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Title: Discussion on the Demands for Grants No. 81,82 and 83 under the control of the Ministry of Science and Technology (Discussion concluded and Demands for Grants voted in full).

MADAM CHAIRMAN : The House will now take up discussion and voting on Demand Nos. 81 to 83 relating to the Ministry of Science and Technology.

Only one Member, Shri Subhash Sureshchandra Deshmukh has given notice for tabling cut motions to the Demands for Grants relating to the Ministry of Science and Technology.

Shri Subhash Sureshchandra Deshmukh – not present.

Motion moved:

> "That the respective sums not exceeding the amounts on Revenue Account and Capital Account shown in the Fourth column of the Order Paper be granted to the President of India, out of the Consolidated Fund of India, to complete the sums necessary to defray the charges that will come in course of payment during the year ending the 31st day of March, 2008, in respect of the heads of Demands entered in the Second column thereof against Demand Nos. 81 to 83 relating to the Ministry of Science and Technology."

MADAM CHAIRMAN: Shri Bachi Singh Rawat

श्री बची सिंह रावत 'बचदा' (अल्मोड़ा) : सभापति महोदया, आज विज्ञान और प्रोद्योगिकी मंत्रालय की अनुदानों की मांगों पर हम लोग चर्चा प्रारम्भ कर रहे हैं। भारतीय ज्ञान और विज्ञान के संबंध में प्राचीन काल से ही हमारा देश काफी अग्रणी रहा है और विश्व पटल में उसका बहुत अधिक महत्वपूर्ण योगदान है। अगर हम ध्यान दें तो चरक, धनवंत्री, रामानुजम, आर्यभट्ट, इत्यादि ऐसे-ऐसे नाम हैं जिन्होंने भारत की कीर्ति को बढ़ाया और खगोल विज्ञान, आयुर्वेद, गणित आदि विभिन्न क्षेत्रों में भारत ने अग्रणी स्थान प्राप्त किया। आज जब हम उदारीकरण और वैश्वीकरण के युग में गुजर रहे हैं तब विज्ञान और प्रोद्योगिकी का क्षेत्र अपने आप में अत्यंत महत्वपूर्ण है। एक प्रकार से हम कह सकते हैं कि इसी पर हमारे भविष्य के विकास की परिकल्पना आधारित है। चाहे उद्योग का क्षेत्र हो या देश की प्रतिरक्षा का संबंध हो, इनमें तो विज्ञान और प्रोद्योगिकी का महत्वपूर्ण योगदान है ही, लेकिन ऊर्जा, कृषि का क्षेत्र, परिवहन, ईंधन, विनिर्माण, चिकित्सा, दवा इसके साथ-साथ पेयजल, पर्यावरण, अन्तरिक्ष विज्ञान, समुद्र विज्ञान, मौसम विज्ञान आदि विभिन्न क्षेत्र हैं, जो मानव जीवन को प्रभावित करते हैं और आज जिसके अभाव में मनुष्य तथा समाज के समग्र विकास की कल्पना नहीं की जा सकती। पिछले डेढ़-दो दशक से हमारे देश की नौजवान पीढ़ी की बेसिक साइंस के प्रति अभिरुचि थोड़ी कम हुई है और उसके स्थान पर मैनेजमेंट, आई.टी. इंजीनियरिंग आदि क्षेत्रों में रुचि बढ़ी है। इस पर समय-समय पर मंत्रालय में सरकार के द्वारा चिंता की गई और जो विभिन्न संगठन हैं, उनके द्वारा भी चिंता की गई है। इस संबंध में कुछ उपाय किये गये हैं तथा कुछ उपाय किये जाने हैं। आज इस बात का उल्लेख करना उचित होगा कि 11 मई और 13 मई, 1998 को विभिन्न परीक्षणों के साथ-साथ पोखरन के परीक्षण के उपरांत देश को नयी ऊर्जा प्राप्त हुई। इससे देश का मनोबल बढ़ा और वैज्ञानिकों का भी, जो उनका एक लक्ष्य था, वह उन्हें प्राप्त हुआ। इस उपलब्धि के बाद एक राष्ट्रीय संकल्प के रूप में जब हमारे देश के सामने श्री लाल बहादुर शास्त्री जी ने जय जवान और जय किसान यानी देश की सुरक्षा और देश की खाद्य सुरक्षा ये दो राष्ट्रीय संकल्प रखे थे। [r16]उसके साथ ही देश के सामने एक राष्ट्रीय संकल्प - "जय विज्ञान " का श्री अटल बिहारी वाजपेयी ने रखा। हमें देश के विकास के लिये और देश के सुदृढ़ीकरण के लिये इस पर भी ध्यान केन्द्रित करना होगा। तब से लेकर हम तीन शब्दों में यह उद्घोष करते हुये कहते हैं - "जय जवान, जय किसान, जय विज्ञान।" इसी बात का अनुसरण करते हुये 11 मई का दिन "नेशनल टैक्नौलौजी डे" घोषित किया गया है। तब से लगातार साईस एंड टैक्नौलौजी मंत्रालय और अन्य मंत्रालयों द्वारा इसका विधिवत आयोजन होता है। नेशनल टैक्नोलौजी अवार्ड वितरित किया जाता है और वैज्ञानिकों को सम्मानित किया जाता है। कालांतर में एक विचार हुआ कि विज्ञान और प्रौद्योगिकी के क्षेत्र में हमारे पास जो संकल्प हैं, और 1983 का अपना एक अभिकथन है, उसके अनुरूप आगे बढ़ते हुये 21वीं सदी की जो चुनौतियां हैं या उदारीकरण और वैश्वीकरण के बाद विशेष रूप से जो चुनौतियां हमारे सामने आ रही हैं, उनका सामना करने के लिये, हमारे देश के सामने विज्ञान और प्रौद्योगिकी की कोई स्पष्ट नीति होनी चाहिये। इस विचार के बाद वैज्ञानिकों में गहन विचार-विमर्श हुआ जिसमें हमारे देश के करीब 5000 वैज्ञानिकों ने भागीदारी की । विभिन्न स्तर पर वार्ता और विचार करने के बाद साईस एंड टैक्नौलौजी पौलिसी अडाप्ट की गई। वर्ष 2003 की नेशनल साईस कांग्रेस में तत्कालीन प्रधानमंत्री श्रद्धेय श्री अटल बिहारी वाजपेयी जी द्वारा यह नीति घोषित की गई है और तब से उसके अनुसरण में यह अपेक्षा है कि विज्ञान और प्रौद्योगिकी मंत्रालय इस पौलिसी के अनुरूप देश के भीतर, जो उसके उद्देश्य हैं, जो नीतिगत उद्देश्य हैं, उसके लिये जो रणनीति है, उसके कार्यान्वयन की जो योजना है, हम उसके अनुरूप आगे बढ़ेंगे, जिससे देश में बैसिक साईस को बढ़ावा मिलेगा, साइंटिफिक रिसर्च और टैक्नौलौजी जो दो विषय हैं, इस दिशा में आगे बढ़कर, देश की नीति के अनुरूप देश को आगे बढ़ाने में योगदान मिलेगा।

सभापति महोदया, मैं इस नीति दस्तावेज के पेज 15 का उल्लेख करना चाहूंगा जिसमें कई कारणों से बाधायें आने की बात कही गई है या जो कमियां हैं, वैसे उनके निराकरण हेतु वैज्ञानिक विभाग भी हैं, उनकी पूरी स्वायत्तता होनी चाहिये, उन्हें नौकरशाही से मुक्ति मिलनी चाहिये। इस वैज्ञानिक विभाग में अभिकरण, अन्य संस्थायें, विश्वविद्यालय भी आते हैं, जिनके माध्यम से विज्ञान तथा प्रौद्योगिकी की समस्त प्रणाली को भरपूर सुदृढ़ किया जायेगा, उसे पूर्ण रूप से स्वायत्तता दी जायेगी, उसे सब कुछ सुलभ रूप से उपलब्ध कराया जायेगा, इसे नौकरशाही के चंगुल से मुक्त किया जायेगा। मैं मानता हूं कि इस दिशा में प्रयास किये गये हैं लेकिन अभी कुछ प्रयास किये जाने बाकी हैं क्योंकि नौकरशाही का जो दखल है, वह अभी तक समाप्त नहीं हुआ है। वित्तीय क्षेत्र में विशेष रूप से जो स्वायत्तता होनी चाहिये, वह नहीं है, उसे किया जाना चाहिये। वैज्ञानिक उपलब्धियों में जो गति आनी चाहिये, उसमें कहीं न कहीं रोक आती है, इसलिये इस दिशा में ध्यान दिये जाने की आवश्यकता है।

सभापति महोदया, इस नीति दस्तावेज के पृष्ठ 16 पर उल्लेख किया गया है कि सरकार अपने संस्थानों में, उद्योग जगत के योगदान से, 10वीं योजना के अंत तक घरेलू सकल उत्पाद का कम से कम 2 प्रतिशत विज्ञान और प्रौद्योगिकी में निवेश करेगी। आज हम विज्ञान और प्रौद्योगिकी मंत्रालय की अनुदान की मांगें लेकर आये हैं जिस पर मैं बाद में बताऊंगा कि हमारी कितनी मांग थी, कितनी लेकर आये थे और वास्तव में कितना ऐलोकेशन हुआ है, यह देखना होगा। 10वीं योजना के अंत तक 2 प्रतिशत का हमारा कमिटमेंट था, वह दसवीं योजना 31.03.2007 को खत्म हो गयी है। इसमें पर्याप्त एलोकेशन नहीं होने से, हम दो प्रतिशत तक नहीं पहुंच पाए हैं। अभी 11वीं पंचवर्षीय योजना शुरू हो रही है। उसके प्रथम वित्तीय वर्ष के अनुदानों की मांगें लेकर मंत्रालय सामने आया है। हमें अपेक्षा थी कि इसमें धनराशि बढ़ेगी, लेकिन जब मैं आगे बताऊंगा तो उससे ज़ाहिर होगा कि वास्तव में इस विभाग द्वारा जितनी मांग की गई थी, उतनी धनराशि उन्हें प्रदत्त नहीं की गई, बल्कि कुछ जगहों पर जो चालू कार्यक्रम हैं, उन पर भी प्रतिकूल असर पड़ सकता है।

इसमें परंपरागत उद्योगों को सुदृढ़ करने के लिए भी इस नीति दस्तावेज के पृष्ठ 21 पर उल्लेख किया गया है। साथ ही साथ, कहा गया है कि परंपरागत उद्योगों को सुदृढ़ करने के प्रयास किये जाएंगे, जिससे विज्ञान और प्रौद्योगिकी के समुचित उपयोग से स्पर्द्धा की नई अपेक्षाओं को पूरा किया जा सकेगा। यह परंपरागत उद्योग विशेष रूप से महत्वपूर्ण हैं, क्योंकि यह अपेक्षाकृत थोड़े से पूंजि व्यक्ति निवेश के साथ रोज़गार देता है और इन परंपरागत उद्योगों में कम ऊर्जा निवेश की आवश्कयता होती है तथा इसके साथ यह हमारी सभ्यता की विशेष परंपराओं और संस्कृति से जुड़ा है।

कहने का आशय यह है कि जो यह परंपरागत उद्योग हैं, जो शिल्पकार और दस्तकार हैं, उनको भी इसमें विशेष प्रोत्साहन देकर, आधुनिक परिप्रेक्ष्य में, हम उनकी प्रौद्योगिकी को समुन्नत कर सकते हैं, उनको मज़बूती प्रदान कर सकते हैं क्योंकि उनके माध्यम से हमें पूंजी निवेश भी कम करना पड़ेगा और पूंजी निवेश कम करने के साथ साथ उसमें जो ऊर्जा संकट देश में है, उस हिसाब से ऊर्जा की खपत भी कम होती है। इसलिए भी नीति दस्तावेज़ में इसका उल्लेख किया गया है।

इसमें अन्य बातों के अलावा बौद्धिक संपदा के संबंध में पृष्ठ 25 पर कहा गया है। बौद्धिक संपदा का विकास, प्रबंधन, जो इंटैलैक्चुअल प्रापर्टी पूरे देश में है, इसका बहुत व्यापक क्षेत्र है। उस सब पर न जाते हुए हम अपनी सरकार और देश के ज्ञान भंडार के संरक्षण के लिए राष्ट्रीय नीति बनाएंगे और उसके अनुपूरक के रूप में अंतर्राष्ट्रीय कार्रवाई करेंगे - यह लक्ष्य भी अभी अपेक्षित है। मेरा अनुरोध होगा कि इस संबंध में सघन विचार-विमर्श करते हुए तमाम वैज्ञानिक और शैक्षिक संगठनों और संस्थानों के सहयोग से और सबके विचारों को जानने के बाद, जो राष्ट्रीय नीति इस संबंध में तैयार होनी है, उसे तैयार करने के संबंध में हम तेज़ी से आगे बढ़ें।

इसी से संबंधित मुझे एक उल्लेख करना है कि जो ट्रेडीशनल नॉलेज डिजिटल लाइब्रेरी स्वास्थ्य मंत्रालय के 'आयुष' के माध्यम से शुरू किया गया था, उसके बहुत अच्छे परिणाम आए हैं। अभी मैंने जानकारी ली है कि उसमें लगातार प्रगति हुई है और अपना जो परंपरागत ज्ञान था, हमारे आयुर्वेद के जितने सूत्र थे, उन सबका विभिन्न भाषाओं में, अंग्रेज़ी के साथ साथ अन्य भाषाओं में भी, उसे अनूदित करने के उपरांत वैबसाइट पर उपलब्ध कराया गया है। देश में जो पहले घटनाएँ घटित हुई थीं, हल्दी के पेटेन्ट की, बासमती के पेटेन्ट की या अन्य दवाओं के पेटेन्ट की, उन पर कुछ दूर तक अंकुश भी लगा है, लेकिन इसे और सुदृढ़ करते हुए, कितना हम बढ़ा सकते हैं, इसको देखे जाने की आवश्यकता है।

जन-जागरूकता के क्षेत्र को इसमें बहुत महत्व दिया गया है और जो उद्देश्य थे इस नीति के, उसमें पहला उद्देश्य यह रखा गया था, जिसे मैं क्वोट करना चाहता हूँ:

> "यह सुनिश्चित करना कि विज्ञान का संदेश भारत के प्रत्येक नागरिक - स्त्री-पुरुष, युवा-वृद्ध तक पहुंचे, जिससे वैज्ञानिक दृष्टिकोण बढ़े और हम एक परिणामी ज्ञान से प्रकाशित समाज के रूप में ऊपर उठ सकें तथा सभी देशवासी विज्ञान और प्रौद्योगिकी के विकास में और मानव कल्याण में इनके उपयोग में सहभागी बन सकें। विज्ञान और प्रौद्योगिकी राष्ट्रीय क्रियाकलाप के सभी क्षेत्रों के साथ पूरी तरह समेकित हो।"

यानी जो हमारा इतना विशाल देश है, इतनी बड़ी जनसंख्या का देश है, हमारी जो वैज्ञानिक उपलब्धियां हैं, इसकी जानकारी भी उन तक पहुंचे और सोच में भी परिवर्तन हो। एक साइंटिफिक टेम्परामेंट बने और विज्ञान के प्रति रुचि भी हो, क्योंकि विज्ञान की उपलब्धियों के उपयोग कंज्यूमर तक ही न रहें, बल्कि उसके पूरे प्रोसेस की जानकारी भी हमारे देश के नागरिकों को हो। इसलिए इसे प्रथम उद्देश्य के रूप में लिया गया था और इसे इम्प्लीमेंट करने के लिए भी जो नीतिगत दस्तावेज हैं, उसमें भी उल्लेख किया गया था। इसके लिए कई कार्यक्रम बने हैं और कई कार्यक्रम सामने प्रस्तावित हैं। मेरा माननीय मंत्री जी से अनुरोध है कि इसे और अधिक बल प्रदान करें ताकि देश के भीतर एक वातावरण बने, जिससे आने वाले समय में विज्ञान की जानकारी भी सामान्य रूप से उपलब्ध हो, अंध विश्वास से भी लोग दूर हों और इसे किसी चमत्कार के रूप में न मानें, बल्कि देश में इसका जो प्रोसेस है, उसकी जानकारी सभी को मिले।

अंत में, दो अन्य विषय हैं - एक वित्तीय उपाय के संबंध में है। वित्तीय उपाय के लिए नीति दस्तावेज के पृष्ठ 27 और 28 पर उल्लेख किया गया था, इस संबंध में भी निर्णय लेने की आवश्यकता है। मैं उसे उल्लेख कर रहा हूं कि एक केन्द्रित कार्यनीति और नयी पद्धति एवं साधनों की परिकल्पना के लिए अर्थशास्त्रियों, वित्तीय विशेषज्ञों, प्रबंध विशेषज्ञों और वैज्ञानिकों के योगदान की आवश्यकता होती है। इस उद्देश्य के लिए एक शीर्ष एस एंड टी सलाहकार निकाय, नीतिगत उद्देश्यों की पूर्ति में सहायक उपयुक्त वित्तीय उपाय सुझाने के लिए एक समर्पित कार्य-दल का गठन करेगी। इस टास्क फोर्स का गठन होना है और उसमें भी जो अपेक्स साइंस एंड टैक्नोलोजी एडवायज़री बोर्ड है, उसका गठन हो - इस उद्देश्य की ओर मैं ध्यान आकृष्ट करना चाहता हूं। मंत्री जी इस दिशा में अवश्य, इस नीति के जो उद्देश्य हैं, उन्हें प्राप्त करने का कार्य करेंगे। जहां मौनिटरिंग और रिव्यू करने का तंत्र है, उसे सुदृढ़ करने की बात का इसमें उल्लेख किया गया है, उस दिशा में भी हम अवश्य आगे बढ़ेंगे।

मैं प्रमुख रुप से यह उल्लेख करना चाहता हूं कि वैज्ञानिकों और टैक्नोलोजिस्टों को इंसेंटिव्स मिल गए हैं, लेकिन इसमें हम और अधिक क्या योगदान कर सकते हैं ताकि इसमें गति आ जाए। मुझे खुशी है कि डीएसटी में एक ऐसे वैज्ञानिक उसके सैक्रेट्री हैं, जिन्हें मैंने खुद देखा था। मुझे जानकारी मिली थी कि रात के 11 बजे तक वे प्रयोगशाला में काम कर रहे थे। उनका नाम श्री रामास्वामी है। इसी तरीके से अन्य वैज्ञानिकों का भी अगर लेबोरेट्रीज के भीतर ओवर टाइम न मान करके, उन्हें एक इंसेंटिव हो और जो रायल्टी देने की बात आ रही है कि जो टैक्नोलॉजी डेवेलप हो, उसे उद्योग अपनाएं तो उसमें भी वैज्ञानिक का हिस्सा बने, उसे सम्मान भी मिले, वह वित्तीय रुप से सुदृढ़ हो, तो निश्चित रूप से उस दिशा में अन्य जो उपाय संभव हैं कि क्या सुविधाएं हो सकती हैं और क्या इंक्रीमेंट्स मिल सकते हैं, साइंस एंड टैक्नोलॉजी मंत्रालय का जो गोल्डन ट्रिंगल है, मंत्री जी के पास दूसरा मंत्रालय भी है, अर्थ साइंस का जो नया विभाग बना है, उसमें आईएमडी, ओशन डैवलपमेंट और अन्य मंत्रालय भी उसके भीतर थे, लेकिन आज केवल साइंस एंड टैक्नोलॉजी के तीनों विभागों पर चर्चा चल रही है, उस दिशा में भी अनेक उपलब्धियां हुई हैं, लेकिन जो इंडस्ट्री - एकेडेमिया - लेबरेटरी का गोल्डन ट्रिंगल बना है, इसे और ज्यादा परफेक्ट करने की आवश्यकता है, क्योंकि इंडस्ट्री का जो रोल है, चाहे वह आर एंड डी के लिए हो, जितना उसे आगे बढ़ कर आना है, जो बड़े घराने हैं, उनकी

तरफ से अपने-अपने उद्योग के भीतर अनुसंधान का कार्य हो रहा है, उसमें उनकी तरफ से सहयोग भी है, लेकिन जितना मुनाफा आज बड़े उद्योग लेकर आ रहे हैं, यदि यह नियत किया जाए कि कम से कम इतना प्रतिशत उन्हें आर एंड डी के लिए या फिर मंत्रालय के साथ सहयोग करते हुए आगे बढ़ना है, तो अच्छा होगा। यदि ऐसा कोई उपाय निकले, जिससे कि उद्योग जगत की भी हिस्सेदारी साइंस और टैक्नोलॉजी क्षेत्र में हो सके, तो अच्छे परिणाम होंगें। यही मुझे उल्लेख करना था।

मैं अन्य विषयों पर आने से पहले यह कहना चाहता हूं कि जिन अनुदान की मांगों को लेकर आप आए हैं, उस संबंध में मैं कुछ बोलना चाहूंगा। डीएसटी की जो डिमांड थी, वह सन् 2007-08 के लिए 2999 करोड़ थी। इसमें 2750 करोड़ रुपए प्लान का पैसा था और 249 करोड़ रुपए नॉन प्लान का था। नॉन प्लान का यथावत रखा गया है, लेकिन जो एलोकेशन हुआ है, वह 1526 करोड़ रु. प्लान का हुआ है, लेकिन इसके बावजूद विभाग संतुष्ट है क्योंकि इस चालू वित्तीय वर्ष में उसके कोई चालू कार्यक्रम इससे प्रभावित नहीं होंगे।[rep17]

पंचवर्षीय योजना के शेष चार वर्षों में वह अपने कार्यक्रमों को पूरा करने में सफल होंगे, ऐसा विभाग का कहना है, लेकिन इसके बावजूद, जिस सर्क डिवीजन के अन्तर्गत विशेषरूप से महाविद्यालयों और विश्वविद्यालयों को विज्ञान प्रयोगशालाएं स्थापित करने और अन्य तरीकों से जो आर्थिक सहायता दी जा रही है, जिससे वहां अच्छी प्रयोगशालाएं हों, जहां छात्र उच्चतर शिक्षा में हैं, वे अच्छा प्रयोग कर सके, उसके लिए धनराशि का एलोकेशन बढ़ाने की हमने मांग की है, वह बढ़नी चाहिए। चूंकि विभाग संतुष्ट है, इसलिए हम कह सकते हैं कि डी.एस.टी में उतनी चिन्ता का विषय नहीं है।

डिपार्टमेंट ऑफ बायोटैक्नौलौजी में प्रोजैक्टेड डिमांड 1326 करोड़ रुपए की थी। जब वे योजना आयोग में गए, तो उन्होंने योजना आयोग के समक्ष 1326 करोड़ रुपए की विभिन्न परियोजनाएं और योजनाएं रखीं, लेकिन वर्ष 200-7-08 के लिए उन्हें एलोकेशन मात्र 694 करोड़ रुपए की हुई। उसमें प्लान का पैसा 675 करोड़ रुपए और नॉन प्लान का पैसा 19.70 करोड़ रुपए था। उन्होंने जिस तरह अवगत कराया उसके अनुसार आर. एंड डी. के तीन सैक्टरों में बहुत ज्यादा डैफिसिट है। इसी वित्तीय वर्ष में उनकी इस क्षेत्र में 165 करोड़ रुपए की रिक्वायरमेंट है, जिसके अगेन्स्ट उन्हें 494 करोड़ रुपए मिले हैं जिनमें आर.एंड डी. में 216 करोड़ मिले हैं जबकि उन्हें और ज्यादा की आवश्यकता है, एडीशनल रिक्वायरमेंट 50 करोड़ रुपए की है। जो विभिन्न क्षेत्रों में ग्रांड चेलेंज प्रोग्राम्स हैं, उनमें 45 करोड़ रुपए का प्रॉवीजन है और उन्हें इतने ही रुपए की और आवश्यकता है। जो औटोनौमस इंस्टीट्यूशन्स हैं, चाहे वह इंस्टीट्यूट ऑफ लाइफ साइंसेस है या जो दूसरे औटोनौमस इंस्टीट्यूशन्स हैं, जैसे एन.सी.पी.जी.आर. वगैरह-वगैरह चल रहे हैं उनके लिए 133.20 करोड़ रुपए रखे गए हैं, लेकिन उन्हें 70 करोड़ रुपए की और आवश्यकता है। अगर सपोर्ट में कमी होती है, तो डिपार्टमेंट ऑफ बायोटैक्नौलौजी, जो प्राइम सैक्टर का विभाग है, उसके लिए माननीय मंत्री जी और भारत सरकार से विशेष आग्रह रहेगा कि इसे गम्भीरता से लें और मंत्रालय की जो मांग है, भले ही प्रोजैक्टेड डिमांड पूरी न भी हो, तो भी जो एडीशनल रिक्वायरमेंट है, उसे सरकार अवश्य पूरी करे ताकि उनकी जो महत्वपूर्ण योजनाएं हैं, वे प्रभावित न हों।

