

AGENDA FOR 25th MEETING OF PROJECT APPROVAL BOARD OF NATIONAL MISSION ON EDUCATION THROUGH INFORMATION AND COMMUNICATION TECHNOLOGY TO BE HELD ON 6th NOVEMBER 2012 AT 3.00 P.M. IN CONFERENCE ROOM NO.112-C-WING (FIRST FLOOR), SHASTRI BHAVAN, DR.RAJENDRA PRASAD ROAD, NEW DELHI

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Item No.1

The Minutes of the 24th Meeting of the Project Approval Board held on 4th October, 2012 are placed for perusal and confirmation please (**Appendix-1 - Page No.28-58**).

Item No.2

The “Action Taken Report” on the Minutes of the 24th Meeting of the Project Approval Board held on 4th October, 2012, is given at **Appendix-2 (Page No.59-70)**.

Item No.3

Intimation of “Financial Due Diligence of projects” earlier approved by PAB:

Talk to a Teacher (also known as Teachers empowerment, students empowerment, and integration of tools for empowerment – synchronous delivery) – Phase 2, PI: Kannan Moudgalya, D. B. Phatak and Somnath Sengupta Inst.: IIT Bombay and IIT Kharagpur

The Standing Committee of NMEICT in its meeting held on 27th July, 2012 deliberated the project.

The Extracts of the SC Meeting held on 27th July, 2012 are given below:

Kannan Moudgalya recused himself as a member of the standing Committee, as he is the PI of this Project.

Kannan Moudgalya presented a new proposal on a 10,000 teacher training programme and spoken tutorials. He already presented a detailed report on the current status of this project in the SC meeting held on 22 June 2012.

It is proposed to include IIT Kharagpur as a new partner in this project. Prof. Somnath Sengupta, Dean of Continuing Education at IIT Kharagpur, is the Co-PI from IIT Kharagpur.

The current proposal is for the second phase of this project. The present 1,000 teacher training programme is now proposed to be enhanced to a 10,000 teacher training programme. The PIs propose to conduct 15 of such training programme, each of ten day duration. They also propose to establish 10 nodal centres and 500 remote centres. The objective of the nodal centres is to help coordinate the nearby remote centres. The PIs will try to bring the nodal centres to the level of IIT Bombay and IIT Kharagpur during the course of this project, with respect to the conduct of such training programme. The remote centres will be distributed across the country. Most of the Nodal and Remote Centres will be institutions other than IITs.

One important benefit in having large numbers of Remote centres all over the country is the reduction in the travel time of participants for these training programme: they can go to a nearby centre. As a result of this exercise, the TA/DA per person for a ten day training programme is estimated to come down to Rs. 6,500 from Rs. 9,500, which was the estimated amount in Phase 1. If the PIs succeed in establishing remote centres in areas with large number of teachers wishing to enroll in the training programme, the actual TA/DA in this phase can end up being lower than Rs. 6,500 per person.

The PI has already presented the status of the spoken tutorial activity in the SC meeting held on 22 June 2012. In the next phase, he proposes to create 500 original spoken tutorials and 5,000 dubbed spoken tutorials. He also plans to train 1,50,000 students in three years.

During the presentation, Prof. Phatak mentioned that the budget was incorrect by Rs. 60 lakhs with respect to the creation of 500 Remote Centres. The SC asks the PI to correct this mistake and to re-upload the proposal on the Sakshat site.

The budget for both of the two activities mentioned above for three years amounts to Rs.197.20 crore, after taking the above mentioned correction into account. Out of this, Rs. 60.75 crore is IIT Kharagpur's part. The balance is IIT Bombay's part. The major component of this budget is the TA/DA for the 1,50,000 teachers, proposed to be trained through 15 courses. This works out to Rs. 97.50 crore, which is calculated on the basis of Rs.6,500 per teacher. The next major component of this budget is for establishing nodal and remote centres, which comes to Rs. 40.50 crore.

The Standing Committee appreciates the work done by the PI in coming up with methodologies to scale up the training programme from 1,000 teachers at a time to 10,000 teachers. The SC welcomes the initiative to train 1,50,000 teachers at a substantially lesser TA/DA compared to the previous phase. The SC urges the PIs to explore ways to reduce this amount further. The SC wishes that the number of simultaneous participants be increased from 10,000 to a larger number, at least for a few courses. The SC wishes that eventually the number of remote centres should cover all engineering colleges and through them, good academic programme can reach all colleges and all 8.5 lakh teachers.

The SC also appreciates the excellent work done through spoken tutorials. The SC commends the PI for coming up with a model to conduct a large number of workshops without the payment of TA/DA and without domain experts. The spoken tutorial methodology will be useful to promote IT literacy, to improve employment and to bridge digital divide.

The SC strongly recommends this project proposal.

Further, the Project Approval Board in its 24th meeting held on 4th October, 2012 decided the following:

Prof. D.B. Phatak and Prof. Kannan Moudgalya from IIT Bombay made a detailed presentation on the "Talk to a Teacher Project". PAB was apprized that "Talk to a Teacher" is a massive programme, involving training of 1,50,000 teachers and the establishment of Remote Centers and Hubs. Fifteen (15) training programs for 10,000 teachers each will be conducted under the project and 1,50,000 teachers will be trained in 3 years.

PAB deliberated on this proposal in detail. Questions were asked about the usage of the infrastructure created under this project (i.e. the Remote Centers and Hubs). It was clarified by the PI that the infrastructure would be available not only to this project but could also be used for other multi-location training programs being conducted by the Ministry of HRD.

