

**TWENTY-SIXTH REPORT
PUBLIC ACCOUNTS COMMITTEE
(1991-92)**

(TENTH LOK SABHA)

DEVELOPMENT OF WEAPON SYSTEM 'X'

**MINISTRY OF DEFENCE
(DEPARTMENT OF DEFENCE RESEARCH
AND
DEVELOPMENT ORGANISATION)**

**[Action taken on 168th Report of Public
Accounts Committee (8th Lok Sabha)]**



समयमेव जयते

*Presented in Lok Sabha on 30.4.1992
Laid in Rajya Sabha on 30.4.1992*

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(1991-92)

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INTRODUCTION

I, the Chairman of the Public Accounts Committee as authorised by the Committee, do present on their behalf this Twenty Sixth Report on action taken by Government on the recommendations of the Public Accounts Committee contained in their 168th Report (Eighth Lok Sabha) on Development of Weapon System 'X'.

2. According to the original sanction accorded in May 1974, the project for the development of Weapon System 'X' was estimated to cost Rs. 15.50 crores with a foreign exchange component of Rs. 2.32 crores. The bulk production was scheduled to commence originally by April 1984. As per the latest revised estimates of the project sanctioned in May 1987, the cost of the project was likely to be Rs. 280.80 crores, with a foreign exchange component of Rs. 102.32 crores. According to the Department of Defence Research and Development the delay in development, steep escalations in cost and the phenomenal increase in foreign exchange component was primarily due to change in scope of work, consistent with the perceived threat, the technological upgradation and the need to develop a state-of-art weapon system relevant for the period of its development. Increase in number of Weapon System 'X' to be manufactured from 12 to 14, to include concept of pre-production series, normal inflation and increase in the rate of foreign exchange are stated to be other reasons for cost escalations. The Committee have, however, not been fully convinced that the entire time and cost over-run was beyond the control of the Department and have been of the view that with better planning and more effective implementation some of these could have been avoided. The Committee have expressed their strong displeasure over the fact that the Department had not fully informed PAC even in their action taken notes of September, 1990 the changes that have occurred in the Department over the conception, mechanism and requirements between the period 1974 when the project was originally sanctioned and 1987 when the revised estimates of the project were sanctioned and it was only when the representatives of the Ministry were called for further evidence on 18.2.1992 that the position was explained fully.

3. The Committee have also expressed their concern over the inordinate delay in the completion of the development project. According to the Committee what is more disquieting is the fact that even at this late stage, the time by which the bulk production on such an important weapon system would actually commence cannot be anticipated with any degree of certainty. The Committee have emphasised that the efficacy of any developmental project can be judged only in terms of real and concrete achievement, which still remains to be fulfilled in the present case. The Committee have, therefore, once again urged the Government to keep unremitting vigil on the progress of the project and ensure speedy solution of the problems if any, so that bulk production may commence at the earliest.

4. The Report was considered and adopted by the Public Accounts Committee at their sitting held on 23 April, 1992. Minutes of the sitting form Part II of the Report.

5. For facility of reference and convenience, the recommendations of the Committee have been printed in thick type in the body of the Report and have also been reproduced in a consolidated form in Appendix to the Report.

6. The Committee place on record their appreciation of the assistance rendered to them in the matter by the Office of Comptroller and Auditor General of India.

NEW DELHI;
April 24, 1992

ATAL BIHARI VAJPAYEE
Chairman,
Public Accounts Committee,

Vaisakha 4, 1914 (S)

CHAPTER I

REPORT

This Report of the Committee deals with the action taken by Government on the recommendations of the Committee contained in their Hundred and Sixty Eighth Report (Eighth Lok Sabha) on Development of Weapon System 'X'.

1.2 The Hundred and Sixty-Eighth Report which was presented to Lok Sabha on 28 April, 1989 contained 12 recommendations. Action taken notes have been received in respect of all the recommendations and these have been broadly categorised as follows:

- (i) Recommendations and observations which have been accepted by Government;
Sl. Nos. 2, 6, 8, 10, 11 and 12
- (ii) Recommendations and observations which the Committee do not desire to pursue in the light of the replies received from Government;
Sl. Nos. 1, 3, 5, 7
- (iii) Recommendations and observations replies to which have not been accepted by the Committee and which require reiteration;
Sl. Nos. 4 and 9
- (iv) Recommendations and observations in respect of which Government have furnished interim replies;

—Nil—

1.3 At their sitting held on 24th January, 1992, the Public Accounts Committee had deferred the consideration of the draft Report on action taken by Government on the recommendations contained in 168th Report of Public Accounts Committee (8th Lok Sabha) relating to Development of weapon system 'X'. The Committee decided that the Secretary, Department of Defence Research and Development should be asked to elucidate in evidence certain points arising out of the action taken notes furnished by the Ministry to the Committee. At their sitting held on 18 February, 1992, the Committee obtained the necessary elucidations from the Secretary, Department of Defence Research and Development. In the light of the position emerging during elucidations, the Committee directed that a comprehensive note on weapon system 'X' programme, bringing out all the events and compulsions in correct perspective, be furnished to them. The note has since been received from the Ministry of Defence.

1.4 The Committee will now deal with the action taken by Government on some of their recommendations.

**Delay in Development of weapon system,
escalation in cost and increase of
foreign exchange component**

1.5 Based on the general staff qualitative requirement, presented by the Army in August, 1972, the project for development of 'X' was sanctioned in March 1974. The cost of the project was estimated at Rs. 15.50 crores and the project estimate was sanctioned in May 1974. According to the project schedule envisaged in the sanction, 4 prototypes of 'X' were to be offered for trial by April, 1980 and another 8 during the next 2 years by April, 1982. The time schedule and the cost estimates have since been revised from time to time. As per the latest revised estimates of the project sanctioned in May, 1987, the cost of the project is likely to be Rs. 280.80 crores.

1.6 Expressing their deep concern over the inordinate delay in commencement of bulk production of the weapon system the Committee in para 3.16 of their 168th Report had made the following recommendations:

“As per the latest project estimates, approved in May, 1987, bulk production was scheduled to commence in the near future. The Committee were informed in 1987 that two Public Sector Undertakings (PSUs) had already been designated as the prime agencies for production of the weapon system and as per the time estimates given by these it would take about three years to commence bulk production from the time clearance is given but efforts were being made to compress this time gap by associating these agencies in manufacture of pre-production series. In a subsequent note the Committee were informed in January, 1989 that a revised time schedule has been drawn up, which would be got approved after the summer trials of the prototypes and that according to the revised time scheduled so drawn, bulk production will now commence an year after the present prescribed schedule. It is, however, not known whether clearance for undertaking bulk production has been given to the two PSUs or not and whether the two undertakings have agreed to the schedule of commencing bulk production in the near future.