महोदया, मैं तीन-चार मिनट में अपनी बात समाप्त कर दूंगा। मेरा तीसरा निवेदन इस विभाग के बारे में है कि जो सी.एस.आई.आर. का प्रोजैक्टेड धन है, वह 4581.80 करोड़ है, परन्तु उन्हें जो एलोकेशन हुई है, वह 1,902 करोड़ रुपए की हुई है। उनका कहना है कि उन्हें नॉन प्लान में थोड़ी दिक्कत है, क्योंकि उन्होंने 873 करोड़ रुपए नॉन-प्लान में प्रोजैक्ट किए थे और 832 करोड़ रुपए उन्हें एलोकेट हुए हैं। बढ़ी हुई राशि की इसलिए आवश्यकता है क्योंकि पेंशन्स बढ़ी हैं और फैलोशिप में अधिक वृद्धि करने की घोषणा हुई है। इसके अलावा विभिन्न वैज्ञानिकों को जो इंसेंटिव दिए जा रहे हैं, उसके कारण उन्हें यह आवश्यकता पड़ी है। उन्हें नॉन प्लान का जो पैसा है, वह चाहिए। प्लान का तो कंटीन्यू कर सकता है, क्योंकि इसके लिए तो जब ये आर.ई. में जाएंगे तब और बढ़ा लेंगे, लेकिन नॉन-प्लान की दिशा में करेंट में जो उनकी आवश्यकता है, उसे देने की आवश्यकता है। इसलिए सरकार इस दिशा में विशेष प्रयास करेगी, ऐसा मेरा मानना है।

महोदय, मैं आपके माध्यम से मंत्री जी का ध्यान एक निवेदन के रूप में आकर्षित करना चाहता हूं और उन्हें बताना चाहता हूं कि डिपार्टमेंट ऑफ साइंस एंड टैक्नौलौजी के अन्तर्गत सर्वे ऑफ इंडिया नाम का एक बहुत बड़ा सब-ऑर्डीनेट डिपार्टमेंट है, जिसका पूरे भारत के मानचित्रण से सीधा-सीधा संबंध है और उसकी इस काम की जिम्मेदारी है। अभी एक पुस्तक प्रकाशित हुई थी। मैं निवेदन करना चाहता हूं कि वहां श्री नैन सिंह रावत नाम के एक व्यक्ति थे, जिनका लैम्बटन टर्न एंड एवरैस्ट के साथ काफी सहयोग रहा और ल्हासा, तिब्बत, नेपाल और उत्तर भारत का सर्वे करने में उन्होंने बहुत योगदान दिया। इस कारण उन्हें पंडित की उपाधि ब्रिटिश गवर्नमेंट द्वारा दी गई थी। वैसे रावत, हमारे उत्तरांचल में क्षत्रिय होते हैं और पंडित सामान्यरूप से ब्राह्मण समुदाय के लोगों को कहा जाता है, लेकिन उनके विशेष योगदान के कारण ब्रिटिशर्स ने उन्हें पंडित की उपाधि दी, क्योंकि उन्होंने वेष बदलकर बहुत कठिनाई से उन क्षेत्रों का सर्वेक्षण किया था। उनके जीवन का उल्लेख और अन्वेषण उनकी डायरी में था, जिसके आधार पर उमा भट्ट एवं शेखर पाठक ने पं. नैन सिंह रावत के ऊपर एक पुस्तक "एशिया की पीठ पर पं. नैन सिंह रावत " नाम से से प्रकाशित की थी। मुझे आशा है कि यह मंत्री जी के संज्ञान में आया होगा। इस पुस्तक का प्रकाशन ' पहाड ' संस्था, नैनीताल से हुआ है। सर्वे ऑफ इंडिया की यूनिट्स जरूर इसके प्रकाशक से कम से कम खरीद करें तो 1-1 पुस्तक भी सब के पास रह जायेगी। सर्वे ऑफ इंडिया का एक कमिटमेंट था, इनके निवास-स्थान पर गांव में एक पुस्तकालय बनाने का, उनकी स्मृति में यह घोषित हुआ था, जब यह पूरी एनीवर्सरी द ग्रेट आर्क मनाई गई थी तो यह सार्वजनिक रूप से देहरादून में घोषित किया गया था, लेकिन उसकी अनुपालना नहीं हुई, इसलिए माननीय मंत्री जी के संज्ञान में अगर रहेगा तो जो कमिटमेंट है, ऐसे लोगों के लिए, जिनका महत्वपूर्ण योगदान है तो निश्चित रूप से वह पूरा हो।

दो निवेदन अपने निर्वाचन क्षेत्र के भी माननीय मंत्री जी से करना चाहूंगा। एक लोहाघाट में कृषि विज्ञान केन्द्र वहां काम करता है, यहां उत्तराखण्ड स्टेट का एक रूरल टैक्नोलोजी पार्क स्थापित करने का विषय आया था, मुझे अवगत कराया गया कि कोई भूमि उपलब्ध नहीं हुई या कोई अन्य अड़चन है तो यह काम प्राथमिकता से होना चाहिए। इतना उल्लेख अपने व्यक्तिगत निवेदन का भी आपसे किया।

यह देखा गया है कि हर्बल के क्षेत्र में विशेष रूप से अनुसंधान की आवश्यकता है और कहा जाता है कि इसको एक प्राइम सैक्टर के रूप में हम देखें। चाइना ने इतना आगे बढ़कर 20 हजार करोड़ रुपये तक का मार्केट केवल हर्बल के क्षेत्र में लिया है तो हम अगर हर्बल का एक इंस्टीट्यूट ऑफ हर्बल साइंस बनाएं। असल में हमारे पास नहीं है, अभी भी विभिन्न मंत्रालयों में यह उलझा हुआ है और कैसे इसका हल निकाल सकते हैं, इस बारे में सोचें।

और दो विषय जो हैं, वे ग्लोबल वार्मिंग के और क्लीन वाटर यानी कि पानी के, पेयजल के हैं। इस सम्बन्ध में तो अलग से चर्चा की आवश्यकता होगी, क्योंकि आज के विषय में वह सम्भव नहीं है। हम लोगों ने बायो फ्युअल का क्षेत्र आगे बढ़ाया था। मैं सी.एस.आई.आर. को बधाई देना चाहूंगा कि एनआईओटी (नेशनल इंस्टीट्यूट ऑफ ओशियन टैक्नोलोजी), जिसमें हम देश में ही इंडीजिनस इक्विपमेंट्स और इंस्ट्रूमेंटेशन में काफी आगे बढ़े हैं, विदेशों पर निर्भर नहीं हैं। यहां पर गैस हाइड्रेट्स के एक्सप्लोरेशन के लिए जो इण्डो रशियन रिसर्च सैण्टर बना है, उसके माध्यम से अच्छा कार्य हो रहा है, इसको कैसे हम और बढ़ावा दें और भविष्य की जो ईंधन की जरूरत है, अकेले इस माध्यम से 100 वर्षों तक पूरी हो सकती है, इस बात का संज्ञान पूरी भारत सरकार को लेना चाहिए और मंत्रालय को विशेष रूप से इसकी जो अनुदान की मांगें आती हैं, उन पर गम्भीरता से विचार करके आगे बढ़ाना चाहिए।

मैं अपना विषय समाप्त करते हुए यह निवेदन करूंगा कि हमारा सहयोग हमेशा रचनात्मक कार्यों के लिए रहा है, आप आगे बढ़ें, हमारी ओर से उसमें सहयोग रहेगा, लेकिन एक जो चिन्ता वैज्ञानिक जगत में है, वह चाहे भले ही मंत्रालय से सम्बन्धित नहीं है, लेकिन विज्ञान से सम्बन्धित विषय है। अब तो विज्ञान का एक मंत्रालय है। एटामिक एनर्जी

के बारे में देश में चिन्ता है कि जो एटोमिक पावर की ट्रीटी हो रही है, ट्रीटी नम्बर 123, अभी 30 तारीख को फिर इसकी बैठक है। इसमें हमारी प्रभुसत्ता कायम रहनी चाहिए और जो विभिन्न कड़ी शर्तें हैं, वे शर्तें न हों, बल्कि इक्विटी के आधार पर भारत और अमेरिका का समझौता होना चाहिए और इसमें मंत्री जी सफल हों, इसमें हम सब का सहयोग रहेगा। उसे किसी कीमत पर स्वीकार नहीं किया जाये, यदि वह देश के हितों के प्रतिकूल हो।

मैं यही निवेदन करते हुए कि जो बजट है और जो अनुदान की मांगें हैं, इनको तो पूरा का पूरा हम लोग एप्रूव करें, लेकिन इसमें और अधिक वृद्धि की आवश्यकता है और इसके लिए सरकार निश्चित रूप से ध्यान दे।

आपने समय दिया, बहुत-बहुत धन्यवाद।

श्री सन्दीप दीक्षित (पूर्वी दिल्ली) : सभापति जी, सबसे पहले मैं आदरणीय मंत्री जी को जरूर अपनी तरफ से बहुत-बहुत मुबारकबाद दूंगा कि साइंस एण्ड टैक्नोलोजी एक ऐसा विभाग रहा है, ज्यादातर जो भी इसमें मंत्री रहे हैं, पता चलता है कि कुछ गुमसुम से काम करते रहे हैं, लेकिन जब से कपिल सिब्बल जी इसके मंत्री बने हैं, बहुत ही लायक और बहुत ही काबिल मंत्री हैं, उन्होंने मंत्रिमंडल को भी अपने छोटे से घेरे में लिया है, जिसमें ज्यादातर विज्ञान और प्रौद्योगिकी का मंत्रालय रहा था। वहां से निकालकर जनपटल पर वे इसको लाये हैं, इसके लिए मैं विशेष रूप से मुबारकबाद दूंगा। पहले कभी इस मंत्रालय के बारे में हम सुना नहीं करते थे, लेकिन या तो यह हो सकता है कि इनके आने के बाद सुनामी जैसी घटना हुई, जिसके कारण एक मौका मिला, लेकिन एक मौका मिला। क्योंकि हम सब लोग एक नये हिन्दुस्तान के भी जीव हैं और नया हिन्दुस्तान तकनीकी पर और प्रौद्योगिकी पर बनेगा, उसके लिए इस मंत्रिमंडल में एक विशेष आवश्यकता है।[R18]

मैंने भी देखा है और जैसा मुझसे पहले रावत जी ने भी कहा कि कई जगहों पर जो मांगे की गयी हैं, उसमें कुछ इसे दिया गया है। हम लोगों की कितनी अपील वित्त मंत्री तक जाएगी, यह देखने वाली बात है, लेकिन मैं इतना जरूर वित्त मंत्री जी से कहूंगा और जो इस मंत्रालय का प्रमुख उद्देश्य भी है, क्योंकि अपने तमाम कार्यों से राष्ट्र में एक साइंटिफिक टेंपर भी बनता है। मैं उन पर कोई टिप्पणी नही कर रहा हूं, लेकिन मैं इस टिप्पणी को करने से अपने आप को रोक नहीं पा रहा हूं कि जितने ज्यादा लोग साइंटिफिक टेंपर के होंगे, उतने ज्यादा लोग ग्रोथ रेट को भी समझेंगे। फाइनेंस मिनिस्टर की अपनी नीतियों को प्रोत्साहित करने के लिए भी इस विभाग को ज्यादा से ज्यादा पैसा दिया जाना आवश्यक है। एक बहुत महत्वपूर्ण चीज सामने आयी है कि जो प्रौद्योगिकी या विज्ञान की नीति वर्ष 2003 में आयी थी, उसके उद्देश्यों में भी सबसे पहले उल्लेख किया गया है और इस बारे में बार-बार हमें पता चलता रहता है कि बेसिक रिसर्च या मूल शोध में एक गिरावट आयी है। गिरावट शायद संख्या में नहीं आयी होगी, शायद मूल शोध करने वाले लड़कों और लड़कियों के नंबरों में नहीं आयी होगी, लेकिन अगर उन बच्चों का प्रतिशत लिया जाए, जो स्कूलों या कालेजेज से निकल रहे हैं, तब शायद फिजिक्स, कैमिस्ट्री और बायोलोजी, जो विज्ञान के सब्जेक्ट्स हैं, उनमें जिस तरह की रूचि बच्चों में पहले होती थी, वैसी अब कम दिखायी दे रही है। स्कूली स्तर पर भी देखा गया है कि जहां पहले सबसे ज्यादा नंबर पाने वाले बच्चे साइंस में जाया करते थे, लेकिन आज वे कामर्स में जाने लगे हैं। जो मूल शोध के बारे में मंत्री जी ने एनुअल रिपोर्ट में बताया है कि साइंस साइटेशन इंडेक्स में हिंदुस्तान का स्तर बहुत गिरा है, मेरे ख्याल से यह ऐसी चिंता का विषय है, जिसमें हर व्यक्ति को इस बारे में सोचना पड़ेगा, क्योंकि भारत की बहुत सी उपलब्धियां पिछले कई वर्षों में हमारे विज्ञान और प्रौद्योगिकी पर निर्भर रही हैं। माननीय मंत्री जी, यह सीधे तौर पर आपके विभाग से संबंधित नहीं है, लेकिन यह विज्ञान, प्रौद्योगिकी एवं आर एंड डी से जरूर संबंधित है। पिछले 15-20 सालों में हमारे देश में जो आर्थिक रूप में बदलाव आए हैं, उनमें आज हमारे देश में विदेशों में बनी हुयी गाड़ियां बन रही हैं, विदेश की बहुत सी मशीनें इस देश में बन रही हैं, लेकिन कहीं न कहीं मन में संकोच रहता है और मन को बुरा लगता है कि हिंदुस्तान की बनी हुयी गाड़ियां खुद को अंतर्राष्ट्रीय स्तर पर नहीं माप पाती हैं। यहां के वैज्ञानिकों द्वारा हिंदुस्तान में बनायी गयी अपनी मशीनें विदेशों में कंपीट नहीं कर पाती हैं। यह इस बात का सबूत है कि जिस तरह के विकल्प और मौके हमारे वैज्ञानिकों और प्रौद्योगिकी वैज्ञानिकों को विदेश में मिलते हैं, जिससे वे वहां की इंडस्ट्री और साइंस का विकास कर पाते हैं, वे मौके शायद अपने देश में उन्हें नहीं मिल पा रहे हैं। क्या ऐसा नहीं हो सकता है कि कम से कम हम एक ऐसा विश्वविद्यालय या सेंटर अपने देश में बना सकें, चाहे उसमें पांच या दस हजार करोड़ रूपए लग जाएं, जो अपने आपमें अंतर्राष्ट्रीय स्तर पर टॉप क्वालिटी के रिसर्च इंस्टीट्यूट में से एक के रूप में हिंदुस्तान में स्थापित हो। इसमें न केवल हिंदुस्तान के, बल्कि दुनिया भर के चाहे जिस भी क्षेत्र को हम चुनें, उस क्षेत्र के जितने भी वैज्ञानिक हैं, जितने भी प्रौद्योगिकीविद हैं, उसे हम अपने यहां ला सकें। क्या इस चीज को हम प्लान करके आगे के लिए बजट तैयार कर सकते हैं। बहुत से ऐसे क्षेत्र हैं, जिसके हमारे पास बहुत से विशेषज्ञ हैं, ह्यूमन रिसोर्स की कमी नहीं है, लेकिन मैंने पता किया है और इधर-उधर से मालूम भी पड़ता है कि फिजिक्स, कैमिस्ट्री और बॉयो-टेक्नॉलाजी में जो संसाधन बाहर के विश्वविद्यालयों में लेबोरेट्री मिल जाती हैं, वह यहां नही मिल पाते है। इसी के साथ-साथ इनकी रिपोर्ट में भी मेंशन किया गया था और एनुअल रिपोर्ट में भी मेंशन किया गया है, इसके साथ ही दस्तावेजों में लिखा है कि हमारे विश्विद्यालयों में विज्ञान का स्तर, खासकर वहां की लैब्स और किताबें अपेक्षा से बहुत कम हैं। मुझे मालूम है कि यह मंत्री जी के विभाग से सीधे-सीधे संबंध नहीं रखता है, लेकिन अगर मंत्री जी, इन यूनिवर्सिटीज में उस तरह की रिसर्च नहीं होगी और साधन उपलब्ध नहीं होंगे, तो उसके बाद जो समान निकलता है, जो बाद में मंत्री जी का मंत्रिमंडल टेक-ओवर कर लेता है, अगर वहीं से हम पिछड़ जाते हैं, तो जो पूरे का पूरा ताना-बाना बुना जाएगा, वह अंतर्राष्ट्रीय स्तर पर अपने आपको कमजोर पाएगा। मैंने देखा है कि यह एक विशेष जगह है, जहां कमी पायी गयी है। जो एनुअल रिपोर्ट मैंने देखी, डिमांड और ग्रांट्स के दस्तावेज देखे, पिछले दो-चार सालों में कई ऐसी चीजे हैं, जिनके लिए विभाग को हमें मुबारकबाद देनी चाहिए। कुछ ऐसी चीजें इन्होंने बनायी हैं, एक विजन हेल्थ प्लान वर्ष 2007 से 2012 तक के लिए बनाया गया है। मेरे लिए व्यक्तिगत रूप से यह प्रसन्नता की बात है, जिस चीज से एवस्ट्रा म्यूरल फंडिंग सपोर्ट, जो इनके विभाग द्वारा दिया जाता है, पिछले समय में इसमें बहुत अच्छा काम हुआ है। नैनो साइंस टेक्नॉलाजी इनीशिएटिव है, जिसमें आज विभाग समझता है कि उनको एक क्रिटिकल मार्क मिल गया है, जिससे नयी तकनीक पर हम लोग और आगे बढ़ सकते हैं। [v19]

यंग साइंटिस्ट्स को सपोर्ट देने का कार्यक्रम अच्छे रूप से चल रहा है। देश-विदेश में आने-जाने की प्रक्रियाएं इन्होंने काफी हद तक बढ़ाई हैं। बहुत सी ऐसी चीजें इन्होंने दी हैं। समाज से जुड़े हुए कार्यक्रमों में भी साइंस एंड टेक्नोलॉजी विभाग अपने आपको सक्षम पा रहा है। मैंने इनके कुछ कार्यक्रमों में देखा, जैसे आर्सेनिक रिमूवल प्लांट के प्रयोग का काम छत्तीसगढ़ में अच्छे रूप में किया गया है। कम्युनिटी बेस्ड डीफ्लोराइजेशन का प्लांट पूर्वी उत्तर प्रदेश के आसपास चलाया गया है। ऐसे कई छोटे-छोटे कार्यक्रम हैं।

सभापति महोदया, मैं आपके माध्यम से एक चीज जरूर कहना चाहूंगा कि हमारे यहां पायलट बेसिस पर, खासकर इस विभाग के जो कार्यक्रम होते हैं, अगर आप इनके पिछले 8-10 वर्षों का वार्षिक प्रतिवेदन पढ़ें, लैब से लैंड वाली कहानी, जो पुरानी मुसीबत समझी जाती है, उसमें अभी भी बहुत ज्यादा गुणवत्ता नहीं देखी गई। आज हमें मंत्रिमंडल में काबिल मंत्री मिले हैं। मंत्री जी, मेरे ख्याल से अगर आप थोड़ा सा अपनी मेहनत और व्यक्तित्व का प्रभाव डालेंगे, आपके पास बहुत काबिल अधिकारी हैं, अगर दो-चार ऐसे प्रोजैक्ट्स चल जाएं जो फील्ड पर तेज प्रभाव करने लगें, तो उससे बहुत ज्यादा फर्क पड़ने लगेगा।

आपके अंडर तीन-चार बड़े विभाग हैं - सर्वे ऑफ इंडिया, मैपिंग वाली संस्था, इंडियन मैटीरियोलॉजीकल डिपार्टमैंट, उसके साथ एक और संस्था है जो हमें शार्ट टर्म और मीडियम टर्म वातावरण या मौसम के बारे में जानकारी देती है। सर्वे ऑफ इंडिया का बड़ा गरिमामय इतिहास रहा है। मैं एक बात जरूर कहना चाहूंगा कि अभी भी व्यावहारिक रूप में जब

कोई साधारण व्यक्ति या शोध संस्थान, जिन्हें सर्वेयर जनरल के रिकार्ड या मैप की आवश्यकता पड़ती है, उसके समीप जाता है, तो वह संगठन उतना संवेदनशील नहीं है या उस रूप में हमें जानकारी नहीं मिलती जिस रूप में किसी भी अच्छे संस्थान की ज्यादा जानकारी मिल जाती है। सर्वे ऑफ इंडिया को इस रूप में ज्यादा सक्षम बनाएं। आज इंसान विवश होकर इंटरनेट पर चला जाता है और वहां उसे हजारों, लाखों तरीके मिल जाते हैं। वह वहां ज्यादा आसान तरीके से जानकारी ले लेता है। मैटीरियोलॉजीकल डिपार्टमैंट या मीडियम टर्म वैदर के प्रति जनमानस के मन में ऐसी भावना है कि शायद हमारा मैटीरियोलॉजीकल डिपार्टमैंट उतना सक्षम नहीं है जितना होना चाहिए। कई बार देखा जाता है कि अगर हम मैटीरियोलॉजीकल डिपार्टमैंट या वैदर डिपार्टमैंट के बेसिस पर कोई कदम उठाएं, तो जरूरी नहीं है कि वह सीधे-सीधे उसके साथ सही कर पाए। मैं दिन-प्रतिदिन के मौसम की बात नहीं कर रहा हूं, लम्बे चरण के मौसम की बात कर रहा हूं। हमने पिछले कुछ दिनों अखबारों में ऐसी खबरें पढ़ी हैं कि जिस तरह की मॉडलिंग हम अपने यहां इस्तेमाल करते हैं, अंतर्राष्ट्रीय स्तर पर और वैदर के विज्ञान में हमें जो सूचनाएं मिली हैं, उसमें वह आउटडेटेड हो गई हैं। मेरा मंत्री जी से निवेदन है कि आप अपने विभाग से कहें कि वह उस चीज को देखे। अपने आपमें हमेशा बदलाव लाना, अपने को डॉयनामिक संस्था रखना आज के हिन्दुस्तान की बहुत जरूरी आवश्यकता बन जाती है।

कुछ चीजें ऐसी बचती हैं, जिन्हें कहकर मैं अंत करना चाहूंगा। बच्ची सिंह जी ने एक बात बहुत थोड़े शब्दों में कही। उन्होंने यह भी कहा कि इसके लिए बहुत विस्तार से चर्चा की आवश्यकता है। कल जब माननीय स्पीकर महोदय ने मुझे बोलने का समय दिया, तो मैं ग्लोबल वार्मिंग के विषय पर बहुत थोड़ा सा मैंशन कर पाया था। इंटर गवर्नमैंटल पैनल ने जो रिपोर्ट निकाली है, वह कहीं न कहीं हम सबको डराती है। उस रिपोर्ट ने पहली बार इस बात को पुरजोर तरीके से रखा है कि मौसम बदल रहा है, दुनिया में गर्मी बढ़ रही है, आज यह तथ्य है। शायद अब इस पर सवाल करना सही नहीं होगा। बहुत से ऐसे देश हैं, बहुत सी ऐसी ताकतें हैं, जो शायद इस बात को न मानना चाहें या इसे कम करने के लिए जो कदम उठाने पड़ेंगे, उन्हें न मानना चाहें। लेकिन आज हमारे सामने साफ रूप से यह बात आती है कि दोनों चीजें सत्य हैं और आने वाले 15-20 सालों में इसका बहुत बुरा असर पूरी मानवता पर पड़ने वाला है, अभी से पड़ने लगा है। रोज पीने के पानी की समस्या की बात हो रही है। रोज पता लग रहा है कि कहीं ग्लेशियर में कोई प्राब्लम है। मौसम किस तरह का बनता जा रहा है कि आज पुराने मापदंड धीरे-धीरे फेल होते जा रहे हैं।[N20]

मैं माननीय मंत्री जी से यही निवेदन करूंगा कि क्या इस पर हिन्दुस्तान में किसी शोध की आवश्यकता है? इसे बीच में रखकर, देश में तमाम जितनी पालिसियां और नियम बनते हैं, उनको किस रूप से, इस तथ्य को सामने रखकर, हमें आगे के 15-20 साल में अपने आपको किस तरीके से, इसके लिए तैयार करना है, कम से कम राष्ट्रीय स्तर पर हम क्या कर सकते हैं, इस पर ध्यान देने की जरूरत है। मैं नहीं जानता कि अंतर्राष्ट्रीय स्तर पर हम कितने प्रभावी होंगे और बड़े विकसित देशों को अपनी चीज बदलने के लिए बाध्य कर पाएंगे, लेकिन कम से कम देश में उसे बदलने की आवश्यकता बहुत ज्यादा है।

माननीय वित्त मंत्री जी ने तीन बजट पहले एक चलन चालू किया था, जिसके तहत उन्होंने हर साल एक अच्छी संस्था को पकड़कर 100 करोड़ रुपये का अनुदान दिया है। मुझे लगता है कि अंतर्राष्ट्रीय स्तर की अगर कोई संस्था बनानी है, तो उसके लिए 100 करोड़ रुपये नगण्य है। हजार, दो हजार या चार हजार करोड़ रुपये से कम की लागत एक ऐसी संस्था को बनाने के लिए नहीं लगेगी, जो अंतर्राष्ट्रीय स्तर पर अपना नाम कर सके। मेरा आपसे निवेदन है कि कम से कम एक ऐसी संस्था देश में बनाने की आवश्यकता है। जब ऐसी कोई संस्था बनती है, तो उसके साथ उस देश में बहुत कुछ आता है। उसके साथ विज्ञान के लोग आयेंगे, साइंटिस्ट्स आयेंगे और रिसर्च का काम होगा, हिन्दुस्तान की अपनी फैक्टरीज को मदद मिलेगी, यहां के प्राइवेट सैक्टर को मदद मिलेगी और सरकार को मदद मिलेगी। वह केवल साइंस पर आधारित नहीं रहेगा, बल्कि बहुत सी व्यावहारिक चीजें भी उससे निकल कर आयेंगी।