After detailed deliberations, PAB approved the proposal subject to the financials being re-verified. Chairman PAB suggested that since it is a large project, Prof. Phatak, the PI of the project, AS (TEL) & Mission Director and FA may go through the proposal in detail and examine whether budget is as per set norms or not. **Outcome of the discussions and the figures may be put in the next PAB meeting.**

The said meeting was held on 9.10.2012 at 11:00 A.M. in the Ministry. The minutes of the meeting with FA as well as the revised proposal is attached (**Page**

No. 43), which arrives at a total financial outlay of Rs. 192 crore for a 3 year project period wherein 500 remote centres, 10 nodal centres apart from the central hub would get established and 1,50,000 technical teachers would get trained for 10 working days each. The centres would be available for other institutions trying to offer teacher training programme in other disciplines, following the methodology of 10,000 teachers training programme developed by IIT Bombay under NMEICT. This outlay includes Rs. 11.57 crore for activities related to Spoken Tutorials wherein 500 original tutorials and 5000 dubbed tutorials would be created and 1,50,000 students would undergo training through self workshops on any topic of their choice available under Spoken Tutorials.

The Appraisal of above proposal by Standing Committee in its meeting held on 27th October, 2012 is **attached (Page No. 77-78)**.

The above is submitted for information to PAB.

Item No.4

Approval of projects recommended by the Standing Committee

- 4.1. E-content generation in 17 subjects in Electronics and Communication using Learning-by-doing (or 'butterfly') model by Prof. Sandhya Kode and Prof. Kannan Srinathan, IIIT Hyderabad.**

This item was placed in the 23rd PAB and 24th PAB but it was deferred for the next meeting.

The Standing Committee of NMEICT in its meeting held on 22nd February, 2012 recommended Rs.119 lakhs for the 17 courses.

The Extracts of the SC Meeting held on 22nd Feb, 2012 are given below:

Prof. Sandhya Kode had made presentations earlier on the same and had been requested to revise her proposal from its proposed budget of Rs. 10 lakhs to the lowest possible. The learning-by-doing as a pilot was given and was well received at Rs. 30 lakhs for three courses. However, the facilities created in the pilot and the experience gained in the process would have to be taken into account and her current proposal for 17 courses at the rate of Rs. 7 lakhs is reasonable.

Any cost overrun will be indicated by her and prior sanction will be taken before approving additional budget. It was also suggested by her that several courses are at the under-graduate level and therefore, she would not include in the content creation process, the research and analysis requirements of the Bloom's taxonomy for the Butterfly model. The committee approved her proposal in its entire form since the course contents created will be a valuable add on to on the content creation schemes by including interactive learning in the design of the course itself. A sum of Rs. 119 lakhs for 17 courses is recommended.

The Appraisal of above proposal by Standing Committee undertaken on 31st October, 2012 is **attached (Page No. 71-72)**.

PAB may please consider the above Proposal.

- 4.2. Developing suitable Pedagogical methods for various classes, Intellectual Calibers and Research in e-learning, PI: Prof. Anup K Ray, Anchor Institution: IIT Kharagpur, Control No.: ARE 04061212597**

This item was placed in the 24th PAB but it was deferred for the next meeting.

The Standing Committee of NMEICT in its meeting held on 8th June, 2012 recommended this project.

The Extracts of the SC Meeting held on 8th June, 2012 are given below:

Developing suitable pedagogical methods for various classes, intellectual calibers and research in e-learning.

What has been completed: 450 faculty members from 50 institutions have participated. Eighty courses have been completed with 22 units or more. Ten courses have been completed with 40 units.

The proposal is to complete 120 courses and complete the 80 pilots (from 22 units to 40 units). In addition, to organize 6 national seminars, 6 national training workshops, 12 regional seminars, 12 regional training workshops, 1 national conference, 1 international conference

The budget for this project is Rs. 16 crore. It is proposed to be completed in three years.

The SC commends the PI for an excellent work in the pilot project. It asks the PI to come up with methods to adopt the methods proposed in this approach and to evaluate the efficacy. The PI mentioned that this was too difficult to be undertaken in this phase, although an initial effort will be undertaken.

The SC strongly recommends this project.

Further, the Standing Committee in its meeting held on 31st October, 2012 deliberated the proposal.

The extracts of the SC meeting held on 31st October, 2012 are as follows:

The objective of the pilot phase project was to develop sample Outcomes Based Curriculum Document for B. Tech Courses. Sample Outcomes-based Curriculum Document for around 80 B. Tech courses is complete to the planned level proposed in the pilot phase (22 units out of 40 units). In the main phase it is proposed to develop complete pedagogical framework for 200 UG level semester long engineering courses in selected disciplines of which 120 will be new courses and 80 courses so far developed will be completed. It is also proposed to train large number of faculty on developing Outcome Based Curriculum document, through regional workshops.

Prof. Ray further clarified that the deliverables of the project are to develop pedagogical framework and not the content for 200 UG level courses comprising:

- Course background (institution mission/ vision, course list)
- Course overview, course objectives, course level problems with solutions (around 3-4), 6 to 10 modules in each course with module overview, objectives, module level problems (around 20) and module summary (12-16 pages)
- Each module to have 5-6 units with unit level problems and solutions.

The total cost of the main phase project for three years duration will be **Rs. 15,46,00,000**. The **average cost per student** will be around **Rs. 50** considering expected enrolment of 32 lakhs students in 2013. The major breakups are as follows:

- i) Capital expenditure: Rs. 60, 00,000 (to be shared by 15 institutions over 3 years for 900 faculty).
- ii) Revenue Expenditure: Rs. 14,86,00,000

SC Decision:

- SC appreciated the effort made in the pilot phase and strongly recommended the continuation of the project in the main phase.
- SC found the proposed budget for the main phase is quite reasonable.
- Pilot phase closure will be required to carry forward the project in the main phase. PI was suggested to conduct the PRSG meeting at the earliest for the Pilot Project closure report.

The Appraisal of above proposal by Standing Committee in its meeting held on 31st October, 2012 (**Page No. 73-76**).

PAB may please consider the above Proposal.

4.3 Title: E-Resources for Geo-Informatics Applications, Education and Training, PI: Prof. Mrs. Venkatachalam, Head, CSRE, IIT Bombay with several Co-PIs, Inst: IIT Bombay representing 12 institutions, Control no: HE-11081011220

The extracts of Standing Committee held on 23rd March, 2012 are given below:

The Members appreciated the efforts put up by the PI in taking up the project on Geo-Informatics. The Members offered their comments, the Members further felt that since there will be regular need for the data collected under the project by the learners, the PI may plan how to keep the services going on after the expiry of the project. It was also observed that the PI has reduced the budget from about 5 crores to about 3 crores; however, the budget proposal under the sub-heads such as the manpower, travels and honorarium still needs to be looked into. The PI may incorporate the suggestions offered by the Members and upload the revised project on the sakshat for approval by the competent authorities.