In the opinion of the Committee the question of giving clearance to the two agencies for undertaking bulk production will arise only after trials of prototypes have been conducted. The revised schedule of commencing bulk production in the near future is, therefore, at the most tentative and dependent on the results of the trials yet to be carried out and the agreement of the two Public Sector Undertakings to commence bulk production in accordance with this revised

schedule. The Committee have strong doubts for the aforesaid reasons whether it will at all be possible to commence bulk production even in the near future. The Committee can hardly over emphasise the need for speedy completion of the project in the interest of defence preparedness of the country. They would, therefore, like the Government to keep unremitting vigil on the progress of the project, ensure speedy solution of the problems if any, and exert constant pressure on the concerned laboratories/establishments for expeditious completion of the project so that bulk production may commence at the earliest consistent with quality.”

1.7 In their action taken note dated 21st September, 1990, the Ministry of Defence (Department of Defence Research and Development) have stated as follows:

“The two PSUs (BEML, KGF and BHEL, Bhopal) have been nominated as agencies for manufacture of pre-production series tank only. No decision has been taken as yet on the prime agencies for bulk production of weapon system. Summer automotive trials on two prototypes under desert condition have been carried out during May-August 1989. While the performance of various sub system is generally satisfactory, the reliability to the required level is still to be established. Limited weapon system trials on two integrated prototypes have also been carried out during November 1989 March 1990. During the firing trials, while the accuracy of HESE firing was satisfactory, consistency of FSAPDS rounds needs improvement. The defects/problems noticed during these trials have been analysed and the improvements incorporated wherever possible. Further trials by users are presently under progress on two fully integrated prototypes for weapon system and automotive system evaluation. Clearance for bulk production of the equipment will have to be given by the users on completion of these trials. As suggested by PAC, efforts will be made for speedy completion of the project towards commencement of bulk production at the earliest.”

1.8 The Committee desired to know the reasons responsible for delay in completing the project. The Secretary, Department of Defence Research and Development stated during evidence as follows:

“I would like to state two-three issues governing the delay. As my colleague mentioned, the programme was started in 1974 and what we are now doing is an entirely new weapon system. In 1974 we did not envisage this kind of power or the weight or did not envisage the gun of this calibre, did not envisage the ammunition, did not envisage the armour. Moreover the number of Weapon System we were to make originally was 12, whereas we are now doing about 42. We believe that unless the Army practices this Weapon System in squadron, they will not be able to judge what are the actual problems in using this.”

1.9 He further added:

“We are also now working on new active armour concept. All these things led to delay and difficulties. But in the process we are hoping to give the Army the best of the technologies so far as specifications are concerned. I submit, the Weapon System would not be out of date at all. Right now, new generation of young scientists and engineers are continuously working on it, improving it from one technology to other.”

1.10 Asked whether the Department had received any orders for bulk production, the Secretary of the Department stated during evidence as follows:

“We are hoping to provide Weapon Systems in summer for user’s trial. After that, they will give clearance for going for 23 pre-production weapon system. We have got the production facilities at Heavy Vehicles Factory, Avadi as well as BEML in Kolar and Mysore, BHEL, Bhopal, we have three manufacturing agencies. What is more interesting is, we are not asking for any special investment on manufacturing facilities. The industrial engineering and design is such that we can use the manufacturing facilities already set up in these three factories.”

1.11 Expressing their concern over the steep increase in the estimated cost of the Project from Rs. 15.50 crores sanctioned in May, 1974 to Rs. 280.80 crores sanctioned in May, 1987, the Committee in para 2.12 of their 168th Report had recommended as follows:

“For reasons stated later, the Committee apprehend that commercial production may not start at an early date. The Committee recommend that a very strict watch should be kept by the Ministry to ensure that the expenditure is contained within the sanctioned estimate of Rs. 280.80 crores.”

1.12 In their action taken note dated 21st September, 1990 the Ministry of Defence (Department of Defence Research and Development) have stated as follows:

“The Department is making every effort to ensure that the expenditure on the project is contained within the present sanctioned cost of Rs. 280.80 crores. A new management structure with the formation of weapon system ‘X’ executive board has been recently constituted with administrative and financial powers..... With this, technical and financial management of the project is expected to improve further.

The actual and committed expenditure on the project till 31 December 1989 is as under:

	<i>Rupees in Crores</i>	
Actual Expenditure	134.96	(57.61)
Outstanding commitment	54.14	(17.35)
Total:	189.19	(74.96)"

1.13 The position has been further elucidated by the Ministry of Defence (Department of Defence Research and Development) in a note subsequently furnished on 13 March, 1992 as follows:

“It is submitted that the weapon system ‘X’ currently being developed as per 1987 sanction is two generation ahead of the one conceived in 1974. The cost increase in the project from 1974 sanction to 1987 sanction has been primarily due to:

- (a) Change in scope of work, consistent with the perceived threat, the technological upgradation and the need to develop a state-of-art Weapon System relevant for the period of its development.
- (b) increase in number of weapons system ‘X’ to be manufactured from 12 to 42, to include concept of pre-production series.
- (c) normal inflation and increase in rate of foreign exchange.

1.14 It is further stated that at no stage expenditure exceeded the Government sanction; and the present Weapon System is state-of-art.”

1.15 Commenting on the phenomenal increase of foreign exchange component from Rs. 2.32 crores in the estimate sanctioned in May 1974 to Rs. 102.32 crores in the latest estimate sanctioned in May, 1987 the Committee in para 2.14 of their 168th Report had recommended as follows:

“Another disquieting aspect is that the foreign exchange content of the project estimate has increased phenomenally from Rs. 2.32 crores in the estimate sanctioned in May 1974 to Rs. 102.32 crores in the latest estimate sanctioned in May 1987. The increase has been more than 44 times of the provision for foreign exchange in the original estimate. The sanction of March 1974 envisaged development of all systems and sub systems indigenously except sub system ‘A’ for which capability did not exist in the country. Apart from import of 42 No. of sub system ‘A’ of Rs. 22.00 crores, some components, system and sub systems too have been imported for use of study/evaluation purposes. Consultancy services for certain areas of the technology have also been obtained from abroad. Disappointingly, the object of developing the weapon system ‘X’ entirely by indigenous effort is not going to be achieved fully.”