मंत्री जी गूगल का बहुत इस्तेमाल करते हैं, यह मैं जानता हूं। गूगल का एक मैपिंग साइट है लेकिन बड़े दुर्भाग्य की बात है कि हमारे पास उतनी ही कैपेबल संस्थाएं हैं। एक प्राइवेट वेबसाइट जब इतनी ज्यादा इन्फोर्मेशन्स हमें अपने देश के बारे में दे सकती है, तो हमारे पास भी सूचनाओं और मैप की इन्फोर्मेशन का भंडार पड़ा हुआ है। क्या इसका मतलब यह है कि हम लोग कोई ऐसी चीज सामने नहीं ला सकते? ये ऐसे माध्यम हैं, जिन से न केवल हर भारतवासी को सुविधा मिलेगी बल्कि अंतर्राष्ट्रीय स्तर पर हिन्दुस्तान का नाम भी आगे बढ़ेगा। मंत्री जी ने इसमें उल्लेख किया है और रिपोर्ट में भी मैंने देखा है कि चांदनी चौक में एक एक्सपैरीमैंट चल रहा है, जहां उन्होंने साइंस एंड टेक्नोलॉजी विभाग की बहुत सी चीजें अपने निर्वाचन क्षेत्र में इस्तेमाल की हैं। मैं मुबारकबाद देता हूं कि उन्होंने इसे किया, लेकिन जो फायदे चांदनी चौक को आज मिल रहे हैं, और धीरे-धीरे मिलने लगेंगे खासकर दिल्ली नगर-निगम के साथ मिलकर वे जो प्लानिंग आज और आने वाले समय के लिए करने जा रहे हैं, उसे व्यापक स्तर पर एक- डेढ़ साल में दिल्ली ही नहीं, बल्कि हिन्दुस्तान के हर शहर में लाने की आवश्यकता है। जिस तरीके से हिन्दुस्तान का हर शहर बिल्कुल अनप्लांड प्रगति की तरफ बढ़ रहा है, पिछले एक साल में दिल्ली में हमने जो मुसीबतें देखीं, चाहे वह कोर्ट की कार्यवाही हो या किसी और की कार्यवाही हो, अगर हम लोगों ने साइंस और टेक्नोलॉजी की इसमें मदद ली होती, तो वे न होतीं। अगर अपने विभागों को मुस्तैद करने के लिए सूचना का इस्तेमाल नहीं किया गया, तो और शहरों में भी यही मुसीबत आयेगी। मंत्री जी ने पहले भी उल्लेख किया है और बाहर प्रैस मीडिया में भी इस बात को बताया है कि आज उनके पास ऐसे टूल्स हैं, जिसमें से कई चीजों को हम इस्तेमाल कर सकते हैं, जिससे हमारे शहर ज्यादा नियोजित तरीके से प्रगति कर सकें, आगे बढ़ सकें।

मैं एक बात और कहना चाहूंगा और मंत्री जी ने कुछ जगहों पर यह बात कही थी। कुछ जगहों पर टीवी और रेडियो में हिन्दुस्तान के बहुत अच्छे साइंटिस्टों पर कार्यक्रम बनाये गये। मंत्री जी जानते होंगे कि जिस तरीके से हम टीवी और रेडियो पर अंतर्राष्ट्रीय कार्यक्रम देखते हैं, चाहे साइंस पर देखें या वहां के साइंटिस्टों पर देखें, हिन्दुस्तानी भाषाओं में, हमारे परिप्रेक्ष्य में, हमारे संदर्भ में बने हुए ऐसे कार्यक्रम कहीं नहीं देखने को मिलते। मैं उनसे निवेदन करूंगा कि अपने विभाग द्वारा, क्योंकि इस चीज में व्यावसायिक फायदा नहीं है, इसलिए हम यह अपेक्षा तो कर नहीं सकते कि कोई प्राइवेट चैनल इस बात को निकालेगा, लेकिन साइंटिफिक टैम्पर बढ़ाने के लिए हमारे अपने देश की जो हजारो लाखों उपलब्धियां साइंस की फील्ड में है, उनका उल्लेख करने के लिए, जनमानस में उन धारणाओं को जो गलत धारणाएं हैं या कुछ सुपरस्टीशंस को कम करने के लिए, कहां-कहां किस तरीके के एक्सपैरीमैंट्स और एक्सपीरियेंसेस हो रहे हैं, उनको दिखाने की जरूरत है। इससे बच्चों में साइंस के प्रति रूचि बढ़ेगी। इसे एक मनोरंजक तरीके से, आकर्षक तरीके से अगर हम लोग तरह-तरह की सीडी बनाकर उनको प्राइवेट और दूरदर्शन के चैनलों द्वारा प्रसारित कर सकें, तो बेसिक रिसर्च की जो दिक्कतें आज समाने आ रही हैं, जो साइंटिक टैम्पल बनाने की हम बात कर रहे हैं, बच्चों में साइंस के प्रति रूचि लाने की बात कर रहे हैं, ऐसे बहुत से कार्य धीरे-धीरे बढ़ते जायेंगे। आज टीवी ऐसा महत्वपूर्ण और पावरफुल माध्यम बन गया है कि उसके द्वारा अगर हम कोई चीज प्रसारित करते हैं, तो एकदम एक डिब्बे से लाखों घरों में चली जाती है और बच्चों के मानस में ऐसी जाकर घर करती है, जो शायद ही कोई और चीज घर कर पाती हो।

माननीय सदस्य बच्ची सिंह जी ने पहले ही हमारे ट्रैडीशनल सिस्टम के डाकूमैंटेशन की बात की थी। अभी भी मुझे लगता है कि जो चीजें अभी हमारे पास हैं, हमारी पारम्परिक बहुत सी दवाइयां हैं, जो तौर-तरीके हैं, मैं उनकी बात नहीं कर रहा जो केवल संस्कृति और संस्कारों से जुड़ी हुई हैं।[MSOffice21] मैं उनकी बात कह रहा हूं जो दवाइयों के बारे में हैं। इरीगेशन के बारे में बहुत से सिस्टम हैं, लैण्ड मैनेजमेंट के बहुत से तरीके हैं, किस तरीके से पानी को एक जगह से दूसरी जगह ले जाना चाहिए इसके बहुत से तरीके हैं, जंगल संरक्षण के हजारों तरीके हैं, ऐसे तमाम तरीके हैं जिनको अच्छी तरह से डाक्युमेंट करने और व्यापक प्रचार-प्रसार करने की आवश्यकता होगी। इसके साथ ही मैं यह जरूर कहना चाहूंगा कि बहुत से ऐसे काम कई अलग-अलग विभागों को दिए गए हैं, लेकिन इन विभागों का कई बार उनके बारे में इन चीजों के विपरीत वेस्टेड इंट्रेस्ट होता है, जैसे हमारा स्वास्थ्य विभाग ट्रेडिशनल दवाओं के संरक्षण और उनको संजोने का काम कर रहा है, लेकिन स्वास्थ्य विभाग में ज्यादातर एमबीबीएस और एमडी डाक्टर्स

होते हैं जिनके मन में इन तौर-तरीकों के बारे में थोड़ी सी हीन भावना होती है। हमारी बहुत सी ऐसी पारम्परिक चीजें हैं, मैं उनकी बात नहीं कर रहा हूँ जो केवल सुपरस्टिशन हैं, ऐसी चीजें चाहे आयुर्वेद से सम्बन्धित हो, चाहे नेचुरोपैथी से सम्बन्धित हों, उनका संरक्षण करने की आवश्यकता है। हमारे आदिवासी अंचलों में तो हजारों-लाखों ऐसे तरीके हैं जो बहुत लम्बे समय से चले आ रहे हैं, जिनका प्रभाव पड़ता है, चाहे टांग टूट जाए, चाहे छोटी-मोटी चोट लग जाए, चाहे सिरदर्द हो जाए या स्किन से सम्बन्धित कोई बीमारी हो, उनसे उनका सम्बन्ध रहता है। साइंस एण्ड टेक्नोलॉजी एक ऐसा विभाग है जो एक साइन्टिफिक तरीके से, एक साइन्टिफिक व्यु प्वाइंट से, किसी भी चीज को सोच-समझकर, उसकी उपयोगिता को देखते हुए डाक्युमेंट कर सकता है। अलग-अलग विभागों में कहीं न कहीं वेस्टेड इंट्रेस्ट इसके बीच में आएंगे। अगर माननीय मंत्री जी इन चीजों को संजोकर अपने विभाग में ला सकें तो ज्यादा बेहतर होगा।

सभापति महोदया, मैं इन्हीं बातों के साथ आपको धन्यवाद देता हूँ कि आपने मुझे बोलने का समय दिया।

माननीय मंत्री जी आपके पिछले तीन साल में जो कार्य रहे हैं, वे सभी को प्रेरणा देते हैं। आप एक ऐसे विभाग में आए जिसे शायद राजनीतिक दृष्टि से ज्यादा महत्वपूर्ण नहीं माना जाता था, लेकिन आपने अपने कार्यों और काबिलियत से इस विभाग को उल्लेखनीय बनाया, जनपटल पर रखा और इस विभाग के कार्यों को हम सभी के सामने लाए। मैं इसके लिए सभी की ओर से आपको मुबारकवाद देता हूँ। इसके साथ ही मैं कहना चाहता हूँ कि आप चांदनी चौक में जो परियोजना चला रहे हैं, उसे केवल दिल्ली ही नहीं पूरे हिंदुस्तान में आगे बढ़ाएं। इसी अपेक्षा के साथ मैं आपको धन्यवाद देते हुए अपनी बात समाप्त करता हूँ।

DR. SUJAN CHAKRABORTY (JADAVPUR): Madam Chairperson, I thank you for giving me a chance to participate in the discussion which I believe is a very important issue and subject, Demands for Grants of the Ministry of Science and Technology. I generally support the Demands for Grants. There is no doubt that the Ministry, for the last two years, including the initiative of the hon. Minister, is giving much more attention to science and technology and the attention is increasing.

In the consecutive Plan periods, if we see, there is increasing Budget allocation, particularly from the Seventh Plan. The Eleventh Plan document has not yet been finalized. I hope it will maintain the same tradition and the same amount of increase must continue.

14.53 hrs. (Shri Devendra Prasad Yadav *in the Chair*)

The allocation to the Ministry of Science and Technology has been increased this time. But the increase is to the tune of 17 per cent while in the last Budget the increase was to the tune of 28 per cent. I believe that this would be looked into properly.

The importance of science and technology is known to all. We should look into the proper perspective of the things. In the history, the Indian civilization and the Indian science grew hand in hand. In history we had Aryabhatta, Charak and Sushrut who were the pride of India. Presently also we have a vast pool of scientists, confident and dedicated to their cause. We constitute 30 per cent of the total scientists and technologists in the USA. We contribute roughly six per cent of the world's scientific publications with good impact factor and that is increasing also. China's contribution in publications in recent years and China's impact factor of their publication is increasing in a much better space than that of ours. [MSOffice22]

[s23]

The history and tradition of our country have been very good. Presently also, we are doing very good work. Future also seems to be very good for us because whole of the world is now looking towards either India or China for newer innovations and the contribution in frontier science. The question is whether we are ready towards that direction. That will be the main thing. The life of a Government is five years, but the life of science and technology research is not limited to five years; it continues its effect and impact for the coming 25, 30 or 40 years. From that perspective, are we getting ourselves prepared?

Let us look categorically into the projected budget as proposed by the DBT, CSIR and DST. It was to the tune of Rs. 9,000 crore while the allocation has been roughly Rs. 4,400 crore, which is less than 50 per cent. Thereby, there is no confusion that there has been a good amount of compromise in key sectors which were being proposed by the concerned Ministry and which could not be agreed to by the Finance Ministry or Planning Commission or whatever it may be. This is more because still we have only 0.8 per cent of our GDP being expended on science and technology while the advanced countries are expending two per cent, three per cent or even more on science and technology. In our case also, the proposal was to have an expenditure of more than two or three per cent roughly. The Prime Minister also said the same thing, but it could not be put into actual practice. Therefore, my suggestion would be that the Finance Ministry should plan, in addition to Government's own expenditure, which also needs to be increased, some arrangement for giving incentive or something like that in such a fashion that the private sector also takes

much interest in its R&D activity.

It was proposed in the Tenth Plan also, a discussion was there, that some cess on private industries will be imposed for carrying forward a fund for the purpose of our R&D activities. Probably that could not be taken up. So, I would request the Ministry to look into the matter because the Eleventh Plan is still in the formative stage and we have to finalise it within a very short time. If we really like to develop science and technology as it needs to be, we must plan separately for it.

Much more autonomy must be given to the Ministry. An innovation cannot run after the Finance Ministry or the Planning Commission. That can never be. Nor it should be expected for small jobs also. You must engage scientists of excellent calibre, search for them and bring back people from abroad. That can neither be guided by traditionality in our system nor bureaucratism in the Finance Ministry. You must allow much amount of autonomy and independence and thereafter attach some sort of networking and R&D audit system in it. Probably we are lacking in this field. Science and technology cannot be totally controlled, rather I would propose that the Ministry of Science and Technology should be allowed to function as a nodal Ministry to co-ordinate with different other developmental programmes of various Ministries. Various Ministries are having their own R&D activities. They are not being properly co-ordinated and networked.

The Science and Technology Commission was proposed to be evolved in the Tenth Plan. I believe, it has not been done. I would urge upon the Minister to establish the Commission with no further delay. The activities and innovations of all the organisations - like ICMR, ICAR, DRDO and many other - can be networked through the Commission as a central institute.

There are three or four issues which are of paramount importance. One is the question of our societal development. It is not just the question of theory etc.; it is the question of societal development, our daily use activities. In this regard, five to seven issues are there which should also be taken up in a mission mode.[s24]

15.00 hrs.[r25]

Perhaps, we are still not paying enough attention towards these issues in India including communicable diseases, etc. The need for agro-biotechnology upgradation for low-cost, high-value food is huge. This is what is really warranted in our country. Once the former Prime Minister Shri Rajiv Gandhi also moved in the same direction, but nothing much could properly come out of it. The combined nutraceutical and pharmaceutical research targetting to develop auto-immunity within the people of this country.

Similarly, there is the issue of developing specific low-cost, target-oriented medical diagnostics. I believe that some sort of priorities should be there for it. There should be special planning for sustainable development vis-Ã -vis environment, which is very much important. The availability of safe drinking water, and arrangement for herbal research should also be made. Our traditional strength is recognized world over, but we are not paying proper attention towards it as is being given by Japan, Canada, Germany or USA. Obviously, the major strength of India is its traditional knowledge, and our biodiversity, which cannot be compared with any other country in the world. Therefore, we should propose plans with those strengths in mind for short-term achievable targets, and there should be mission-mode programmes for this purpose.

Science cannot limit itself on the issue of daily use. I am saying this because some high-end research should obviously be stressed. The choice is frontier science. Some mission-mode programmes are already being undertaken by the Government to achieve this objective. The question of cleansing the environment is a very important issue. We are going to propose some institute for it. I do not oppose it, but I would like to ask one question. How best it can be done in a country where biodiversity is so huge? Are we planning from that end?

The issues of fuel-cell research and solar-cell research will be the issues in the international arena in the future, that is, some 10 years or 20 years ahead. Similar is the issue of nanotechnology. I believe that in the second part of this century it will be the arena of nanotechnology.

As regards the issue of stem cell and cord blood research, we started much before, but countries like USA and China have progressed much more than us. We are not able to develop the related acts for it even till now. There is also the issue of monsoon dynamics or biotechnology. I believe that such other major issues can also be taken into paramount importance as our frontier areas of R&D. Therefore, our attention should be concentrated in this direction.

There is also the issue of creating manpower. It is a very important problem being faced, which was also highlighted by Shri Sandeep Dikshit during his submission, that the interest of the students in science -- if not towards technology, but towards the basic science education or basic science research -- is getting degraded. Obviously, this sort of research should be on an inter-disciplinary mode. Perhaps, some old institute can be converted to do basic science research or we may develop some new institution for translational research. I believe that the Government is also going to propose such institutions. The issue of

knowledge economy is most important these days.

There was a time when land was controlling the economy. Thereafter, capital was controlling the economy, and a time will come when the factor of knowledge will control the economy. How can we develop knowledge institutes to the maximum level, and distribute it in all the four regions of the country so that it is not overcentralised? I am saying this because I have observed that it is getting overcentralised for the last 20 years or so. This is also not a very correct proposition. In our country, only about 159 people -- out of one million population -- are involved in the work of R&D whereas anywhere between 2,500 and 3,000 people are involved in R&D activities in the developed countries. Therefore, we have to find ways to do it in the best possible manner. I would suggest that integration of science and research should be done in such a way that the issue of technology, frontier science, basic science and getting new institutions are met accordingly.[r26]

Therefore, I would request that there has to be a brainstorming of the scientists. India is still having excellent scientists. There should be brainstorming among them. It is not just the question of one Five-Year Plan. It is a question of 20 to 30 year plan as a part of which our Five-Year Plans and annual budgets can be proposed.

Last but not least is the very important question of popularization of science. Since the early days of Independence, Prime Ministers and Governments have every time concentrated on many issues which could not be actualized. Take for instance our concern for environment. We are not actually much concerned about it. Take for instance our concern on development of rationality and development of scientific temper. The words are known to all, but have they been developed properly? Take the question of development of secular democratic values for that matter.

There have been some programmes like Rail Vigyan, etc., for popularization of science. But would it not be much better if we select the eco-clubs in the schools for this purpose? There are thousands of such clubs in schools which are supposed to take up issues on environment. Since there is a structure already in the schools, we should see how the school eco-clubs be made to function as centres of dissemination of our scientific temper, scientific knowledge, scientific values, etc. I believe the eco-club base should be utilized for our future generations.

Similarly, we are organizing Rail Vigyan, but a much better measure would be to organize Vigyan Melas in different districts and subdivisions of the country. It is not very costly to do so but it could create an environment in which all the concerned Departments also could join, the local resources, the school students, teachers can be involved and some sort of activities could be undertaken which could really carry us forward on the path of developing scientific temper.

This would be the last of my suggestions. It was proposed earlier also. We have a lot of scientific and technological research that is going on. A lot of researchers are integrating people also. But, nobody knows certain basic information. Who knows how Aloe Vera is really acting effectively and how Aloe Vera is now being seen as Ginseng of the future? How can that information be disseminated? Take turmeric for example. It is very good and very effective, no doubt about it. The newer techniques of our agricultural production, the different biological advantages should be disseminated. From that end, this knowledge that is being generated in our research institutes or in the field - from lab to land or whatever it may be - can be projected to the people.

I would specifically request that we should develop a separate TV channel for promoting development of scientific temper. I think this is the time that the country had a dedicated TV channel for dissemination of scientific information, knowledge, practical experience, and the effective works that are being undertaken by different organizations. For that purpose, a specific scientific television channel should be started. If not, at least the Lok Sabha Channel and the Rajya Sabha Channel can be better utilized for disseminating scientific awareness among our population.

With these words, I thank you.

श्री आलोक कुमार मेहता (समस्तीपुर) : सभापति महोदय, मैं इस सीट से बोलने की इजाजत चाहता हूं।

सभापति महोदय : ठीक है।

श्री आलोक कुमार मेहता : महोदय, मैं आज इस बजट सत्र में विज्ञान एवं प्रौद्योगिकी मंत्रालय के नियंत्रणाधीन अनुदानों की मांगों पर चर्चा करने के लिए खड़ा हुआ हूं। मैं इस बजट के पूरे समर्थन के साथ यह कहना चाहूंगा कि देश में विज्ञान और प्रौद्योगिकी का जो विकास है, वह पिछले कुछ वर्षों में तेज हुआ है।[r27] लेकिन जो लम्बे समय से विभाग शिथिल पड़ा है, जिसके 1971 में एन्जिस्टैन्स में आने के बाद, बहुत कच्छप गति से उसे गति मिली, वह बहुत धीमी गति से चला, आज उसमें बहुत एक्सिलरेशन की जरूरत है, उसे और तेज किये जाने की आवश्यकता है। विज्ञान और प्रौद्योगिकी विभाग के अंदर बहुत सारे रिसर्च ऑर्गेनाइजेशंस और रिसर्च इंस्टीट्यूट्स हैं। इसके तहत भारतीय वैज्ञानिक और औद्योगिक अनसंधान परिषद, भारतीय कृषि अनसंधान परिषद, भारतीय आयुर्विज्ञान अनसंधान परिषद आदि कार्य कर रहे हैं। मैं कृषि अनसंधान परिषद के कार्यों

पर जोर देना चाहूंगा। मैं बताना चाहूंगा कि बहुत लम्बे समय से देश में कृषि अनुसंधान परिषद कार्य कर रही है, लेकिन जो उसके रिसर्च आउटपुट्स हैं, वे पूरी तरह से विकेन्द्रीकृत नहीं हो पाते हैं और जो उनके लेटेस्ट रिसर्च आउटपुट्स हैं, जिनकी वॉयबलिटी आज खेती में पूरी नहीं हो पा रही है, उन्हें छोटे और आम किसानों तक पहुंचाने में जो लम्बा समय और लम्बी दूरी रह जाती हैं, उसे कम करने की आवश्यकता है। दूसरी तरफ यह भी ध्यान देने की आवश्यकता है कि जो आपने रिसर्च की है, उसके हार्मफुल इफैक्ट्स क्या हैं - इन बातों पर बहुत अधिक ध्यान नहीं दिया जाता है। मान लीजिए कि कृषि उत्पाद के रूप में, कृषि को बढ़ावा देने के लिए हमने किसी कैमिकल और पैस्टिसाइड की रिसर्च की, लेकिन जो उसके आफ्टर इफैक्ट्स हैं, जो किसानों के या कृषि के भविष्य से जुड़ी हुई बातें हैं, जो हमारे किसानों के मित्र कीट हैं, उनका इनसैक्टिसाइड्स से नाश हो गया। आने वाले समय में, जो हमारा ईको-सिस्टम है, वह उससे इम्बैलेन्स हो गया, या फिर जो उसके चेन इफैक्ट्स हैं, जो उसके शृंखलाबद्ध कुप्रभाव हैं, उन्हें कम करने या खत्म करने की दिशा में भी रिसर्च करने की आवश्यकता है।

महोदय, भारत एक ऐसा देश है, जो विज्ञान और प्रौद्योगिकी के अंधाधुंध विनाशात्मक विकास की होड़ में शामिल नहीं हो सकता। पूरी दुनिया में शांति का संदेश देने वाला भारत आज निर्माणात्मक विकास के लिए कृतसंकल्पित है, जिसमे मानवता, सद्भावना और पर्यावरण को ध्यान में रखकर निर्माणात्मक विकास के लिए विज्ञान और प्रौद्योगिकी से संबंधित योजनाएं बनाई जानी चाहिए। दूसरी तरफ राष्ट्रीय सुरक्षा को भी दृष्टि में रखकर उसे आगे बढ़ाये जाने की आवश्यकता है। इसमें पर्यावरण और अपरम्परागत ऊर्जा स्रोतों के ऑप्टिमम एक्सप्लॉयटेशन की ओर हमारा ध्यान अवश्य होना चाहिए। विज्ञान और प्रौद्योगिकी के विकास के साथ-साथ और लोगों द्वारा उसके इस्तेमाल के साथ-साथ देश और दुनिया के पर्यावरण पर इसका बहुत कुप्रभाव पड़ा है। ऐसा इस कारण हुआ कि हमने एक विजन के साथ रिसर्च को ओरियन्ट नहीं किया। हमारे जो आउटपुट्स हैं, उनका इस्तेमाल तो हम करना चाहते हैं, लेकिन उनके इस्तेमाल के बाद उनके व्यापक प्रभाव और कुप्रभाव की समीक्षा नहीं की गई और उन्हें इस्तेमाल करने के लिए छोड़ दिया गया। आज बहुत सारी गैसें हैं, जिनका इस्तेमाल फ्रिज और रेफ्रिजरेशन इंडस्ट्रीज में हो रहा है। पूरी दुनिया के स्तर पर इसके लिए कानून बनाये गये और किस वर्ष तक इनका इस्तेमाल करना है और किस वर्ष तक नहीं करना है, यह भी निश्चित किया गया। समय से पहले ओजोन लेयर में छिद्र होने लगे, उसकी मोटाई घटने लगी और विभिन्न तरह के कुप्रभाव मानवता और धरती के पर्यावरण पर पड़ने लगे। जब एक रिसर्च आउटपुट आती है तो उसके साथ-साथ उसमें चेन रिसर्च का भी प्रावधान होना चाहिए[b28]। इसलिए समय से पहले फीड-बैक किया जाना चाहिए, ताकि ग्लोबल वार्मिंग की जो स्थिति आज पैदा हुई है, मैं नहीं कहता कि सिर्फ भारत की ही विकसित तकनीकी के इस्तेमाल से हुई है, लेकिन मैं यह भी कहना चाहता हूं कि भारत पूरी दुनिया में ऐसे मूल्यों का नेतृत्व करता रहा है। इसलिए भारत की पहली जिम्मेदारी बनती है कि ऐसे क्षेत्र में अपने उन मूल्यों को सामने रखकर ही हमारी जो रिसर्च प्रौद्योगिकी है, उसके इस्तेमाल और आगे उसके रिसर्च की योजना बनायी जानी चाहिए। जो अपरंपरागत ऊर्जा स्रोत हैं, सच कहें तो उसका एक्सप्लॉयटेशन बिल्कुल नहीं हो रहा है। उसका ऑप्टिमम नहीं, मिनिमम भी इस्तेमाल नहीं हो रहा है। उसका महज कुछ प्रतिशत ही इस्तेमाल आज सिर्फ कुछ जगहों पर हो रहा है और वह भी पूरी दुनिया के स्तर पर, रिसर्च स्तर पर हो रहा है। रिसर्च स्तर पर यह अभी इस तरह से अटका पड़ा है कि कोई भी प्रोजेक्ट अपना सम्पूर्ण रूप नहीं ले पा रहा है, आम लोगों में पौपुलर नहीं हो पा रहा है कि कैसे ऑल्टरनेटिव रिसोर्सेज के रूप में इसका इस्तेमाल किया जाना चाहिए। सोलर एनर्जी से लेकर विंड एनर्जी तक की पोटेंसी को हम इस्तेमाल नही कर पा रहे हैं। मैं समझता हूं कि आने वाले दिनों में ग्लोबल वार्मिंग हो या पर्यावरण से संबंधित दूसरी चुनौतियां हों, इन तमाम चुनौतियों का समाधान ऐसे ही इस्तेमाल और रिसर्च में छिपा हुआ है। इसलिए जिन बिन्दुओं पर जोर दिया जाना चाहिए, उनमें से एक यह भी है जो हमें नेचर की तरफ जाने के लिए प्रेरित करता है। यानी जो रिसर्च है, वह हमारे नेचर को कुप्रभावित न कर सके, इस बात की तरफ भी रिसर्च में ध्यान देने की आवश्यकता है।

