad for further studies in science and for doing research, certainly opportunities and facilities available in developed countries like the United States were not available here. We talk about Dr. Khurana; he got the Nobel Prize. If he had continued here perhaps he might have had a job but certainly he could not have done that type of research work which got him Nobel Prize because those facilities are just not available here, in the field in which he specialised Therefore, we have to be a little bit discriminatory when we talk about people going abroad. Fortunately now, the atmosphere and the opportunities are changing. Let alone people who are functioning ahroad with perhaps emoluments at a much higher level. But we have even in our country today hundreds and thousands of scientists and technologists and engineers functioning at various levels with comparatively low salaries. Their contribution is not less credit worthy than the contributions made by some other scientists. only some of our scientists are willing to go to other countries, instead of Rs. 3000 or Rs. 3500 which they get here, they would be offered 30,000 or 40,000 or even 50,000 dollars. I can ree! off quite a few names who are still being offered but they stoutly resisting that and say: no, our job is in the country and we have to serve this country. So, we have to pay our tributes to those who have stuck to this country and serving here. We should not forget them in our anxiety to bring others from abroad.

Unfortunately, this question came when we had just finalised a package scheme for scientists to come back for establishing certain industries utilising their experience and knowledge. We thought the reference in the question was to this package and the answer was given. It is not as if

this is the only scheme we have for attracting our scientists who abroad to come back. We have the scientists' pool. A large number of scientists have been given place in that pool and within 2 or 3 years they get fixed in various jobs. I gave the figures in this regard a few days ago in reply to a question. Then we have got the National Register. Then there is the employment exchange bureau where they get registered. Through these, we give various facilities for these scientists to get opportunities to get employed within the country. These facilities are improving and many more people are returning today than in the past. For those who have attained eminence in any particular field, we have evolved super numerary posts. If a person is quite competent and we want him in the particular area in which he has specialised, even though there is no post vacant, we create a post for him and invite him on a contract basis. Under this scheme also, quite a good number have come back and are working in our various laboratories.

Scheme to get back

Indian Scientists, etc.

from abroad (HAH DIS.)

भी हुकम चन्द कछवाय: ग्रभी तक कितने लोगों को बुलाया है ? कितने लोगों को पद दिये हैं ?

SHRI C SUBRAMANIAM: I am sorry immediately I cannot give the number, but it is significant and they are still coming.

Under this package deal, if they have earned money, generally they have to bring it back within a month. Now they are allowed to keep it for three years and during that period, use it for obtaining machinery for establishing any industry here. Apart from giving them licence for the industry, we also give them bank finance, technical advice, etc. This is the package to which reference has been made in the answer. I think Mr. Gopal mentioned that Udyog Bhavan procedures are full of delay.

We have regularised the procedures and speeded up the disposals. Still. some peop'e may feel that Udyog Bhavan may not be competent to deal with the persons coming from abroad. For this purpose, we have appointed a special wearn consisting of Dr. Navudamma as Chairman. The other members are Shri N. G. Katl, Secretary. Department of Economic Affairs, Shri R. V. Raman, Secretary, Ministry of Industrial Development, Brig. B. J. Sah Shahney, Secretary, Technical Development, Dr. A. Ramachandran. Secretary, Department of Science and Technology and Shri T. N. Chaturvedi, Executive Director, Indian Investment Centre. Shri Baldev Singh. Chief, Technology Utilisation, CSIR is the Convenor. This committee will process these things and see everything is done properly. In addition to that, we have also alerted our Embassies and the Scientific Attaches that if any scientists contact them. they should be given all the necessary information in this connection also assistance so that they can make proper applications or contact people here for the purpose of getting information. This is another thing have done. This was sanctioned only a month back. Already ten proposals have come from scientists for the purpose of establishing industries. Once this is publicised, I have no doubt in my mind that many more would be willing to come back and establish industries here.