The extracts of Standing Committee held on 27th July, 2012 are given below:

Prof. Mrs. Venkatachalam, Head of Centre of Studies in Resources Engineering (CSRE), IIT Bombay, presented this proposal a third time to the SC. She proposed it the first time in the SC meeting held in March 2011, with a budget of Rs.5.06 crore. While appreciating the proposal, the SC had asked her to reduce the budget. The PI presented a revised proposal in the SC meeting held on 23

March 2012. At that time, the budget was brought down to about Rs. 3 crore. They had achieved this reduction by asking the partner institutions to contribute to some of the resources, such as data and software, without billing this project. After this second presentation to the SC, the PI was asked to see if they could reduce the budget under manpower, travels and honorarium. In the current meeting, the costing under these heads is reduced, bringing the overall budget down to Rs. 2.502 crore. The PI mentioned that although the budget is halved, there will be no change in the deliverables of the project, as envisioned during the first presentation to the SC. The duration of this project is 30 months.

The SC appreciates the efforts put in by the PI and the Co-PIs to present an acceptable proposal, without affecting the final deliverables and quality. The SC recommends this project proposal.

Mrs. Venkatachalam proposes that the Head of CSRE, IIT Bombay, will be ex-officio PI of this project. The SC accepts this suggestion.

The Standing Committee in its meeting held on 31st October, 2012 deliberated the proposal.

The extracts of the SC meeting held on 31st October, 2012 are as follows:

The SC during its meeting held on 23rd March, 2012 had approved this proposal after the PI was suggested to make a number of revisions to his proposal. In its meeting held on 31st October, 2012, the SC reviewed the 10 Point Format, submitted by the PI.

SC Decision:

SC appreciated the proposal and found that the proposal is unique and importance to the learners in India.

SC also reviewed the budget in detail and found the revised budget of Rs.2.50 crores to be reasonable for the amount of work projected in the proposal.

The Appraisal of above proposal by Standing Committee in its meeting held on 31st October, 2012 is **attached (Page No. 81-83)**.

PAB may please consider the above Proposal.

4.4. Digital Literacy And Empowerment of Teachers in ICT, PI: Dr. Abhijeet Singh, Banaras Hindu University, (Control No. DMI04091212722)

The Standing Committee of NMEICT in its meeting held on 31st October, 2012 deliberated the proposal.

The extracts of the SC Meeting held on 31st October, 2012 are as follows:

The PI informed that initial presentation was done in the presence of the Mission Director, Mr. N.K. Sinha on 26th September, 2012 followed up by the presentation to the Standing Committee on September 27, 2012. The Committee

recommended a pilot for 25,000 teachers to be started with a budget of Rs. 82.5 Lakhs.

The second presentation of the same project was done on 18th October, 2012 wherein it was suggested to spell out the Learning Objectives clearly among other things. The proposal was approved in principle and PI was requested to revise the proposal as per suggestions of the PI.

The PI informed that following changes have been made as per the suggestions of the SC:

1. The training will be only in Libre Office and the OS will be Linux and no proprietary software will be used.
2. The control and monitoring mechanism should be done as mentioned and ISTE should be collaborated with for assessment and accreditation.
3. In the Pilot phase 25,000 teachers are to be trained in ICT and the duration of the project will be six months with a budget of Rs. 82.5 Lakhs.

SC Decision:

SC found the revised proposal at par with the requirement of NMEICT objectives and felt the budget to be quite reasonable. SC recommended the proposal for consideration of the PAB for Rs.82.5 Lakhs to train 25,000 Teachers in six months (Pilot Phase) as recommended in earlier two meetings.

The Appraisal undertaken by Standing Committee in its meeting held on 31st October, 2012 is attached (**Page No. 84-85**).

Item No.5

Setting up of Teaching ends at leading Institutes in the Country for generation of Content for 50 DTH Educational Channels under NME-ICT

The 'Cabinet Committee on Economic Affairs' has on January 2, 2009 approved a Centrally Sponsored Plan Scheme, namely, National Mission on Education through Information and Communication Technology (NME-ICT), which besides other activities includes setting up of 1000 educational DTH channels .

The Department of Space vide letter No.SCNP/F.711/10/11 Dated December 15, 2011 has communicated that based on MHRD request, two Ku-band transponders (36x2 MHz spectrum) in GSAT-8 Satellite is allotted to MHRD for its DTH programme.

Based on the capacity of the spectrum allotted to MHRD, the DTH Committee decided to launch 50 educational DTH channels, using the allotted satellite transponders.

The 23rd PAB in its meeting held on 28th February 2012 approved obtaining the services of M/s. Telecommunication Consultants India Limited (TCIL) a PSU under the Ministry of Communications and Information Technology for finding a Teleport Agency for engagement of up-linking 50 DTH channels of MHRD at one time payment decided by the DTH Committee through a transparent process as the PAB is not part of any tendering process.

The Technical Expert Committee (a sub-committee) constituted by the DTH Committee & M/s TCIL have submitted a 'Request for Proposal' for finding a Teleport Agency for engagement of up-linking 50 DTH channels of MHRD. The RFP has been approved by the DTH Committee and is being processed for tendering by M/s TCIL and a successful bidder is likely to be awarded the contract soon for hiring Teleport/Earth station to carry our educational content to the satellite for direct Broadcast to homes.

The DTH Committee constituted by the MHRD, under the Chairmanship of Prof. S.V. Raghavan, Scientific Secretary, office of the Principal Scientific Adviser to the Government of India, during its 6th meeting held on August 4, 2012 at MHRD, inter-alia deliberated as follows:

“The Committee recognized that IIT Madras has since long been contributing towards e-learning in the country. IIT Madras is currently engaged in (i) Coordination of NPTEL Phase II (ii) Production of e-Content in a number of Courses, (iii) selection and procurement of equipment required by IITs under NPTEL programme.