कृषि अनुसंधान के बाद जो देशी टैक्नॉलोजी है, हम धडल्ले से तकनीकी इम्पोर्ट कर रहे हैं। हम मानते हैं, हम धड़ल्ले से तकनीकी इम्पोर्ट कर रहे हैं। हम मानते हैं कि हमारे पास विदेशी मुद्रा का अभाव नहीं है। लेकिन इसका यह अर्थ नहीं होना चाहिए कि तकनीकी इम्पोर्ट के लिए इतनी छूट होनी चाहिए। हमारे देश में जब वैसी तकनीकी उपलब्ध हो तो उसके विकास को प्रमोट किया जाए, यह हमारे देश के लिए बेहतर प्रयास हो सकता है। इसलिए स्वदेशी प्रौद्योगिकी के विकास के लिए और एलोकेशन की आवश्यकता है।

सॉफ्टवेयर के क्षेत्र में हमारा देश पूरी दुनिया में नाम कर रहा है और पूरी दुनिया में जितनी मल्टीनेशनल कंपनीज हैं या फिर दूसरे देशों की सरकारें हैं, उनमें भारत के बहुत सारे वैज्ञानिक और इंजीनियर काम कर रहे हैं। इस देश में मनीऑर्डर इकॉनोमी का भी कंट्रीब्यूशन धीरे-धीरे उनके माध्यम से हो रहा है। मैं कहना चाहता हूं कि जो ह्यूमन रिसोर्स है, यानी दूसरे देशों मे जाकर जो लोग बहुत बड़े कार्य इस क्षेत्र में कर रहे हैं, उनको इस देश में स्थान मिलना चाहिए तथा सरकार को उस दिशा में विशेष प्रयास करने चाहिए।

हमारे यहां सॉफ्टवेयर टैक्नॉलोजी पार्क बने। मैं संख्या गिन रहा था। पूरे देश में लगभग 46 पार्क 21 राज्यों में बने हैं। मुझे बहुत दुख के साथ कहना पड़ रहा है कि उन 21 राज्यों में बिहार जैसा राज्य शामिल नहीं है, जहां के लगभग दस प्रतिशत सॉफ्टवेयर साइंटिस्टस पूरे देश में और दुनिया में फैले हुए हैं। इसके साथ ही, यह भी बहुत दुख के साथ कहना पड़ रहा है कि सॉफ्टवेयर टैक्नॉलोजी पार्क बनाने की इस देश में जो शुरूआत हुई, उसमें यह 24वां वर्ष है, यदि सरकार की ओर से कहा जाता है कि वहां पर सॉफ्टवेयर डैवलपमेंट इंडस्ट्री नही है, तो मैं कहूंगा कि शुरु में बैंगलोर में, भुवनेश्वर में, या ऐसी अन्य जगहों पर जब ये पार्क बनाये गये थे, तो उस समय भी दो-चार एन्टरप्रेनुअर्स ने एप्रोच किया था और उन्हें डिस्काउंट रेट पर वहां जगह दी गई थी। उनको बसने में दस वर्ष लगे। इसलिए जब विकिन-ऐग रिलेशन वाली बात आती है कि पहले टैक्नॉलोजी पार्क बनेगा कि पहले इंडस्ट्री आएगी, मैं माननीय मंत्री जी से आग्रह करना चाहता हूं कि बिहार में सॉफ्टवेअर टैक्नॉलोजी पार्क निश्चित रूप से स्थापित करवाएं ताकि वहां की जो पोटेंसी है, वहां पर बहुत बड़े पैमाने पर ह्यूमन रिसोर्स सॉफ्टवेअर फिल्में उपलब्ध है और वहां बहुत अच्छे-अच्छे ट्रेनिंग इंस्टीट्यूशंस हैं,[b28] [s29] ट्रेनिंग करने के बाद उन्हें वहां जगह नहीं मिल पाती है, इसलिये वे लोग पलायन कर जाते हैं। मैं माननीय मंत्री जी से आग्रह करना चाहूंगा कि इस बजट में साफ्टवेयर टैक्नौलोजी पार्क की सूची को शामिल करने का प्रयास करें।

सभापति जी, आज देश के 12 राज्यों में साईस एंड टैक्नौलोजी उद्यमता पार्क बने हुये हैं, लेकिन बिहार राज्य में कोई नहीं है। मैं यहां केवल बिहार की बात नहीं करूंगा, बल्कि मैं ऐसे वैज्ञानिकों को जानता हूं जो देश के अन्य राज्यों में काम करते हैं। देश के 16 राज्यों में टैक्नौलौजी बिजनैस इन्नोवेटर्स स्थापित किये गये हैं, जिनमें बिहार शामिल नहीं है। मैं मंत्री जी से मांग करता हूं कि ऐसे तीनों प्रकार के पार्कों की स्थापना बिहार में होनी चाहिये।

सभापति जी, मेरा संसदीय क्षेत्र समस्तीपुर है, जहां आई.टी.आई. संस्थान की स्थापना विरपूतीक्षित है। साईस एंड टैक्नौलोजी के क्षेत्र में वहां बहुत काम किया जा सकता है। मैं मंत्री जी से आग्रह करूंगा कि इस ओर ध्यान दिया जाये। वहां साईस एंड टैक्नौलोजी विभाग से संबंधित - आई.टी.आई. से लेकर या जो दूसरे एसोसिएटेड संस्थान हैं, उनकी स्थापना की जाये।

सभापति जी, हमने अपने संसदीय क्षेत्र समस्तीपुर में साईस क्लब की स्थापना वहां के विद्यालय में की है, जिसके रिजल्ट देखे जा रहे हैं। इससे वहां के छात्रों में प्रतिस्पर्द्धा बढ़ने लगी है और वे छोटे छोटे मॉडल्स पर रिसर्च कर रहे हैं। हम लोग साइंस एग्जीबीशन की परम्परा वहां शुरु कर रहे हैं। मै मंत्री जी से आग्रह करना चाहूंगा कि इसके पहले भी विद्यालयों में एन.सी.सी. को बढ़ावा दिया गया था, जिससे बहुत प्रगति हुई थी। इसलिये हर उच्च विद्यालय में साईस क्लब की स्थापना होनी चाहिये। सरकार के पास किशोर वैज्ञानिक प्रोत्साहन योजना भी है। इसलिये साईस क्लब की स्थापना विद्यालयों में की जाये ताकि जो किशोर बच्चे हैं, जिनमें इन्नोवेशन कैपेसिटी है, उन्हे शुरु से ग्रूम करने और आगे बढ़ने का मौका मिले ताकि आने वाले दिनों में वैज्ञानिक के रूप में विकसित करने में उन्हें सपोर्ट मिल सके। इसके साथ ही सरकार भी आश्वस्त हो सकेगी कि वहां वैज्ञानिक तैयार हो रहे हैं क्योंकि बहुत सारे ऐसे क्षेत्र हैं, जहां यदि प्रोत्साहन दिया जाये तो वे लोग अपना कैरियर चुन सकते हैं। आज तो पैकेज का युग है और मांग भी चल

रही है लेकिन शुरु में उन लोगों में रिसर्च एंड डैवलेपमेंट के क्षेत्र में आने के प्रति हिचकिचाहट हो सकती है। यदि उन बच्चों में इंटरैस्ट डेवलेप कर दिया जाये तो मैं समझता हूं कि आने वाले दिनों में उसका लाभ हम लोगों को मिल सकेगा।

सभापति जी, मैं इन्हीं शब्दों के साथ अपनी बात समाप्त करता हूं और आशा करता हूं कि मैंने जिन बिन्दुओं की तरफ माननीय मंत्री जी का ध्यान दिलाया है, उन्हें इस बजट में शामिल करने का प्रयास करेंगे।

SHRI BRAJA KISHORE TRIPATHY (PURI): Mr. Chairman, Sir, we are discussing the Demands for Grants under the control of the Ministry of Science and Technology for 2007-08. Science is an important subject. It concerns not the Ministry of Science and Technology alone but various other Ministries of the Government of India also. So, this gives us an opportunity to discuss some of the aspects of Science and its functioning in different ministries. [R30] The exploitation of modern scientific knowledge and technological advance is now the main source of economic growth in developed countries. The new technologies have far-reaching implications for the comparative advantages of countries in the international competition for global market. The on-going science and technological resurgence is being called the Fourth Industrial Revolution and for this, we need a properly planned strategy in the emerging global market. In this regard, we should know from the Government and the Ministry what their real achievement is.

Today science has struck every person in every walk of life be it rural or urban. But what the Government or the Ministry is actually doing is not very much encouraging. It should be a mission for scientists to make discoveries and use the technologies and the products that flow from them to improve the lives of billions of people. But what is the real health of science today in our country? In India, science and technology is in a very miserable condition. It is not my view. This position has been explained by none other than the Chief Scientific Adviser to the hon. Prime Minster. In an unprecedented letter to the hon. Prime Minister, Dr. Manmohan Singh, his Chief Scientific Adviser, Prof. C.N. Rao has said that science in India is gripped by a crisis like never before and that its future is tied up in unbearable bureaucracy. India will face a non-win situation unless there is a "radical structural transformation of the system". I would like to have a response from the hon. Minister on this. This is the position explained by no less a person than the Chief Scientific Adviser to the hon. Prime Minister. This is the situation of science in our country today. What is the perspective of science during this Government?

I would like to know whether the Government is thinking of any structural changes in the Ministry of Science and Technology and other Ministries dealing with science and research. What is their perspective planning? What they actually envisage to do in this direction. Between 2001 and 2005, the national expenditure on research and development in relation to Gross Domestic Product and Gross National Product hovered between 0.78 per cent and 0.82 per cent which is below one per cent. The national expenditure in other countries is ahead of India. For instance, Sweden spends 4.2 per cent of its GDP on research and development; Japan – 3.11 per cent; US – 2.67 per cent; Denmark – 2.51 per cent; and South Korea – 2.91 per cent. So we are much below than one per cent in the expenditure of GDP and the Gross National Product. But it is a very happy news that in the 94th Session of Indian Science Congress, the hon. Prime Minister has called for a renewed investment in the study of basic science and research and has also proposed to increase the annual spending on science and technology to two per cent of GDP. So, he has assured the country to spend about two per cent of GDP in the next five years. He has proposed it in January 2007. Now the Budget has come and we are discussing it in the last part of April. So, I would like to know whether it is reflected in your recent Budget of 2007-08. But, what the Respected Rashtrapatiji has said is also observed. He has wondered about the under utilization of funds by the science and technology establishments.[R31]

The day the hon. Prime Minister assured and promised for spending of two per cent of GDP in science and technology, the very next day the hon. President had told that there had been under-utilization of the funds allocated for science and technology. He had expressed concern that about 20 per cent of the funds allocated for this purpose have remained unutilized during the year 2005-06. He further had said that this means that the Department of Science and Technology and other science ministries have utilized only 0.25 per cent of GDP. Where does this projected two per cent stand against a utilization of 0.25 per cent? We are not in a position to spend even 0.25 per cent of the GDP for science and technology and we are proposing to spend two per cent of GDP. Why is this under-utilization? Why is the Department of Science and Technology and other science ministries have not been able to spend the money that this Parliament has given approval for spending by them? This is the state of affairs of the Department of Science and Technology and other science ministries.

Sir, we have been told by certain officials that a sum of rupees one lakh crore is being proposed to be spent on education of science during the Eleventh Five Year Plan. I would like to know as to how much money, out of this sum, does the Department of Science and Technology wish to spend in the first year of the Eleventh Five Year Plan? If the Department is actually serious about spending a sum of rupees one lakh crore for science education, then they must spend some money in the first year of the Plan

itself. What is their projection? How much are they proposing to spend in the first year? The Task Force constituted under the Ministry of Human Resource Development for Basic Science Research under Shri M M Sharma has expressed concern about the fact that a large number of faculty positions in the science stream in the universities are lying vacant for a very long time. How could we talk about research and science when the sanctioned posts in the universities are lying vacant? Though this is a subject matter to be dealt with by the Ministry of Human Resource Development, I am mentioning this aspect since this relates to the Department of Science and Technology. After all, this is the collective responsibility of the Government.

Sir, this Department is concerned with the promotion of bio-technology. It is an important area, a new technology with great promise in areas of sustainable food production, nutrition security, health care and environmental sustainability. What is the position in regard of agricultural production today? Indian agriculture is now in deep crisis. It is after three decades that India from being a self-sufficient country in food has become an abject importer of foodgrains today. At one point of time we had been exporting food, but today the situation is such that we are importing foodgrains. We must utilize the services of our scientists engaged in the field of bio-technology to retrieve the situation. They must again give a call for the second Green Revolution to overcome this situation of shortage of foodgrains. That is why I am drawing the attention of the hon. Minister to this important point as to how this technology could be used in the best way in the agricultural sector and how agricultural production could be increased.

Sir, we are spending huge sums of money on DRDO. I know this is a subject matter under the Ministry of Defence, but still I am making a reference to that. The Government is spending about Rs. 5,000 to Rs. 6,000 crore on DRDO. But what has been state of affairs there? The sad story of DRDO is that even after 58 years of our efforts, the state of Defence technology and industrial base is such that indigenous development of weapons and equipment continue to elude us and India remains one of the largest importers of Defence equipment in the world. [R32] We are the largest importer of defence equipments in the world. This year, we have spent several crores of rupees on this but there is no result. We are purchasing even rifles and other weapons from other countries. So, introspection is necessary in DRDO. We should give credit to our scientists. It is a good reason and I do not want to blame them also But what is the net result? There should be scientific audition in DRDO. It is very much needed. The time has come for this because there has been no result since 58 years when our country has spent time and money on it. Our country cannot afford all these things. There must be scientific audition. In the name of defence, we cannot leave everything and finally, there will be no result at the end. The Government must take all these things into consideration when we are discussing about science.

Another aspect is patent laws. We are telling that we are encouraging scientists. But what is their position now? Scientists are running from pillar to post for patent registration. There is no registration office. It is part of the Ministry of Commerce and nobody is taking care of patent registration. How can we encourage scientists when they are going in for research? In other countries, they are given incentives for registration of patents. But our scientists are running here and there due to bureaucratic hurdles and they are not getting any scope for registration of patents. The Government must look into all these aspects. There must be sufficient registration offices and in the registration offices, there must be scientists related to research so that they can register successfully. The scientists should not face difficulties so far as research and development are concerned.

After liberalization, it was told that, as the new Economic Policy has been approved in the country, we can spend maximum amount on development of science. How much are we spending in research and development? You are happy if our industries are purchasing industrial and other things from other countries. And we are also happy that we stand at the eighth position among the wealthiest countries of the world. Today, the news has come that in dollar relations, we are in the eighth position in the world. We are very happy about it. But how much are we spending on research and development? Even the public sector and the private sector are not spending money on it. The time has come that we should have some legislation for it. We must spend a certain amount for research and development because they are utilizing the entire natural resources of the country and they are getting profit out of them. So, we should make a legislation so that they can spend a certain amount positively in research and development. The Government should consider this aspect.

The House has approved cess on education and we are levying educational cess and the amount has gone to Rs. 7000 crores to Rs. 8000 crores. During the NDA period, it was Rs. 5000 crore. Why should there not be a cess on scientific development also? The Government should consider this point. The House will approve of it and we will support it. If money is not there with the Government, let them put a cess on development of science. The corporate houses should give a certain amount of money in the form of cess for development of science and technology. The Government should consider this so that we will be able to spend 2 per cent of the GDP for science and technology development.

Another alarming situation is brain drain. We are at liberty to discuss brain drain and, Sir, we have already discussed about brain drain. The country is very much concerned about brain drain. Our poor country is spending lakhs of rupees on the education of our boys and girls in technology and science but they are going to other countries. [MSOffice33]

So, time has come to put a ban on this. There is shortage of doctors in our country in general and in Orissa in particular. But doctors are going abroad after their education and they are serving other countries. Engineers are going outside the country and they are serving other countries. We should ban all these things. They should return the money. The State has spent money for their education from the poor tax payers contribution. They should not go outside to serve other countries, without serving our country. For scientists, doctors, engineers and for other better talented professionals, we should offer better salaries. In other countries, the attraction is better salaries and other good things that they are getting. So, the Government should consider all these things. To check brain drain, we should make their salaries and perks very attractive so that they do not go abroad. That is my request.

As far as my State, Orissa, is concerned, science education is suffering. The NDA Government sanctioned one National Institute of Science. But after this UPA Government came to power, it was shifted to some other State for political reasons. You know that Orissa is a very backward State. States like Bihar and Orissa are backward States in the country. One National Institute of Science was sanctioned by the NDA Government, but this UPA Government has taken it away. The hon. Primer Minister, after our long agitation inside this House and outside, had assured us that Orissa will be given an Indian Institute of Science Education and Research under the Ministry of Atomic Energy. After six months, nothing has been done. There is no Cabinet decision on this. We would like to know from the hon. Minister whether the Government is going ahead with this Institute or not. Are they really serious about development of science education? What happened to Prime Minister's assurance to provide a science institution to the State of Orissa? What is the real position?

Some months back it was also decided that an IIT will be set up in Orissa. The Minister of State stated that an IIT will be set up in Bhubaneshwar, Orissa. Three hundred acres of land has been allotted by the State Government. But suddenly a decision was taken by this Government to shift this IIT to some other State, which resulted that Orissa being deprived of this Institution. Is it the way to treat Orissa? Does the Union Government behave in politically partisan and parochial manner, which makes the State suffer in science education? Is Orissa not part of this country? I want to know this from the Minister. Why are they behaving like this with the State of Orissa? What is our fault? An Institution was sanctioned by the earlier Government, but this Government has shifted it to some other part of the country. Let them be given one more institution. We do not have any objection to that. The Minister should consider as to what is the position with regard to the establishment of Science and Research Institute at Bhubaneshwar which the hon. Prime Minister assured us? I would like to know this from the hon. Minister.

SHRI PRABODH PANDA (MIDNAPORE): Mr. Chairman, thank you very much. At the very outset I thank the Chair for choosing this subject for discussion. I think this subject has been chosen for discussion after a long time.

I broadly support the Demands for Grants of the Ministry of Science and Technology for 2007-08. While supporting this, I want to make some observations and I would request the Minister to take note of them. We are in an era of scientific and technological revolution. Science and technology is widely recognized as an important tool for fostering and strengthening the economic and social development of any country. So far as science is concerned, this is an endless frontier and a unique human activity without any limit[MSOffice34].

15.45 hrs. (Shri Arjun Sethi *in the Chair*)

Our country has made significant progress in various spheres of science and technology since Independence over the years and can take pride in having a strong network, network of scientific and technological institutions, having trained manpower and innovative knowledge base. We are proud of that.

Now, we are talking about the globalization and the liberalization situation all over the world and the Department of Science and Technology is working based on this situation. So recognizing the situation what would be our focus? This is the main subjected to be discussed. The focus in the science and technology sector would be to strengthen the application-oriented research and development works. I am not going into research and development works in every sphere, but particularly I am emphasizing to strengthen the application-oriented research and development works for technology generation, for promoting human resource development especially in terms of encouraging the bright students to take up science as a career. It is already admitted by several personalities in different corners that nowadays bright students are not coming largely in Science stream. So our main focus should be about encouraging the bright students.

Sir, we should encourage research work for forecasting. I am talking about the Meteorological Survey of India. It has

become hopeless to the peasants community. Sometimes, it creates confusion. This matter has been discussed several times in this House in the presence of the hon. Minister. He knows it very well. So our focus should be for encouraging research work for forecasting, prevention and mitigating the natural hazards, integrate and development of science and technology with all spheres of national activities and harness of scientific technology for improving livelihood and employment generation, environment protection and ecological security.

Sir this Department was not there earlier. So far I know it was established in the year 1971. They have framed certain objectives. It is desired that main thrust and approach would be and greater emphasis should be given on the development of indigenous technologies and on latest technology available elsewhere. It requires innovative technology to meet the country's needs and protect and preserve the country's rich traditional knowledge. I am not going into the details as to which are the rich traditional knowledge we are having and which we are carrying. But it is also our duty that more emphasis is required on the technologies which are oriented towards human welfare, technology for the human beings, and technology for the development of society as such. So it should be oriented towards human welfare. [a35][R36]Which are these? These are such as cost-effective solutions in health services, population management, mitigating the effects of natural hazards such as Tsunami, earthquake, global warming and natural disasters in different manner like floods, droughts etc.

Conservation of land, water management and energy should be taken as paramount importance. We are proud of some development especially in the field of information technology. While building on the comparative advantage that India possesses in the emerging area of information technology, special attention should be given to agriculture, agro-based industries, infrastructure sector like energy, transportation, communication, housing and so on and so forth.

Sir, I am very much disappointed to go through the Outcome Budget for the year 2007-08 pertaining to the Department of Science and Technology. So far as the objective is concerned, it is very much there – promotion of science and technology at the State, district and village levels for grass-root development through the State Science and Technology Councils and other mechanisms. The last one is – application of science and technology for weaker sections, women and other disadvantaged sections of society. It is all right but nothing has been said about the mechanism. I do not know what has been done so far keeping in mind these objectives.

Nowadays, it is widely propagated that technology travels to the villages. How does it travel to the villages? What is the mechanism? What sort of a programme are you contemplating? Nothing has been mentioned there. Technology is very much needed for the people, agriculturists and weaker sections of the society. If you say that technology travels to the villages, what is the mechanism and what is the way of its reaching? So, nothing has been said about it.

It has been very rightly said by some hon. Members that if you are short of money, you should put a cess on the corporate sector. They are earning huge profits. Why are you not putting a cess on them? I have seen the sort of commitments that you have made. One commitment is to attract industrial investment in research and development to cope with the increased competition in the global market. I am not against it. But nothing is said about agriculture. You are going to attract industrial investment in research and development. Why? It is to cope with the increased competition in the global market. But, what is the situation in agriculture? So far as productivity, yield and technology are concerned, in the *Economic Survey,* it has been reported that we are in the last position comparing to the ten big industrial countries. So, the largest population of our country is the agricultural population. The largest sector of our country is the agricultural sector. If technology does not think about agriculture, if research work is not being conducted for the benefit of agriculturists, what is it for? So, as I said earlier, nothing has been said about these aspects.

I am not going into the details much. Broadly, I am in support of the Demands for Grants of this Ministry. But, while I am supporting this, I am raising all these points for your consideration. [R37] I think the hon. Minister will take note of that. I support the idea of popularizing science, scientific achievements and technological achievements to the people. The Government should organize some science fairs in different parts of our country. Earlier, health fairs were organized in each and every parliamentary constituency in the country. Like that, science fairs should be organized in each and every parliamentary constituency of our country.

We have contemplated that a Krishi Vigyan Kendra should be set up in each district, but I feel that we should have one Krishi Vigyan Kendra in each block. Most of the Krishi Vigyan Kendras in our country are in a very bad shape because proper financial assistance is not given to them. So, if we want to strengthen Krishi Vigyan Kendras in different parts of the country, we should allocate more funds to them.

With these words, I support the Demands of the Ministry of Science and Technology.

SHRI SURESH PRABHAKAR PRABHU (RAJAPUR): Mr. Chairman, Sir, I thank you very much for giving me this opportunity. I am happy that today – I do not know after how many years – we are discussing the Demands for Grants of the Ministry of Science and Technology and in the process we get an opportunity to really focus on the issues which concern all of us relating to science and technology.

Today, all of us read the news with pride that India is a trillion dollar economy. It is difficult to reach the first trillion like it is difficult to reach the first million or the first billion, but once you reach a trillion, probably you can add more trillions faster hopefully. But for that to happen, we will have to make investment in future and in today's situation that will come from investment in science and technology.