1.16 In their action taken note dated 21st September, 1990 the Ministry of Defence (Department of Defence Research and Development) have stated as under:

“It has been observed by the Committee that the object of developing system ‘X’ entirely by indigenous effort is not going to be achieved

fully. It may be mentioned that the effort of DRDO is to promote self reliance in defence technology and not to be construed as production of total system through totally indigenous effort right from the design and development stage. Initially to introduce the state of art technology available in the global scenario, imported sub systems are introduced as part of the total weapon system as starting point. This also cuts down the time frame for the system development as a whole. Subsequently, once the prototypes are fabricated, trials conducted, design frozen action is taken to progressively reduce the import content through indigenisation effort. Further, it has also been found that total indigenisation of certain components is not justifiable due to economic reasons in the absence of sufficient demands. With the same spirit all actions are being taken to reduce the dependency on import to the barest minimum for this project also.”

1.17 On an enquiry by the Committee about the specific factors which caused steep increase in the foreign exchange component, the Secretary, Department of Defence Research and Development stated as follows:

“Many of the things that we envisaged in the 1974 GSQR, which we call the GSQR-A, did not include many of the things like the electro-optic system. I would submit that if I give the break up of the foreign exchange component, you would find that fifty per cent of it is coming from the electro-optic system as well as the engines. The foreign exchange component continues to be around ten per cent.”

1.18 In their comprehensive note dated 13 March, 1992 the Ministry of Defence (Department of Defence Research and Development) have stated as follows:

“The increase in foreign exchange component of the project from Rs. 2.32 crores in 1974 to Rs. 102.32 crores in 1987 has been primarily due to the following:

(a) increase in Foreign Exchange rate by	60%
(b) import of 42 power packs	— Rs. 24 cr.
(c) fire control and sighting system	— Rs. 21 cr.
(d) acquisition of infrastructural facilities	— Rs. 28 cr.
(e) consultancy	— Rs. 5 cr.

However, Rs. 88 cr. only have been spent so far. Efforts are continuously being made to reduce the foreign exchange component by progressive indigenisation of sub-systems.”

1.19 The Committee desired to know the reasons for sustaining the claim of the Department that it would totally be indigenous system, the Secretary of the Department stated as follows:—

“It would be totally indigenously designed weapon system. For no critical component we would be depending on any foreign country.

Until we get into some of the co-production mode, some of the setting up production facilities mode, our foreign exchange component will be around 25 percent to 30 percent.”

1.20 According to the original sanction accorded in May 1974, the project for the development of Weapon System ‘X’ was estimated to cost Rs. 15.50 crores with a foreign exchange component of Rs. 2.32 crores. The bulk production was scheduled to commence originally by April 1984. As per the latest revised estimates of the project sanctioned in May 1987, the cost of the project was likely to be Rs. 280.80 crores, with a foreign exchange component of Rs. 102.32 crores. In their earlier Report, the Committee had strongly criticised the phenomenal increase both in the cost of the project and foreign exchange component. The Committee had also expressed their concern over the inordinate delay in the development project. While emphasising the need for expeditious completion of the project, the Committee had also urged the Department of Defence Research and Development to take every care to ensure that the final outcome of the development incorporated the latest technological advances in the field.

1.21 According to the Department of Defence Research and Development the delay in development, steep escalations in cost and the phenomenal increase in foreign exchange component was primarily due to change in scope of work, consistent with the perceived threat, the technological upgradation and the need to develop a state-of-art weapon system relevant for the period of its development. Increase in number of Weapon System ‘X’ to be manufactured from 12 to 42, to include concept of pre-production series, normal inflation and increase in the rate of foreign exchange are stated to be the other reasons for cost escalations. According to the Secretary of the Department, they were hoping to give the Army the best of the technologies so far as specifications were concerned. It has also been stated that unless the Army practiced this weapon system in squadron, they would not be able to judge the actual problems. The Department hoped to provide the weapon system in summer for user’s trial and after which they would give clearance for going for 23 pre-production weapon systems. The Department have also assured that they have got the production facilities with the selected manufacturing agencies and they would not seek any special investment on manufacturing facilities. According to the Department they were making every effort to ensure that the expenditure on the project was contained within the present sanctioned cost of Rs. 280.80 crores.

The Committee are not however fully convinced that the entire time and cost over-run was beyond the control of the Department and are of the view that with better planning and more effective implementation some of these could have been avoided. The Committee also cannot but express their displeasure over the fact that the Department had not fully informed PAC even in their action taken notes of September, 1990 the changes that have occurred in the Department over the conception, mechanism and requirements between the period 1974 when the project was originally sanctioned

and 1987 when the revised estimates of the project were sanctioned and it was only when the representatives of the Ministry were called for further evidence on 18.2.1992 that the position was explained fully.

1.22 The Committee are deeply concerned over the inordinate delay in the completion of the development project. What is more disquieting is the fact that even at this late stage, the time by which the bulk production on such an important weapon system would actually commence cannot be anticipated with any degree of certainty. The Committee believe that in the case of time taking developmental project involving a fast developing technology, updating of requirements by the user during the execution of the project is to some extent unavoidable. The Committee need hardly emphasise that the efficacy of any developmental project can be judged only in terms of real and concrete achievement, which still remains to be fulfilled in the present case. The Committee, therefore, once again urge the Government to keep unremitting vigil on the progress of the project and ensure speedy solution of the problems if any, so that bulk production may commence at the earliest.

CHAPTER II

RECOMMENDATIONS AND OBSERVATIONS WHICH HAVE BEEN ACCEPTED BY GOVERNMENT

Recommendation

For reasons stated later, the Committee apprehend that commercial production may not start at an early date. The Committee recommend that a very strict watch should be kept by the Ministry to ensure that the expenditure is contained within the sanctioned estimate of Rs. 280.80 crores.

[Sl. No. 2 para 2.12 of Appendix 'A' to 168th Report of PAC (8th Lok Sabha)]

Action Taken

The Deptt. is making every effort to ensure that the expenditure on the project is contained within the present sanctioned cost of Rs. 280.80 crores. A new management structure with the formation of Arjun executive board has been recently constituted with administrative and financial powers. A copy of the ministry's directive forming an Arjun Executive Board (copy not enclosed). With this, technical and financial management of the project is expected to improved further. The actual and committed expenditure on the project till 31 Dec. 89 is as under.

	Rupees in crores	
Actual expenditure	134.96	(57.61)
Outstanding commitment	54.14	(17.35)
Total	189.10	(74.96)

[Ministry of Defence (Deptt. of Defence Research and Development)
O.M. No. Adm./6397/RD—26(ii) dated 21.9.1990]

Recommendation

The Committee have been Informed that separate funds are not allotted exclusively for the project on year to year basis and that the various units engaged on the project have been getting funds for execution of the project as part of their annual budget sanctions only. The actual expenditure on the project is not booked separately but the expenditure incurred on the project by the work centres and nodal agencies is consolidated yearly and reported to the headquarters. The actual cost of the project is, therefore, arrived at by consolidating the figures in various reports and not

by having a proper accounting system for the purpose of booking expenditure on the project. The committee are of the view that in the absence of a proper system for keeping account of the expenditure incurred on the project, it is not possible to ensure that the figures in the reports of the various laboratories/establishments which are consolidated for ascertaining the cost of the project are accurate and accordingly there is no way in which the Ministry can exercise control on the expenditure. The Committee urge the Government to devise a proper accounting system for projects of this nature so that accountability can be ensured.