The services rendered by the IIT Madras in the field of management of e-learning, in the country have been commendable. In view of this, the DTH Committee felt that Director, IIT Madras may be requested to help MHRD in some of the activities in setting up of DTH Teaching Ends etc.

The DTH Committee felt that the Director, IIT Madras be, therefore, requested to coordinate the following activities: (i) finalization of a list of equipment for DTH, Teaching End (TE), (ii) decide number of TE required for running of 50 DTH Channels (iii) Tender & negotiate for bulk purchase of TE Equipment on behalf of all TEs and (iv) ensure deployment of TE equipment in a time bound manner in 3 months. For this, a suitable committee may be constituted under the chairmanship of Director, IIT Madras, to accomplish the task”.

A request letter dated September 4, 2012 to this effect has been written by the Mission Director, NMEICT and Additional Secretary [TEL], MHRD to Prof Bhaskar Ramamurthi, Director, IIT, Madras.

Prof Bhaskar Ramamurthi, Director, IIT Madras, vide his reply letter dated 16th October, 2012 has accepted to Co-ordinate on setting up of DTH Teaching End, at institutions across the country. In this regard a joint proposal from Prof Bhaskar Ramamurthi, and Prof Mangala Sunder Krishnan, of IIT Madras, both as Principal Investigators has been received by the MHRD, with a budget outlay on setting up of 150 DTH Teaching Ends.

The DTH Committee, in its 8th meeting held on October 25, 2012, reviewed the summary Proposal received from IIT Madras, for creating 150 Teaching Ends (TEs) a online 24/7 feeds to 50 DTH Channels to be established under NMEICT.

The members present during 8th DTH Committee have offered a number of comments and suggestions to the proposal. Further the Chairman, DTH, Committee, requested technical team from the CEC and IGNOU to offer their specific inputs on the design of equipment package including projected cost etc., for establishing the Teaching Ends to Convener, DTH committee.

A number of inputs on design of Teaching End equipment package were received from IIT, Madras, IGNOU and CEC. Based on these inputs and a draft TE equipment package circulated during 6th DTH Committee meeting held on August 4, 2012 and the feedback received on this during the meeting and based on the recommendations received during 8th DTH Committee meeting, a draft Teaching End equipments required at each of the TE Centre, including its budgetary prices has been prepared by the Convener, DTH also further detailed cost analysis on this has been carried out.

The Teaching End Expert Committee (TEEC) for finalizing the specification/RFP constituted by the Director, IIT Madras shall take into account the present TE package, compiled and shall further deliberate on it in detail and shall finalise the Teaching End equipment package. The TE list shall finally be approved by the DTH Committee. At present the TE equipment list is tentative and for seeking approval from the Project Approval board for approving budget on account that may be sanctioned to IIT Madras.

The Following is submitted for kind consideration of PAB:

- (A) A detailed “DTH Teaching End equipment package, budgetary, cost analysis, its social objectives, network topology & central institutes” as compiled by the Convener, DTH at Annexure (Page No. 16-25).**

It may be seen from (A) above that,

- (B) Total Budget on DTH is as follows:**

- (a) Total Non-Recurring budget for setting up 153 Teaching Ends across the country is Rs.088.49 Crores;
- (b) Total Recurring cost/Annum for generation of content amounting to 1825 courses (40 Lectures, 1 hour each) for a number of subjects & transmitting the fresh &

live content 8 hours a day and live interaction after each lesson between Teacher & students spread across country, repeating the content twice in 24 hours, further repeating the Content after 6 months on 50 DTH channel is costing Rs.124.24 Crores.

As per above the:

(C) Budget for DTH Setup & Content Generation for remaining 4 years of XIIth Plan is:

(Content broadcast twice a year)

- a) Non-Recurring budget,(Rs.088.49 Crores) and Recurring budget (on Eq.) for remaining 4 years of XIIth Plan (Rs.109.28 Crores) is **Rs.197.77 Crores**

- b) Recurring Budget on account of content development Total-Recurring budget on Content Generation for remaining 4 years of XIIth Plan is **Rs.374.96 Crores.**

- c) A number of **7300 courses** (40 Lectures, 1 hour each) shall be produced and delivered out of Non-Recurring & Recurring Budget and it is repeated in six months time.

(D) The funding for the DTH project is proposed to be debited from:

(Content broadcast twice a year)

- a) Non-Recurring budget during remaining 4 years of XIIth Plan of **Rs.197.77 Crores** may be debited from DTH budget
- b) And Recurring Budget on account of **7300 course** content developments for remaining 4 years of XIIth Plan I.e., **Rs.374.96 Crores** be debited from **e-content development budget available** under NMEICT.

Put up (A), (D) a) & b) for kind Approval of PAB.

Ministry of Human Resource Development
Department of Higher Education

“DTH TEACHING END EQUIPMENT PACKAGE, BUDGETARY, COST ANALYSIS, ITS SOCIAL OBJECTIVES, NETWORK TOPOLOGY & CENTRAL INSTITUTES”

(A) Equipment required at DTH Teaching Ends, working on 10X7X365 Basis.