Sir, the United States of America is the largest economy in the world. We have reached one trillion. They have already reached 13 trillion, may be close to 14 trillion. But USA invests huge amounts of money into science and technology and that is why they are the largest economy of the world. USA produces the highest number of Nobel Laureates in science and technology. I do not know when we produced the last one, probably Mr. Raman in 1930s. They produce a large number of Nobel Laureates not because they are the largest economy in the world, but because they produce a large number of Nobel Laureates, USA is the largest economy. Therefore, today if we make the right choice of making investment in science and technology, I am sure we will be the number one in the next few years, not just because Goldman Sachs' BRICs Report is saying that we are going to be that. But when I say this, there is a very alarming situation on the ground.

The number of Ph.Ds that we produce now is far fewer than what other countries are producing. For example, China now produces 7,000 Ph.Ds whereas about 10 years ago they were producing even less than five per cent of that. So, China is now catching up, making huge investment into research and development. But you cannot make investment into research and development unless you have the man power, the physical infrastructure and the scientific temper. So, the hardware and the software of research and development has to be put in place which China is doing and, therefore, it is not surprising that China is fast emerging as the second largest economy of the world.[R38]

16.00 hrs.

[r39]Therefore, the ground reality is very alarming. We are not producing enough PhDs. There is no glamour in the minds of people to be scientists, though we have a President who is a scientist. That is something which is very surprising that on the one hand we have a President who is scientist and on the other hand, we have people who are not interested to become scientists.

If you want to remain in the race, to be a country to be reckoned with, then we have to make investment into science and technology because it is a knowledge economy, whether it is DRDO, as my friends have said, or it is agricultural research. Just now as Mr. Panda was pointing out. That it is all going to be coming only if we have science and technology as our priority.

We really need a pan-India priority image of what we really need to do in science and technology. We should have an all encompassing vision of what the science and technology should really be doing for the next one decade or maybe two decades. Then, probably if that will clarify as to what all the different scientific institutions we have to really do to make that situation a reality.

Sir, if you really look at it, as I was saying about ground reality, how many patents we have really been able to take, which are like international patents. I know they have been trying to develop some new molecules. There are pharmaceutical companies who are doing that. When we go to into the basic research, how many of the new patents we have been able to do is something we really need to see.

We should be alarmed by the fact that several institutions of repute which really created this modern scientific knowledge base for the country are fast deteriorating. Take for example, Banaras Hindu University. Of course, I am not blaming all this to our hon. Minister, who despite not being a scientist has earned the art of running a Science and Technology Ministry. Therefore, I am not blaming him for all the things that are happening, but as a country we are concerned is the fact that educational institutions deteriorate.

You go to Banaras Hindu University, you go to Aligarh Muslim University, you go to IITs, then only you will see the ground reality. In IITs now, which are the premier institutions, if you visit the hostels of IITs you will be shocked to see that the

leakages are there, there are no beds and all that. They are very serious matters. Therefore, the institutions also will have to be created and revigorated.

There is a paradox that on the one hand, India is trying to send a rocket into space and on the other hand, we have a large number of poor people in the country. So, the science and technology challenge is to make sure that while we go into the frontiers of new technology, how do we address the common problems that we have and that is a real challenge. To do that, we will have to really make a balance between the basic science, the fundamental science, the pure science and the applied science. Applied science has to be done by the industry and investment into the basic science will have to come from the Government.

Sir, there are issues which I was talking about, some of the problems that we are facing. Education is one. There are other issues like, for example, freedom for educational institutions. There are many scientific institutions which really suffer because they are not supported enough by the scientists themselves and there are too much of bureaucratic interferences in the running of scientific institutions. This is something which we will have to really seriously think about, how we can offer freedom for scientists to do what they really feel like and in the process create something which they really desire to do.

Sir, in India, in R&D, we focus more on the D, that is, Development and less on R, that is Research, we develop more of T, that is, Technology and less of S, that is, Science. Therefore, how do you actually do that is something very interesting. The annual report of the CSIR, the Department of Scientific and Industrial Research comes out with a very interesting statistics. There are 230 centres in India, with 65,000 people working there, of which only there are 3,500 PhDs and 21,000 post-graduates and others staff. So, I think, we really need to re-look at some of these issues in a very comprehensive manner.

Sir, look at some of the programmes launched by this Government, for example, The Rural Employment Guarantee Programme. There are close to 250 million people living below poverty line, so, we launched an employment guarantee programme. This programme offers a guaranteed employment for 100 days and what type of employment they do. In many districts of the country, the labourers are trying to break the stone, the punishment which is normally reserved as rigorous imprisonment when you are lodged in the jail.[r40] That is what they keep doing it. This is a challenge. Can we not provide rural employment to the people using locally available natural resources and using local science and technology and offer them different types of jobs? Why should be they doing jobs which are really speaking not really creating any productive employment? So, this is something which is connected with knowledge-oriented job rather than menial job.

Second thing which many of my friends talked about and about which I am concerned is the issue of climate change. Climate change is a part of global change. There have always been changes taking place. But in the Fourth Inter Governmental Panel on Climate Change Report, which was presented in Paris, which my distinguished friend and my successor Shri Raja knows, is now talking about climate change which is influenced by human action. Even if we stop emission tomorrow – which is impossible but if we stop it theoretically – even then the warming is going to take place for the hundred years and we are going to be affected very adversely. So I would urge my friend, the Minister of Science and Technology, to find out how the climate change is going to impact India and in that how it will affect each of the sub-sectors like water, agriculture, public health and others. If we have a report like this, it will be really helpful, but my request is this. I know there is a Science Global Change Centre of which India is a part. I think, your National Physical Laboratory is trying to do that. But, I think there is a need to have a focused, dedicated Centre to do research on impact of climate change on various facets of it. In that, my request to the Minister would be to develop technologies for adaptation because the whole world – when we talk about climate change – is only focusing on mitigation. But developing countries like India are concerned about adaptation. It is because the climate change is a reality; the only way we can react to it is by adapting to it. Therefore we need to develop the type of technology as to how we adapt to it. I would urge that it is not just for India but as a leader of the developing countries we should try to do some research on adaptation for the whole developing world.

My other request would be to look at circular economy. We are producing huge waste every day. The industries are producing waste; the human lifestyles are producing waste. How can we have a circular economy wherein whatever is produced can be used in a circular manner so that nothing really goes out of the loop? How can we really close all the loops. This is a challenge to us. This is a challenge which can really herald a new industrial revolution. There is an interesting book which is called 'Cradle to Cradle' and not Cradle to Grave. Whatever is generated; whatever is born can be regenerated and therefore nothing really goes to the grave; everything goes from cradle to cradle. So, I think we really need to look at whether something like this can be done.

My other concern is water. I was looking at Demands for Grants. The Ministry somehow knowing the minds of the Finance Ministry probably with great boldness has asked for Rs. 5 crore. I think water is a priority in which we really need a huge research investment. The investment should come for desalination using the energy which is not fossil fuel based energy but renewable energy. This is something which we would like to do and also to improve the quality of water. Quality of water is something which is, really speaking, a big challenge to us. Availability is a challenge but bigger challenge is quality. It is because, as you know as former Water Resources Minister, two-thirds of the diseases in India are directly attributable to quality of water.

So, this is something which we really need to do on water.

The other very important concern that I have is on energy. Renewable energy is something which is now a greater need of the country. We are going to meet more than 80 per cent of our energy requirement from imports and that too from fossil fuel. We have 300 days of sunshine. That means solar energy is possible. Sir, 1.1 billion people means there is so much of solid waste generated every day; that can be reused. We have other possibilities including wind and others which are working, but we really need to reduce the cost. So, renewable energy is something which is really required. I would urge the Minister to have a dedicated mission mode only for renewable energy.

I was looking at the Renewable Energy Ministry's Annual Report. I do not think they are making any investment into Research and Development. I remember that when I was Minister of Power I had set up a Group for R&D in power, only for Research and Development in power for the first tim[r41]e. Sir, I know the concern of the Minister as well. I would say that we should try to work on that.

The other issue is weather forecasting. Probably when weather forecasting comes in, if there is a sunshine forecast, then people try to take umbrella because they know that it is going to rain, and it is the other way round. I think, we really need to have a very reliable weather forecasting system in place, and for that we really need to work on that.

Sir, bamboo mission is one of your ideas. Again I recall, as a former Environment Minister, I had taken the issue to the Cabinet and became a member of INBAR, an institution based in Beijing. Bamboo has a huge potential in India. North-East of India produces as much bamboo or as much area under coverage of bamboo as much as China but we do not do any value added products to that. If we can do that, it will save de-forestation, it will create huge employment and it will also add to the GDP of that part of the country like the North-East. Therefore, we really need to work on that.

I know that there is a very interesting Fund called 'National Innovation Fund'. Prof. Anil Gupta from the Indian Institute of Management, Ahmedabad actually started this idea. We really need a huge support from the Ministry for that because this is something which is trying, going into the rural areas, to find out what are the new ideas that are coming up, and try to serve as incubators for that idea and try to commercialize that idea. Therefore, this is something which has a great potential, and I would request Shri Kapil Sibal to really work on it in a significant way a lot more.

I do not know whether the change of rules of business means the oceans are no longer a part of the Ministry. They are. Most of the biological life in the world is in the oceans. Oceans are there, and, therefore, the mainland can survive. But now, the oceans cannot carry anymore the weight of what we are doing on the main land. Therefore, we really need a huge research in the oceans. Really speaking, we are trying to go into space but we are not trying to go enough into the oceans. We really have not explored the oceans as it should be. The National Institute of Oceanography based in Goa is doing some research but we really need to work on that a lot more.

I welcome a new initiative, the Institute for Tranlational Research, which is going to look at personalized medicines. It is a very good idea. I think, genomics is something which we really need to encourage because genomics would mean that we will be able to work on predictive medicines. Today, we give preventive medicines, we give curative medicines but genomics would mean that we will be able to provide predictive medicines. This is something, I think, which will be very useful and, therefore, I welcome that.

Sir, I am concluding. I thank you for your indulgence.

We really need a research triangle in which industry, educational institutions and the Government can work together. There are so many people who are talking about industry not doing enough. And that is a point, which all of us will share. Industry must invest much more amount of money of the top line of their companies into Research and Development to boost their bottom line for the future. If they do not invest enough today, they will not have profits tomorrow. But unfortunately, the enlightened leadership in industry is missing. For that, the Government will have to take the leadership and make sure that we develop this research triangle.

Educational institution can do basic fundamental pure research whereas industry can pick up from there and can do applied research which will be a good combination. The resources can come from industry to educational institutions and the Government can actually make this happen. I would urge the Minister to at least come out with ten different research triangles in different parts of the country like the one we have in North Carolina. We should try to do something like that in India in a very significant way. For that the Government must ask industry to make a disclosure in their financial statement like they do under the Indian Companies Act, 1956 as to how much money they have put into basic research and development. I think, we should try to do that and encourage competition among the industry. We have a competition for CSR, Corporate Social Responsibility. Why should there not be a competition among the industries to make investment into Research and Development? I think, this is something which we should really try to do .

Sir, now I come to my last point. I really wind up with that. When the Government makes investment, how can they recover that? I was in Germany recently and I came across with very interesting ideas. Germany is the third largest economy of the world, and probably their science and technology are comparable with Japan and the US. They make investments into some of the issues of common concern in which there is no immediate profitability.[R42]

It is because, if there is no profit, the industry would not come in there. But they have got a system whereby they allow the private companies to come and pick it up from there, and try to recover the investment the Government has made. I think, we really need to develop such models whereby the industry would be able to do something more and the Government would also be able to recover the money because the Government is putting public funding.

Mr. Minister, Kapil Sibal-ji, the way you are looking at it and trying to work on it, I am sure you would be able to make this happen. I wish you all the best. But I hope, the country as a whole, we would not just take the Ministry of Science and Technology as one of the Ministries. Normally, we do not give it a priority. The top four Ministries, namely, the Ministry of Home Affairs, the Ministry of Finance, the Ministry of Defence and the Ministry of External Affairs are always in the limelight; and we forget the other important Ministries like the Ministry of Environment and Forests, the Ministry of Science and Technology. You are sitting a bit behind one another. I hope, you S&T Minister would sit behind Environment and Forests and he does not have to be following you all the time.

SHRI KHARABELA SWAIN (BALASORE): Mr. Chairman, Sir, I may kindly be allowed to speak from this place.

MR. CHAIRMAN : It is okay.

SHRI KHARABELA SWAIN : Thank you.

Sir, I support the Demands for Grants concerning the Ministry of Science and Technology. Science is the foundation of the societal transformation. Science is an integrated part of culture.

Take the example of the Industrial Revolution in Europe in the Nineteenth Century. After the Industrial Revolution, there was no sunset in the European Empire all over the world.

If India wants to become a Super Power by 2020 as has been aspired by the hon. President of India, the atmosphere of scientific innovation, education and implication must be ushered in into the Indian mind. It is true that the Indian companies are in a world acquisition mode. But how much do they spend in the Research and Development? How many patent holders are Indians? Yes, India is going to be a Research and Development hub, but it is going to be the hub by the multinationals. The owners of the patents are mostly the foreigners. Where India is involved is only in the peripheral research, just like the Reverse Engineering Process in pharmaceutical business. That means, it is merely a duplication of the original research that was earlier done.

Sir, how many people in India are going in for basic science education? But science is required to uplift the standard of living of around 20 crore people of India.

Sir, one of my predecessors, hon. Shri Braja Kishore Tripathy has already mentioned that 20 per cent of the funds that were allocated in 2004-05 and in 2005-06 were not spent. They remained unutilized. I am not accusing any Government or any Minister for that. That has remained the tradition for years together that whenever any government comes, most of the time, the money allocated for it remains unspent. But how to deal with it? How do we see that the money is spent in time?

Take the example of Research and Development. To concentrate on Research and Development, and translate benefits to the fields, to the factories is our aim. But the research standards in the Indian universities have come down. Many of my predecessors have also told this fact. There is a disconnect between the research and the teaching. Most of the time, you would find that the teachers or the professors in the universities and colleges think that their only job is just to take the classes.[r43]

Hardly there is any university or hardly there are many teachers in the university, who spend most of their time on research work. The type of research being conducted is concentrated in specialized institutes, and generally they do not have a bearing on the society. The universities also have difficulties in mobilizing resources for research and development. This has not helped the intellectual resource and this has also prevented research from taking place.

Take the example of China. China has increased its number of scientific publications to 104 per cent during the last two decades whereas India's publication has increased by 3.4% only. Within these last 10 years, India's research papers have increased from 11,000 to 19,000. In the same period in China it has increased from 10,000 to 55,000. In the 1970s, the Science Citation Index placed India in the eighth place behind US, UK, USSR, France, Japan and Canada. But by 2000 India has slipped to 15th position.

Sir, take the example of science education. The students applying for pure science for graduation in India, have dropped from 32 per cent in 1950 to 15 per cent in 2000. Not many people are now opting to study Chemistry, Physics, Biology, Botany and things like that. You will find that the students who have taken admission in these classes will not be available in the classes. Where have they gone? In States like Orissa, you will find that there will be coaching centres outside the colleges and they would all be there, learning computer, bio-technology and subjects like that. So, certain things, which are not pure sciences, which are only technologies. They are required because technology will offer them jobs. They think that pure science is not going to give them any job.

I was asking a question even to Dr. Sam Pitroda who is the Chairman of the National Knowledge Commission. He told me that there was a shortage of teachers even in the United States of America. He stated that there, the higher class students are taking classes of the lower class students. Now, how to create, how to build the teacher who will teach the technology, who will create further technocrats and further scientists? So, that is the problem. I will appeal to the hon. Minister to think why not many people are coming forward for teaching, specifically teaching in science. It is because they think that if they go to any industrial house, they can earn many more times and why they should spend their time in the IITs and in the technical institutions. So, I would appeal to the hon. Minister that he should look into it.

Sir, we know that we have produced some finer scientists and have some very good laboratories but they are like proverbial islands of excellence surrounded by a vast ocean of mediocrity. There are some very good people, excellent institutions and excellent scientists but mostly whenever you go all over the country, you will find only the mediocre people all over the country. Take the example of Indian scientists. They see themselves as part of the global enterprise of science typically seeking recognition abroad to the point of totally distancing themselves from the local science community.[MSOffice44]

The Indian industry has tended to bypass investing in research. The Indian public is also often dogmatic in its mistrust of science. Most of the time the Indians think that only good science and technology is available outside India and not here. How to change that mindset?

Take the example of China. China honours those of its countrymen who return home and strengthen its economy. But India honours those who leave this country and reside outside. This makes the difference. In China, those who come from outside their country, are recognized. But here those who go out are recognized.

India is increasingly emerging as the producer of cutting edge research for other leading economies of the world. But it is not the owner of a cutting edge technology. In a new paradigm of global competition, ownership of intellectual capital is of a competitive advantage as land, labour and capital. Somebody having this intellectual property right has got more advantage, more competitiveness than the others. The IITs in this country were never conceived as research and development repositories. They were meant to produce technocrats for the newly resurgent India. Of course, the Indian economy did not have the absorbing capacity in the 1990s. But now since it is capable of absorbing more and more number of scientists, it should also look into that direction.

You go to America or anywhere in the world. In the shops there, you will find products Made in China. You do not find many 'Made in India' items all over this world. You do not find them. The institutes are churning out degree-holders in India in science subjects and they are not generating an atmosphere of creativity. That is our problem.

I would just make some quick suggestions as to what to do about all this. The allocation for research and development should be increased from one per cent of GDP to two per cent of GDP in the next five years. A time-bound action plan to realize the Government's goal of increasing the allocation of funds for science and technology should be there. There should be a time-bound programme. A joint team should be constituted consisting of members from all scientific departments of the Government and other Departments and agencies concerned to realize the scope. The team should work out for growth plan, for research and science and education programmes, laboratory establishment programmes etc. in an integrated way within the next five years.

A document spelling integrated national science and technology programme including basic research, applied research and technology demonstration should be there. The Indian scientists should go for this energy security. How will in India we increase the generation of electricity from the 1,30,000 megawatt per year now to 4,00,000 megawatt by 2030? That is what the scientists should see. The early completion of Future-Gen project in partnership with the United States of America will enable the

application of zero emission of the fossil fuel technology. [MSOffice45]

Sir, most of the Members who have spoken before me talked about environmental pollution. How to go about it? You know, Sir, that in our State Orissa, so many thermal-based electricity projects are coming up. It is all right. But you have also seen what has happened in Talcher. Now during summer season, the temperature has gone up to 50 degree Celcius. It is only because there is a thermal power plant. Then, what is going to happen to our State? What is going to happen if so many thermal power plants are established and there is no control over heat emission? What will happen to our State? What will happen to this country and even the world? Wherever there is a coal-based power generation plant, the Government should see to it that there is zero emission. Otherwise, they should not allow it to be established. There is something called the CNT – Carbon Nano Tube – technology which can, if it is brought and advanced within five years, bring down the emission level and heat wave level. That is how India should go about it. India's first advanced heavy water reactor should be produced as quickly as possible. There should also be integration of academic universities and research and development institutions.

My next point is that universities should work towards increasing the output of higher education from the existing 11 per cent to 20 per cent by 2015, 30 per cent by 2020 and 50 per cent by 2040. Two cadres of personnel should be created in India – a global cadre of skilled youth with specific knowledge of specific skills just like IT professionals and a global cadre of skilled youth with adequate education who will work inside universities. We should try to generate these two types of skilled manpower as quickly as possible.

Then, what is science going to do about agricultural research? Can we develop the agricultural universities as consultants? We say that there should be crop variation, but who will advise the farmers which crop should be raised where? Why do we not ask these agricultural universities to be consultants and advise farmers? What will the science do about recharge of ground water? I would like to know about it.

We should increase the crop yield without the use of poisonous chemical fertilisers. That has become a great problem. We want that crop yield should increase, but there should not be the use of chemical fertilisers.

Shri Tripathy has already spoken about the failure of the DRDO. It had an ambitious plan to achieve 70 per cent weapon indigenisation by 2005, but it has been an abysmal failure. I do not think that it is going to succeed even by 2010.

Of course, ISRO is succeeding to an extent. I would like to congratulate the Minister for ISRO having placed an Italian satellite into orbit using a PSLV rocket launcher just a few days back because it is a matter of pride for India. I commend him for this job. I would also like to point out that China has already launched 24 foreign satellites. It has also already sent two manned missions to the space and it is planning to have a human mission to Mars in 2007. I would like to know from the hon. Minister whether he is going to achieve our earlier plan of sending a human being to Moon, that is, Moon Mission by 2008. I would like to know about this.[s46]

As regards the issue of pharmaceuticals, I know that most of the time we do not spend even in inventing a molecule because it requires pure research. We had only gone for the reverse-engineering process. Hon. Minister, I would like you to insist that all the pharmaceutical companies spend at least 2 per cent of their total earnings in R&D.

As regards energy independence, there should be maximum use of solar power, and thorium-based reactors should be used more and more for nuclear power. There should also be increase in the use of bio-fuel. The CSIR should also have collaboration with the industries, and there should be synergy with the CSIR laboratories and universities.

Lastly, I would appeal to the hon. Minister for increase in the skilled manpower. He should go for more IITs all over the country. Why should there be only seven in the country? India not only requires seven IITs, but 1,500 IITs because of the vast magnitude of this country. Further, why should a State like Orissa run from pillar to post and beg for it being given an IIT? We have appealed to the Government that at least a branch of the Kharagpur IIT may be opened in Bhubaneswar, but there has been no response to it. The IITs should be opened not only in Bhubaneswar, but everywhere in the country. There should be more number of IITs, and there should be enhancement of the fund allocation for R&D.

Some days back the Chairman of ISRO and Chairman of Indian Atomic Commission went to meet the hon. Prime Minister, and said : "Why are you retiring us at the age of 62?" I am also asking the same question. We are retiring them when they are physically very sound and are at the peak of their experience and knowledge, and we are asking them to go and sit at home. I will appeal to the hon. Minister that he should see to it that if any scientist can retire at the age of 75 in Japan and at the age of more than 70 years in other countries, then why not in India? Why do you ask them to go and sit at home without doing anything? Therefore, you should consider this appeal of mine.

The quality of spending should also be increased. About 1 Â½ years back I had appealed to the hon. Minister that structural engineering should be applied at the time of construction of a building. He told me that they are collapsing very easily because of earthquakes, and he informed me that the Government will see that there is always a structural engineer in the town planning who will approve the site plan and the construction plan. Will the Government do it? I am asking this because the hon. Minister gave me an assurance about this some 1 Â½ years back. I hope that he will see to it too.

SHRI K.S. RAO (ELURU): Sir, I rise to support the Demands for Grants for the Ministry of Science and Technology. Today, a person like Mr. Swain from BJP also did not criticize about anything in the Budget, and he supported the Budget. Shri Bachi Singh Rawat was also natural in his speech. ...(*Interruptions*)

SHRI KHARABELA SWAIN : Actually, I had fought with the hon. Speaker to bring this subject for discussion in the House. I was fighting for this for the last one year or so. ...(*Interruptions*)

SHRI K.S. RAO (ELURU): I am very happy about it. My previous speakers from Congress have already admired our hon. Minister, and Mr. Swain and other friends have also admired the performance of the hon. Minister and the Ministry of Science and Technology. We all know that the hon. Minister is dynamic and knowledgeable. He has a very good grasp of the unorthodox. He definitely fits that Ministry. He can adapt to the latest technologies. He is always in touch with the updated research. If he takes it to heart and continues doing his work, as he has been doing in the last two years, I am confident that we can come on par with the USA in research and development in the span of a decade.

I congratulate the hon. Minister for bringing the comprehensive Institute of Earth Sciences, and also for bringing in the most modern equipment to predict climatic conditions, tsunami, cyclones and all that which are affecting millions of people in the country, as we saw a couple of months back. Such equipment was not there in the country earlier and it is most important for the country. I understand that through his recent visits to Antarctic and Arctic the entire world community is impressed about the progress that is being made by our country in this regard. The only thing is that our Minister is not for today's India, maybe he is for tomorrow's India. Generations will admire the work that he puts in now if he can bring India back to the prominence it enjoyed thousands of years back. The entire research that is being done today in the world - be it America, be it Japan, be it China, be it Germany - was there in our country thousands of years back. Unfortunately, the importance and priority that is given to the research and development in the last few years has been far lesser. That is the reason why we are falling back. That is the reason why countries like America claim that they are superior.

Today, we accepted globalization. We cannot survive in this wide world unless our science and technology is brought on par with that of world technology. We will further come down and the gap will get enormously wider unless we realize this. We must have the competitive edge in every sector. That requires enormous funds. Not only funds, as Swain was saying, that requires a total change in the system. I have seen from my childhood days that learning the subject by heart is the criteria. That means, we are putting our minds to memorize things, we are increasing our memory by reading lessons and remembering them as they are, and putting them on the paper in the examination and then forgetting it. That means we are not utilizing our brains to think and to create.

That creativity has to be brought in today. That has to be brought in right from the kindergarten stage. An idea must be put in the minds of the students' right from that age. They must be encouraged to find pleasure in creating new things. Whether they understand about research or not, they must be made to find knowledge not in just reading but in exploring. The teacher must also not feel happy and satisfied by just reading the lesson out to them and coming out of the classroom. There must be interactive sessions between the teacher and the students. The students must be able to find solutions for problems that come up. Then only we expect some creative thinking to develop in the minds of students. Obviously, when they grow to be adults the same creative thinking continues and they are likely to go in for research, for innovative thinking, for creative thinking. Then, our country will naturally reach the top of the world.