[Sl. No. 6 Para 2.16 of Appendix 'A' to 168th Report of PAC (8th Lok Sabha)]

Action Taken

The procedure for the allotment of funds exclusively for MBT project on year to year basis to various work centres connected with this project through the nodal work centre has now been evolved and has been implemented from the financial year 1989-90. A system has been introduced to seek information on actual expenditure on this project from various centres through the nodal laboratory on monthly basis. In the above system, allocation of funds under various budget heads is made by R&D HQrs of the beginning of each financial year based on fund requirements projected by various work centres connected with MBT Arjun duly vetted by CVRDE (the nodal lab). The work centres will forward the expenditure details every month to the nodal laboratory who will in turn compile the same and forward to R&D HQrs on quarterly basis.

[Ministry of Defence (Deptt. of Defence Research and Development)
O.M. No. Adm./6397/RD-26 (ii) dated 21-9-90]

Recommendation

Another effect of the long time taken in completion of development of the indigenous Weapons-System has been that requirements during the intervening period have had to be met either by import or licensed production involving outgo of considerable amount of foreign exchange. But what is more disquieting is that in view of the fast pace of advancement of technology there is inherent danger of obsolescence of the technology planned if the time taken in the development of the Weapon System 'X' runs to such a long period. The Committee hope that the Ministry will take every care to ensure that the final outcome of the development incorporates the latest technological advances in the field.

[Sl. No. 8 para 3.15 of Appendix 'B' to 168th Report of PAC (8th Lok Sabha)]

Action Taken

In the development of weapon system 'X' it is being ensured that latest technological advances in various fields are incorporated in the development of the sub systems and the complete weapon system that the country shall be able to absorb. Only to ensure that obsolescence does not occur large number of pre-production prototypes are planned to establish

production infrastructure concurrently with the development process.
 [Ministry of Defence (Deptt. of Defence Research and Development)
 O.M. No. Adm./6397/RD-26(ii) dated 21-9-90]

Recommendation

The Committee note with concern that the development of the indigenous Weapon System commenced in 1974 is still far from complete and commencement of bulk production is not expected in the near future. The Committee are, however, of the view that it will be much later for bulk production to commence, for reasons already stated. Although the Government have claimed from time to time that Weapon System under development will be the most modern in the world, the Committee are of the view that because of long gestation period the possibility of obsolescence creeping in cannot be ruled out. The Committee, therefore recommend that a committee independent of the DRDO should be appointed by the Ministry with the following objectives.

- (i) To review the progress of development to ensure that there has been no undue delay;
- (ii) To evaluate the design of the Weapon System under development to ensure that it incorporates the latest technological advances; and
- (iii) To evaluate the pre-production series to ensure that they fully meet the qualitative requirements of the user.

[Sl No. 10 para 3.20 of Appendix 'B' to 168th Report of PAC (8th Lok Sabha)]

Action Taken

Subsequent to the visit of PAC to CVRDE, the nodal DRDO laboratory for development of MBT Arjun, RM had appointed a special review committee chaired by SA to RM to review the progress of the project in all aspects.

Necessary follow up actions as suggested by the Committee are under progress to ensure expeditious completion of the project.

[Ministry of Defence (Deptt. of Defence Research and Development)
 O.M. No. Adm./6397/RD-26(ii) dated 21-9-90]

Recommendation

Considering the time already taken and expenditure incurred to develop the sub system and the substantial expenditure necessary for import of the sub system for bulk production of the weapon system, the Committee hope that suitable measures would be taken to expedite the development of the sub system of the required capacity.

[Sl. No 11 para 4.4 of Appendix 'C' to 168th Report of PAC (8th Lok Sabha)]

Action Taken

Development of the sub systems 'A' (indigenous engine) will be expedited so that it becomes available for fitment of MK II tanks.

[Ministry of Defence (Deptt. of Defence Research and Development)
O.M. No. Adm./6397/RD-26(ii) dated 21-9-90]

Recommendation

The Committee regret to note that the high level working group and the Steering Committee constituted to watch and expedite the progress of development of the weapon system held only 17 and 14 meetings against 30 and 60 meetings respectively scheduled to be held during the period of 15 years. The Committee are inclined to conclude that the matter has not been given the importance it deserves. They hope that atleast now these bodies will intensify their watch on the progress of the project so that there is no further slippage in completion of the project and commencement of bulk production of the weapon system.

[Sl. No. 12 Para 5.4 of Appendix 'D' to 168th Report of PAC (8th Lok Sabha)]

Action Taken

As brought out earlier, Steering Committee and working Group were functioning effectively under a need based schedule. In addition an ARJUN EXECUTIVE BOARD (AEB) has been set up under Govt orders who will be responsible to the Steering Committee/Working group for managing the development, integration trials and evaluation, technology transfer of the Weapon System and for establishing production. The above Committee including working group and AEB will now meet more frequently and intensify the progress of the project as advised by PAC.

[Ministry of Defence (Deptt. of Defence Research and Development)
O.M. No. Adm./6397/RD—26(ii) dated 21.9.1990]

CHAPTER III

RECOMMENDATIONS AND OBSERVATIONS WHICH THE COMMITTEE DO NOT DESIRE TO PURSUE IN THE LIGHT OF THE REPLIES RECEIVED FROM GOVERNMENT

Recommendation

The Committee note with dismay the steep increase in the estimated cost of the project for development of the Weapon System 'X'. The project which was originally estimated to cost Rs.15.50 crores in May 1974 is likely to cost Rs. 280.80 crores as per latest estimates sanctioned in May 1987, the increase being more than 17 times of the originally estimated cost. While escalation in cost may partly be due to revisions in the GSQR and addition of certain new items, the Committee are of the opinion that since most of the expenditure is on salaries and wages the phenomenal increase in cost is also to a great extent due to inordinate delay in the completion of the project. Lamentably, bulk production which was scheduled to commence originally by April 1984 is still to commence. What is more disquieting is that expenditure on the project in some of the establishments/laboratories had already exceeded their sanctioned estimates prior to the revision of estimates in 1987. The Committee are not convinced of the claim of the Ministry that at no time expenditure had exceeded the sanctioned limits. The expenditure incurred upto 30-6-87 was Rs.103.35 crores which was Rs.46.80 crores more than the expenditure sanctioned till 4-5-87 such huge expenditure could not possibly be incurred within the short period between 5-5-87 and 30-6-87. The Committee strongly deprecate such unauthorised expenditure.