S.N	Equipment	Make / Model	Qty.	Tentative Cost in Rs Lakhs
1	Broadcast PTZ cameras, wall mount, Cam Remote operations		3	11
2	Vision Mixer with Multi-viewer o/p		1	5
3	Audio Mixer		1	1.5
4	42" LCD Multi-viewer (HDMI ports)		1	0.75
5	Wireless & Lapel Microphones		5	2
6	IR Touch Screen LCD White board		1	3.5
7	HDD Recorder/Server		1	3
8	Scan converter VGA, HDMI-PAL		1	1
9	Graphic Gen & Scroll (Hw+Sw)		1	2.5
10	A-V NLE editing set up		1	4
11	PC/Laptop		3	1.25
12	8 Port LAN Sw		2	0.25
13	Encoder AVC		1	3.5
14	NMEICT/NKN Broadband Interface Terminal & IP Switch		1	0.5
15	Telephone Hybrid Mixer.		2	0.65
16	Amplispeaker & Head Phones		2	0.5
17	Tel Land lines (2) & Broadband Internet (2)		1 Set	0.25
18	Cool Studio Lights & Fixtures		1 set	3
19	UPS/Inverter 2KW		1	1
20	Acoustic Treatment		1 set	3
21	Racks, Installation Kit, Intercom, Cables & Consumables		1 set	2.5
22	DTH Reception and TV		1set	0.35
23	Control, equipment room size 12X15x11ft (wxlxh) or better, to be provided by the institute.		1	0
24	Teaching End Studio/Room Size 20X35X12 ft., to be provided by the institute. Civil, Electrical, Earthing Modification Jobs		1	2.5
25	Air conditioners		3	2
26	Fire detector, alarm, extinguishers.		1 set	0.5
27	Tech (2) Prod (2) Academic Co-ordinator (1) Contractual staff		1 set	0
	TOTAL			56.00

(B) Equipment required at DTH at Teleport End.

1	AVC Decoders		55	193
2	OFC Network Management and Control System (Hw & Sw)		4	100
	TOTAL			293.00

(C) The Broadband Connectivity of 2 links of 10Mbps each would be provided to carry content between 150 Teaching Ends to Teleport End. For this the OFC/ MPLS network with end to end solutions created under NME-ICT/NKN would be utilised. The budget on this has not been included, at present.

(D) Methodology and overall system Architecture:

- a. Two Transponders on recently launched GSAT-8 have been allotted by the Department of Space to MHRD. The number of educational Channels to be launched is 50.
- b. Average duration of delivering one UG Subject is 500 Lectures during 3 years Course.
- c. 8 lectures delivered a day 500L/8H = 63 days, or 5.8 Subjects/ch/An
- d. i.e., 5.8 Subjects shall be delivered during one year over a Channel and on 50 Channels possibly about 292 UG subjects/Annum shall be delivered, besides some short Courses.
- e. Eight hours of fresh content shall be telecast a day, the content shall be recorded and repeated twice within twenty four hour period.
- f. However, when a subject is repeated during next six month, in that case 146 Subjects shall be delivered over a year over 50 Channels.
- g. A Subject Coordinator shall be engaged (to co-ordinate academic activities, selection and engagement of 'Academic Experts' & Scheduling of a Subject) by 'Central Institutes' and for this an honorarium of Rs.2.5 Lakhs may be paid to complete one Subject.
- h. An Academic Expert shall deliver Live lecture and shall be paid Honorarium/Sitting Fee of Rs.5000/- and TA of Rs.1000/- for delivering Live 60-80 mts. The Academic Expert is also required to submit the lecture plan, collection of graphics, pictures, animations scheme, question answers, Quiz / test, web-links, etc.
- i. A live lecture approximately of 40 mts of duration shall be delivered by a teacher, which shall be followed by about 20 mts of Q&A session as Live Interactivity (Through, video conferencing through Skype, AVIEW, etc., Land line/Mobile telephone, SMSs, e-mail etc) session with the students.
- j. Rental of Teleport / Earth Station Approx. Rs.1800.00 Lakhs/Annum
- k. Tech (2) Prod (2) Academic Co-ordinator (1) All Contractual staff, with Contractual fee of each Rs.25,000.00 PM +30% @ Sat + Sun + Holidays = Rs1.625 L/m + = Rs.19.50 Lakhs/annum/TE. Plus Constancy Fee raise/year of 15%
- l. AMC, Spares = 12%, No AMC for first 2 years or more.
AMC, Spares of equipment after warranty period Approx., Rs12.0L
- m. Electricity cost & consumable, Rs.10.00 Lakhs/Annum

- n. In order to ensure that live content is generated regularly, it has been decided to create three Teaching Ends for a channel, their by about 150 Teaching Ends for generating content for 50 channels shall be created. Further, after delivery of a subject is complete, the same set or different set of Teaching Ends shall support generation of content for new Subjects.
- o. Three Teaching Ends shall be created at the Teleport End.
- p. The Teaching Ends shall be created at premier institutes across the country
- q. The system is designed and accounted to deliver content primarily on TV sets, however, it has the capability to deliver content on PC's, Laptops, Tablets (including Aakash), Smart phones, etc., budget for this has at present not been accounted for. The budget for this shall approximately be less than 10% of the Recurring budget of the project

(E) Total Teaching End Package (one):

i) Non-Recurring	Rs.56.00 Lakhs.
ii) Recurring/Annum	
a) staff	Rs.020.00 Lakhs
b) AMC, Elect, Cons, Toll Free Tel	Rs.010.00 Lakhs
c) Honorarium/Sitting Fee of Rs.5000/- and TA of Rs.1000/- to Academic Experts for delivering Live 60 mts. of Lectures = $6 \times 8 \times 50 \times 365 / 2 = 43.8$ C or per TE/Annum Rs.43.8 C/150	Rs.029.2 Lakhs
d) Sub Total Recurring	Rs.63.2 Lakhs/An
or of Lectures = $6 \times 8 \times 50 \times 365 = 87.6$ Cr=	Rs.29.2 Lakhs
e) Sub Total Recurring (no repeat in 6 months)	Rs.92.4 Lakhs

(F) Budget at Teaching End Package (150 TEs)

a) Non-Recurring	Rs.084.00 Crores
b) Recurring/Annum	
i) Staff, AMC, Elec, Cons, Hon Subject Coordinator (5/Channel/An)	Rs088.80 Crores
ii) Rs.2.5Lakhsx5.8Sx50C/2	Rs.003.62 Crores
iii) Transponders (2)	Rs.009.50 Crores
iv) Sub Total (b)	Rs.101.92 Crores
v) Sub Total Recurring (no repeat in 6 months)	Rs.148.74 Crores

(G) Budget at Teleport End.