The hon. Minister must also have interaction with the Ministry of Human Resource Development immediately and bring a change in the system of education that is there in the country. Even if he puts in a lot of effort today with the scientists and technologists available now, not much can be achieved.[KMR47]

As he stated, many of them are mediocre. It is not that the country does not have competent people. Umpteen number of competent people in this country are going abroad. They are the people who are instrumental for all the research that is going on outside the country. Somebody who is living in America might get the award, Noble prize but the real effort must have been made only by the people like Non-Resident Indians. Why are they going abroad? It is because they are not getting that

opportunity; because they are not getting that recognition; because they are not getting reward, they are going out. If these things are available here, they would not have gone. Anyhow, I am happy that there is reverse brain-drain. We must avail that opportunity. This is the time for him to grab all such people who have gone outside the country. Now they are prepared to come back in a big way.

A lot of people have got fervour, patriotism and ego that they have to come back and establish research centres, create something new and then, bring a total change in the economy of this country. They do not want to take the pride because they have already made enough money. Now, they want to have that pride of coming back and establish here such institutions of international popularity. Hence, I do not say that he should not take local people but parallelly he must encourage people who have gone outside the country to bring in technology, nature of innovative thinking that can be utilized by our scientists also – both aged or middle-aged. Basically, we have got all the intelligence and capacity. I want the hon. Minister to take note of this.

In true sense of the term, we read in the Ramayana and the Mahabharat. What is not available in them? All the technology that is available today was available – astronomy, astrology, space research, making of aeroplane, *Durbini* – telescope, medicine, etc. - in those days also. Anything and everything was available. Maybe, the nomenclature has changed; maybe we have fallen back. I want the hon. Minister to encourage all those people who are competent.

Today, unfortunately even in institutes of research and development, only people of mediocre nature and who are psychopaths, who do not have real subjects are getting prominence. Obviously what is happening is, we are killing the initiative of the man who has achieved. He thinks that it is not his place. That is happening in most of the research laboratories. I would like to humbly request the hon. Minister to ensure that the real merit is patronized, rewarded and recognized. If that were to be the case, then only scientists would work round the clock to get this name and reward. But when he comes to know that it is not his research and result that are going to be patronized and that are not going to take him to greater heights, he would not work.

As some of my colleagues who spoke earlier were telling, I am also of the opinion that we must make it mandatory for the corporate sector and industry to carry out research in all their industrial organizations. Reliance or any other industry cannot say today that if their share value is 100 times or 1,000 times more, they are happy only by making currency. How is the country benefited? Part of it must be utilized for research and development. Unless that is done, they will go scot-free.

SHRI K.S. RAO : Sir, it seems you are looking at me. How much time do I have?

MR. CHAIRMAN : A large number of speakers are there still.

SHRI K.S. RAO : Whatever time you give, I would concise my speech.

Indeed I am happy that the hon. Minister is already thinking in terms of collaboration – public-private partnerships and encouraging MNCs and NRIs. This is a good gesture but this must be done in a good scale. I would like to bring it to the notice of the hon. Minister this. [r48]He has promised a year back that an animal research institute will be set up in Hyderabad. It will cater to the basic research aspects, which are required for everything. A decision is not taken in this regard, though the hon. Minister is competent to take, possibly because several Ministries are involved in taking that decision. I humbly request the hon. Prime Minister to think in terms of giving that to one Ministry so that a decision can be taken earlier. One of the main reasons why we are failing is lack of decision-making in this country. This is required to be done soon.

My other friends have given statistics of how much money is allocated for research and development. We do not keep up whatever we promised in this House, to give to a particular Ministry, not to talk about what we say outside. Hon. Prime Minister made a statement that in the coming five years, he would increase the allocation to this Ministry from one per cent to two per cent. If we were to stick to that word, certainly we can make some programme, but the hon. Finance Minister should not come in the way. We do not realize the importance of research in this country. We can make improvements hundred times, if we encourage research.

I will not take much time. I will come to some of the proud things that the scientists have done in pharmaceuticals and drugs.

MR. CHAIRMAN : How much time will you take?

SHRI K.S. RAO : Strictly five minutes only.

MR. CHAIRMAN : Please conclude in three minutes.

SHRI K.S. RAO : Research that is being made in the pharmaceutical industry is abnormal. We are very proud that some of the institutes like the IGIB, Dabur Research Foundation, etc. have reached Phase-II of clinical trials in anti-cancer drugs which could not be developed with the researches done by the developed countries. Similarly Indigenous Pharmaceuticals, Hyderabad has

identified two leaves for the management of allergy, respiratory disorders and also diabetes. Half of the population is suffering from diabetes. A vaccine for dengue and Japanese encephalitis is developed by Biological-E in Hyderabad. This shows that we have got a lot of capable people and institutes in this country and given the opportunities and motivation, they can do a better job than most of the Western world.

Similar is the case with other industries. What is required is a kind of motivation and recognition of the talents. The Minister must take care of this.

Now, I come to the villages. We raise paddy in large quantities in this country. When floods occur, paddy is in deep water for more than ten days and the crop is gone. If our scientists were to do research as to how it could be saved, even if the paddy were to be under water for more than 15 days, the job is done. The date tree survives without water for months together. But paddy cannot be raised if there is no water. Research is required here. We can compete with the developed world if this sort of research is made.

Today, per acre yield of the agro-products in this country is far less compared to other countries. China has almost doubled the per acre yield; it is a country which was far behind us some 10-15 years back, but because of research, they have done all this. This must be taken into account.

In the case of drinking water, till yesterday, we were not able to supply pure water or drinkable water. But today I am happy to say that in my constituency, we are making available treated or mineral water – what we have here – to the population, not at Rs.12 per litre, but at 70 paise per litre, because of the technology that we have brought in. If the same thing is applied to the entire country, we need not have to spend on hygiene, disease, etc.

My friends have already covered most of the points and I do not want to repeat them again. I would only want to say that the pay scales that are being given to the scientists are to be increased. We are thinking in terms of increasing the retirement age of the people in the judiciary. The same thing should be there for the scientists also. Their knowledge must be utilized till they breathe last. If they were to be put in the laboratory, they may be put, but not in the same position, but they may be taken in as advisors or their services should be utilized in some way like contractual agreements, etc. They should not be left out and their knowledge must be utilized. [MSOffice49]

Finally, I would only say that the hon. Minister must take decision and the Prime Minister and the Finance Minister must support him in giving ample funds. They should not see whether this would be put to immediate use or how much out of Rs.100 crore allocated to the Ministry would yield result tomorrow. They should see the long term return. There are institutions in America where through FDIs billions of dollars have been invested but they could not get one approved item for decade. That requires the support of the Government here. It may not be a corporate sector. In that background, I wish that he would immediately encourage some of the NRIs, MNCs and the corporate sector to enter into research and development or bring a legislation to make it mandatory for all of them to do these things. With this, I congratulate the Minister and support the Demands for Grants of this Ministry.

DR. K.S. MANOJ (ALLEPPEY): I thank you for having given me an opportunity to take part in the discussion on Demands for Grants for the Ministry of Science and Technology.

Sir, we are spending crores and crores of rupees on research and development in science and technology but due to many reasons it is not reaching the common man. Research and development should be life oriented. It should mitigate the sufferings of the common man. Nowadays, the research findings are not reaching the targeted people. It may be due to lack of acceptability or accessibility or due to affordability of the common man. It may also be due to the time lag that is occurring in the research and development that the results are not reaching the common man. We shall have to reach out from the lab to the field.

Sir, during the time of Green Revolution following the famine in 1960 the success of Green Revolution was that we could develop grains suitable to our environmental conditions at an affordable cost to the poor farmers. But nowadays the products of research and development are evolved after spending crores of rupees and hence they become not accessible and unaffordable to the common man. With the result, poor is not benefited by the R&D and only rich and MNCs, both domestic and foreign, can afford the products of research and development.

Even though the private entrepreneurs are spending money on R&D but they are all doing it with profit motive. These private entrepreneurs should have some social obligations. Maybe against the Intellectual Property Rights a certain amount of social commitment should be enforced in this area. Otherwise, the R&D will occur only in profit generating areas.

In my State Kerala, we have a Rice Research Institute under Kerala Agriculture University. That institute is situated in the area

which is known as the Rice Bowl of Kerala, that is, Kuttanad. But every year the farmers of Kuttanad are facing crop failure either due to saline water intrusion or due to the drought. There is a long pending demand from the farmers of Kerala, especially those who are from Kuttanad, to develop a paddy variety that is resistant to salinity and drought. You would be happy to note that in the Report it is mentioned that our scientists have successfully decoded the genome information of the Rice Chromosome Number 11 so that the grain that is resistant to salinity can be developed. I hope that in future we would be able to develop and popularize a grain variety resistant to salinity and drought.[R50]

17.00 hrs.[R51]

There is another research institute in my placed called the Central Plantation Crop Research Institute. It is an area where coconut plantation is there. Now-a-days, these old coconut plants are affected by one viral disease called root wilt disease. But we could not find a solution for this disease even though several research activities are going on. That is why, I mentioned that the research activities should be need based and life oriented.

India is a country which is rich in traditional knowledge but we are not taking keen interest in preserving this traditional knowledge. We have traditional knowledge in agriculture, health and even in architecture. The *vaastu* technology has got scientific basis. Integration of traditional knowledge and modern scientific knowledge should be done so that we could find out some scientific basis for this traditional knowledge. So, integration of the traditional knowledge and the modern technology should be done. For example, certain tribal population have the traditional knowledge in agriculture. Certain species of medicinal plants and even food grains are seen only in these areas. They are practicing some crude practices. Unless we take some earnest efforts to conserve this traditional knowledge, it would become extinct.

We should have a detailed mapping of our natural resources. We should develop technique for optimal exploitation of these resources. We should have value addition techniques. In Kerala, we have enough deposits of mineral science. But no progress has been made for its value addition and utilization.

Another area which is facing problems is the building and construction industry. It is a growing industry in our country. For all construction activities sand is required. But sand mining from rivers, sea coast, etc. have ecological and environmental impact. Since this is a booming industry, the Minister should take some initiative to develop some material to replace sand at an affordable cost.

We have to popularize use of satellite mapping technology. Recently, our hon. Member of Rajya Sabha, Dr. Kasturirangan has delivered a lecture for the Members of Parliament on the use of satellite imaging for water conservation. This technology can be utilized for weather forecasting and for mapping marine fishery resources. This should be popularized and the terrestrial centres should be strengthened to disseminate information to the traditional fisherman. In my State, especially in the hilly regions, there are certain areas which are susceptible to landscape and they are prone to lightening disasters. I would request the hon. Minister to make some effort to map these areas just like we have done in the case of earthquakes. We should have some efforts to map these susceptible areas and predict the risk of land slides and lightening disasters.

Following Tsunami, traditional fishermen are of the opinion that some ecological changes have occurred in the marine eco-system and the fishery resources are affected. But I wonder if any scientific study has been conducted by any scientific body in the country. Some scientific study should be conducted to assess the environmental impact of Tsunami. I would suggest that in certain areas research and development activities should be encouraged. Some of the former speakers have mentioned that in the field of nano-technology and also in the field of health, certain results of stem bio-engineering are encouraging.[R52]

So, research on stem cells and bio-engineering should be promoted. Also, Joint Replacement Prosthesis in certain areas, particularly, prosthesis in deafness and blindness should be encouraged. In agriculture, as I have already mentioned, certain crops should be developed.

Another area is scarcity of water. Water conservation should be done to meet the challenge of water scarcity in the country. There are certain areas where de-salination and Reverse Osmosis techniques have been used. We have to find a way so that these technologies could be used by local bodies at an affordable cost.

Various Departments of the Government are engaged in R & D activities and it is resulting in a lot of duplication and wastage of funds. These Departments of the Government are working in water-tight compartments and there is no sharing of results of R & D between various Departments. So, the Department of Science and Technology must take the lead to de-compartmentalize it and make way for interchanging of the results of R &D between various Departments of the Government. There should also be a symbiosis between researchers, industries concerned and the users. Research oriented programmes, as has been mentioned by Shri K S Rao, in schools and colleges and even in the thesis of the Ph.D students should be given.

Sir, due to paucity of time, with these few words, I would like to support the Demands for Grants relating to the Department of Science and Technology. Some cuts have been proposed in the Budget of the Department, I would like to say that adequate funds should be given for research and development under the Department of Science and Technology.

SHRI RAVICHANDRAN SIPPIPARAI (SIVAKASI) : I am participating in this discussion on Demands for Grants of the Ministry of Science and Technology for the year 2007-2008 on behalf of our party Marumalarchi Dravida Munnetra Kazhagam founded by our leader Vaiko. The level of civilizational growth of a people will be gauged by the promotion of education in mother tongue, spread of science and scientific inventions in a country.

We in India can feel proud that the use of 'zero' was discovered by our ancient scholars. Aryabhatta of the past era and Ramanujam of the modern era have contributed to the field of Maths in India. Ayurvedha and Siddha medicine systems are part of our ancient knowledge society.

In this back drop let us look at our nation, an young nation. On the basis of our 2001 census, India's average age is 24. That of Japan is 48 and of China is 30. India has got a very big number of youths and we are a youth power now. It is our duty and responsibility to take science and scientific temper to this generation. Our first prime Minister Pandit Jawaharlal Nehru realized this and established research organizations. We must have to accept that we still lag behind in all these years.

We are going in for investments and inputs for our industries now. Science and Technology got a short shrift and were ignored to some extent. We have been allocating a mere 0. 8% of our GDP. Our Prime Minister and our President are also saying that this must be increased at least up to 2% in the next 5 years. Department of Scientific Industrial Research needed Rs. 3978 crores for plan but it got only Rs. 1070 crores as allocation in this year's Budget. More of a sorry state of affairs than this could be the same Department's non-spending of Rs. 200 crores in the past year.

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* English translation of the speech originally delivered in Tamil

We have been dreaming to improve the lot of about thirty crores of our poor country men by our efforts to emerge as an economic power. Lack of growth of Science and Technology may come in the way of our aspirations. The world is just looking at us and in the next 5 to 10 years it may look up to us when we emerge as an economic power. Technology that we get from other countries may not be coming to us at that stage. This may become a challenge. So the pure sciences like Physics and Chemistry and maths must be given importance.

When we make efforts to attract students towards Pure Sciences it is not enough to give away scholarships. We must provide incentives and motivations by way of creating atteast 4000 jobs for scientists every year. Attractive pay packages and free hand should be given to our scientists community. In search of money our youth go for IT sector abroad and we must make study of Pure Sciences attractive.

17.09 hrs. (Shrimati Krishna Tirath *in the Chair*)

There is a need to arrest Brain Drain. To reverse the trend we must create more jobs, better infrastructure for research facilities, attractive incentives and a conducive atmosphere. This is necessary to bring our scientists back in our country. Important change that must be done would be the avoidance of bureaucratic interference and interruptions. They must have a free atmosphere with exclusive salary scale structure. Our future could be safe only when we take our country forward with advancements in Science and Technology. It is not enough our country with 108 crores of people become an economic super power. We must be seen in the comity of nations as a country that has made new strides in scientific advancements while emerging like Germany and US. More of scientific inventions and discoveries must be there. It calls for a concerted effort. We must make it a National Mission. Only then our growth will be duly recognized by the nations of the world. With this I conclude my speech on the Demands for Grants for the Ministry of Science and Technology.

SHRI DUSHYANT SINGH (JHALAWAR): Madam, it is a very important subject that we are discussing under Demands for Grants today. I am very glad that the Government is looking into the subject of science and technology.

Science and technology has always been a part of ancient Indian manuscripts and since Independence, there has been a lot of

progress in fields like agriculture, health, education, infrastructure and science and technology. Our hon. Prime Minister, in Chidambaram of Tamil Nadu, had mentioned about an increase in Government allocation from one per cent to two per cent. We are happy about that. He also mentioned about investment in science and technology. But the important quotion is that we need to look at the brain drain in our country. Why is brain drain happening? Why are we not innovating new methods of looking at human resource development and creating new avenues? Our President who is an eminent scientist is very happy with an increase in spending of our GDP on science and technology. When he went down the path of taking look about the budget allocation and spending of funds for 2005-06 relating to the Ministry of Science and Technology, he saw that only 0.25 per cent had got spent within the Ministry. We are here to make India proud and we are a young and developing country. We want to take India to a new [MSOffice53]height. We need to be collective in the House and work together. I must say when you are discussing about science and technology, you must talk about TIFAC, Technology Information Forecasting and Assessment Council, which was formed in 1998. Let me quote Dr. A.P.J. Abdul Kalam from one of his books. He said:

"Technology strengthens political, economic and security structure of a nation."

A large part of our population comes from rural India, depending primarily on agriculture. The State to which I belong to is primarily dependent on agriculture. As the UPA Government always says that it is working for the *aam admi*, we in the NDA are working for the welfare of the agriculturists and farmers of our nation.

I must mention here that in Rajasthan, from where I have been elected, there is a large cultivation of guar gum. About seventy per cent of India's guar gum production comes from Rajasthan, basically from Alwar, Jhunjhunu and Barmer region. This guar gum is first produced, made into powder form, then exported and then re-imported. We urge the Government to have a Centre of Excellence for guar gum in Rajasthan. It can help the *aam admi* of our country. Guar gum is used in oil drilling, textiles, paper and paints.

As we are talking about digital mapping, science and technology has taken a new leap. We must look at the data base for villages, which will help farmers to grow crops according to the climate. As we are an agrarian economy, we must go further and look at what is suitable for us according to the climate. ...(*Interruptions*)

We have national calamities every year. Science and technology will assist and help us in controlling floods and other such natural calamities. We must help and assist agricultural universities which are there in different States, which would work for reduction and removal of diseases and to have better cropping.

I come from Rajasthan where top three Heads of State, the hon. Governor, the hon. Chief Minister and hon. Speaker are all women. You have great focus on women. You earmark only 30 crore allocation of this head. I urge you that through Self-Help Groups we can help the women and uplift the women in our country.

We urge you to set up a Women Technology Centre in my parliamentary constituency, which will help Self-Help Groups. I have been elected from Jhalawar, which has suitable climatic and fertile soil. It has perfect weather and

climate for growing medicinal plants. As you are focusing on medicinal plants and herbal medicines, we can think of a Herbal Medicine Centre in the district of Jhalawar can be created.

The Ministry has always worked for rural economy through voluntary organizations, based on micro watershed development, bio fertilizers, rural housing, etc. I urge you to think of Rural Technology Parks for the *aam admi* of the region and the nation. We need to give our people assistance and jobs. Through these Technology Parks, we can provide them a lot of work. In Rajasthan and in other parts of India. We have sizable tribal population in Rajasthan. [MSOffice54] So under your tribal sub-plan, we can think about having a way where we can increase output by giving them options to grow crops like aloe vera, jathropa, amla and horticulture. Linking horticulture and Bio produce will help the tribals to grow things better and we have grown it in the District of Baran where we have been given full credit by the Planning Commission. The Planning Commission Members have come to Baran and they said that it is a great product.

The UPA Government has talked about bamboo production and given a special focus in bamboo production. From the bamboo, we make a bio-product such as agarbati, which is used for daily life inIndian households. It can grow into a new market.

Sir in Bijnore, you have focused on sugarcane development. It is very good and we must have sugar industries also. We must also focus on increasing life expectancy of our Indians. This can be done by pharmaceutical research and through research funds will be created, but the funds should be increased. You should ask your hon. colleague, the hon. Minister of Finance of India to

give you more money. ...(*Interruptions*)

MADAM CHAIRMAN : Please conclude.

SHRI DUSHYANT SINGH : Madam I will conclude within two minutes. I must say that we are making Indian products global and therefore through harnessing of food products we are in the process of making Indian food articles for the world market. You must have seen from pilot project done in IIT where the coating done on food products has increased shelf-life. A large part of our population still does not have pure water. People lack clean drinking water. So purification of water is the essence and the duty of every Government who comes into office to provide clean drinking water to people. I urge you for water purification plants in every state and region which removes all impurities.

We are moving into a new age. We are looking at bio fuel. Bio fuel needs to be focus for the future as fossil fuel is being used and slowly we need alternative method of fuel. The straight vegetable oils are being proposed for bio-fuel. Straight vegetable oils will assist lesser dependence on the fossil fuel. We will not depend much on the fossil fuel. We are going for greater investment through Texas instruments for research and development. We need to have Indian companies to give more money for research and development. We need to think about IPR, patents rights etc.

We are facing a serious problem regarding terrorists' activities. This is a very serious issue. As this is a serious problem, we need to look at the finger printing and D.N.A. method. If someone loses his life due to terrorist activities, we cannot decipher who the person is. We need to take urgent steps in this regard.

I applaud the hon. Minister, Shri Kapil Sibal, for thinking about our scientists. There is a 30 per cent royalty to be given to our scientists on increase in commercial utilization of science. It is very good. But how can it happen? It can only happen by greater investment in HRD. ...(*Interruptions*)

Our hon. Prime Minister comes from Assam. You are giving the State of Assam the first Science Village. I urge you to give every State of India a Science Village and for our State of Rajasthan also, a Science Village.

I would sum up by saying that technology is essence. We need to work on it. We need to have more technological business incubators. We need to work with public-private partnership. The technology consists of agro industry, building industry, in the applications, craft and small entrepreneurs and food processing industry. We need to work towards the Knowledge Commission which was made and helped our scientists grow further. Let us come together on a common platform to make India proud and take us to a new level. [a55]

DR. THOKCHOM MEINYA (INNER MANIPUR): Madam, I rise to support the Demands for Grants under the control of the Ministry of Science and Technology.

At the outset, I would love to congratulate the hon. Minister for having run the Ministry so well in the past one-and-a-half years or so. This is because he has developed, most probably, a scientific temper which almost all the scientists including the first Prime Minister of India are very much close to.

We have heard the discussion here mostly on contemporary science, modern science and technology. I would like to draw the attention of this House and your indulgence to the fact that science in this country has a very long tradition and history. This is the land where zero has been discovered, rather zero has been initiated. You know zero is one of the numbers without which we cannot have any number system – maybe binary whose numerals are zero and one or the decimal system whose number goes from 0 to 9 or, for that matter, any other system.

Our history of science is interesting. All the science that this country has been practising for years together is one of the oldest sciences which, of course, most probably, we have forgotten – the science of astronomy. You know this is a science which has been practised when mankind do not have any light except the light of the Sun and the Moon. In a Moonless night, what happens? A man or a woman usually looks up to the sky for the light. That is where the science starts which is interesting.

Now, I will define the science of our position at the moment. All of us are now in the Indian Parliament. Where is India now? India is a part of the small Planet, the Earth. What is this Earth? The Earth is one of the nine Planets of the Solar System. Around the Sun which is a medium star, these nine Planets are revolving. There are a number of stars like the Sun, which are not countable, which are moving in the Milky Way. There are millions of galaxies like the Milky Way which are moving fast in the Universe. All the galaxies are moving away from us. To be very frank, the Planet has become a very small entity where we have no address. In the Universe, nobody has an address. We are quite related to one another but there is a divide in this country, in the whole world like the haves and the have-nots. We are not able to supply proper drinking water to the people, we are not able

to give proper power supply, we are not able to give adequate basic amenities for the mankind to live. We are not able to fight the dreaded disease like HIV/AIDS at the moment. All these things have to be faced with the development of science. This is why we always insist that there should be enough investment in research and development of our science mostly in the area of basic science where this country has produced a lot of giant scientists. In spite of the potential that we have, so far, we are not able to exploit it.

To remind all of us in this context, I would like to say that the whole world is looking at us. We have the manpower, the potential to produce so many scientists. Many scientists are working all over the world. I do not talk of the new technologies, the Information Technology and the other Technologies because, there, every man can become a scientist. But coming to basic scientists, you have to have certain amount of dedication, seriousness, honesty, sincerity with which they have to work. They have to devote their life to these aspects. Many of the institutions, research institutions in the country are lacking this one at the moment.

We are going in for a materialistic world where we earn money. An Information Technologist earns a good ten times more than what a University Professor earns. So, nobody goes in for basic science. We have to look into that aspect. I think the most important aspect at the moment is to develop a sense of security for these people who are working in the area of basic science.[R56]

Without that we cannot develop science as a whole. With these few words, I, once again, support the Demands for Grants and I congratulate the Minister and wish him to be successful in times to come.

SHRI ABU AYES MONDAL (KATWA): Madam Chairperson, I support the Demands for Grants of the Ministry of Science and Technology. A lot has been said by hon. Members about the development of science and technology in our country.

I would like to refer to two important things. I would like to draw the attention of the hon. Minister to the Annual Plan for 2005-06 and I do hope that the hon. Minister would enlighten us about the development and progress regarding the same during his reply.

There was a proposal to introduce a new scheme with the title 'Research Support to New Faculty Appointees in Universities and Academic Institutions' for enhancing their research capabilities. Then, I would urge that steps should be taken to upgrade the existing facilities so that research workers are able to get the required sophisticated analytical instruments to pursue research in front line areas.

My second point is, the National Centre for Medium Range Weather Forecasting should continue its efforts to upgrade computing and infrastructure facilities with an aim to become and remain internationally competitive.

