

jects have yielded useful scientific information. No engineering applications have been made at this stage.

(b) A Scientific Report on phase one of the project was submitted to CSIR in 1983.

(c) CSIR has accepted the scientific results of the report.

(d) Does not arise at this stage.

SHRI S. B. SIDNAL: In view of the great need to provide sufficient water, energy as also to prevent floods, on which every year Government have to spend crores of rupees from the exchequer, will the construction of dams, nuclear and thermal power plants be given preference as the Committee has already recommended.

If so, what are the dams and thermal power plants that would be constructed and built with the help of West Germany and to what extent the Germans have agreed to help technically and financially?

SHRI K. R. NARAYANAN: As I said, this research experiment has not reached the stage of application. But we are developing the technology for tunnelling, finding out the stress of rocks in areas, etc. so that we will be able to determine whether the tunnelling has to take place and how mining has to be conducted, etc. And at this stage it is too early to say how with the help of this technology we can determine the locations of our major dams, mines and industry. We have not developed to that stage of technological development with the help of German equipments and technology that we have received.

SHRI S. B. SIDNAL: Sir, how many surveys have been conducted by the German Finance Company and Indo-German Chamber of Commerce involving 130 ventures during 1985-86 as they have shown import substitution yielding about 88.89 Crores net inflow of foreign exchange. In view of this, have any projects been finalised or studied? What is the Government's stand; whether there is a report or survey, something should be told. In that sense may I know from the Government

what steps have been taken for these projects; or whether there are no projects at all?

SHRI K. R. NARAYANAN: Based on this technology, there are some projects in the sense that the Kashmir Government for example has asked NGRI to conduct a survey in order to enable them to dig tunnels etc. This is a kind of preparatory thing. But I am afraid that based on this technology itself, it is much too premature to say that they are going to establish an industry, etc.

SHRI S. B. SIDNAL: At least, whether they have submitted the report, that could be told.

SHRI K. R. NARAYANAN: I have already said that we have concluded the first phase of the experiment which is to find out the stress in rocks and we have already reached some conclusions with regard to tectonic movement of rocks. But, as I said, this is enough to get indications for such operations of tunnelling and for mining etc. but at this stage we cannot say that we can undertake projects, etc. based on this technology.

### Exploration of Sea Wealth

\*951. SHRI VIJAY N. PATIL: Will the PRIME MINISTER be pleased to state:

(a) whether Government have taken any special steps recently to explore minerals from the ocean;

(b) if so, the work done so far by the Indian Marine Scientists;

(c) whether Government have come across interference from any foreign countries in this exploration work;

(d) if so, the details thereof; and

(e) the new technology being introduced for the exploration of sea wealth?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTER OF STATE IN THE DEPARTMENT OF OCEAN DEVELOPMENT,

ATOMIC ENERGY, ELECTRONICS AND SPACE (SHRI K. R. NARAYANAN):(a) to (e). A statement is given below.

### STATEMENT

(a) and (b). The Department of Ocean Development has been deploying two oceanographic vessels GAVESHANI and SAGAR KANYA to explore minerals of the economic zone and the deep seabed. In addition, several vessels have been chartered from time to time for this purpose. As a result of the work done by the Indian marine scientists, a mine site has been allotted to India by the Preparatory Commission for the International Seabed Authority in the Central Indian Ocean basin for the exploration of minerals in the deep seabed.

Within the Exclusive Economic Zone, the marine scientists of the Geological Survey of India and National Institute of Oceanography have intensified survey and exploration activities for locating areas rich in placer deposits like ilmenite, rutile, zircon, monazite, etc.

(c) No, Sir.

(d) Does not arise

(e) For survey and exploration work, the Department of Ocean Development has been upgrading the required technology from time to time by obtaining most modern ship-board equipment and by promoting the installation of new shore based facilities.

SHRI VIJAY N. PATIL: Sir, today there are a lot of questions for Narayanan ji, but I hope he will answer in detail to my question which is very important as far as the mineral wealth is concerned. Sir, it is a common knowledge that the mineral wealth, whatever is existing on the earth surface in Indian sub-continent, is going to be exhausted in the near future. So, we have to explore for the wealth which is lying at the bottom of the sea. There was a scheme to purchase about three research vessels from European countries for conducting research at the bottom of the sea

regarding the availability of minerals like Copper and Molybdenum and other minerals so also the research about the flora and fauna. Here in the statement, it has been mentioned that two vessels are being employed. I want to know whether the third vessel is purchased or not and if it is not purchased, whether there are plans to purchase it.