a) Non-Recurring	
I) Fiber Receive Eq	Rs.293.00 Lakhs
ii) TE, 3 Equipment Packages	Rs.156.00 Lakhs
iii) Total	Rs.449.00 Lakhs
b) Recurring/Annum	
I) Teleport Rental	Rs.18.00 Crore
II) 3TEs (3St+1Acc Hon+SE)	Rs.01.32 Crore
III) Total	Rs.19.32 Crores

(H) Budget for Promos, Posters and Publicity

i) @2% recurring budget	Rs.03.0 Crores
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(I) Total Budget on 50 DTH Channels

a) Non-Recurring	
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- I) TEs Rs.84.00 Crores
 II) Teleport End Rs.04.49 Crores
 III) Total Rs.88.49 Crores
- b) Recurring/Annum
 I) TEs 150 Rs.101.92 Crores
 II) Teleport End Rs.019.32 Crores
 III) Publicity Rs.003.00 Crores
 IV) Total (Repeat in 6 months) Rs.124.24 Crores
 V) Total (no repeat in 6 months) Rs.171.06 Crores
- (J) Total Project Cost (Approx.)**
 a) Total Non-Recurring Rs.088.49 Crores
 b) Total Recurring (Content Rept 6 mts) Rs.124.24 Crores
 c) Total when no repeat Tx. Rs.171.06 Crores

- (K) Non-Recurring Cost per Channel**
 a) Total Non-Recurring Rs.88.49 Crores
 b) Equipment good for 10 years. Per year Rs.08.85 Crores
 c) Per Channel Cost 8.85C/50 **Rs.17.7**

Lakhs/Channel/Annum

- (L) Cost of Telecasting a Channel**
 a) Total Non-Recurring Rs.88.49 Crores
 b) Equipment good for 10 years. Per year Rs.08.85 Crores
 c) Teleport rental/year Rs.18.00 Crores
 e) Transponder Charges Rs.09.50 Crores
 f) Total Rs.36.35 Crores
 g) Per Channel Cost 36.35C/50 **Rs.72.70 Lakhs/Channel/Annum**

(M) Elements of Budget spent for Content Generation:

S.N.	Content repeated after 6 months	Rs. Crores	S.N.	Content not repeated	Rs. Crores
1	Refer F(b)(i)	88.80	1	Refer E(e) 92.4X150	138.60
2	Refer G(b)(ii)	01.32	2	Refer F(b)(ii) 3.62X2	7.24
			3	Refer G(b)(ii)	1.32
	Total	93.74		Total	147.16

(N) Content generation analysis/Annum:

Delivery	Hours/ Channel	Courses/ Channel	Courses/ 50 Ch's	Budget/ 50 Ch's	Rs. Per Course
Content repeated after 6 months	1460	36.5	1825	93.74 Crores	5,13,644
Content not repeated during the year	2920	73	3650	141.16	3,86,740

(O) Total Project Cost (Approx.) for remaining XIIth Plan

- 1) Content fresh & live generated, teacher interactivity with students & delivering about full 146 UG subjects or 1825 Courses with **content repeat after six months** on MHRD DTH N/w.

a) **Total Non-Recurring budget** **Rs.088.49 Crores**

b) Total Recurring (non Cont.)/Annum **Rs.027.32 Crores**

c) **Total Recurring for remaining 4 years of XIIth Plan** **Rs.109.28 Crores**

d) Total-Recurring on Content Generation/Annum **Rs.093.74 Crores**

e) Total-Recurring on Content Generation **Rs.374.96 Crores**
for remaining 4 years of XIIth Plan

- 2) Content fresh & live generated, teacher interactivity with students & delivering about full 292 UG subjects or 3650 Courses with **no repeat of Content during the year** on MHRD DTH N/w.

f) **Total Non-Recurring budget** **Rs.088.49 Crores**

g) Total Recurring/Annum **Rs.016.16 Crores**

h) **Total Recurring for remaining 4 years of XIIth Plan** **Rs.067.60 Crores**

i) Total-Recurring on Content Generation/Annum **Rs.141.16 Crores**

j) Total-Recurring on Content Generation **Rs.564.64 Crores**
for remaining 4 years of XIIth Plan

(P) Budget for DTH & Content for remaining 4 years of XIIth Plan

(Content broadcast twice a year)

It may be seen that Budget for MHRD DTH project has two parts:

- d) Non-Recurring and recurring budget on account of running the Channel
Non-Recurring budget = Rs.088.49 Crores + Recurring budget for remaining 4 years of XIIth Plan Rs.109.28 Crores is **Rs.197.77 Crores**
- e) Recurring Budget on account of content development
Total-Recurring budget on Content Generation for remaining 4 years of XIIth Plan is **Rs.374.96 Crores.**
- f) The Number of courses that shall be produced and delivered out of Recurring Budget on account of content development is **7300 Courses** and it is repeated in six months time.
- g) It is proposed that Recurring Budget on account of content development for remaining 4 years of XIIth Plan i.e., **Rs.374.96 Crores** be budgeted out of **e-content development budget** under NMEICT.

or

(Q) Budget for DTH & Content for remaining 4 years of XIIth Plan
(Content broadcast once a year)

It may be seen that Budget for MHRD DTH project has two parts:

- a) Non-Recurring and recurring budget on account of running the Channel
Non-Recurring budget = Rs.088.49 Crores + Recurring budget for remaining 4 years of XIIth Plan Rs.67.60 Crores is **Rs.156.09 Crores**
- b) Recurring Budget on account of content development
Total-Recurring budget on Content Generation for remaining 4 years of XIIth Plan is **Rs.564.64 Crores.**
- c) The Number of courses that shall be produced and delivered out of Recurring Budget on account of content development is **14,600 Courses** with no repeat during the year.
- d) It is proposed that Recurring Budget on account of content development for remaining 4 years of XIIth Plan i.e., **Rs.564.64 Crores** be budgeted out of **e-content development budget** under NMEICT.

(R) NOTE:

During remaining period of XIIth Plan, through MHRD DTH Network, total delivery of about 58,40,000 hours of live and recorded content shall be delivered, which also includes live Interactivity of the Teacher with the students. The total content delivered shall amount to delivery of about 531 UG fresh subjects (each subject normally taught in 3 years) and equal number of subjects shall be repeated during the period. Further during a day's telecast the content shall itself be repeated twice.