[Sl.No. 1 para 2.11 of Appendix 'A' to 168th Report of PAC (8th Lok Sabha)]

Action Taken

The observation of the PAC that the expenditure on the project exceeded the sanctioned cost has arisen due to the fact that two go-ahead sanctions and revised sanction issued by the competent authority at different times has not been taken into account. The committed expenditure of Rs. 103.35 crores upto 30 Jun 87 quoted by the Committee has been well within the sanctioned cost and at no stage the expenditure on the project had exceeded the sanctioned cost. This can be seen from the details of original sanction, subsequent revisions and expenditure against MBT project as on date of revision of financial sanction given at Appendix 'A'. (Copy not enclosed)

The Committee are of the opinion that since most of the expenditure is on salaries and wages, the phenomenal increase in cost is also to a great

extent due to inordinate delay in the completion of the project. The Committee have also observed that only the wages and salaries in respect of the manpower exclusively sanctioned and positioned for the project are included in the cost of the project. But the cost of the facilities including existing manpower at the concerned Estts Labs which are available for the execution of the project is not accounted for and reflected in the cost of the project. The DRDO for carrying out its Defence and Research tasks has raised a number of Laboratories with a standing peace Estt consisting of Scientists and administrative staff. The primary purpose of these Estts is to support the number of projects and other activities concerning the build up and maintenance of the estts. Since the standing estt has a number of projects to support and also in addition to contribute towards build up and maintenance activities, it is difficult to identify the expenditure on individual projects. Further, from an analysis of the budget, it can be seen that only 16% of the total DRDO expenditure caters for expenditure on wages and salaries of manpower. Hence, if the 16% is broken down as attributable to maintenance, build up and project activities, individual apportionment for different projects will be an insignificant figure. This was the reason why while reporting the expenditure, this element has not been taken into account. Further, the efforts involved in apportioning the expenditure on different tasks performed may not be commensurate with the information value derived. Following information on the manpower sanctioned exclusively for MBT Arjun are furnished at Appendix 'B' & 'C' (Copy not enclosed)

- (a) Manpower sanctioned originally and positioned for this project.
- (b) Increase in manpower sanctioned/positioned from time to time.
- (c) Expenditure incurred annually on account of salaries and wages on manpower sanctioned/positioned from time to time.

[Ministry of Defence (Deptt. of Defence Research and Development)
O.M. No. Adm./6397/RD-26(ii) dated 21-9-90]

Recommendation

One of the reasons given for the cost escalation is inclusion of new items in the revised estimate, which were not included in the original sanction. The Committee fail to understand why items such as (i) requirement of adequate number of prototypes and pre-production series before commencement of production (ii) cost of import of sub system 'A' for the prototypes and pre-production series (iii) creation of an evaluation centre etc., could not be visualised while framing cost estimate sanctioned in May 1974. Similarly provision for a realistic assessment of the cost of technical and user trials, augmentation of infrastructural facilities etc. In the revised estimate is indicative of the casual manner in which the original estimate was finalised and got approved. The Committee deprecate the tendency of getting projects sanctioned by under estimation of costs generally and also

by omission of several essential requirements which can be later incorporated without much trouble because of their essentiality.

[Sl. No. 3, para 2.13 of Appendix 'A' of 168th Report of PAC (8th Lok Sabha)]

Action Taken

The major reasons for cost escalation are attributable to:

- (i) The requirement of adequate number of prototypes and pre production series tanks.
- (ii) Cost of import of sub system 'A' for the prototypes
- (iii) Creation of evaluation centre.
- (i) Requirement of adequate number of prototypes and pre production series tanks

DRDO's experience on this challenging project over the last decade has revealed that in the development of a major weapon system like the tank, we cannot possibly take the risk of being dependent on the success of one type of system. It is most important that fall back options by way of alternate solutions are kept open. Thus, the large number of combinations of sub systems to be evaluated in the tank within the short time frame demanded more number of prototypes. The concept of establishing production capability through production of number of prototypes as pre production series was introduced in DRDO project only during the 7th plan period.

(ii) Cost of import of sub system 'A'

Though continuous effort was being made in the development of sub system 'A' right from the initial stage of the project, progress in the direction was slow mainly due to its being an abinitio development in the area of IC engines and high power transmission. Due to this import option for an alternate power pack was pursued vigorously which could materialise only after 1982, when the sub system meeting our specification was available abroad for procurement.

(iii) Creation of Evaluation Centre

Evaluation concept through the evaluation centre was conceived only in 1987. Earlier the concept was through intensive field trials which involved time and cost. This was realised by about 1985 when the initial prototypes were subjected to evaluation under field conditions.

As a result of the lessons learnt in the past, following corrective measures have emerged in the formulation, sanctioning and implementation of projects by DRDO:

- (i) High value projects are invariably to be preceded by a feasibility

study to ensure accuracy in the projections made towards cost, technical achievements and time frame.

- (ii) The project proposals are to be reviewed by a peer group to inject scientific information in redefining the product at the formulation stage.
- (iii) Working out a management plan and creation of a management structure to ensure constant monitoring, review and application of on line correction to minimise deviations and variances from plan targets.

These corrective measures which have emerged over a period of time could not be considered at the time of taking up the project in 1974 when the DRDO was in infant stage and the empertise and knowledge available in design and development of weapon system was limited.

[Ministry of Defence (Deptt. of Defence Research and Development)
O.M. No. Adm./6397/RD-26 (ii) dated 21.9.90]

Recommendation

The Committee are astonished to note that only the wages and salaries in respect of the manpower exclusively sanctioned and positioned for the project are included in the cost of the project but the cost of the facilities including existing manpower at the concerned establishments/Laboratories which are availed of in the execution of the project is not accounted for and reflected in the cost of the project. Even the expenditure incurred at the headquarters in Delhi for coordination of the project is not booked against the cost of the project. The Committee are distressed to note that by excluding the appropriate portion of the expenditure on the facilities including existing manpower availed for the execution of the project, the actual cost of the project is grossly understated. It was conceded during evidence that the expenditure reasonably allocable to the project can be calculated. There is, therefore, no valid reason why such expenditure as can appropriately be charged to the project is not worked out and charged to the project in order to ascertain the true cost of the project. The Committee are constrained to observe that the reason may lie in showing expenditure at a much lower figure than what is actually expected to be incurred which is contrary to the principle of accountability to Parliament.

