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33.	Uttar Pradesh	3079.9508
34.	Uttarakhand	23.574
35.	West Bengal	405.6423
TOTAL		12327.27257

### Kaveri Project

808. DR. K.P. RAMALINGAM :  
SHRI UPENDRA KUSHWAHA :

Will the Minister of DEFENCE be pleased to state:

(a) whether nearly two decades after the commencement of the Kaveri project and 13 years after the original probable date of completion, with an expenditure of Rs. 1892 crore, Gas Turbine Research Establishment (GTRE) is yet to fully develop an aero-engine which meets the specific needs of the Light Combat Aircraft (LCA);

(b) whether Government has ascertained the reasons and identified the officers responsible for the failure of Kaveri project;

(c) the details of defence projects running behind the schedule together with the reasons therefor giving the cost escalation thereof; and

(d) the measures taken to complete defence projects as per schedule?

THE MINISTER OF DEFENCE (SHRI A.K. ANTONY) : (a) to (d) Project for development of aero-engine "Kaveri" was taken up in 1989 by Gas Turbine Research Establishment (GTRE) with a sanctioned cost of Rs. 382.81 Cr. and Probable Date of Completion (PDC) of 1996. The cost of the project was revised to Rs. 2839.00 Cr. with PDC of December 2009. Further continuation of Kaveri project beyond the PDC has been approved by the Government within the sanctioned cost and scope.

Although there has been delay in this project due to certain reasons but for the first time Defence Research and Development Organisation (DRDO) ventured to initiate engine development programme and achieved many milestones, like Official Altitude Testing, Phase-I flight trials in the Flying Test Bed, etc. Kaveri (K9) Engine was integrated with IL-76 Aircraft and flight tested for over 55 hours. This flight test envelop covered 12 Km altitude and a speed of 0.7 Mach No. Thus, DRDO demonstrated its technological capability in aero-engine technology. This has been a great achievement in the aerospace community of the country, when the first ever indigenously developed fighter aircraft engine was subjected to flight testing. Tacit knowledge acquired by the DRDO scientists during this project will also be applied for further aerospace

technology. Kaveri spin-off engine can be used as propulsion system for Indian Unmanned Strike Air Vehicle engine can be used as propulsion system for Indian Unmanned Strike Air Vehicle (USAV).

The following are delayed CCS projects being carried out by DRDO:-

Project	Probable Date of Completion (PDC)		Cost	
	Original	Revised	Original	Revised
Light Combat Aircraft (LCA), Phase-II	December 2008	December 2012	Rs. 3301.75 Cr.	Rs. 5777.53 Cr.
Naval Light Combat Aircraft (LCA, Navy), Phase-I	March 2010	December 2014	Rs. 948.90 Cr.	Rs. 1714.98 Cr.
Aero-engine Kaveri	December 1996	December 2009*	Rs. 383.81 Cr.	Rs. 2839.00 Cr.
Airborne Early Warning and Control (AEW and C) System	October 2011	March 2014	Rs. 1800.00 Cr.	Rs. 2157.00 Cr.
Long Range Surface-to-Air Missile (LR-Sam)	May 2011	December 2015	Rs. 2606.02 Cr.	No revision

\*PDC has been extended within the sanctioned cost and scope.

The following are some of the reasons for delay in completion of the above projects:-

- (i) Ab-initio development of the state-of-the-art technologies.
- (ii) Technical/technological complexities.
- (iii) Non-availability of infrastructure/test facility in the country.
- (iv) Non-availability of critical components/equipment/materials and denial of technologies by the technologically advanced countries.
- (v) Enhanced user's requirements or change in specifications during development.
- (vi) Increase in the scope of work.
- (vii) Non-availability of trained/skilled manpower.
- (viii) Extended/long-drawn user trials.
- (ix) Failure of some of the components during testing.
- (x) Technology Denial Regimes.

The following measures have been taken to complete the ongoing projects without any further delay:-

- Consortium approach has been used for design, development and fabrication of critical components.
- Three-tier project monitoring approach is being followed in the major projects/programmes.
- Project Monitoring Review Committee (PMRC); and Project Appraisal and Review Committee (PARC) meetings are held regularly to monitor the progress of the ongoing projects.
- Concurrent engineering approach has been adopted in technology intensive projects to minimize time-lag between development and productionisation of the systems, and Information Technology and modern management techniques have been applied.
- Encouraging joint funding by users to ensure their commitment towards earliest completion.
- Promoting synergy and better co-ordination among User Services, DRDO and production agencies through cluster meetings.

#### **Illegal transfer of defence land in Jodhpur**

809. SHRI PRABHAT JHA :  
SHRIMATI KUSUM RAI :

Will the Minister of DEFENCE be pleased to state:

- (a) whether during 2007, a prime defence land in Jodhpur has been illegally transferred to a private trust;
- (b) if so, the details thereof;
- (c) whether the Ministry has ordered an enquiry into the matter;
- (d) if so, the details thereof along with the details of the findings of Enquiry Committee; and
- (e) if not, the reasons therefor?

THE MINISTER OF DEFENCE (SHRI A.K. ANTONY) : (a) and (b) A portion of land in village Jodhpur in Rajasthan under the occupation of the Local Military Authority was vacated in 2007.

- (c) to (e) The matter is being enquired.