(S) Cost Benefit Analysis on Content Generation:

- a) As per NME-ICT norms, for production of e-content per course of aprox. 40 Lectures each of 60 Mts duration costs Rs.7.00Lakhs or Rs.17500/- per Lecture.
- b) In comparison generation of one hour of Live Lecture and Live interactivity per course of 40 lecture shall cost Rs.3.86 Lakhs or Rs.9668/- per lecture.
- c) Generation of content DTH **just costs 55%** to NMEICT norms or a **saving of 45%**.
- d) **Generation and Delivery** of one Course (40 lectures, 1 hour each) of Live Content, Live Interaction of teacher with students and provision to reach 61% of Indian population (free to Air) is just at a cost of **Rs.4.9 Lakhs**. This represents true Country wide ICT Classroom programme.

(T) On Content Dissemination through DTH.

- a) Doordarshan is at present following the policy of e-Tendering and auctioning the spectrum for DTH, the current rates quoted are about Rs. 3.5 Crores per Channel per year.
- b) As seen from the tentative budgeting above, the cost for Telecasting one MHRD DTH Channel is Just Rs.71.15 Lakhs per Annum. This is **just 20%** to the rate charged by the Doordarshan and **80% cheaper**.

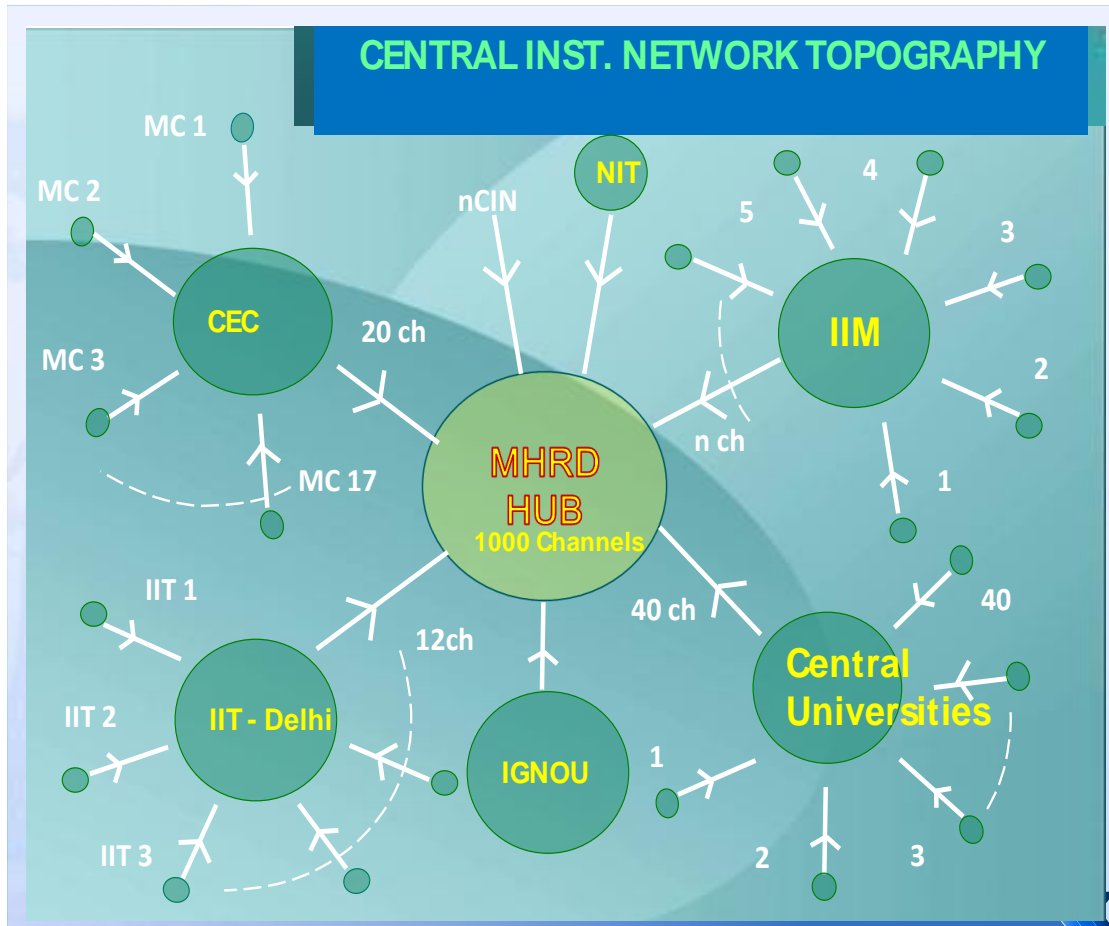
(U) Meeting the Social Objectives

By adopting the philosophy of delivering education through DTH: i.e. live content generation, live interactivity during each lecture in the form of question answer session between students and expert and the telecast reaching a potential 146 Million TV Homes in India, who by attaching a DTH Set Top Box costing around Rs.2000/- can receive the 50 channels, which are delivered FREE to AIR, is not only the most economic way to make available the education across the country (since we do not require to invest on Ground Reception Segment), but is also the quickest way to reach 73 Crores of citizens amounting to 61% of population. This delivery of education content is perhaps best and **most cost effective way** to achieve our composite goals of ensuring 'Access' with 'Equity' and 'Excellence' in higher Education in India and bridging the digital divide that exist in our society today. Besides this the content shall not only be delivered to learners on their TV sets, but shall also be delivered on their PC, Tablets (including Aakash Tablets) and Smart-phones.

Disclaimer:

The equipment list, numbers and price projected above are for reference only. However, equipment list, numbers & prices shall be finalised through a Teaching End Expert Committee and following Public Tender process.