[Sl. No. 5 Para 2.15 of Appendix 'A' to 168th Report of PAC (8th Lok Sabha)]

Action Taken

Kindly see our remarks on the observation made by the PAC at para 2.11. It is relevant to state that the funds for wages and salaries asked for in this project and as sanctioned by CCPA caters for payment of wages and salaries only in respect of personnel exclusively sanctioned for the project and this is being accounted for accordingly.

[Ministry of Defence (Deptt. of Defence Research and Development)
O.M. No. Adm./6397/RD—26 (ii) dated 21.9.90]

Recommendation

According to the sanction for development of an indigenous weapon system 'X' accorded in March 1974, bulk production was scheduled to commence from 1984. The latest indications, however, are that bulk production will not commence at an early date. The inordinate delay in the completion of the project has been sought to be justified on the ground that the GSQR has been revised twice by the user since the project was sanctioned. The Committee are of the opinion that in the case of a time taking developmental project involving a fast developing technology, updating of requirements by the user from time to time is unavoidable and should have been taken care of in planning the schedule of completion. It has also been contended that certain developed countries have also taken almost the same amount of time in developing their weapon system 'X'. While confirmed information about the time taken in development of the weapon system 'X' in other countries is not available from the information available in Jane's year book, the committee have come to the conclusion that the time taken is excessive, considering that india has a well developed industrial base for manufacture of weapons of allied character. [Sl. No. 7 Para 3.14 of Appendix 'B' to 168th Report of PAC (8th Lok Sabha)]

Action Taken

The committee has arrived at a conclusion that the time taken on the completion of this project is excessive, based on the assumption that India has a well developed industrial base. It may be mentioned that though there is considerable industrial growth in the country, *ab-initio* design and development in high technology area is yet to take place. For example, in spite of a number of manufacturers available in the country for cars, all power plants are produced with foreign collaboration know how. DRDO is, however, systematically making efforts to bridge this gap.

Based on the assessment of knowledge, experience expertise and infrastructure available in the country at that time for technology development and manufacture of AFVs, it was indicated in CCPA paper 1974 that the bulk production would commence in 10 years time i.e. in 1984. The time estimate in this regard however could not be adhered to due to QR changes, developmental problems and lack of expertise with the industries in India on developmental oriented project.

[Ministry of Defence (Deptt. of Defence Research and Development)
O.M. No. Adm./6397/RD-26(ii) dated 21.9.90]

CHAPTER IV

RECOMMENDATIONS AND OBSERVATIONS REPLIES TO WHICH HAVE NOT BEEN ACCEPTED BY THE COMMITTEE AND WHICH REQUIRE REITERATION

Recommendation

Another disquieting aspect is that the foreign exchange content of the project estimate has increased phenomenally from Rs. 2.32 crores in the estimate sanctioned in May 1974 to Rs. 102.32 crores in the latest estimate sanctioned in May 1987. The increase has been more than 44 times of the provision for foreign exchange in the original estimate. The sanction of March 1974 envisaged development of all systems and sub system indigenously except sub system 'A' for which capability did not exist in the country. Apart from import of 42 Nos. of sub system 'A' of Rs. 22.00 crores, some components, systems and sub systems too have been imported for study/evaluation purposes. Consultancy services for certain areas of the technology have also been obtained from abroad. Disappointingly, the object of 'A' developing the weapon system 'A' entirely by indigenous effort is not going to be achieved fully.

[Sl. No. 4 para 2.14 of Appendix 'A' to 168th Report of PAC (8th Lok Sabha)]

Action Taken

It has been observed by the committee that the object of developing system 'X' entirely by indigenous effort is not going to be achieved fully. It may be mentioned that the effort of DRDO is to promote self reliance in defence technology and not to be construed as production of total systems through totally indigenous effort right from the design and development stage. Initially to introduce the state of art technology available in the global scenario, imported sub system are introduced as part of the total weapon system as a starting point. This also cuts down the time frame for the system development as a whole. Subsequently, once the prototypes are fabricated, trials conducted, design frozen action is taken to progressively reduce the import content through indigenisation effort. Further, it has also been found that total indigenisation of certain components is not justifiable due to economic reasons in the absence of sufficient demands. With the same spirit all actions are being taken to reduce the dependency on import to the barest minimum for this project also.

[Ministry of Defence (Deptt. of Defence Research and Development)
O.M. No. Adm./6397/RD-26(ii) dated 21.9.1990]

Recommendation

As per the latest project estimates, approved in May 1987, bulk production was schedule to commence in the near future. The Committee were informed in 1987 that two Public Sector Undertakings (PSUs) had already been designated as the prime agencies for production of the weapon system and as per the time estimates given by these agencies it would take about three years to commence bulk production from the time clearance is given but efforts were being made to compress this time gap by associating these agencies in manufacture of pre-production series. In a subsequent note the Committee were informed in January, 1989 that a revised time schedule has been drawn up, which would be got approved after the summer trials of the prototypes and that according to the revised time schedule so drawn, bulk production will now commence an year after the present prescribed schedule. It is, however, not known whether clearance for undertaking bulk production has been given to the two PSUs or not and whether the two undertakings have agreed to the schedule of commencing bulk production in the near future.

In the opinion of the Committee the question of giving clearance to the two agencies for undertaking bulk production will arise only after trials of prototypes have been conducted. The revised schedule of commencing bulk production in the near future is, therefore, at the most tentative and dependent on the results of the trials yet to be carried out and the agreement of the two Public Sector Undertakings to commence bulk production in accordance with this revised schedule. The Committee have strong doubts for the aforesaid reasons whether it will at all be possible to commence bulk production even in the near future. The Committee can hardly over emphasise the need for speedy completion of the project in the interest of defence preparedness of the country. They would, therefore, like the Government to keep unremitting vigil on the progress of the project, ensure speedy solution of the problems if any, and exert constant pressure on the concerned laboratories/establishments for expeditious completion of the project so that bulk production may commence at the earliest consistent with quality.

[Sl. No. 9 para 3.16 of Appx. 'B' to 168th Report of PAC (8th Lok Sabha)]

Action Taken

The two PSUs (BEML, KOF and BHEL, Bhopal) have been nominated as agencies for manufacture of pre production series tanks only. No decision has been taken as yet on the prime agencies for bulk production of weapon system. Summer automotive trials on two prototypes under desert condition have been carried out during May — Aug 89. While the

performance of various sub system is generally satisfactory, the reliability to the required level is still to be established. Limited weapon system trials on two integrated prototypes have also been carried out during Nov. 89 — Mar, 90. During the firing trials, while the accuracy of HESH firing was satisfactory, consistency of FSAPDS rounds needs improvement. The defects/problems noticed during these trials have been analysed and the improvements incorporated wherever possible. Further trials by users are presently under progress on two fully integrated prototypes for weapon system and automotive system evaluation. Clearance for bulk production of the equipment will have to be given by the users on completion of these trials. As suggested by PAC, efforts will be made for speedy completion of the project towards commencement of bulk production at the earliest.