We have got other schemes. Even though they may not be able to come over here permanently, we offer them fellowship or visiting professorship so that they may come here and give lectures or do research work for a limited period and then go back. This is another scheme.

I do agree that we have not still created the machinery or scheme to regulate the outflow of the younger generation. I think this is a matter which has to be looked into. We are conscious of it. It was mentioned even by Shri Kachwai.

1540 L.S-10

MR. CHAIRMAN: Considering the amount that you are spending on their education, why do you not take a heavy surety from these people so that it may act as a check against their going out?

SHRI C SUBRAMANIAM. We will have to consider various schemes Certainly, this suggestion can also be considered. I hope it would be possible to evolve some scheme. Unless we can create the proper conditions here, they are bound to go back on some condition or other. Till now perhaps we did not attach much importance to this. But now it is becoming more and more evident that we are losing valuable talent in this process.

More than anything else, it is only by creating academic freedom and the scientific atmosphere for the scientists to function here that we will be able to attract more and more people not only to come away from other places but also not to leave our country. In this connection, we are trving to dhange the management systems in our scientific organisations. For the purpose of making an inteapproach to the science gratea management, we have appointed a small committee and we are expecting a report any time. I think the meeting of that committee was held yesterday or today We hope we would be getting their report very soon when we will take action on that.

More than all that, the opportunity to use their talent is most impor-Till now we were depending upon import of technical know-how and package programmes on that basis so much so there was not sufficient scope for our talents. Now we are shifting our emphasis on research and development within the country. Even in the case of imported technology, immediately research and development activity should be linked to that for the purpose of adapting that technology to our condition, making further improvements, perhaps getting new technology out

# [Shri C. Subramaniam]

of that also. That is one aspect. Secondly, we want research and development within our own country to develop new technology. Thirdly, we want to do basic research work. This is how the plan on science and technology has been conceived and I can inform this House that this has created job opportunities for a large number of scientists and technologists

It is not as if everybody is lured by money. As a matter of fact, I would put only 5 per cent on that score. 95 per cent of them are prepared to come and work provided there are opportunities to use their talent. Instead of getting Rs. 30,000 they are prepared to come and work for Rs. 3,000 or Rs. 2,500 per month. They are patriotic enough. people have come back on that basis. Therefore, with our science and technology plan, the new scientific temper which we are trying to create and which our revered Prime Minister Nehru always emphasized, and the new academic freedom which we want to create in the laboratories and in various other research organisations, I have no doubt in my mind that a new atmosphere is being created for the scientists to deliver their goods and to function in India and not to go away.

It is not as if our scientists should not go abroad. In my view, they should be going abroad periodically to get themselves exposed to various development that are taking place but should come back. We want to give this sort of an opportunity to our scientists. We have started giving these opportunities to our scientists.

Today, we are passing through a very gloomy period. We are passing through a crisis. I have always emphasized this thing. The only hope we have is the reservoir of scientific and technological talent that we have here. We should give them opportunities to solve the problems, and they will find the solutions for us and put us on to progress and prosperity. This is the greatest asset we have.

I am glad that my younger friends are taking interest in this and, I hope, they will continue to have interest in this, not only by merely raising discussions but also by coming in contact with research workers and research organisations so that they may also feel that there are quite a number of Members of Parliament who are interested in scientific development. I will provide all the opportunities for my friends, including Mr. Kachwai, to visit these institutions and see for themselves what is happening.

MR. CHAIRMAN: You may answer one question put by Mr. Kachwai, whether you will give concessions in terms of customs to those persons who bring  $i_{\rm n}$  machinery or other goods here. That is the question raised by Mr. Kachwai.

SHRI C. SUBRAMANIAM: That is also one of the package schemes which we will consider and see how far customs regulations could be loosened for that purpose.

### 18.18 hrs.

The Lok Sabha then adjourned till Eleven of the Clock on Monday, August 12, 1974/Sravana 21, 1896 (Saka).