'Hierarchical Star Network Topology for Content generation'



'Central Institutes' (as shown above) will act as Academic & Technical hubs. It shall be the responsibility of the 'Central Institutes' to look after the Academics and Content generation of Subject(s) being handled. The 'Central Institute' in turn shall further engage a number of institutes that are associated with them. In the beginning, 10 to 15 such 'Central Institutes' to look after generation and delivery of Contents over 50 Channels shall be engaged.

In order to ensure that live content is generated regularly, three Teaching Ends for a channel shall be created to support a channel for content generation, their by about 150 Teaching Ends for generating content for 50 channels are proposed to be created. Further, after the delivery of a subject is completed, the same set or different set of Teaching Ends shall support generation of content for new Subjects.

Support for content generation shall be taken from IITs, NITs, Central Universities, NITTTR, IIMs, IISc, CEC & its Media Centres, IGNOU & other Distance Learning Institutes, Agricultural Universities, Medical Institutions, and other Institutions may be associated with MHRD directly or with sister departments / ministries of Gol., experts involved from scientific establishment, Defense and CSIR Labs, Eminent/Distinguished experts, etc shall also be involved.

Heads of Central Institutes inducted as Co-opt Members, DTH Committee

S.N	Central Institutions	Head Co-opted as Member DTH, Committee	Mailing Address
1	IITs,	Prof. R.K. Shevgaonkar, Director, IIT Delhi	Prof R.K.Shevgaonkar Director Indian Institute of Technology (IIT) Hauz Khas, NEW DELHI - 110016
2	NITs,	Prof. Sandeep Sancheti, Director NIT Delhi	Prof. Sandeep Sancheti, Director National Institute of Technology – Delhi Integrated Institute of Technology (Campus) Sector – 9 Near Dwarka District Court Dwarka, Delhi – 110077
3	Central Universities A	Prof. S.K. Sopory, VC, JNU, New Delhi.	Prof. S. K. Sopory Vice Chancellor Jawaharlal Nehru University New Mehrauli Road, NEW DELHI-110067
4	Central Universities B	Prof. Dinesh Singh, VC, Delhi University	Prof. Dinesh Singh Vice Chancellor University of Delhi
5	NITTTR,	Prof. Mohan, Director, NITTTR, Chennai.	Dr. S. Mohan, Director, NITTTR, Chennai - 600 013
6	IIMs,	Prof Pankaj Chandra, Director, Bangalore.	Pankaj Chandra Director Indian Institute of Management Bannerghatta Road, Bangalore - 560 076.
7	IISc,	Prof P. Balaram, Director, IISc.	P Balaram Director Indian Institute of Science, Bengaluru 560 012.
8	CEC & its Media Centres,	Dr. T.R. Kem, Director, CEC.	Dr. Tilak R Ken Director Consortium for Educational Communication I.U.A.C. Campus, Aruna Asaf Ali Marg, New Delhi – 110 067.
9	IGNOU,	Prof Gopinath Pradhan , VC, IGNOU	Prof Gopinath Pradhan Vice-Chancellor Indira Gandhi National Open University, IGNOU Complex, Maidan Garhi, New Delhi

10	Agricultural Universities,	Punjab Agricultural university & Tamil Naidu Agricultural University	(a) Dr Baldev Singh Dhillon Vice Chancellor, Punjab Agricultural University, Ludhiana -141004, India
11			(b) Prof. K. Ramasamy Vice Chancellor Tamil Nadu Agricultural University Coimbatore-641003 India
12	Medical Institutions,	Prof Ramesh C. Deka, Director, AIIMS, New Delhi	Professor Ramesh C. Deka Director & CEO AIIMS, Ansari Nagar , New Delhi-110029
13	Academic Staff Training Colleges	ASC University of Mysore	(a)Dr.G.Venkatesh Kumar Director UGC-Academic Staff College, University of Mysore, Manasagangotri, Mysore. Karnataka
14		ASC Bharti Desam University, Truchiralalla	(b)Dr. K. Meena Vice-Chancellor Bharathidasan University Palkalaiperur, Tiruchirappalli Tamil Nadu, PIN: 620024
15	Other Institutions		Prof. Aparajita Ojha Director IIITDMJ Dumna Airport Road, P.O.: Khamaria, Jabalpur - 482 005, Madhya Pradesh.
16.	Sanskrit. Studies		Prof. Radhavallabh Tripathi, Vice Chancellor, Rashtriya Sanskrit Sansthan New Delhi.

Item No.6

Re-constitution of the Standing Committee of NMEICT

As per the Minutes of the 24th meeting of the Project Approval Board held on 04/10/2012, one of the observation of PAB was

“Chairman, PAB was emphatic that the Standing Committee should provide their recommendations in clear terms and spell out details on deliverables, time-frame and cost breakup, while recommending new proposals. Chairman, PAB also stressed that the composition of the Standing Committee should be broad-based while reviewing and recommending the new proposals. There should be broad guidelines to be approved by PAB for constituting Standing Committee in its next meeting so that there is more transparency in the system”.

Total 15 numbers of meetings of the Standing Committee have been held between the period April, 2011 to March, 2012, out of total 57 Members in the Standing Committee, only 24 members have attended meetings. Further, many of the Members have attended very few meetings. Accordingly, a letter was sent to members of Standing Committee to attend meetings of SC regularly.

Now in last PAB meeting, Chairman, PAB has desired that broad guideline to be approved by PAB for constituting Standing Committee in its next meeting so that there is more transparency in the system.

The Status of Attendance of the Standing Committee Members from April, 2011 to March, 2012 is placed in the next page.

TABLE
AGENDA FOR 25th MEETING OF PROJECT APPROVAL BOARD OF NATIONAL
MISSION ON EDUCATION THROUGH INFORMATION AND COMMUNICATION
TECHNOLOGY

Table Agenda Item No.1

List of sanctioned projects where progress is slow

Chairman, in 24th meeting of PAB emphasized that in the next meeting, PAB should be provided with the list of such institutions to which project was sanctioned and the progress is slow. Those projects should be highlighted and effort should be made to complete the project. He further emphasized upon the appropriate use of funds which the Government of India is sanctioning for the projects.

The list of sanctioned projects where progress is slow is attached for information of PAB.