[Ministry of Defence (Deptt. of Defence Research and Development)
O.M. No. Adm./6397 RD-26(ii) dated 21.9.1990]

CHAPTER V

**RECOMMENDATIONS AND OBSERVATIONS IN RESPECT OF
WHICH GOVERNMENT HAVE FURNISHED INTERIM REPLIES**

-NIL-

**NEW DELHI;
April 24, 1992**

Vaisakha 4, 1914(S)

**ATAL BIHARI VAJPAYEE,
Chairman,**

Public Accounts Committee.

APPENDIX
Statement of Conclusions/Recommendations

Sl. No.	Para No.	Ministry/ Deptt. Concerned	Recommendations/Conclusions
1	2	3	4
1	1.20	Ministry of Defence (Deptt. of Defence Research and Development)	According to the original sanction accorded in May 1974, the project for the development of weapon system 'X' was estimated to cost Rs. 15.50 crores with a foreign exchange component of Rs. 2.32 crores. The bulk production was scheduled to commence originally by April 1984. As per the latest revised estimates of the project sanctioned in May 1987, the cost of the project was likely to be Rs. 280.80 crores, with a foreign exchange component of Rs. 102.32 crores. In their earlier Report, the Committee had strongly criticised the phenomenal increase both in the cost of the project and foreign exchange component. The Committee had also expressed their concern over the inordinate delay in the development project. While emphasising the need for expeditious completion of the project, the Committee had also urged the Department of Defence Research and Development to take every care to ensure that the final outcome of the development incorporated the latest technological advances in the field.
2	1.21	-do-	According to the Department of Defence Research and Development the delay in development, steep escalations in cost and the phenomenal increase in foreign exchange component was primarily due to change in scope of work, consistent with the perceived threat, the

technological upgradation and the need to develop a state-of-art weapon system relevant for the period of its development. Increase in number of Weapon system 'X' to be manufactured from 12 to 42, to include concept of pre-production series, normal inflation and increase in the rate of foreign exchange are stated to be the other reasons for cost escalations. According to the Secretary of the Department, they were hoping to give the Army the best of the technologies so far as specifications were concerned. It has also been stated that unless the Army practiced this weapon system in squadron, they would not be able to judge the actual problems. The Department hoped to provide the weapon system in summer for user's trial and after which they would give clearance for going for 23 pre-production weapon systems. The Department have also assured that they have got the production facilities with the selected manufacturing agencies and they would not seek any special investment on manufacturing facilities. According to the Department they were making every effort to ensure that the expenditure on the project was contained within the present sanctioned cost of Rs. 280.80 crores.

The Committee are not howeverfully convinced that the entire and cost over-run was beyond the control of the Department and are of the view that with better planning and more effective implementation some of these could have been avoided. The Committee also cannot but express their displeasure over the fact that the Department had not fully informed PAC even in their action taken notes of September, 1990 the changes that have occurred in the Department over the conception mechanism and requirements between the period 1974 when the project was originally sanctioned and 1987 when the revised estimates of the project were sanctioned and it was only when the

1	2	3
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4

representatives of the Ministry were called for further evidence on 18.2.1992 that the position was explained fully.

2	1.22	-do-
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The Committee are deeply concerned over the inordinate delay in the completion of the development project. What is more disquieting is the fact that even at this late stage, the time by which the bulk production on such an important weapon system would actually commence cannot be anticipated with any degree of certainty. The Committee believe that in the case of time taking developmental project involving a fast developing technology, updating of requirements by the user during the execution of the project is to some extent unavoidable. The Committee need hardly emphasise that the efficiency of any developmental project can be judged only in terms of real and concrete achievement, which still remains to be fulfilled in the present case. The Committee, therefore, once again urge the Government to keep unremitting vigil on the progress of the project and ensure speedy solution of the problems if any, so that bulk production may commence at the earliest.

PART II

MINUTES OF THE SITTING OF PAC HELD ON 24 JANUARY, 1992

The Committee sat from 1030 hrs. to 1230 hrs. on 24 January, 1992.

PRESENT

Shri Nirmal Kanti Chatterjee— *In the Chair*

MEMBERS

2. Shri Girdhari Lal Bhargava
3. Shri Vilas Muttemwar
4. Shrimati Krishna Sahi
5. Shri Pratap Singh
6. Prof. (Dr.) S.P. Yadav
7. Shri R.K. Dhawan
8. Shri Dipen Ghosh
9. Shri Murasoli Maran
10. Shri Vishvjit P. Singh
11. Shri Ish Dutt Yadav

LOK SABHA SECRETARIAT

1. Shri S.C. Gupta — *Joint Secretary*
2. Smt. Ganga Murthy — *Deputy Secretary*
3. Shri N.M. Jain — *Under Secretary*
4. Shri K.C. Shekhar — *Under Secretary*

REPRESENTATIVES OF AUDIT

1. Shri N. Sivasubramaniam — ADA (Reports)
2. Shri A.K. Menon — ADA (Army, Navy, Air Force etc.)
3. Shri Dharam Vir — DGA (CR-I)
4. Shri A.K. Banerjee — Pr. DA (Reports Central)
5. Shri Direndra Swarup — Pr. DACR (II)
6. Shri T.N. Thakur — Pr. DA Scientific Departments
7. Shri P.K. Lahiri — Pr. DA (Direct Taxes)
8. Shri K. Krishnan — Director (DT)-I

9. **Shri Kulvinder Singh — Director (DT)-II**

2. In the absence of Chairman, the Committee chose Shri Nirmal Kanti Chatterjee, to act as Chairman for the Sitting of the Committee in terms of rule 258(3) of the Rules of Procedure and Conduct of Business of Lok Sabha.

3. The Committee considered and adopted the following Draft Action Taken Reports subject to modifications shown in the *Annexures I, II and III respectively:—

(i)	***	***	***
(ii)	***	***	***
(iii)	***	***	***

The Committee deferred the adoption of the Draft Action Taken Report on recommendations contained in 168th Report of PAC (8th Lok Sabha) relating to Development of Weapon System 'X' and decided to seek further elucidations on the action taken notes furnished by the Department of Defence Research and Development.

5.	***	***	***
6.	***	***	***
7.	***	***	***

The Committee then adjourned.