Lastly, I would like to say that India has not only huge population, but also has plenty of natural resources with remarkable base in science and technology. So, if we wish, we can march on. I would request the hon. Minister to reply to the points raised by me during the course of his reply.

With these words, I conclude and support the Demands for Grants.

SHRI KIREN RIJIJU (ARUNACHAL WEST): Madam Chairperson, I am very glad that this very important Ministry's Demands are being discussed today. I want to look at this issue from a broad angle. On the one side, we have a rosy picture because India has the largest number of science and technology centres in the world, we have the third largest scientific manpower in the world with 162 universities awarding 4,000 doctorates and 35,000 post graduate degrees, the Council of Scientific and Industrial Research runs 40 research laboratories and India is among the top five nations in the world. On the other side, about 40 per cent of the people of our country do not have access to the benefits that come out of this great work.

Madam, I also represent a constituency which is 90 per cent rural. Science will not serve its purpose until and unless it reaches the common man in the society. I am very happy that one of the most able persons is heading this Ministry now. Last time when I spoke, the hon. Minister complimented me and I requested him to visit Arunachal Pradesh. Indeed he visited our State and he made many announcements there. I am very encouraged by the generous attitude of the hon. Minister.

Madam, in today's situation I see a very big leap for science and technology in our country. Today, science and technology is the heart of the economy which nobody can deny. यहां पर मेरे साथियों ने भाषण दिए हैं, काफी साइंटिफिक भाषण दिए हैं। मैं कुछ कामन बातों को सदन के सामने

रखना चाहता हूं। सबसे पहले हमें देखना है कि हमारा जो सिस्टम है, इसमें साइंस और टेक्नोलॉजी को कैसे लाया जाए।[r57] विज्ञान और प्रौद्योगिकी का लाभ हमारे सिस्टम में आना चाहिए। यह हमें दिखाई नहीं देता है। अभी हाल ही में हमारे कुछ फ्रैन्ड्स के ग्रुप अमेरिका से आये थे। उन्होंने एक रिमार्क दिया कि हम अमरीका में बहुत सुनते हैं कि इंडिया इंफोर्मेशन टैक्नोलोजी में इतना आगे बढ़ रहा है। लेकिन छोटे-छोटे आइडैन्टिटी कार्ड्स और पासपोर्ट्स बनाने का सारा काम अभी भी मैनुअली होता है, यहां डवलपमैन्ट कुछ दिखाई नहीं दे रहा है। सचमुच में हम जो ऊपर देख रहे हैं, वह आम जनता के जीवन में किसी भी तरह से रिफ्लैक्ट नहीं हो रहा है। कारपोरेट सैक्टर में यह जरूर हो रहा होगा। लेकिन वे कितने लोगों को कवर करते हैं, हमारी जनसंख्या का कितना परसैन्ट उसके तहत आता है, वह हम सभी जानते हैं। जब हम विकास की बात करते हैं तो साइंस के बिना विकास का कोई अर्थ ही नहीं है।

सभापति महोदया, मैं अपने यहां की रिसोर्सेज के बारे में बताना चाहूंगा कि हमारी सारी रिसोर्सेज ऐसे ही जमीन पर पड़ी हुई हैं। हमारी नदी भी बे ऑफ बंगाल में सदियों से बहती जा रही है, उससे हमने आज तक 0.5 परसैन्ट भी पावर जनरेशन नहीं की। हमारे जंगलों का रिसोर्सेज भी ऐसे ही पड़ा हुआ है। मैं कहना चाहूंगा कि हमारा प्रदेश रिसोर्सेज के मामले में हिन्दुस्तान के सबसे अमीर प्रदेशों में से एक है। लेकिन वहां की जनता सबसे गरीब लोगों में आती है। साइंस और टैक्नोलोजी के माध्यम से ही हम इस स्थिति से उभर सकते हैं। वहां अनेकों तरह की पत्तियां हैं, हर्बल मैंडिसंस तथा और बहुत सी चीजें हैं और हमारे गूंथों में भी हिमालयन रीजन की रिचनैस के बारे में भी लिखा है। मैंने पिछले सत्र में एक बार यह भी पूछा था कि हिमालयन रीजन को साइंस एंड टैक्नोलोजी के माध्यम से किस तरह से बचाना है और हिमालयन रीजन में जो रिसोर्सेज हैं, उनका इस्तेमाल देश की भलाई के लिए किस तरह से करना है?

हम कभी-कभी एनवॉयरनमैन्ट प्रोटैक्शन की बात करते हैं। ग्लोबल वार्मिंग पर भी काफी डिबेट होती है। कोई साइंटिस्ट कह देता है कि ग्लोबल वार्मिंग कुछ नहीं होता, यह लोकल क्लाइमेटिक चेंज है। लेकिन सचमुच में आज हिमालयन रीजन सूख रहा है। हम नदियों को जोड़ने की बात कर रहे हैं, लेकिन हम नदियों में किस चीज को जोड़ेंगे। मैं मंत्री जी से रिक्वैस्ट करना चाहूंगा कि आप नये सिरे से एक पालिसी बनाइये, ताकि साइंस एंड टैक्नोलोजी देश की मुख्य धारा से बिल्कुल भी अलग न हो सके। मैं हिमालय रीजन की बात कर रहा हूं। वहां बहुत अधिक हर्बल मैंडिसंस हैं। हमारे अरूणाचल प्रदेश में दिल्ली के लोग आये और हैलिकाप्टर से यात्रा की। उन्होंने वहां देख कर कहा कि एम.पी. साहब, आपके प्रदेश में इतने बनानाज हैं, शायद दुनिया में सबसे ज्यादा बनानाज यहीं होते होंगे। मैंने कहा कि ये वाइल्ड बनानाज हैं, ये जंगल के बनानाज हैं, घर के नहीं हैं। लेकिन फिलीपींस और चाइना में वाइल्ड बनानाज से टैक्नोलोजी के माध्यम से फाइबर बनाया जाता है। लेकिन हमारे इतने बड़े प्रदेश के बनानाज बेकार पड़े हुए हैं। मैं खादी ग्रामोद्योग आयोग में सदस्य था। वहां भी मैंने कहा था कि इतने बनानाज पड़े हुए हैं, लेकिन उनके प्रोपर इस्तेमाल के लिए हम अभी तक कुछ नहीं कर सके हैं। मैं मंत्री से दर्खास्त करना चाहूंगा कि आप वहां एक इंस्टीट्यूट खोल दीजिए, एक नये सिरे से वहां एफर्ट्स कीजिए, इससे देश का बहुत भला हो सकता है।

दूसरा उदाहरण मैं देना चाहता हूं कि हिन्दुस्तान में सबसे ज्यादा आर्किड एरिया है। हम फ्लोरीकल्चर की बात करते हैं। हमारे यहां एक जगह टिप्पी भातुकपोंग है। यदि आप वहां जायेंगे तो पायेंगे कि वहां वैराइटीज की कोई कमी नहीं है। लेकिन कमर्शियल बेसिस पर वहां कोई काम नहीं हो रहा है। मैंने फॉरेस्ट डिपार्टमैन्ट से बहुत कहा है, लेकिन वहां कुछ हो नहीं रहा है। वैराइटीज के मामले में यह दुनिया का सबसे बड़ा आर्किड एरिया माना जाता है, लेकिन वहां प्रोडक्शन निल है।

सभापति महोदय : अब आप समाप्त कीजिए।

श्री किरेन रिजीजू : मैडम, जब आप चेयर पर बैठती हैं तो हम सोचते हैं कि आप हमें एक्सट्रा दो मिनट जरूर देंगी, क्योंकि आप और हम सब एक ही वर्ग से आते हैं। मैं अपने आपको अपने प्रदेश तक ही सीमित रखूंगा, चूंकि समय कम है, इसलिए मैं हिमालय की बात ही करना चाहूंगा। सरकार ने पिछली बार तवांग-ईटानगर पास की घोषणा की है, मेरा निवेदन है कि उसके इम्पलीमैन्टेशन को आप फास्ट कीजिए। बाकी जगहों के बारे में और माननीय सदस्यों ने बोला है, इसलिए मैं नहीं बोल रहा हूं। लेकिन हमारे प्रदेश और पूरे नॉर्थ-ईस्ट हिमालयन रीजन में जो रिसोर्सेज हैं, वहां के लिए आप ऑफिसर्स की एक कमेटी बनाइये और हमें भी उस टीम में शामिल कीजिए। कमेटी बनाकर आप एक टाइम फ्रेम दीजिए और पोटेंशियल रिसोर्सेज को आइडेन्टिफाई करते हुए आप इसे किस तरह से रिजल्ट ओरियंटेड प्रोग्राम में लागू करेंगे, मैं समझता हूं कि इस चर्चा के बाद माननीय मंत्री जी आप इस बारे में जरूर कदम उठायेंगे[b58]।

अंत में, मैं यह कहना चाहूंगा कि हमारे यहां पूर्वोत्तर में झुमखरी यानी एक अजीब सी बैम्बू फ्लॉवरिंग करके समस्या आती है जिसमें एक तरह से पूरे पूर्वोत्तर में फैमिन आ जाता है। लाखों की संख्या में जंगल से चूहे निकलकर आ जाते हैं और सारी फसल खा जाते हैं। इस बैम्बू फ्लॉवरिंग को सुधारने के लिए या इस पर कंट्रोल करने के लिए विज्ञान और प्रौद्योगिकी मंत्रालय के माध्यम से सरकार को एक रिसर्च इंस्टीट्यूट, एक साइंटिफिक ग्रुप बनाना चाहिए। अन्य बहुत सारे मुद्दे हैं। मैं माननीय मंत्री जी को बाद में लिखित में देना चाहूंगा। आपने मुझे अपनी बात कहने के लिए समय दिया, इसके लिए मैं आपको धन्यवाद देता हूं।

SHRI ARUNA KUMAR VUNDAVALLI (RAJAHMUNDRY) : Madam, I will be speaking in Telugu. I rise to support the Demand for Grants of the Ministry of Science and Technology. Our country's progress depend on the progress made in the fields of Science and Technology, and we are all aware of this fact. Between 2010 and 2015, US, China and India will emerge as super powers and will be in a position to dominate the world. At this juncture, if we ponder over whether we are giving adequate importance to the field to Science and Technology, I am pained to say that we are not giving enough attention to this field. By allocating inadequate funds for this field, we are suffering from 'Brain drain'. When our scientists can help other countries in enhancing their technology, it is time to question ourselves why we can't do this in our country? If we have dearth of funds for research, then, it's time to bring out a legislation to make industrialists who earn crores of rupees as profits to ear mark some percentage of their profits for research work. If we don't act now, inspite of our having world class scientists with superior technology and the ability to catch up with the progress of other countries, we may not be a able to extend the benefits of Science and Technology to the poorest of this country. If we cannot do this now, we may have to repent in future. Today, in our country around 40 crores of people are deprived of basic amenities. If we had made proper use of technology, these 40 crores of our population would have been in better conditions. Though we have many opportunities to tap solar energy and to excel in other fields, due to inadequate concentration in the field of research, we are lagging behind. Last time when I spoke on the same subject, I raised two points one is about the impact of flourosis disease. I visited website in this regard and had discussed with concerned scientists.

*English translation of the speech originally delivered in Tamil.

They said that tamarind has good remedial action on flourosis and can cure this disease fully. Though this information was available on website there were no efforts to promote tamarind use in fluoride affected areas. Two years back I insisted that tamarind may be supplied at either subsidized cost or free of cost to the people in fluoride affected areas, which would have eradicated this disease fully, with less expenditure. But there were no efforts in this direction. Similarly, we find on the sides of the roads a shrub called 'Kalabandha' which is also know as 'aloe vera' world wide, which is a panaecea for many diseases. This 'aloe vera' is being used world wide as a remedy for many diseases. But we could not tap the potential of this plant and we are treating it like a weed. When our 'aloe vera' can compete with ' aloevera' grown in Brazil and Mexico, why we are not commercializing it's use? When an eminent lawyer like Mr. Kapil Sibal is heading Ministry of Science and Technology, we expect him to sort out any legal hurdles or loopholes in this field. Foreign countries are trying to acquire patent rights on plants which are native to us. I believe that under the able guidance of Shri Kapil Sibal, we will be among the best countries in the field of Science and Technology. I feel that to excel in this field and to make our country number one, we must allocate more funds and give more importance to this field. With the hope that Science and Technology will be groomed to meet basic requirements of our country, Let me conclude.

SHRI BIKRAM KESHARI DEO (KALAHANDI): Thank you, Madam Chairperson.

After a very long time, the Demands for Grants in respect of the Ministry of Science and Technology are being discussed in this House. It is a welcome measure. As I see, there is nothing to oppose in it because the job of the Ministry of Science and Technology is to do research and pass on the technology to the respective Departments. So, at the end of the day, we would like to get one answer from the hon. Minister, while he is replying, how many technologies, after R&D, have been transferred to the respective Departments. We would also like to know the results that have been achieved against them.

Madam, I am not a scientist and I am an ordinary farmer. I depend upon the Meteorological Department's forecast, and then I go to my land, till it, sow the seed, and wait for the next rain to come so that I can produce more. Our experience in the last two or three years is very bad. The Meteorological Department's forecasts are so erratic. Even after getting a new module and also even after getting a super computer which was developed in the country, the forecasts are very poor. So, I plead before you, Madam, that the Meteorological Department should give a proper forecast so that the farmer can get the right crop, right yield and right produce.

Besides this, in our childhood days, in our schools we used to read a very famous sentence, in our History, Social Science and General Science books, transfer of technology from the laboratory to the land. As Members of Parliament we have been going around our constituencies and our experience is that no technology is being applied in the land. There is an excess use of fertilizers by the farmer and he is very happy with that but he does not realize that by the excess use of fertilizers he is ruining his own land and the productivity goes down. Take the case of Punjab. Punjab ushered in the Green Revolution of the country. Today, in Punjab, wheat production has fallen down because there has been a climate change. जितना ठंडा होना चाहिये था, उतना ठंडा नहीं था। इसलिये गेहूं का उत्पादन कम हो गया और सरकार को विदेशों से गेहूं मंगाना पड़ा। People are now going in for rice cultivation.[R59]

[r60] Madam, about a month back I read in a newspaper that a particular virus has come to Africa, and if it crosses the Arabian Sea, the wheat production in our country would be drastically affected. So, I think, the Department of Science and Technology should look into it properly. Besides this, the Meteorological Department based at Pune should be strengthened. The glaciers, which are melting in the Himalayas should be checked so that one day the holy River Ganga does not become dry. We have been reading articles that the Ganga is going to dry because glaciers are melting at one metre per year. The global warming is going on. So, this has to be checked.

Madam, now, I would touch upon some points relating to my State Orissa. Orissa is the land of natural calamities, super cyclones and tsunamis. I have been repeatedly telling the Ministry and the Government of India, also during the NDA time also that there is no warning system installed there. You have installed one warning system at Vishakapatnam, but that does not serve our purpose entirely. Our purpose would be served if a warning system is put somewhere in Paradeep on the coasts of Orissa to check super cyclones. Virtually, every alternate year, in Orissa, there is a cyclone and, therefore, it is all the more necessary that the cyclone warning system is installed immediately.

MADAM CHAIRMAN : Now, please sum up. It is going to be 6 o' clock now.

SHRI BIKRAM KESHARI DEO : Madam, within two-three minutes, I am concluding my speech.

Everybody has spoken about renewable energy and all that, which should be promoted.

The new strains of crops, which have been developed by the ICAR and others, have not gone to the farmers. Take the particular paddy variety, which I grow on my own land. I have to go to ICAR, Pusa, take it and do it. That variety is very good. But now, the CRRIs at the State and regional levels should implement those particular paddy varieties, which are not being done.

Besides this, Madam, the budget of the Department of Science and Technology is abysmally low. It should be increased at least by two or three per cent. Today, you have opened the floodgates to the WTO. Companies like Cargil, Bichtal and Halliburton would come. Can you compete with them? You cannot compete with them. The floodgates are opened. The Cancun Conference has virtually failed. There is no agreement on agriculture.

So, considering all these facts, Madam Chairperson, I think, the Department of Science and Technology has got a big role to play. We have to feed our population of one billion people out of which 22 per cent are already living below poverty line as per the estimation of the Planning Commission. But virtually, this percentage is much more. The figures are not correct. So, here, the Department of Science and Technology has to play a vital role in crop yield and in organic farming. Today, in the newspapers, it has come out that in America, people are consuming organic food. The demand for organic food is there. So, we should see as to how we can improve and increase the organic cultivation in the country so that we get good, clean and pure vegetables for our population and also for the world community.

Lastly, Madam, I would like to speak about the DRDO. I think, the Department of Science and Technology is monitoring this. They have not been able to develop the Arjun Tank till yet, and we have been hearing about the Arjun Tank since very long, even when I was not in Parliament. From the Assembly days in 1985, I have been hearing about the Arjun Tank, but the Arjun Tank has not come up till now. Therefore, I would say that the necessity is the mother of invention. And today, the necessity is there to feed one billion people; the necessity is there to control the HIV; the necessity is there to solve the problem of drinking water; the necessity is there to make communication; and the necessity is there to achieve the UN Millennium Development Goal; and at the same time, the development, which you are doing should be sustainable, which is not being done in the country.[r61]

[MSOffice62] For example, now, Indal, which is an aluminium company, is coming up with Rs.54,000 crore investment in my constituency. It is a bauxite mine that they will do. But at the same time, that bleaching water, the red earth, which comes out after aluminium refinery, will pollute my dam, Upper Indravati Project. With that, Alzheimer's disease will come. With that, crop yield will fail. There, we have got four lakh acres of agricultural land that has been created in the KBK districts of India. KBK districts were famous for their poverty. They were the thrust areas of the Government. I would request the Science and Technology Department to develop technologies as to how the solid waste materials could be treated after the mining activities. That has to be treated. But at the same time, another aluminium industry, that is, Vedanta, is coming up. It is not going to affect my area. But this industry of Indal is going to affect my irrigation project in Kalahandi. The issue is still pending in the Human Rights Commission.

At the end, I know we have got a very competent lawyer and a competent Minister. We have full regards for him. I think he will be able to deliver the goods. MADAM CHAIRMAN : No compliments please. Thank you Mr. B.K. Deo.

SHRI S.K. KHARVENTHAN (PALANI): Madam Chairperson, first of all I am thanking you for giving me this opportunity to participate in the discussion on the Demands for Grants for the Ministry of Science and Technology for the financial year 2007-08.

While discussing this subject we cannot forget our great leaders, the first Prime Minister of our country, Shri Jawaharlal Nehru and our beloved late leader, Shri Rajiv Gandhi. They have built several world class institutions of science to foster the scientific temper in this country.

Since Independence, our scientific activity has expanded enormously with the setting up of a number of national laboratories with huge investment. Our expenditure on scientific activity has grown over the years. The Annual Budget for 2006-07 has gone up to over Rs.17,000 crore.

Our hon. Minister Shri Kapil Sibal is an eminent lawyer and an active Minister in the UPA Government and he had taken a number of steps to develop science and technology. I want to put forth certain steps taken by the Ministry. Based on the recommendations of the Oversight Committee, a new scholarship is introduced to encourage 10,000 bright students per year to pursue higher education from pre-university to B.Sc., and M.Sc. Certainly, this scheme will be a very successful one. India will become a global corporate research hub.

In the Eleventh Five Year Plan also, the Government has proposed to launch a new scheme called "Innovation in science pursuit for inspired research." The main features of the proposed scheme will be (1) innovation funding in schools; (2) summer camps with science ions; (3) assured opportunity schemes for proven talent force; (4) retention of talent in public funded research through Public-Private Partnership.

Our hon. Minister categorically announced the necessity of encouraging commercialization of innovation, increased domestic production and exports, and protecting the interests of the scientists. To improve science education in India, the Ministry of Human Resource Development had set up two Indian Institutes of Scientific Education and Research at Kolkata and Pune besides setting up a task force for basic scientific research.

Scientific development is very much important for the economic transformation of the country. It is important to encourage young talent with incentives to produce excellence that will benefit the society and improve the quality of life. Furthermore, I want to mention about the "Brain Drain" of our scientists. The National Institute of Science, Technology and Development Studies, New Delhi has reported that a number of Ph.D., holders at the Molecular Bio-physics Unit and the Solid State and Structural Chemistry Unit of the Indian Institute of Science, Bangalore have gone abroad. The situation is similar at the Tata Institute of Fundamental Research-Mumbai, the National Chemical Laboratory-Pune, the Indian Institute of Chemical Biology-Kolkata and the Indian Association for Cultivation of Science-Kolkata. Many leading doctors have left the All-India Institute of Medical Science, New Delhi to join private sector hospitals. As per the latest report, 52 per cent of medicos studying in AIIMS have gone abroad. I request the hon. Minister to take necessary action to prevent this malady. I feel the allocation of funds for science is insufficient. +

18.00 hrs.[MSOffice63][MSOffice64]

MADAM CHAIRMAN : Just a minute.

Hon. Members, it is now 6 o' clock. If the House agrees, the time of the House may be extended till the Demands for the Ministry of Science and Technology are passed.

SEVERAL HON. MEMBERS : Yes.

MADAM CHAIRMAN : Thank you. Shri Kharventhan, you may continue.

SHRI S.K. KHARVENTHAN : During his 2007-2008 Budget speech, the hon. Minister of Finance Shri P. Chidambaram announced special grants to two agricultural universities. But it is unfortunate that there is no mention about allocation for science and technology. The allocation of Rs. 200 crore for the financial year 2005-2006 was cancelled in the revised Budget. For the financial year 2006-2007 an amount of Rs. 180 crore was announced; but not allocated till date. The Government must come forward to allocate more funds to encourage scientific research activities.

Between 2001 and 2004 the national expenditure on R&D in relation to Gross Domestic Product and Gross National Product hovered between 0.78 per cent and0.82 per cent. For instance, Sweden spent 4.27 per cent of its GDP on R&D. Japan spent 3.11 per cent, USA spent 2.67 per cent, Denmark spent 2.51 per cent, Canada spent two per cent, Israel spent 5.11 per cent and South Korea spent 2.91 per cent of GDP on R&D.

Many private companies have realized the importance of R&D and spent huge money. For example, Tata Motors spent Rs. 476 crore as compared to Rs. 92 crore in 2000-2001 and Ranbaxy spent Rs. 480 crore in 2006. We need good infrastructure, trained manpower and more allocation for laboratories.

I want to mention another important factor which is one of the subjects in the Ministry and that is about the National Institute of Oceanology. This Department started working in Chennai to provide potable good water to public. The hon. Minister has also visited Manali, near Chennai, very recently and inspected the proposed project. This is a scheme providing drinking water without utilizing power. The cost of water is 66 paise per kilo-lietre. It is a good scheme. If a special mission is started in the seashores, it will solve the drinking water problem.

For example, in Tamil Nadu this scheme can be implemented in Ramnad, Kanyakumari, Tiruchendoor, Rameshwaram, Chennai, Chengalpattu, Cuddalore and Nagapattinam. Since the maximum beach area in Tamil Nadu is 279 kilometres, which is the biggest in Asia, the proposed desalination plants must be bigger ones instead of a smaller one. Then only it will be viable and profitable. We have to think about the cost factor also. If we innovative, new, self-supporting technology and technically qualified manpower, certainly the expenses will be minimized. Moreover, we have to create awareness among the masses to use the desalinated water since people are afraid to use this.

I want to request the hon. Minister to direct the officials of his Ministry to think about an Electronic Passport, E-Passport system by using a small chip containing the photograph of the individual, name, address and place of residence etc. If the electronic passport system comes to this country, we can protect the BJP MPs from being arrested in airports. This is my humble request.

With these words, I am supporting the Demands for Grants and concluding my speech.

THE MINISTER OF SCIENCE AND TECHNOLOGY AND MINISTER OF EARTH SCIENCES (SHRI KAPIL SIBAL): Madam Chairperson, I am deeply honoured today and privileged to participate in this debate on the Demands for Grants for 2007-2008. I value greatly the fact that there has been near unanimity in this House on the significance of science and technology in taking this country forward and there is near unanimity that the relevance of this Ministry, the increasing relevance of this Ministry, in a sense, is tied to the path India is going to take to become a modern powerful nation in the 21st century.

But, having said that, before I take the valuable comments of the hon. Members who have participated in this debate, I want to put certain things in perspective. [MSOffice65]

The first point that I wish to make to you is the following. What is science? Science ultimately is our understanding of nature, our understanding of four elements of nature – oxygen, hydrogen, nitrogen and carbon dioxide. If we understand all elements of these four elements, we have understood science. Now, what is technology? Technology is the intervention of man through the understanding of these processes for the purposes of benefit to humankind. So, what then is science and technology? It is understanding nature for the benefit of man. If science and technology does not move along that road, then obviously we have not used it properly and we are not fulfilling the purpose for which we understand science, use science for humankind. So, I think, all programmes - Shri Bachi Singh Rawat mentioned about policies - and policies must ultimately focus on how relevant science and technology is for the good of man. That is point number one.