SHRI K. R. NARAYANAN: We are planning to purchase the third vessel.

PROF. MADHU DANDAVATE: If these are the details, then what would be the short reply?

SHRI VIJAY N. PATIL: Mr. Speaker, Sir, we have got a large sea coast, not only on the Indian main land but also we have got Islands like Andaman and Nicobar, Lakshadweep. Near these Islands we can have exploration.

We congratulate our Scientists for their expedition to Antarctica. But nothing much, as was expected had come out of this research. For the last so many years, we are undertaking this expedition. I would like to know from you what is the outcome, what are the details of that and what are the findings other than from the Scientists?

SHRI K. R. NARAYANAN: Sir, the Antarctica research has led to...

SHRI VIJAY N. PATIL: I am asking you about the research done on the sea bottom.

SHRI K. R. NARAYANAN: The research we have been conducting in the Oceans have resulted in many concrete benefits. One of the major benefits has been that India has been proved as a pioneer investor in the Indian Ocean for the exploration of the mineral wealth. We have been assigned 1,50,000 sq. kms. as our own for exploration purposes.

SHRI VIJAY N. PATIL: That is very less. According to the international standards, we have to have more command on sea. Upto 250 nautical miles, we have to go.

**SHRI K. R. NARAYANAN:** In the Exclusive Economic Zone also, we have conducted research. For example we have conducted surveys for the fishing wealth of the Oceans. We have conducted surveys for finding mineral deposits nearer our own shore. Vast quantities of Ilmenite, Zirconium and other minerals have been detected as existing. We have also picked up nodules which are being analysed from the point of view of extraction purposes in our laboratories.

**SHRI ATISH CHANDRA SINHA:** I would like to know from the hon. Minister whether any rough estimate has been made about the availability of different metals that we hope to get from the polymetallic nodules from under the Sea that has been allotted to us as a pioneer investor!

**SHRI K. R. NARAYANAN:** How much exactly there is, to be got from these mid-Oceans, we have not assessed yet. But all that we have so far succeeded is to pick up samples -- I think about 40 tonnes -- which are being analysed in our laboratories for extraction purposes. But we know that we have through surveys detected large areas where there are concentration of nodules, mineral wealth, but the technology of mining itself has not been fully developed in the world as a whole. We are developing it. The technology of mining for commercial purposes has not yet been fully developed, though it has been developed at the laboratory stage. All that I would like to say is that there are very considerable resources hidden under the sea and they can be recovered. They can be processed and used for economic development.

**SHRI E. AYYAPU REDDY:** Mr. Speaker, Sir, was any offer made by the Government of Japan for exploiting the sea wealth of India or is there any proposal to have collaboration with Japan for the purpose of exploiting our sea wealth? Was any offer made in the past by the Government of Japan -- there were some Press Reports that Japan had offered some billions of money -- for exploiting the sea wealth of India? Is there any truth in that report; or

is there any scope for collaboration with Japan for exploiting our sea wealth?

**SHRI K. R. NARAYANAN:** There is certainly scope for collaboration with Japan. As far as concrete offers are concerned, I think there are offers for projects concerning fisheries; but concerning the extraction of mineral wealth, I am not aware of any offer from Japan.

#### Fake Arms Licence Racket

\*952. **SHRI M. V. CHANDRA-SEKHARA MURTHY:**  
**SHRI BANWARI LAL PUROHIT:**

Will the Minister of HOME AFFAIRS be pleased to state:

(a) whether the Delhi Crime Branch has recently unearthed a racket in forged arms licences operating in several parts of the country as reported in the 'Indian Express' dated 8 April, 1988;

(b) if so, the number of arrests made in this regard;

(c) the details of the illegal arms and ammunitions recovered from the arrested persons; and

(d) further action taken in the matter?

THE MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS AND MINISTER OF STATE IN THE MINISTRY OF HOME AFFAIRS (SHRI P. CHIDAMBARAM):

(a) Yes, Sir.

(b) Three.

(c) No illegal arms/ammunitions have been recovered. However, fake arms licences and fake rubber stamps of District authorities have been seized.

(d) A case under various sections of IPC and other special laws has been registered.

Sir, with your permission, I would like to add this. After this answer was fur-