MINUTES OF THE 13TH SITTING OF PUBLIC ACCOUNTS COMMITTEE HELD ON 18.2.1992 FROM 1500 HRS. TO 1715 HRS.

The Committee sat from 1500 hrs. to 1715 hrs.

PRESENT

Shri Atal Bihari Vajpayee — *Chairman*

MEMBERS

Lok Sabha

2. **Shri Girdhari Lal Bhargava**
3. **Shri Nirmal Kanti Chatterjee**
4. **Shri Z.M. Kahandole**
5. **Shri D.K. Naikar**
6. **Shri Arvind Netam**
7. **Shri R. Surender Reddy**
8. **Shri Amar Roypradhan**
9. **Prof. (Dr.) S.P. Yadav**

Rajya Sabha

10. **Shri R.K. Dhawan**
11. **Shri Dipen Ghose**
12. **Shri H. Hanumanthappa**
13. **Shri J.P. Javali**
14. **Shri Vishvjit P. Singh**
15. **Shri Ish Dutt Yadav**

SECRETARIAT

1. **Shri S.C. Gupta** — *Joint Secretary*
2. **Smt. Ganga Murthy** — *Deputy Secretary*
3. **Shri K.C. Shekhar** — *Under Secretary*

REPRESENTATIVES OF AUDIT

1. **Shri A.C. Tiwari** — *Dy. Comptroller & Auditor Gen.*
2. **Shri A.K. Menon** — *Addl. Dy. Comptroller & Auditor General*
3. **Shri A.K. Banerjee** — *Pr. Director Reports (Central)*

4. Smt. Sudarshana Talapatra Director (Reports) Office of the DGADS, New Delhi

REPRESENTATIVES OF DEPARTMENT OF DEFENCE RESEARCH & DEVELOPMENT

1. Dr. V.S. Arunachalam — Secretary, Deptt. of Defence Research & Development

DRDO HQrs.

2. Shri K.N. Singh — CC R&D (S)
 3. Maj. Gen. R. Swaminathan — Director Planning & Resource Management R&D HQrs.
 4. Brig D.S. Cheema — Offg. Director CV R&D HQrs.
 5. Shri P.K. Shukla — OSD to SA to RM

ESTT

6. Shri M. Natarajan — Director, CVRDE
 7. Dr. O.P. Nijhawan — Director, IRDE, Dehradun

FINANCE

8. Shri A.K. Mitra—Joint Secretary & Addl. FA(A)

The Committee sought elucidation from the representatives of the Ministry of Defence (Deptt. of Defence Research & Development) on certain points arising out of the Action Taken Notes furnished by the Ministry to the Committee on the recommendations contained in 168th Report of PAC (8th Lok Sabha) relating to Development of Weapon System 'X'.

The important points emerging out of their discussion are as follows:

Delay in Development of Weapon system

Based on the general staff qualitative requirement, presented by the Army in August, 1972, the project for development of 'X' was sanctioned in March 1974. The cost of the project was estimated at Rs. 15.50 crores and the project estimate was sanctioned in May, 1974. According to the project schedule envisaged in the sanction, 4 prototypes of 'X' were to be offered for trial by April, 1980 and another 8 during the next 2 years by April, 1982. The Time schedule and the cost estimates have since been revised from time to time. As per the latest revised estimates of the project sanctioned in May, 1987, the cost of the project is likely to be Rs.280.80 crores. However, the bulk production of the weapon system is yet to be commenced.

The Committee desired to know the specific reasons responsible for delay in completing the project. The Secretary, Department of Defence

Research and Development stated during evidence as follows:

“I would like to state two-three issues governing the delay. As my colleague mentioned, the programme was started in 1974 and what we are now doing is an entirely new weapon system. In 1974 we did not envisage this kind of power or the weight or did not envisage the gun of this calibre, did not envisage the ammunition, did not envisage the armour. Moreover the number of Weapon System we were to make originally was 12, whereas we are now doing about 42. We believe that unless the Army practices this Weapon System in squadron, they will not be able to judge what are the actual problems in using this.”

Further elaborating on this point he stated:

“We are also now working on new active armour concept. All these things led to delay and difficulties. But in the process we are hoping to give the Army the best of the technologies so far as specifications are concerned. I submit, the Weapon System would not be out of date at all. Right now, new generation of young scientists and engineers are continuously working on it, improving it from one technology to other”.

Asked whether the Department had received any orders for bulk production, the Secretary of the Department state as follows:

“We are hoping to provide Weapon Systems in summer for user’s trial. After that, they will give clearance for going for 23 pre-production weapon systems. We have got the production facilities at Heavy Vehicles Factory, Avadi, as well as BEML in Kolar and Mysore, BHEL, Bhopal. We have three manufacturing agencies. What is more interesting is, we are not asking for any special investment on manufacturing facilities. The industrial engineering and design is such that we can use the manufacturing facilities already set up in these three factories”.

Inrease of foreign exchange component

The foreign exchange component of the project estimate has increased phenomenally from Rs. 2.32 crores in the estimate sanctioned in May 1974 to Rs. 102.32 crores in the latest estimate sanctioned in May 1987. The increase has been more than 44 times of the provision for foreign exchange in the original estimate.

On an enquiry by the Committee about the specific factors which caused steep increase in the foreign exchange component, the Secretary, Department of Defence Research and Development stated as follows:

“Many of the things that we envisaged in the 1974 GSQR, which we call the GSQR-A, did not include many of the things like the electro-optic system.

I would submit that if I give the break up of the foreign exchange component, you would find that fifty per cent of it is coming from the electro-optic system as well as the engines. The foreign exchange component continues to be around ten per cent”.

Indigenisation of Weapon System ‘X’

The Committee desired to know the reasons for sustaining the claim of the Department that it would totally be indigenous system, the Secretary of the Department stated as follows:

“It would be totally indigenously designed weapon system. For no critical component we would be depending on any foreign country. Until we get into some of the co-production mode, some of the setting up production facilities mode, our foreign exchange component will be around 25 percent to 30 percent.”.

The Committee then adjourned.

3. The Committee authorised the Chairman to present the above mentioned Reports to the House after incorporating therein modifications/ amendments arising out of factual verification by Audit.

The Committee then adjourned.

**AMENDMENTS/MODIFICATIONS MADE BY THE PUBLIC
ACCOUNTS COMMITTEE IN THE DRAFT REPORT RELATING TO
DEVELOPMENT OF WEAPON SYSTEM 'X' AT THEIR SETTING
HELD ON 23 APRIL 1992**

PAGE	PARA	LINE	AMENDMENTS/MODIFICATIONS
11	1.21	3 from bottom	After the word their Add "strong"