My second point is that in the course of this debate, you have noticed that most people have talked about various Ministries that have nothing to do with science and technology. They have talked about agriculture; they have talked about defence; they have talked about steel and mines; they have talked about pharmaceutical industry which is part of Ministry of Chemicals; they have talked about health; and they have sought answers from me in respect of issues that relate to other Ministries, the solutions of which ought to be emerging from my Ministry. So, the point number two that I wish to make is that if science and technology is going to advance in this country, then we must ensure that the Ministry of Science and Technology must become a nodal Ministry, interacting with all other Ministries, interacting with all other State Governments and having a national plan as to what we can do for the common man in India. I would like to know from hon. Members how many times a State Government has contacted the Ministry of Science and Technology to ask us for help. In the last three years, hardly any time any State Government has done so. How many Science and Technology Councils are functioning within State Governments? Unless we are able to work together and all the Ministries set up Science and Technology councils, which interact with us for the purposes of co-ordination and solutions for the people of this country, we are not going to be able to deliver. That is point number two.

Then, I come to point number three. If you look at the world community and you look at civilisations, you will see that most developed world are countries where R&D is central to development. What do I mean by that? If you take the number of people in the developed world per million population, you will find that the number of people per million population doing R&D in the Swedish countries, where development in science and technology is on high growth curve, is somewhere around 6,000 per million persons. If you go to USA, it will be 4,700 per million people. If you go to China, it is 1,500 per million people. If you come to India, it is 156 per million people. So, let us not blame our scientists and our scientific community. You want them to deliver. When they are competing against such difficult odds, you give them Rs. 4,000 crore and say produce like the Western world. I salute members of the scientific community in this country who have against such heavy odds fought for the progress of this country and delivered.[s66]

This is my third point.

Fourthly, if you take any developed country, then by and large you will find that the investment in science and technology is about 3 per cent of GDP, and in some cases it is more than 3 per cent of GDP. The Chinese figure, at this point, is 1.23 per cent of GDP, and in India it is 0.8 per cent of GDP. But remember that out of 0.8 per cent, 0.6 per cent comes from the public sector and the contribution of the private sector is only 0.2 per cent. On the other hand, if you look at the contribution of the public sector throughout the world where even the investment to GDP is 3 per cent, the contribution of the public sector is never more than 0.6 per cent to 0.8 per cent. The rest of the contribution comes from the private sector. Therefore, the public finances are only 0.6 to 0.8 per cent when we talk about 3 per cent of GDP in the western world. As far as we are concerned, India has done

pretty well on the public finances front, but we have done badly on the private front. This is the fourth point, which I want to place before you.

Having said this, science and technology cannot grow in a backyard. You will get scientific personnel and you will get human resource wherever there are economic opportunities. People have talked about brain-drain during the course of this debate. Yes, there has been huge brain-drain, and the reason is that people will go elsewhere for jobs when they do not find jobs in India. We cannot stop them, we should not stop them or we cannot keep them.

The other day I was in Russia, and I was taken to a site. I just happened to ask one of the guides who was walking with me that : "What are you doing?" He said that : "At the moment I am a guide, but otherwise I am a doctor." I said : "Why are you not functioning as a doctor?" He said that : "Well, I do not get a job. I earn more money as a guide than a MBBS." What do you expect people to do if you do not give them jobs, and if you do not absorb them on the demand side? You can have as much supply as you want, but if on the demand side you do not absorb them, then you cannot blame them. They will go out of the country.

Please see all that happened in the software revolution, which took place in India. There was a talk about brain-drain between 2001 and 2004. But, nearly 25,000 to 30,000 software engineers left Silicon Valley and came back to India. Why did they do so? It is because there was capacity of the industry to absorb them on the demand side. Therefore, you must give impetus on the supply side, and you must give impetus on the demand side. I am saying this because one is not going to have a situation where there is not going to be any brain-drain unless supply matches demand and demand matches supply.

What do we have to do at the national level? What is our vision of the 21st century? Where is India going to go in the context of science and technology? What do we see in India in this context where 60 per cent to 70 per cent people live in rural areas? We need to make sure that maximum number of people who live in very poor conditions get inputs of science and technology to better their lives. This can only happen if the agriculture sector becomes the centre of innovation.

Let me touch upon a subject. People talked about price rise in the country. Probably, most people do not know this. If you look at the 10 year growth in agriculture in this country from the middle of 1990s to 2007, then you will find that the production of food grains in this country has been an average of 210 million tonnes. It could be a couple of million tonnes here or there, and the population has grown at the same pace as it was growing earlier. It means that the population growth is on the rise whereas the agriculture production is stagnant. What do you have in such a situation? You have a purely economist situation where the demand is greater than supply, and when demand is greater than supply, then you are going to have inflation. One may blame it on this Government or on that Government, but one is going to get inflation unless one does something on the supply side. Supply side means investment in agriculture, investment in technology, giving to the farmer better seeds, giving to the farmer a seed which is drought resistant and pest resistant, which is resistant to both biotic and abiotic stresses. You need to give to the farmer a supply chain. You need to give to the farmer a modern Met Department which will tell him when it is going to rain and in which District.

It is all very well to criticize the Met Department and say that we do not come right in most of our predictions. But what does the Met Department have and which Governments in the past have done what? It is only the UPA Government under this Prime Minister and under Mrs. Gandhi that we have taken very significant steps to modernize the Met Department of this country. Nobody thought of it in the past. What have we done with the Met Department? We need 42 Doppler radars in this country. Do you know how many we have? We have four. Did anybody ask these questions earlier? We need wind profilers in this country to actually predict the kind of storms that took place in Mumbai in the last two summers. We need rain gauges which are automatic. We need automatic weather stations. We have none of those. We have, but they are most insignificant and they are not digital. Then comes the use of super computer.

Somebody mentioned that with super computer we will not be able to predict. A super computer will only do calculations. But the calculations will only come when we have data and the data will only come when we have instrumentation. So, if you do not have instrumentation, there is no use to have super computers. So, we have now launched a modernization plan in this country where we are going to invest Rs.900 crore to Rs.1000 crore to make modern Met Department in this country so that we can then use the super computer and have agro-advisories for our farmers to know when it is going to rain. This is going to happen in our Government.

Somebody mentioned about seeds. We have developed a wide variety of seeds, for example rice which is resistant to salinity. We have already developed that and it is in the market. The problem is the Ministry of Science and Technology can only give a technology input. But there is a lot to be done beyond that. Industry must come in. Then there must be a marketing strategy. Then the end product must be accessible and affordable. That is not the job of the Ministry of Science and Technology. So, what we need is a public-private partnership.

Let me tell you what we are doing. Somebody talked about the problem of drinking water. There are four hundred million people in this country who live along the coast. Four hundred million people, which is perhaps just less than the entire population of Europe, live along the coast of this country. When I went to Kavaratti, I realized that 11,000 people in Kavaratti do not have drinking water. Water used to be sent to them in barges. So, we decided in the Ministry of Science and Technology to develop indigenous technology for providing them drinking water. We set up a plant which now gives a thousand litres of water, which is eleven litres of clean drinking water per person in Kavaratti. We did it through indigenous technology.

May I tell you this that just last week we demonstrated and we have now increased the capacity of this to one million litres. Last week we demonstrated outside Chennai a plant of a million litres of water where the Total Deposit of Solids (TDS) is about five per million. The normal standard in the developed world is something like 5000 per million. We are giving the purest water in this country merely through our indigenous technology by converting sea water into drinking water through only the application of differential temperature. What that means is, we take water at about 200 mitres below the ocean, which is 11 degrees centigrade, and we bring it up. Water at the surface is at 24 to 26 degrees centigrade. We boil that in vacuum conditions. In other words, the boiling point of water comes down in vacuum conditions. We boil it and condense it through the cold water. The salt is left behind and you get the clean drinking water. It is the first plant of its kind in the world.[KMR67]

We have now a pattern by a company through public-private partnership done by the Ministry of Science & Technology. This machine costs Rs.10,000 which converts your tap water into drinking water. I can tell you this that I use it in my house for myself. Now, that machine is selling. We have got a patent from the USA; the money was given by CSIR and in public-private partnership we developed it.

We are doing huge things. The problem is that we cannot upscale this with the total budget of Rs.4,000 crore. You know what America spend for research and development – 224 billion dollars. You know what we spend – 4 billion dollars. Then, we compare the USA with India. You do not give us money, manpower. What we need is the realization that at the heart of economic development is investment in science and technology and no person other than Rajiv Gandhi realized it. That is why we have, today, a revolution in computers and information technology in this country.

Let me tell you another thing that we are doing and this is going to change we think and work. Somebody talked about mapping. I did a project in Chandni Chowk for example. I know, I have mapped each house in Chandni Chowk and given it a number. With special technology we take the photograph from space, then aerial technology, we run air plane and take photograph. Then, we do video graph along all lanes and then, we use software technique and we put it all together in a computer programme. If I want to look at any house in Chandni Chowk, I have to just click the model number, the number I have given it and I will get that house in front of my screen.

MADAM CHAIRMAN : We must put this in each constituency. It is very good.

SHRI KAPIL SIBAL: The Ministry of Urban Arts has now agreed to use this technology. All of Delhi will be done in 14 to 16 months time. We are going to map 400 cities in this country in the next five years. We are going to change the way this country works and thinks. But what we need is constructive debates like that in Parliament instead of stopping proceedings all the time because if we get our work done, we will get the people of this country to move forward.

MADAM CHAIRMAN : Good.

SHRI KAPIL SIBAL: That is what we need. You can debate us, you can have an informed debate. Do not stop proceedings. Allow us to work and tell you what we are doing so that people of this country get to know how well the UPA Government is taking its commitment to do something for the common people of this country.

Now what we are going to do with this mapping? If there is a fire anywhere in Chandni Chowk, I know how to reach that place because it will be in the screen. I know which lane to take; I know which hospital is there nearby; I know where I have to take him. If there is a traffic jam, I know what to do. We are going to map all the water pipes which are underground and put censors therein so that I know where the leakage is. We are going to map all the electricity supply chains so that we know where electricity is being stolen. I am going to map all of India, all the farm lands of India. It is going to take five to 10 years but we will map all the farm lands of India where wheat is grown and where rice is grown; where horticulture is done. It all will be mapped. We then know at the beginning of the year whether the production is going to be less or higher; through calorific value of these plants, we know actually the extent of production. So, well before the end of the year, we know whether we have to import wheat or export wheat. All that is possible. We are going to map each city on a scale of one to 1,000 - really urban cities in this country like Mumbai, Kolkata, and other cities. All that is going to be done.

Therefore, this is going to be a bigger revolution than the information technology revolution. The problem is, when it comes to

public, this cannot be done by the Ministry of Science & Technology. We need people in the industry to come into it. When we talk of industry coming in, then the opposition raises cry – why should industry be allowed; this is all for profit-making, not realizing that the ultimate advantage is to the common man of this country. When the District Magistrate knows what is happening in his district through this technology, he will be able to solve problems much quicker and we can use this for security purposes.

In fact, we are going to do a project for the bus terminals in Delhi and also for the railway stations. We will try, through this technology, to find out who is entering without touching it as to what you might have. So, it could be used for security purposes and it could be used for anything else also. What we need is manpower. Our problem in the Ministry today is that we are treated as a Ministry like any other. It means that there are Ministries where, for administrative reasons, no recruitment is allowed. The same rule applies to us also. But we are creators of knowledge. If we are creators of knowledge, we are creators of wealth ultimately. The administrative rule which applies to other Ministries should not be applied to us because unless we recruit young scientists in their 20s and 30s, we will not be able to do research. We need to change the equation from 156 to a million to 200-500-1000 to a million. By this, we will create more and more knowledge. But when we need 1000 to a million, we need more jobs. When we ask for more jobs, we are told that we cannot recruit anybody unless somebody retires. So, the average age of the scientists in this country is about 50, when what we need to do to produce science is somebody who is in his 30s. So, we need to change the way we think. All of us must come together in this because India must move on. This is what we are going to do to change the way we work.

Let me just touch upon some of the issues which the hon. Members raised. Most of the issues that they raised do not relate to my Ministry, but they relate to the Ministry of Human Resource Development. They wanted to know whether a particular institution will be set up or not in the educational sector, etc. I do not set that up. What I do in my Ministry is to fund certain projects, create knowledge centres in the university system, and fund it to make them centres of excellence. We also fund some other projects; we also do public-private partnerships with the industry. We are doing huge things in the bio-technology sector; for example in the cell bio-technology, in genomics research, in geo-informatics, bio-informatics, we are developing huge projects.

I will give you a simple example of what we are in fact doing. Somebody asked what we are going to do for encouraging youths. In the 11th Plan from 2007-2012, this is what we have suggested – we must set up something like Science Innovation Scholarships for a million kids in this country between the ages 10-17. the estimated cost of this scholarship will be Rs.5,000 per child and the total cost will be Rs.500 crore. We proposed this in the 11th Plan. We will have summer camps with global icons with 45,000-50,000 young people from class 10 – the top one per cent of all school boards will be picked up and we will put them along with global icons to interact with and to generate an interest in science. That is part of the 11th Plan objective. We are going to have assured opportunities and we are going to set up schemes for people who will take up research as a career.

For example, we will give about 2,000 scholarships to people between the ages 17-20, at Rs.5,000 per month per scholarship for three years. The cost would be Rs.72 crore. One thousand M.Sc. students will be given scholarships likewise. Five hundred Ph.D. level people will be given between Rs.8,000-Rs.12,000 per month for four years. Five hundred young blood national assistance will be provided.

We are having huge schemes for the young. We need to actually go forth and tell the people of this country, to have a communication strategy. We are going to have a huge communication strategy. ...(*Interruptions*)

MADAM CHAIRMAN : You can seek clarifications later on.

श्री बिक्रम केशरी देव : यह क्लैरीफिकेशन नहीं है। मैं पूछ रहा हूँ कि आपने स्कॉलरशिप देने के बारे में कहा है, लेकिन इसके लिए बजटरी प्रॉविजन्स केवल दस लाख रूपए हैं।

श्री कपिल सिब्बल : यह 11वीं पंचवर्षीय योजना की बात हो रही है, अभी तक एलेवेंथ प्लान पूरा नहीं हुआ है। आप कह रहे थे बच्चों के लिए क्या कर रहे हैं, मैं उसके बारे में आपको बता रहा हूँ। जो सोच पहले पांच-दस सालों में नहीं हुई थी, वह सोच आपके सामने रख रहा हूँ। इसके अतिरिक्त मैं और कुछ नहीं कह रहा हूं। People compare China with India. Let me give some comparisons. [MSOffice68]

[R69] We have for example; published 2.11 lakh papers in science citation during the last ten years. So, the average citation per paper for Indian scientists is 4.07. That means, if somebody writes the paper and cites one of these papers, on an average four such papers are cited. If you compare it with China, we produce 2.11 lakh papers and China produces 4.2 lakh papers but their citation rate is 3.89, lower than ours. They have 10 lakh people working as scientific researchers. We have only 1.5 lakh such people but 1.5 lakh people in India are far more productive than 10 lakh people in China. The reason why China is going ahead is because our human resource is much smaller than China. If you double, triple or make it five or ten times, we will be producing three times than what is produced in China in terms of research. We have a handicap. We have to increase our investment and that is why the Prime Minister in the Science Congress said that we would make it 2 per cent of the GDP by the

end of the Plan and I am sure by the end of the Plan we would get that kind of money.

I can go on and on but the fact of the matter is a lot has been done and much more needs to be done. It needs to be done through consensual and a constructive approach in which all Ministries take part. This is the first time in the history of this country that my Ministry has joined hand with almost all Ministries to work together. A substantial research and many other programmes have been taken up with the Ministry of Health. Similarly, the Ministry of Environment, Ministry of Steel and the Ministry of Agriculture have been involved. Many of the ICAR people are the nominees on our Boards because we want to get their inputs as well in biotechnology. But this has never happened before. The reason is that we want ultimately all Ministries to give a certain percentage of their money into R&D for themselves so that we can actually do it for them. This can only be done through this consensual approach. We can work with any Ministry. That is the kind of cooperation that we want.

We want cooperation from the Opposition as well. Similarly, cooperation is required from the States where Opposition is in power. Let them come to us and tell us where they need the help and they will not find us wanting because our heart is ultimately to do those things. Take the example of weavers in Uttar Pradesh. We need to do a lot of investment in seri-biotechnology so that we produce the better kind of silk, the more high quality silk which China has. Just because the Chinese silk is coming here as a product, our poor *bunkers* cannot compete. So, the solution ultimately lies in Science and Technology.

A lot of people talked about the global change. I would give you three or four facts and then I would have done. I have already taken 30 minutes. As a global community we consume 160 billion tonnes of water, more than we replenish annually. If you convert 160 billion tonnes of water into real numbers, it means a convoy of trucks which is 300,000 miles long, which is 17 times the diameter of the earth. On an annual basis we consume water more than we replenish. This is a very serious issue. It is not just an issue related to India. It is a global issue. We need to take care. We need to change the way we work.

For example, the maximum amount of water is used in rice cultivation. A thousand tonne of water produces one tonne of rice. Can we afford to use a thousand tonne of water to produce one tonne of rice? The answer is 'No'. So, what we need to do is to have seeds which consume only 100 tonnes of water for one tonne of rice. So, the answer lies not in conserving water but the answer lies in investments in Science and Technology. That is the way we have to look at things.

Take for example the construction material. One of the basic problems of global warming, on the consumption side, is that if we grow at 9 per cent we are going to build structures of steel and structures of cement. They absorb heat. They do not reflect heat. When they absorb heat they become permanent structures for absorbing heat. What we need to do is to now think of materials which will not absorb heat but which would reflect heat. The answer lies in science and technology, in new material and in new structures. What money the Ministry of Science and Technology get for that? It gets next to nothing. The answer lies in nano-science. Nano-science is the answer for the future. We have now launched a mission on nano-science and I am sure we will be successful. One of my Secretaries have told me that some of the nano-scientists and centres we have are as good as any in the world. The problem is that we do not have the kind of resources that we wish we have. We could have done much more. So, we need to change.

Take for example, Bamboo Mission which is a hugely successful mission. We create coal out of bamboos, dust out of bamboos and energy out of bamboos. We are now using bamboo to set up systems in the Himalayas in the coldest regions, in Siachin for example to which the cold will not affect. It is so strong. The tensile strength of that bamboo is as good as the tensile strength of steel. That is the kind of thing we are doing. We need to change materials and for the North-East, we need a huge programme. Mr. Rijiju is right. The problem with the North-East is that you may take the technologies there but you need to market it and you need to market it through public-private partnership. Now what we need is partnership by the indigenous people living in the North-East because unless they get profit, they will not be interested in the technology. So, we need to set up a system there to generate that kind of enthusiasm. If I were to talk I could take hours.

I am really delighted to participate in this debate. You can take it from me that I will grab at any opportunity that you give me to take this forward. There is no question of my discriminating because science is not for any country. The Ministry of Science like knowledge has no boundaries. You mentioned that knowledge has no boundary. Similarly, science has no boundary. The Ministry has no boundary. I can do anything as long as it relates to technology and development. So, let us take technology and let us use it for the common man of this country. Then only will India be a great power.

SHRI K.S. RAO : We all agree and the Minister also agrees that this is the decade of bio-technology. After the information technology, it is the bio-technology that is going to bring substantial changes in this country. A year back, the Minister had announced a Centre in Hyderabad. The Government of Andhra Pradesh has given 112 acres of land years back. They have set aside crores of rupees for this purpose. It is lying in the bank. I heard that because the decision has to come from two Ministries – one is the Ministry of Science and Technology and the other is the Ministry of Health, the decision has not been taken. An MNC

with the support of NRIs and with its own investment is ready to have PPP with the Government. For the last one year, it is ready to invest. But no decision has been taken. I wish to know from the hon. Minister for what reasons the decision has not been taken.

SHRI KAPIL SIBAL: This is a project, as my good friend Shri Rao knows, we have supported. The ball is now not in my Ministry. It is in some other Ministry. So, I would suggest him to go to the appropriate Minister. I for one would say that it is at the heart of bio-technology. Unless we have large animal testing we will not be able to develop new molecule and we will not be able to test it.

SHRI K.S. RAO : No investment is required. They are ready to do everything.

SHRI KAPIL SIBAL: It has been noted and I am sure we will take this forward.

श्री बची सिंह रावत 'बचदा' : महोदया, माननीय मंत्री जी ने जो विषय रखा है, उसका सभी लोगों ने पहले भी समर्थन किया था, लेकिन वित्तीय क्षेत्र में आवंटन कम है, यही हमारी भी चिंता का विषय है। इस क्षेत्र में आवंटन बढ़ाया जाना चाहिए था। 165 करोड़ रुपए डिपार्टमेंट आफ बायो टेक्नोलोजी में आन गोइंग प्रोग्राम्स के लिए, यानी कि नए प्रोग्राम्स के लिए नहीं, बल्कि जो प्रोग्राम्स चल रहे हैं, उनके लिए हम लोगों ने चिंता व्यक्त की है और वित्त मंत्री जी से सदन के माध्यम से मांग कर रहे हैं कि वे इसकी व्यवस्था करें।

मैं दो और विषयों की जानकारी चाहता हूं।

सभापति महोदया : आप कृपया अपना प्रश्न पूछिए।[R70]

श्री बची सिंह रावत 'बचदा' : हम यह स्पष्टीकरण चाहते हैं जैसा कि तय हुआ था कि सामाजिक आर्थिक मंत्रालय, जो सोशियल और इकनॉमिक सैक्टर के हैं, उनके कुल आबंटन में से कुछ प्रतिशत राशि को विज्ञान और प्रौद्योगिकी में सुसंगत कार्यक्रमों और क्रियाकलापों के लिए प्रदान करना होगा, अदर मिनिस्ट्रीज से साइंस और टेक्नोलॉजी को कुछ धनराशि दी जाए, यह निर्णय हुआ था लेकिन मेरा ख्याल है कि इसका इम्पलीमेंटेशन नहीं हुआ है।

एक टास्क फोर्स वित्तीय उपाय के लिए गठित होनी थी। साइंस और टेक्नोलॉजी में एपेक्स साइंस एंड टेक्नोलॉजी बॉडी बनाकर नीतिगत उद्देश्यों की पूर्ति में सहायक वित्तीय उपाय सुझाने के लिए टास्क फोर्स का गठन होगा। ये दो विषय थे जिनके निर्णय लिए गए थे, इनका पालन हो पाया या नहीं? माननीय मंत्री जी इसके बारे में जानकारी देने का कष्ट करें।

SHRI KAPIL SIBAL: In fact, I can mention to him that as far as fiscal measures are concerned, we have made a request to the Ministry of Finance and the Department of Bio-Technology whatever request they made that fiscal incentive has been given. As and when industry comes up with fiscal incentive, they will ask the Finance Minister and I am sure that will be done. We cannot look at fiscal incentive without reference to the ground situation to a particular industry. As and when that happens, it will be done.

सभापति महोदया : आपने बताया टास्क फोर्स है।

SHRI KAPIL SIBAL: There is no question of a Task Force.

श्री किरेन रिजीजू : महोदया, मैंने स्पेसिफिक बात जानने के लिए निवेदन किया था कि हिमालयन रीजन और नॉर्थ-ईस्टर्न काफी डेलीकेट रीजन है। एक प्रपोजल भी हिमालयन ऑथोरिटी के लिए था। वन मंत्री जी यहां बैठे हैं लेकिन वे कुछ नहीं कर रहे हैं। मैं आपसे गुजारिश करूंगा कि आप वन मंत्री राजा साहब से बात करें कि हिमालयन रीजन को सेव करने के लिए हिमालयन डेवलपमेंट ऑथोरिटी का निर्माण कैसे किया जाए। नॉर्थ-ईस्टर्न रीजन के जो रिसोर्सिस टैप नहीं हो रहे हैं, उसके लिए मैंने कमेटी के गठन का अनुरोध किया था, उसके बारे में कुछ कहेंगे तो अच्छा होगा।

श्री कपिल सिब्बल : हम राजा जी से बात करेंगे और उनका जो भी निर्णय होगा आपको बता देंगे।

SHRI BIKRAM KESHARI DEO : Madam, in the course of his reply the hon. Minister mentioned about a nodal Ministry. If this Department of Science and Technology is given the status of a nodal Ministry, then it would be able to perform better because the challenges that the country is going to face shortly are vast. We have to compete with the developed countries. So, I think, it is a necessity that this Ministry, it is my view and also such a view has been expressed by the hon. Minister is given the status of a nodal Ministry.

MADAM CHAIRMAN : Are you giving suggestions, or asking questions?

SHRI BIKRAM KESHARI DEO : The Chairperson of the UPA and the hon. Leader of the House are present here. They should take a decision about making this a nodal Ministry so that the hon. Minister in his capacity can perform better.

SHRI KAPIL SIBAL: Madam, I would like to mention to the hon. Member that recently there was a meeting of the Science Advisory Council with the hon. Prime Minister and one of the suggestions that is being mooted is to set up a Science and Technology Commission. Once a Science and Technology Commission is set up, then all decisions with reference to science and technology will be taken away from other Ministries and vested in that Commission so that the functioning of the Ministry will be

far more streamlined. We are working on many of those issues.

MADAM CHAIRMAN: I shall now put the Demands for Grants relating to the Ministry of Science and Technology to the vote of the House.

The question is:

> "That the respective sums not exceeding the amounts on Revenue Account and Capital Account shown in the Fourth column of the Order paper be granted to the President of India, out of the Consolidated Fund of India, to complete the sums necessary to defray the charges that will come in course of payment during the year ending the 31st day of March, 2008, in respect of the heads of Demands entered in the Second column thereof against Demand Nos. 81 to 83 relating to the Ministry of Science and Technology."

The motion was adopted.